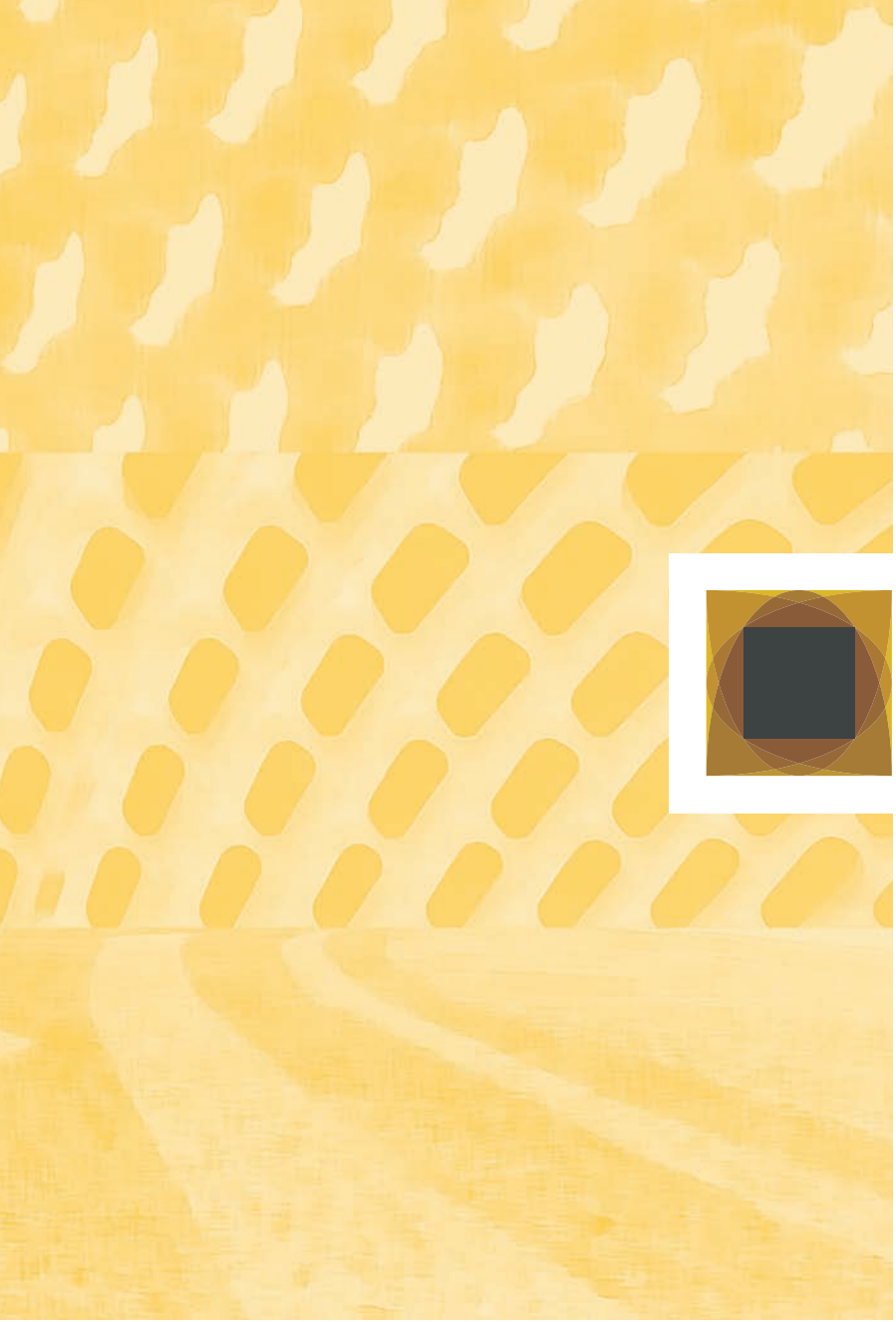
Investigating and Writing Achitectural History: Subjects, Methodologies and Frontiers.



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INVESTIGATING AND WRITING ARCHITECTURAL HISTORY: SUBJECTS, METHODOLOGIES AND FRONTIERS

Papers from the Third EAHN International Meeting

Edited by Michela Rosso

INVESTIGATING AND WRITING ARCHITECTURAL HISTORY:
SUBJECTS, METHODOLOGIES AND FRONTIERS

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INVESTIGATING AND WRITING ARCHITECTURAL HISTORY: SUBJECTS, METHODOLOGIES AND FRONTIERS

Preface

Investigating and Writing Architectural History: Subjects, Methodologies and Frontiers is a digital **open access publication** issued by the Politecnico di Torino containing the full texts of the majority of the papers and position statements presented and discussed at the Third International Meeting of the European Architectural History Network (EAHN) taking place in Turin from 19-21 June 2014[1].

The local Organizing Committee of the Politecnico di Torino made the proposal to host this meeting to the EAHN Board in early 2011. The conference is the outcome of a call for sessions and roundtable proposals launched in summer 2012 resulting in 100 abstracts. Of these, 27 were selected by the Scientific Committee gathered at the Faculty of Architecture of the Slovak University of Technology in Bratislava in early March 2013. The subsequent call for papers, advertised in April 2013, yielded more than 500 proposals.

Thanks to the wealth of good abstracts, chairs were able to suggest that some of papers that had not been selected for a specific session be considered for an open session. The result of this further selection was creation of three open sessions.

In addition to this, and in order to encourage an exchange between the main research topics addressed by the international scholarly community and the studies conducted by younger and emerging scholars within Italian PhD programs, the local Organising Committee, in accordance with the Scientific Committee of the Meeting, chose to promote two roundtables exclusively devoted to the presentation of dissertations recently carried out in doctoral programs affiliated with Italian universities. The aim of this initiative was to overcome the difficulties that often hinder the dissemination of some of the most promising outputs of Italian doctorates by providing them with a truly international arena for discussion. This further call resulted in 37 proposals of which 15 were selected.

Hence, here we can present papers from **27 sessions and five round-**

tables, offering a variety of themes and discussing different time periods.
Presenters could submit their full papers to have them published in this book, which appears at the beginning of the conference. This was an explicit choice of the Scientific and Executive Committees, to ensure that younger researchers can comply with the rules from their institutions for funding their conference participation, which often require the publication of the paper in the proceedings[2].
The index of this publication reflects the original conference structure. In order to document the exact context in which the papers published here were originally presented and discussed at the conference, we decided that, along with the texts of full papers, we would also publish the abstracts of those presentations, which, according to their authors' choice, are not published here in their full versions.

Geographies of EAHN 2014 and the European network

In his concluding remarks to the 2010 EAHN Conference in Guimarães, Antoine Picon began by questioning the appropriateness of the term 'European' chosen to qualify an association of academics, architects and professionals concerned with architectural history. Moreover, he argued how 'Europe, far from being a stable entity or field, appears rather as an open question, a question around which scholars from extremely diverse origins can gather and exchange'.[3] At a four-year distance, the increased uncertainty around some of Europe's geographies and boundaries, the difficulty to delineate the contours of a European cultural identity, along with the crisis affecting its political project, have made a shared definition of the European entity even more controversial and subject to debate.[4]
As with the two past editions, this meeting's list of participants shows that the EAHN is much broader than the many possible definitions of Europe, including the seductive allegory provided at the beginning of the seventeenth century by Cesare Ripa, portraying a beautiful woman wearing a dress of various different colours as a signifier of the extraordinary variety of her constituents, superior to those of any other part of the world (Figure 1).[5]
The Turin conference has in fact confirmed, and even strengthened the **network's international appeal**, attracting 226 scholars[6], from **36 countries** (versus 31 of the previous one).[7] Of these, 54 come from institutions based in the US, which does not mean, however, that all of them are American. As a matter of fact, the increased internationalization of today's academic trajectories – not only within the US – has considerably diversified the spectrum of scholars' origins and nationalities: the presence of Chinese, Greek, Persian, Portuguese, Spanish and Turkish family names, shows that

Figure 1. "Europa. Una delle parti principali del mondo." *Source*: Cesare Ripa, *Iconologia,* ed. Sonia Maffei (Torino: Einaudi, 2012) 395.

the aforementioned figures are far from homogeneous. Moreover, Italy is present at this conference with 41 scholars followed by the UK (19) and, at a distance, by Australia (10), France (10), the Netherlands (10), Belgium (9), Ireland (7), Portugal (7), Switzerland (6), Canada (5), Germany (5), Israel (4), Greece (3), Slovenia (3), Sweden (3), Turkey (3), Brazil (2), Chile (2), Croatia (2), Estonia (2), Hungary (2), Norway (2), Poland (2), Serbia (2), Austria (1), Romania (1), Russia (1), Slovakia (1), Spain (1), China (1), Czech Republic (1), Cyprus (1), Malta (1), Mexico (1) and Singapore (1).
The whole picture shows **25 European countries** versus **nine non-European**, plus Turkey and Russia at the crossroads between Asia and Europe. Moreover, among the **149** different **universities and research centres** represented in the Turin Meeting, 89 are European, 41 North American, 4 South American, 6 Australian, 3 Turkish, 3 Israeli, 1 Chinese, 1 Russian, and 1 Singaporean.
If the majority of scholars come from institutions based in countries that fall into at least one of the various common definitions of Europe, one ma-

jor distinction has to be made inside the vast collection of geographical singularities and cultural specificities displayed here. Thus, the conference shows how the geographies of this continental framework have been further enriched in comparison with the past two meetings so as to include an unprecedented number of scholars affiliated with **Eastern European institutions** (17). The exceptional presence of this community of scholars is not simply fortuitous, though, and can be explained as the result of the Scientific Committee's policy to include three sessions specifically devoted to themes related to former socialist governments. Moreover, this tendency is further reinforced by the EAHN Board's choice of Belgrade as the venue for the next EAHN themed conference 'Histories versus History' in 2015.

The diversity of the regions and the further expansion of the EAHN geographical spectrum call into question another crucial issue, already touched upon during the past two conferences, and yet destined to remain – at least partially – unanswered.[8] How do we provide a **viable means of dialogue** to a growing community of researchers whose singularities, specific identities, cultural and linguistic differences often demand to be acknowledged? Is the hegemony of English, as a standard and accessible means of communication for the EAHN biannual meetings, always justified? Although we are aware that the great expense of simultaneous translations does not allow us to plan multilingual meetings in the future, we attempted to provide, already at this conference, a first, provisional answer to the aforementioned question by avoiding anglicizing the original names of speakers' institutions. From the long list of affiliations written in their national languages, the reader will then be able to get a more nuanced portrait of the variety of the local cultural identities, which form such an integral part of this international meeting.

Although only three among the 32 sessions and roundtables at the Turin conference explicitly refer to 'Europe' in their titles, a general overview of the subjects being addressed here shows that for the majority of these researchers, **Europe**, as a broadly defined entity, still remains the main **object of enquiry** and **field of study**. However, the picture would not be complete without mentioning those works whose geographical scopes are situated outside this continental frame, or which cut across geographical locales to embrace broader perspectives of border-crossing relationships. Among the 157 papers presented and discussed in Turin, a number of researchers find their preferred grounds of investigation in the architectural and urban histories beyond Europe.

Apart from more expected contexts such as the US and Canada, and – to a lesser extent – Australia, these include areas of the **southern hemisphere**, such as Africa, Southern Asia and Latin America. Most of these geographies evidently spring from the many legacies of the European colonialism, although the perspective adopted by many scholars tends to demonstrate how the colonialist past represented but one aspect of larger multifaceted histories and how such transcontinental encounters and exchanges were far from unilateral, entailing repatriations, remigrations and returns, as well as webs of reciprocal influences and fertilizations between western and non-western contexts. Within this approach, the session 'European Architecture and the Tropics' gathers papers that explore the mutual interactions and hybridizations between European temperate environments and tropical contexts such as northern Australia, Lagos, colonial India, Somalia and Hong Kong. The session 'Southern Crossings' probes a field that has been traditionally marginalized by 'an architectural history still dictated by a northwestern discourse': those bi-directional routes of ideas, architects and practices that have linked the Iberian peninsula and Latin America throughout the twentieth century. But, besides the aforementioned sessions, papers situated within non-European geographies are scattered throughout the conference and include sixteenth-century Maghreb; eighteenth-century French Guiana; postcolonial India; 1970s Angola; socialist China; and twentieth-century Argentina, Brazil, Chile, and Uruguay. A distinctly separate place in this meeting is occupied by the **Middle East**, an already well-established area of study, considered in its widest extension, from Egypt to the Horn of Africa and the Chinese frontier, including papers that are set in fifteenth-century Cairo, Byzantium and Sasanian Iran, seventeenth-century Isfahan, Ottoman Anatolia, 1930s Ankara and contemporary Tel Aviv.

An excursion into the conference's paths

Given that the session themes were mostly the result of a call for proposals, there was no preconceived structure, nor thematic coherence underlying this conference. Thus the 32 sessions and roundtables cover different periods and geographies in the history of architecture, extending from antiquity to the present and touching a variety of disciplines and approaches to the built environment. These include historiography, the history of decorative arts and interior ornament and their interactions with buildings, the history of construction, the intersections between art (theories and practices) and architecture, the history of landscape and urban history. An interesting chronological and thematic balance was then achieved, providing an extensive overview of the research trajectories being followed at this time.

For organizational purposes and in order to ensure that sessions appealing to the same kind of audience were not scheduled in the same slot, we grouped them into **six thematic threads**. Besides the practical nature of this choice, we then realised that this instrumental subdivision could also act

as a convenient framework throughwhich the richness and extreme diversity of the materials published here could be organised, approached and more easily commented upon.
The definition of each single track was based on different sets of criteria: threads were singled out according to chronologies, critical and methodological approaches, and thematic issues.
We grouped four sessions under the heading of '**Early Modern**', dealing with time periods extending from 1400 to 1800 and including a variety of approaches, from the history of building types, to attribution studies, the history of construction and historiography. The session 'Fortified Palaces', presents a number of case studies chosen throughout Europe that explore and illustrate how the *palazzi in fortezza* evolved from previous building typologies and were transformed from the fifteenth century onwards. Cases range from Early Modern Sicily to Cremona under the Sforzas, from the construction campaigns undertaken by Alfonso, Count of Ourém at Porto de Mós, to the Moscow Kremlin and the seventeenth-century fortified villas in the County of Gorizia. The relationship between 'Architecture and ornament in the Early Modern age' is put under scrutiny by a panel which proposes to re-unite two traditionally autonomous fields of investigation by studying the collaborations between architects and various categories of craftsmen, including plasterers, carvers and painters. 'On the way to Early Modern' is one of the three open sessions in this conference gathering a heterogeneous group of studies, encompassing the history of Renaissance theory of proportions and design methods and the spatialization of conflicts in Early Modern Italy and sixteenth-century Maghreb. Piedmontese Baroque architecture and historiography are the focus of a roundtable that aims at critically re-assessing the heritage of the 1960s scholarship in this field.
The second track '**Representation and Communication**' brings together those sessions that are concerned with how architectural ideas and buildings are represented and conveyed through a plurality of media and genres. A number of papers deal with the role of the specialist press in providing legitimization strategies to architectural and aesthetic practices. A whole session analyses the relationship of texts and pictures as seen in books, architectural periodicals, catalogues and more popular genres of printed publications, as the early twentieth-century illustrated magazines. Another panel concentrates on exhibitions, periodicals and educational institutions seen as 'discursive platforms', shedding light on their theoretical discourses, the rhetoric underpinning their critical projects and their pivotal roles in the transcontinental dissemination of architectural ideas from the 1960s well into the 1980s.
Under the track '**Questions of Methodology**', the reader will find papers following underexplored research paths, employing unconventional source materials, proposing new modes of studying historical evidence and re-discussing the very objects of the discipline. Methodological concerns are the focus of the session dedicated to the most up-to-date digital technologies for the documentation of classical architecture and urbanism. Lesser explored materials and sources are the point of departure for papers that investigate the implications of walking and its impact on architectural history. In turn, traditional research fields for the history of architecture are reconfigured and treated in an non-conventional way, as in the case of the session 'Producing Non - Simultaneity', where the construction yard is interpreted as a place of production incorporating divergent notions of temporality, and an ambivalent – often contradictory – idea of modernity. A less elitist approach towards the selection of archival materials, finally, is proposed by 'Bread and Butter and Architecture' and 'The Architecture of Bureaucracy': by moving from similar premises, they both deal with the middle landscapes of standard building practices and the often neglected histories of those architects and technicians who worked for local and central authorities or commercial undertakings.
The track '**Theoretical and Critical Issues**' groups sessions that take a closer look at conceptual problems in the history of architecture. Beyond the usual interpretation of the term 'theoretical', commonly referred to figurative theories and poetics of design practices, this track proposes to group those papers tackling a series of key issues –environment, conflict, postmodernism, anarchism and the question of origins of architecture-and using them as lenses for re-reading buildings, cities, architectural theories and texts, or as vehicles to reframe contemporary discussions on specific themes, from democracy and representation in decision-making and planning processes to today's most urgent environmental concerns.
The quantitative dominance of the **twentieth century** is confirmed also by this conference and acknowledged by an entire track regrouping papers set in this broad chronology. Along with the postwar period that is the specific object of two sessions, the interwar years along with the most recent past are also well represented.
Under the title **'Circulation of Architectural Cultures and Practices'** are grouped sessions dealing with the dissemination and diffusion of architectural ideas, histories of cultural exchanges and transfers of professionals as well as models, and practices. Most of the papers in this track imply narratives of travel and migration both in space and time, through continents as well as over historical periods (e.g. the sessions 'Afterlife of Byzantine Architecture'; 'Lost (and Found) in Translation'; 'Southern Crossings'; 'European Architecture and the Tropics'). Others, by connecting traditionally separate

fields of enquiry, address the dialectic between architectural publications, theories and material processes ('Building by the Book?').

Subjects, methodologies and possible frontiers: a synthetic overview

The task of drawing some of the key issues at stake in a conference like this one encompassing such a vast array of studies and lacking a specific thematic focus, demands a certain degree of impersonality on the part of the author: little or no space at all is left for the expression of individual allegiances, and in-depth analyses privileging specific themes, periods or approaches at the expense of others should be avoided. Although a number of sessions and papers have naturally triggered my curiosity more intensely than others, I will attempt to be as neutral as possible in treating such rich and heterogeneous material, by avoiding emphasizing the work of certain scholars and marginalizing that of others.

Hence, besides the aforementioned subdivision into tracks, I have singled out a series of red threads that run throughout the whole conference providing alternative narratives to those already suggested above.

Shifting chronologies for architectural history

Some reflections can be made on the most frequent chronologies and patterns of periodization chosen by scholars. A cursory overview of the subjects highlights the presence of a variety of papers dealing with periods situated outside the most popular recent timeframes: hence, **trajectories alternative to the exceptionally popular twentieth century** are scattered throughout the conference. Besides the papers included in the aforementioned 'Early Modern' track, there are sessions that explore classical architecture and urbanism ('Revolutionizing Familiar Terrain'); medieval and Renaissance contested buildings and projects ('Conflict 300-1600'), and the impact of Early Modern treatises on architectural cultures and practices ('Building by the Book?').

Among the periods covered, a special place is occupied by the **eighteenth century**, presenting two other panels setting their focus respectively on architecture, censorship and the public sphere, and the long-debated issue of architecture's primitive origins. The **nineteenth century** has also gained an increased resonance in this meeting including papers that deal with the role of periodical publications in disseminating ideas about architecture and the built environment; world exhibitions; theories of urban planning; and the diffusion of the historicist revivals worldwide.

Most of the papers, nonetheless, re-discuss and discard timeframes based on clear-cut calendar definitions, by insisting on **continuities** that bridge different historical epochs. These are the cases of the frequent references to the 'long eighteenth century' or of papers based on diachronic perspectives of analyses, uncovering correspondences and analogies over longer periods and cutting across the conventionally accepted historical breaks marked by major western political and economic events.

As anticipated above, and in keeping with the two previous conferences, the **twentieth century** still dominates other historical periods (101 out of 157 papers). Within this century, **post-war architecture and urbanism** are still the chief focus of most of the papers in this conference (41 papers). On the other hand, it seems that for many scholars the attention has at once shifted to topics before and beyond this period: along with 8 papers dealing with pre-war years (1910s and the last decade of the nineteenth century), 10 devoted to the **interwar decades,** and 32 works on the **1960s and 1970s**, we register themes situated in the **most recent past** (20 papers set in the thirty years between the early 1980s and the first decade of twentieth-first century), a territory contested by a variety of disciplines, where the boundaries between theory, criticism, cultural studies, and the history of architecture and urbanism often become blurry. A whole session, for instance, is devoted to projects of urban renewal and strategies of collective memory and preservation pursued in the last three decades by the local administrations of Paris, Turin, Milan, Prague, and Genoa, whereas the years following 1989 are the privileged focus of some of the papers discussed in 'Artistic Dislocations of Architecture in Socialist Regimes'. 'The Historiography of the Present', is indeed the centre of attention of an entire panel that seems to suggest how the very recent past, as a subject of investigation, is a promising – albeit critical – field of study for the architectural historian. Little concerned with warning against the inevitable collusions between histories and theories of design that had been a typical feature of the first generation of modernist historiography, and all the while aware that any interpretation – independent of the remoteness of its object – is historically bound, this session attempts to contextualise and historicize the growing attention to the recent past shown by contemporary and younger scholars, studying its implications and defining its possible impact on the discipline as a whole.

Buildings, cities, regions, nations and global scales of investigation

The physical and geographical dimensions at which scholars have been tackling their objects of study have varied considerably from case to case: from micro-histories of buildings to larger territorial perspectives embracing regional, national and transnational stances. Case studies delving into the **individual histories of projects and buildings** – and processes of their conception and construction – have been a frequent scale of analysis (e.g. sessions 'Producing Non-Simultaneity'; 'Architects, Craftsmen and Interior Ornament'). Moreover a few sessions chose the **history of building types** as the conve-

nient lens for analysing and comparing a number of different versions of the same category of buildings, as in the cases of postwar **shopping centres** (with examples chosen in France, Sweden, Netherlands, Chile, Australia); Early Modern fortezze in palazzi; 1950s and 60s Swiss **school buildings** ("Architecture That Teaches"); Early Modern Italian **bank buildings** ("Moralizing Money"); **religious architectures** ("Building Identity and Community in the Post-Crusade Morea"; "Sacred buildings in Italy after World War II"); and eighteenth-century **theatres** and **performance halls** ("Audible Disagreements").
Despite there not being a whole session exclusively devoted to urban history, the **city** – at its different scales – has been either the focus of specific papers or the backdrop against which the many histories narrated in this conference have unfolded. In particular, the meeting's **host city** was chosen as a field of historical and critical enquiry by a number of local and non-Italian scholars. In addition to the series of papers concerned with Turin's seventeenth and eighteenth-century architects, builders and craftsmen, these have included studies devoted to the postwar interrelations between Turin's artistic and architectural *milieux* ("The Enchanted Rooms of Carlo Mollino"), and the re-assessment of the most recent policies of heritage affecting this city, on its delicate passage from a manufacturing economy to today's more fragmented and composite post-industrial status (see papers in the roundtable 'The Third Life of Cities').
'Piedmontese Baroque architecture', a common **regional-stylistic designation** based upon a long and well-established tradition of scholarship, was explicitly proposed – and questioned in its validity – by a roundtable exclusively devoted to this topic.
Nation-states were employed by a number of papers as the preferred scales of their research: studies devoted to the nineteenth century and to post-independence nation-building strategies and their architectural implications, almost naturally fall in this group. Moreover, two sessions focusing on architecture in socialist regimes ('Socialist Postmodernism'; 'Ideological Equality') adopted the national scale as a convenient dimension for a series of extensive overviews aimed at making transnational comparative analyses.
As anticipated above, a specific track regroups those sessions which probe how architectural cultures and practices were – and are – transferred at a **transcontinental – global scale**, including western and non-western environments. This is a field of study that has increasingly attracted the attention of a variety of scholars, in and outside Europe, being the focus of at least two other recent projects: the 2013 EAHN themed conference in São Paulo *Architectural Elective Affinities*,[9] and the recently accomplished COST (European Cooperation in Science and Technology) Action *European Architecture Beyond Europe*.[10]

Actors, voices and vectors of architectural history
One of the recurrent threads that runs throughout the conference, is the tension towards reformulating – and at once widening – the objects of the discipline: scholars have not only expanded the timeframes of their analysis towards 'younger' histories, but also considerably increased the range of criteria that define the eligibility of specific subject matters to enter the realm of architectural history. Thus, the relatively little place given in this conference to the acknowledged authorial figures of the history of architecture and urbanism (from Guarino Guarini to Sir John Soane, Bruno Taut, Albert Kahn, Le Corbusier, Marcel Breuer, Lucio Costa and Felix Candela) is paralleled by a number of sessions that turn their attention from object masterpieces and monuments (and their authors), to more anonymous structures and the – hitherto neglected – histories of **everyday practices**. A series of 'histories without names' are presented here which mainly deal with the so-called 'grey architectures' and the prosaic, seemingly tedious, jobs of public officials and government bureaucrats. The range of topics extends from the German Institute for Norm ("Bureaucratic Avant-garde"), to French postwar shopping malls ("Shopping *à l'américaine* in the French New Towns"); the reconstruction of Germany's cities after WWII ("Germany's Grey Architecture"); Portuguese state furniture designers ("Layers of Invisibility"*);* the re-organization of Swedish public architecture in the 1960s ("Architecture's Red Tape"); the London County Council Architect's Department during wartime ("Humdrum Tasks of the Salaried-Man").
By explicitly reconnecting their research paths to the lineages of two pioneering texts in the historiography of an 'anonymous history' of architecture, John Summerson's *Bread and Butter and Architecture* and H. R. Hitchcock's *The Architecture of Bureaucracy and the Architecture of Genius*, these works tend to dispute common hierarchies of central and peripheral subjects of investigation, towards a more inclusive approach where the 'ordinary' and the 'mundane' – along with the 'noble' and the 'exceptional', have been given the status of architectural historical objects in their own right.

Re-discussing authorship
Although the enduring success of architectural monographs seems to confirm a diffused insistence on the individual as the main target of today's most popular narratives depicting the architectural profession, the conference shows how historians of architecture have unquestionably downplayed the **myth of the architect as artist** in favour of the complexity of patronage relations and professional interactions. Far from being pictured as the unique mind behind the building, the architect – along with the patron, the contractor, the user, and the critic – merely appears as one of the many actors involved in the

complex process of the conception, construction and final reception of architecture. Thus we have papers that treat buildings as complex '**architectures of interactions**' ("Between Technological Effectiveness and Artisanal Inventiveness"; "Architect, Planner and Bishop"; "Building Identity and Community in the Post-Crusade Morea"); or as **collaborative practices of architects and craftsmen** ("Architecture Before the Architects"; "Architects, Craftsmen and Marble Decoration"); or as **political objects materializing disputes of power** (e.g. the session 'Architecture and Conflict, c. 300 – c. 1600'). Others that study the **relations** between *élite* architectural discourses and local construction practices ("The Global Construction Site and the Labor of Complex Geometry"); image strategies and practical functions ("Fortified Palaces in Early Modern Sicily"); architectural theories and iconographic programs ("Foundations of Renaissance Architecture and Treatises in Quinten Massys' St-Anna Altarpiece"); symbolism of spaces and ceremonies of power ("The Chrysotriklinos Within the Great Palace of Constantinople"); wartime government projects and large-scale corporate buildings ("SOM 1939-46").

Reception theory has only sporadically entered the field of architectural historiography, resulting in a number of remarkable works.[11] Hence, this emerging interest is mirrored by a few papers in this conference, where urban and architectural facts are reappraised not through the theories and practices of their production – their policy-makers and designers – but from their recipients' angles, depicting the ways in which buildings are – and were – perceived, criticized and even ridiculed, across their expanded social lives after their completion, and through a plurality of voices and media, often coming from outside the self-referential circles of professional practice. Two sessions in this conference specifically address the relationship of architecture to its audiences. One ('Public Opinion') draws evidence from hitherto underexplored sources as broad sheets, newspapers and pamphlets, to focus on reactions of dissonance and resistance on the part of the viewers. Another ('On Foot') delves into a number of sensory experiences of the environment to set the premises of an alternative history of architecture where the user and viewer play equally important roles as the designer and the builder.

Conclusion

The **cross-section of the discipline** highlighted by the collection of 157 papers discussed in this conference provides a composite tableau where the outmoded dichotomy between traditionalism and modernism has definitely left the place to highly documented and far more nuanced historical reconstructions of disparate and varying versions of modernism, and where aesthetic values have been definitely supplanted by meanings (cultural, economic, social, political, aesthetic…). The great majority of the scholars participating in the conference systematically refrain from expressing any judgment on the architectural quality of their objects of study. If aesthetic values do not seem a necessary prerogative for inaugurating research on a given subject, the scopes of the discipline have been extended as far as to include the uncelebrated landscapes of everyday practices as well as the histories of failures and flops.

Moreover, the dismissal of large-scale explicative narratives that has characterized all the humanities since the crisis of modernity as an all-encompassing project, allows no place for laudatory accounts of architects or buildings: we find no celebrations of heroic figures, nor ingenuous legitimizations of architectural practices. Less concerned with makers, scholars have appeared more and more interested in looking at buildings as complex cultural artifacts.

Whereas the boundaries of the discipline have been naturally pushed into geography, anthropology, social, cultural, and visual studies, nevertheless the fruitful exchanges of information and analytic tools with other disciplines[12], seem to coexist with a return to a more positivistic and factual attitude on the part of scholars, a 'connoisseurship from within,'[13] rooted in the practice of well-documented archival research.

Almost inevitably, the variety of trajectories highlighted by this conference opens up a series of crucial issues impinging on our area of study. Does the cross-disciplinarity shown in current scholarship question the autonomy of our discipline by making its boundaries (and scopes) appear less distinct? Do we have to search for a higher standard of specificity of our field of study, of its competences as well as of its instruments, methods and objects of investigation? Does the body of specialised knowledge related to architectural practice represent an indispensable constituent of scholars' equipment to better comprehend those internal discourses that play such an integral part in the discipline? What are the relationships between the scholars' paths of investigation, architectural education and the current practice of the profession? Why and for whom do we study and write the history of architecture? The answers to these questions are far beyond the scope – and space – of this necessarily overly synthetic text, and would require at least another conference to be properly tackled.

Nevertheless some inkling can be found by looking beyond and from outside the Turin Meeting, to the recently inaugurated 14th Venice Architecture Biennale.

This reciprocity is suggested to me not only by the presence at the EAHN Third Meeting of a number of scholars (7) who have been playing active roles in this international exhibition, some of them being awarded prizes

Figure 2. View of the exhibition section 'Window' at the 14th Venice Architecture Biennale. It shows a fragment of the Brooking National Collection containing 'approximately 500,000 pieces, 5000 of which are complete windows, 10,000 windows' sections and 30,000 sash pullings' *Source*: *Fundamentals*, catalogue of the 14th International Architecture Exhibition (Venezia: Marsilio, 2014) 211. Photography by the author 7 June 2014

and special mentions.[14] If 'architecture not architects', the motto chosen by Rem Koolhaas and his team to accompany the whole event, finds several echoes within this conference, nonetheless the unprecedented profusion of historical evidence on exhibit at Giardini and Arsenale, from architectural elements, details, and drawings to professional journals, illustrated magazines, newspapers, promotional catalogues and advertisements, seem to suggest that the demand for history expressed by the architectural discipline is stronger than ever (Figure 2). And even more striking is the way in which this demand is formulated and fulfilled: through the deployment of large amounts of factual documentation whose main aim would be to bring architects and their public back to the discipline's fundamental concerns, beneficially re-immersing them into the realities (firstly material, but also social, economic, political, ideological, technological, environmental, aesthetic…) of buildings, cities and landscapes, in an attempt to rise above the linguistic barriers that often distance this field of knowledge from its wider audience of users and viewers. By uncovering the plurality of meanings and values associated with buildings and incorporated in their components rather than insisting on their authors' discourses, this Biennale seems to advocate a new centrality of our discipline within the contemporary society. Besides indicating a number of potentially fruitful routes of investigation for future researchers in the history of the built environment, it peremptorily reminds us of the public dimension of our studies.

Michela Rosso
Chair of the Third EAHN International Meeting

1 The conference website was launched in summer 2013 http://eahn2014.polito.it
2 Presenters authorized us to publish these full papers under a Creative Commons Attribution 4.0 International license, whose summary is available at http://creativecommons.org/licenses/by/4.0/. (Full text of the license available at http://creativecommons.org/licenses/by/4.0/legalcode).
3 Antoine Picon, *Some Concluding Remarks*, First International Meeting of the European Architectural History Network, Guimarães, Portugal, Supplement to *EAHN Newsletter* 3 (2010), 7-8. See also Christine Mengin and Robert Dettingmeijer, "President's Message," *EAHN Newsletter* 1 (2007), 7. Both articles are accessibile online at http://www.eahn.org/newsletter-archive/. On this question a founding member of the network recently said: '"European" in the name was never intended to refer to "European architectural history" either in the meaning "history that studies European architecture" or in the meaning "architectural history conducted in European institutions." It was merely meant to indicate this network of architectural history has an institutional base in Europe. There is frequent misunderstanding about the meaning of the name EAHN. It would have been better to name it "The Architectural History Network" or "The Architectural History Network of Europe."' Quoted from a private conversation with Nancy Stieber, 13 June 2014.
4 The discussion over the difficult formulation of a European cultural identity has been recently fuelled on the occasion of the 2014 European Parliament elections, as highlighted in Claudio Magris, "Il passaporto della civiltà," *Il Corriere della Sera* (Milan edition), May 25, 2014.
5 Cesare Ripa, *Iconologia*, ed. Sonia Maffei, (Turin: Einaudi, 2012). Facsimile reproduction of the original edition (in Roma: appresso L. Facij, 1603), 395-6.
6 Of these 226 scholars (52 chairs and 174 speakers), 143 are European.
7 Hilde Heynen, "Welcome to the Second International European Architectural History Network Conference," in Eahn Second International Meeting, Brussels 31 May – 2 June 2012, Conference programme, (Gent: Academia Press, 2012) 3.
8 Mary McLeod, *Concluding Remarks* (speech given at the Second International Meeting of the European Architectural History Network, Brussels, June 2, 2012).
9 As we read in the home page of the conference website: 'Correspondences, transfers, circulation and migration – of people

and ideas – have been fundamental in human culture, architecture included, and are crucial in understanding the relations between Europe and Americas. It is important for the first conference of the EAHN outside Europe to embrace such topics which constitute practically an illustration of one of its major goals: fostering inclusive, transnational, interdisciplinary and multicultural approaches to the history of the building environment'. http://www.fau.usp.br/eahn2013/

10 From the text of the project's mission statement published in the open access journal *Architecture Beyond Europe*, http://www.architecturebeyond.eu.: 'This Action aims to produce a broader understanding of the worldwide spread of European architecture across empires during the nineteenth and twentieth centuries by focussing on its vectors, connections, semantics and materiality in a large range of geographic and linguistic contexts engaging both western and non-western environments.'

11 Among the most recent studies on this topic see: "Reception," ed. Naomi Stead and Cristina Garduño Freeman, special issue, *Architecture Theory Review* 18, n. 3 (2013); "La réception de l'architecture," ed. Richard Klein and Philippe Louguet, special issue *Cahiers thématiques. Architecture, histoire, conception*, n. 2 (2002), 43-6.

12 Nancy Stieber, "Architecture between Disciplines," *Journal of the Society of Architectural Historians* 62, n. 2 (2003), 176-7; Nancy Stieber et al. "Learning From Interdisciplinarity," *Journal of the Society of Architectural Historians* 64, n. 4 (2005), 417–40 and articles by Daniel M. Abramson, Dianne Harris, Carla Yanni, Mario Carpo, Arindam Dutta, John Archer, Hélène Lipstadt, Gwendolyn Wright. See also Dianne Harris, "That's Not Architectural History!" *Journal of the Society of Architectural Historians* 70, n. 2 (2011), 149–52

13 See the discussion on cross-disciplinarity among art historians, in 'Inter/disciplinarity', special issue *The Art Bulletin* 77, n. 4 (1995), with essays by Carlo Ginzburg, James D. Herbert, W. J. T. Mitchell, Thomas F. Reese and Ellen Handler Spitz. In particular Carlo Ginzburg, "Vetoes and Compatibilities," ibidem, 534-52;

14 *Fundamentals*, catalogue of the 14th International Architecture Exhibition (Venice: Marsilio, 2014).

1. EARLY MODERN

1.1 Fortified Palaces in Early Modern Europe, 1400-1700

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Session description

From the fifteenth century onwards the spread of firearms profoundly affected the medieval castle. Residential and defensive elements that were once united in a single structure now evolved into separate architectural entities. The *château* fort gradually developed into a residential palace surrounded by a fortified perimeter. In addition, the shift from vertical to horizontal defence meant that the main trait of a stronghold was no longer its profile but its plan. As the plan became dictated by firing lines, angular shapes took the place of round and square ones, and the overall geometry became regularized. Efforts to reconcile the often contradictory demands of residence and defence inspired a wide variety of architectural designs across Europe, many of which have received little scholarly attention.

This session focuses on the building typology of the *palazzo* in *fortezza* in its broadest sense. Besides fortified palaces that were planned as a whole, it will also consider instances where new fortifications were built around an older palace or, vice versa, where a new residence was erected within a pre-existing citadel. The aim is to explore the conjunction of palatial residence and military defence. Papers may discuss the architectural connection (or lack thereof) between the palace and its fortifications. How was the building's defensive role combined with residential comforts and ceremonial requirements? What happened to weak elements such as entrances, windows,

forecourts and gardens? Did its decorative programme reflect its martial component? Was the fortified perimeter truly functional or merely symbolic? Did its military features answer to the demands of full-scale warfare or only to limited security needs? Conversely, could a fortified palace really operate as a fully-fledged princely residence, or were there limitations to the extent of its court life? Relevant events such as an attack on a fortified palace or a courtly ceremony held within its confines may also be examined. Of particular interest are issues of cultural interchange, considering that fortification was an 'international style', whilst palatial architecture was firmly tied to local and dynastic traditions. We welcome cases from the whole of Europe (including its overseas colonies) and especially from less studied regions such as Central and Eastern Europe. We explicitly seek analytical papers that enable transnational comparison.

The session fits within the framework of the ESF Research Networking Programme 'PALATIUM. Court Residences as Places of Exchange in Late Medieval and Early Modern Europe (1400-1700)' (www.courtresidences.eu).

1.1.1 Fortified Palaces in Early Modern Sicily: Models, Image Strategy, Functions

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Abstract

In early modern Sicily the extra-urban fortified residence was a limited but important architectural phenomenon. Starting from the last decades of the fifteenth century, previous residential buildings, especially towers, were in some cases renewed by the introduction of a surrounding fortified perimeter with bastions (e.g. Donjon of Adrano; tower of Migaido, or villa S. Marco near Bagheria). Subsequently the genesis of new palaces with bastions, bulwarks, and pseudo-bulwarks is certainly linked to contemporary publications and specialized treaties, but local conditions played an equally important role. The position along the Mediterranean frontier with the Islamic world and the presence of numerous military engineers created an environment particularly open to fortified buildings, providing at the same time a wide range of experiences for confrontation and imitation. In this situation the symbolic meaning of fortified structures was particularly resonant with aristocratic clients. The representational aspect was evident also in buildings with a true defensive purpose. Medieval idioms and allusions to modern fortifications were used to legitimate social hierarchies. At the end of the seventeenth century, for example, the Rome-trained architect Giacomo Amato planned a magnificent palace for the Spaccaforno family with bastions and a double boundary wall. This paper will present a sequence of examples that are most representative of this architectural phenomenon. It will especially focus on the models in use and how they change along the centuries; on the intertwining between residential and military needs in the conformation of inside and outside spaces; and finally, on the relation between image strategy and practical function.

Keywords

Fortification, tower, villa, bulwark, Sicily

The fortified residence has known an uninterrupted tradition in Sicily since the late Middle Ages. Constant renovation was dictated by the need to adapt defensive structures to new offensive techniques and weapons, and to prevailing historical and political conditions. This remodelling was necessary at the beginning of the Early Modern period, and was influenced by treatises on the subject. The renovation and *ex novo* construction of fortified residences in Early Modern Sicily was not a major phenomenon, but various aspects make it worthy of note. The island's strategic geographical position in the Mediterranean and the presence of a large group of military engineers played an important role, but other factors, in particular related to the image strategies pursued by the clients, cannot be overlooked. This paper examines a selection of cases and looks at the different inflections of the phenomenon from the second half of the fifteenth to the eighteenth centuries.[1]

Fortifying pre-existing structures: tower houses and fortified enceintes

Since the Late Middle Ages, fortified buildings with both a residential and a defensive function dotted the Sicilian territory.[2] Between about 1450 and 1650, many of these buildings underwent renovations, using different procedures and answering to different requirements. The need to enlarge the building, to transform its interior, or to improve its defensive structures, was frequently accompanied by a desire to update the architectural image, as part of a more general self-promotion strategy pursued by the client.[3]

The addition of enceintes and bulwarks to pre-existing tower houses between the second half of the fifteenth and the sixteenth century is a particularly significant phenomenon. There was no uniformity in intentions, planning approaches or solutions. Today at least ten examples in which a sixteenth-century reorganization is decipherable subsist, and they all differ in the consistency, layout and shape of the structures added to the original tower-shaped core. These range from a bailey-type structure, mainly for agricultural use, with low buildings surrounding a courtyard which includes or incorporates the tower,[4] to perimeters built for defensive purposes, characterized by the presence of cylindrical or quadrangular bulwarks at the corners of the enceinte.[5] Besides this type of structure, in which the tower remains detached from the new buildings that surround it, there are also some models in which the added buildings are attached to the pre-existing tower and can be accessed from it, making it an integral part of the new morphology.[6]

These varied cases include three buildings that are particularly significant on account of the planning choices and intentions behind their renovation. First, the Castle of Adrano (Catania) is an interesting case in which a fortified wall was attached to the pre-existing tower (Figure 1). Its soaring bulk overlooks the main square of the town, located on a plateau on the south-west slopes of Mount Etna. The pre-existing structure is a rectangular donjon (20x16.70 m), with five floors inside. The final configuration of the tower was the result of interventions commissioned by Count Matteo Sclafani around the middle of the fourteenth century, possibly carried out on a former structure dating back to the Norman conquest of the island (second half of the eleventh century).[7] At the beginning of the Early Modern age, the tower – which had passed over to the estate of the Moncada family towards the end of the fourteenth century[8] – was surrounded up to the level of the first floor by a sloping rampart with bulwarks at the corners. The serrated edges of the bulwarks leave no doubt as to the Neapolitan origin of the model,[9] and are indicative of the self-celebratory intentions of the client and his influence in the design choices. In fact, it recreates, on a smaller scale and with less refined workmanship, the ramparts around the towers of the Castel Nuovo in Naples, produced when Alfonso the Magnanimous (1443-58) commissioned restructuring works on the palace.[10] The design for Adrano seems to allude to the participation of Giovanni Moncada (1414-54) in the military campaigns to conquer Naples (1442) and, more generally, to the esteem he and his successors enjoyed at the court of Alfonso V and Giovanni I.[11] This interpretation is consistent with the identification of Giovanni Tommaso Moncada as the client (1461-1501)[12] and with the dating of the intervention to the last three decades of the fifteenth century. While image strategy appears to be a determining factor, from a functional point of view this enlargement of the building mainly tackles defensive issues, including the possibility to use part of the inside of the

Figure 1. The Castle of Adrano. *Source*: Photograph by Emanuela Garofalo

new rampart as a prison. The residential function, on the other hand, was left unchanged, apart from the creation of an annular terrace directly accessible from a room on the first floor of the tower through an ogival portal, probably coeval with the rampart.[13]

In the more articulate example of the Lanza di Trabia Castle, transformed between the first and second half of the sixteenth century, defensive requirements converge with the need to create a fitting residence for an ambitious client, with comfortable residential and ceremonial rooms. Once again, the original core of the group of buildings is a tower of uncertain date, perhaps surrounded by a defensive perimeter in the late Middle Ages. It occupied a strategic position on the northern coast of Sicily close to lucrative production activities.[14] In 1498, the tower was acquired through marriage by Blasco Lanza, a well-known jurist and representative of an important aristocratic family.[15] An initial phase of renovation work on the building, carried out between 1509 and 1535, has been attributed to this figure.[16] These works included the construction of battlemented walls with a protected walkway (*chemin de ronde*), the addition of a circular tower to defend the entrance on the sea front,[17] and the addition of the first wing of a new residential building with merlons, completing the fortified architectural enceinte on the sea side. This building de facto relegated the former tower-house, to which it was not physically connected, to a minor role. Between 1536 and 1575,[18] renovation continued under Cesare Lanza on two fronts, with the enlargement of the new residence and the construction of a defensive platform equipped with merlons and an angular little bastion[19] on the side facing the rocks. The inextricable link between defence and residence is also apparent in the crenelated terrace on the wing of the residence facing the sea, and in the construction of a small church serving the residence on the defensive platform.

The layout of the Castle of Brucoli (Siracusa), transformed during the reign of Charles V,[20] lies mid-way between the two examples mentioned above. In this case, the sixteenth-century addition consists of a fortified and inhabited quadrangular enceinte, with cylindrical turrets on the four corners and one polygonal bulwark in the middle of the south-east facade. Including storehouses and dormitories, this structure was built around the fifteenth-century Cabastida tower, the residence erected by the homonymous governor of the Queen's Chamber in the 1460s[21] to defend the Brucoli granary. The fortified enceinte forms a *chemin de ronde* with platforms for the artillery, protected by merlons. Compared to the Adrano example, we here see a modernization of the defensive solutions, with the tower unconnected to the added buildings, though only separated by a narrow open path. This is different from the isolation of the tower in the Castle of Trabia, as in Brucoli the tower maintains its function as a focal point of the main residential quarters.

The diverse nature of the solutions to remodel fortified residences in Sicily between the end of the fifteenth century and the 1570s is reflected in the three cases presented here – despite their similar points of departure. Likewise, it is clear that there were no dominant formal models. Although these conditions discourage us from attempting to provide a summary, we can however affirm that the question of defence was a real concern, which conditioned choices of design and layout, with the military engineers on the island definitely playing a prominent role in the planning. However, this is not incompatible with the image strategies that were pursued: the fortified appearance of the residence was still seen as alluding to the great age and might of the family name, and sometimes even to its political affiliation and military successes, like in the Castle of Adrano.

'Bastioned' residences: models and projects

In the late sixteenth century, the need to adapt extra-urban residential architecture to new problems related to defence against artillery was undoubtedly a contributing factor in the appearance of the modern angular bastion. Nevertheless, treatises on the subject certainly played an important role in the success of residences with bulwarks, bastions or angular pseudo-bastions in Sicily, as well as in nearby Malta. Of course, in addition to cases where pre-existing medieval structures were adapted and renovated, there were many constructions built from scratch, with a defensive appearance.[22] On Malta, we should mention the Verdala Palace,[23] built around 1586 as a fortress-villa for the Grand Master and Cardinal Hugues de Loubens de Verdalle, based on a project designed by the Maltese architect and engineer Girolamo Cassar. Intended for seasonal use, it is a compromise between a 'fortress' and a cardinal's residence. The martial character of the structure is stressed by the four sharp-cornered, towered and bastioned pavilions projecting from the corners, similar in plan to polygonal bulwarks, and by the use of other military devices such as the slightly sloping base within a large open ditch, the drawbridge and the merlons (perhaps these latter elements were introduced when a floor was added and the towers were erected).[24] The residential function appears pre-eminent, although the building also has a moderately defensive purpose, enabling it to oppose sudden attacks, and to withstand a 24-hour siege. Indeed, its isolated position on a hill, a few miles from Rabat, gave rise to a real need to strengthen its defensive capacity, and it was designed to allow firearms to be positioned on top of the building, as is revealed in the descriptions by Abela (1647) and a French traveller, Albert

Jouvin (1663).[25] The reason behind the choice of the 'bastioned' system, which served a symbolic rather than a practical function, lies not only in the technical skills of the designer,[26] but also in the cultural background and the client's desire for an architectural self-portrait. Moreover, considering its origins,[27] possible references to French models illustrated in the treatises of Philibert de l'Orme and Androuet du Cerceau[28] seem plausible. Various plans for the 'Casa del principe illustre in modo di fortezza' with modern pavilions in the form of bastions also appear in the manuscript of Serlio's *Book VI*.[29] It is clear that the use of these elements was already 'codified' in the second half of the sixteenth century, and they belonged to a wide range of possibilities to apply.[30] The Selmun Palace displays the enduring influence of this model in Malta in the eighteenth century.[31]

The theme of the angular bastion continues throughout the seventeenth century, endorsed in Scamozzi's treatise (1615), which illustrates the project for a 'Palazzo in Fortezza, per resistere alle scorrerie.'[32] The proposed plan met with success, and the model was reproduced with several variations: the Villa Albergati in Zola (from around 1659) is thought to be one example.[33] In Sicily, this design can be found in the Spadafora Palace, on the San Martino landed estate, in a vulnerable position on the Spadafora seafront (Messina), exposed to pillaging and pirate raids (Figure 2). The structure retraces the model, with a uniform spatial arrangement, without an internal open courtyard, and with four crenelated bulwarks equipped with watchtowers, surrounded by a ditch and sloping rampart. There is some uncertainty as to when the bastioned 'castle' was constructed, perhaps in the first decades of the seventeenth century, although the bastions were probably added in an immediately subsequent phase, as some evidence suggests (perhaps they were originally unconnected to the building). Some interventions are documented between 1660 and 1670, probably to complete restructuring work, including the 'remodelling of the bastions,'[34] but works which had also involved the rooms, doors, windows and (iron) balconies must have given the building its current configuration. On the outside, the 'fortified' appearance, which had to be a priority at the time of building (originally equipped with splayed loopholes), is at odds with the large openings which bear witness to its residential role and form four symmetrical palatial facades; once their defensive function was no longer a priority, the bastions assumed a mainly symbolic character, displaying the role of the landowners in the urban context.

Angular bastions (transformed in terraces) can also be observed on the mansion belonging to the Filangeri family, Counts of San Marco, in Santa Flavia. It was built on the Bagheria countryside as a holiday retreat, on the site of an ancient bailey, dating from the second half of the seventeenth century.[35] Other defence-related structures accentuate its pseudo-fortified character:

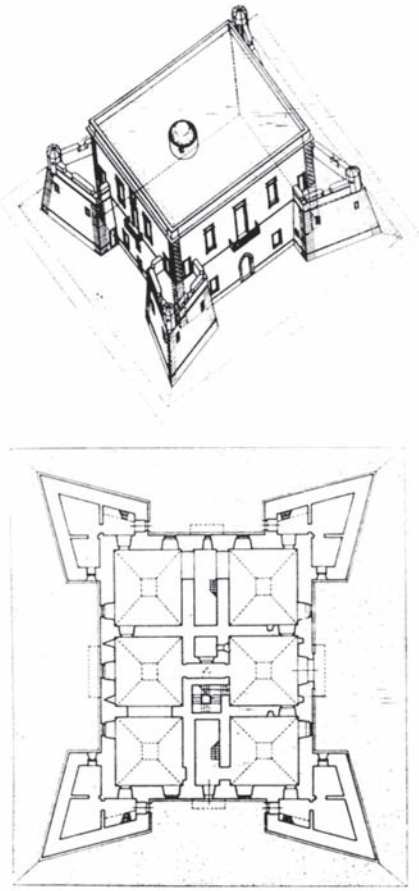

Figure 2. Spadafora Palace. Plan and axonometric projection. *Source:* Pietro Cono Terranova, I castelli peloritani del versante tirrenico (Messina: Assessorato Regionale dei beni culturali, ambientali e della pubblica istruzione, 1991), 18

the central crenelated turret with a belvedere covered roof-terrace and the drawbridge connecting the stairway, detached from the structure, to the main floor. This new iconography of the mansion, which alludes to updated themes, can be credited to the inclinations and culture of the client, Vincenzo Giuseppe Filangeri, the first Prince of Mirto;[36] however, the role of the designer, the Dominican architect Andrea Cirrincione, who was a tutor in the Palermo seminary, where a great interest in mathematical disciplines and their specific application in military architecture was cultivated, is another determining factor.[37]

One of the most interesting cases which can be attributed to criteria codified by Scamozzi, but also to suggestions handed down in earlier sixteenth-century architectural treatises (Androuet du Cerceau), is the 'castle' of the Princes of Biscari (present-day Acate), an imposing baronial residence on the ancient Paternò Castle estate. Its current form is the result of a vast programme of reconstruction, transformation and enlargement of a late fifteenth-century fortified residence, perhaps started in the 1640s and continued until the eighteenth century.[38] It was an ambitious project which was never completed. If the reconstruction hypothesis is correct, the intention was to create a palace with a central courtyard surrounded by a system with four bastions, crenelated towers and prominent entrance avant-corps. The choice of the sloping rampart, which extends along the side of the building facing the city, has a symbolic function, as the presence of large windows indicates. The 'defensive' connotation is also reflected in the dimensions of the long bastioned facade (in exaggerated

proportion to the inhabited centre) and alludes to the family's political prestige and rising social status.

Other constructions attributed to the second half of the seventeenth century present sloping ramparts and, on a different level, play an intimidating urban role which is assuaged by decorative elements. This motif can be seen in the feudal Naselli Palace in Aragona, built from 1665, with angular pseudo-towers on a sloping base, though the military-like appearance is mitigated by open galleries on the main floor.[39] In the palace belonging to the Gravina family, Princes of Palagonia, in Francofonte, re-built around a pre-existing medieval core after the earthquake of 1693, the corner stones of the building which border the facade are 'reinforced' with a high socle, similar to an angled bastion, with a decorative function: the facing of diamond-studded ashlars conjures up an evocative image of military strength, attenuated by the inclusion of the much-prized corner balcony on sculptural corbels.[40] Another example worthy of mention is the bastioned palace of the Barons of Montaperto in Raffadali with its massive escarpment, which can perhaps be attributed to the eighteenth century.[41]

At the end of the century, even an architect like Giacomo Amato, who had had ten years training in Rome, drew up a project for the Marquis Statella of Spaccaforno (present-day Ispica) – which was never followed through – to build a grand 'Palace and Castle' inspired by Scamozzi's model, with a large central courtyard, angular bulwarks, rampart and a low bastioned enclosure;[42] these latter elements were intended to indicate social standing[43] and were probably explicitly requested by the owner.

In the same period, even Carlo Fontana drafted a project (1696), which again was never carried out, for the Residential Palace ('Palazzo in Villa') of the Prince of Liechtenstein, which expressly requested the inclusion of a ditch and low sloping rampart. This last element was later constructed in the definitive project entrusted to Domenico Martinelli, in order to give the palace – on the prince's instructions – a pseudo-fortified character.[44] In short, on the threshold of the eighteenth century, the clients had not yet lost their desire to promote a military image and the theme of the sloping rampart was assimilated into baroque internationalism. The work of Amato takes us into contexts dominated by a more rhetorical language and roman citations. The 'spartan' creations of the seventeenth century at this point appear anachronistic, but the military-like component seems to re-emerge in a more subtle way in the magnificent residences in late Sicilian Baroque architecture, such as Villa Palagonia in Bagheria (from 1715) belonging to Prince Ferdinando Francesco Gravina (the same client for the feudal palace in Francofonte), constructed with four corner turrets on ramparts, according to a project designed by the learned mathematician Agatino Daidone and the Dominican architect Tommaso Maria Napoli (a pupil of Cirrincione and formerly an apprentice in the Roman studio of Fontana), who both served with the Austrian government (Napoli as military engineer).[45] The legacy which the eighteenth century received from the previous century is lighter and more evocative. The military aspects are still prominent in some villas, but have no practical function; they stand as memories of a lost age.

1 The authors collaborated on the whole paper, but Emanuela Garofalo wrote the first section ('Fortifying pre-existing structures') and Fulvia Scaduto the second ('"Bastioned" residences').

2 For a general framework on the topic, see: Maria Giuffrè, *Castelli e luoghi forti di Sicilia XII-XVII secolo* (Palermo: Vito Cavallotto Editore, 1980); Ferdinando Maurici, *Castelli medievali in Sicilia. Dai bizantini ai normanni* (Palermo: Sellerio, 1992); *Castelli medievali di Sicilia. Guida agli itinerari castellani dell'isola* (Palermo: Regione Siciliana. Assessorato dei beni culturali, ambientali e della pubblica istruzione, 2001).

3 Numerous cases of interventions on pre-existing castles, consisting of the addition of new surroundings or architectural elements such as portals and windows, fall outside the scope of this contribution. The most significant examples include the castles of Carini, Pietraperzia and Sperlinga.

4 Examples are: the Valenza Alta bailey in the Falsomiele district of Palermo; the Parisi bailey in Tommaso Natale near Palermo; the Albachiara and Bonura towers near Partinico; the group of buildings which incorporate the dell'Alto tower near Aragona (Agrigento).

5 This group includes, in particular: Lanza Branciforte Castle in Trabia (Palermo); Migaido Castle (Messina); Brucoli Castle (Siracusa).

6 The most important examples include: the Tower of Adrano (Catania) and the Cabrera Tower in Pozallo (Ragusa).

7 On the tower of Adrano in particular, see: Giuseppe Agnello, "Il castello di Adrano," *Castellum* 2 (1965), 5-22; Pietro Blanco, "Il castello di Adrano," *Quaderno dell'Istituto di Disegno dell'Università di Catania* 1 (1965), 125-41; Giuffrè, *Castelli*, 14-5; Maurici, *Castelli medievali*, 177-9; Simone Ronsisvalle, *Adrano nella storia. Vicende e monumenti* (Adrano: Amministrazione comunale - Assessorato alla cultura Adrano, 1995), 30-1, 35; *Castelli medievali di Sicilia*, 155-6.

8 *Castelli medievali di Sicilia*, 155.

9 The hypothesis has already been discussed by Maria Giuffrè, who also points out the analogy with 'Castelcivita (Salerno) and with the more mature as well as ingenious proposals of Leonardo for Piombino (1504) and Antonio da Sangallo the Younger for Castro (1537)'. Giuffrè, *Castelli*, 15.

10 For stereotomy and masonry works commissioned by Alfonso the Magnanimous in Castelnuovo and the master builders involved, see: Joan Domenge y Mesquida, "Guillem Sagrera," in Emanuela Garofalo and Marco Rosario Nobile (eds.), *Gli ultimi indipendenti, architetti del gotico nel Mediterraneo tra XV e XVI secolo* (Palermo: Edizioni Caracol, 2007), 59-93; Adriano Ghisetti Giavarina, "Onofrio di Giordano," in Garofalo

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and Nobile, *Gli ultimi indipendenti*, 45-57.
11 On the Counts of Adrano belonging to the Moncada family, see: Francesco San Martino de Spucches, *La storia dei feudi e dei titoli nobiliari di Sicilia* (Palermo: Scuola tipografica Boccone del povero, 1924), I, quadro 5, 12-15.
12 Ronsisvalle, *Adrano*, 35.
13 The shape of the portal, consistent with a dating to the second half of the fifteenth century, seems to us to confirm the dating of the rampart.
14 A mill and an oil mill were present in the area until the Late Middle Ages. On the history of Trabia and the castle in particular, see: Salvatore Lanza di Trabia, *Notizie storiche sul castello e sul territorio di Trabia* (Palermo: Stabilimento tipografico Virzì, 1878); Pasquale Sinesio, *Trabia e i Lanza* (Caltanissetta: Lussografica, 1995).
15 Francesco Maria Emanuele e Gaetani Marchese di Villabianca, *Della Sicilia nobile*, 5 Vols (Palermo: stamperia de' Santi Apostoli, 1754-1759), II, 531.
16 The two dates refer to the privilege granted to Blasco Lanza on 14 November 1509 by Ferdinand the Catholic, who decreed Trabia a noble fief, and to the death of Blasco Lanza, respectively. An intervening date which is significant for the interpretation of construction and fortification works on the castle is 1517, when the building was invaded and set on fire by the inhabitants of nearby Trabia in a politically motivated rebellion against the Moncada family. Lanza di Trabia, *Notizie storiche*.
17 There is some uncertainty about the dating of the other two towers added to protect the ensemble, one a square tower on the south-east corner of the perimeter, which no longer exists, and the other a polygonal tower added to the south-west corner.
18 Work had ended by 1575, according to a marble stone in memory of the client affixed there and bearing the inscription: *caesar lancea conjunctis copuli arcem hanc extruxit*. MDLXXV.
19 This last intervention shows some similarities with work carried out much earlier to modernize the defensive function of the Castle of Castellamare del Golfo around 1530, commissioned by Baron Giacomo Alliata. Maurizio Vesco, "Città nuove fortificate in Sicilia nel primo Cinquecento: Castellamare del Golfo, Capaci, Carlentini," *Il Tesoro delle Città* VI (2008-2010), 506-10.
20 Pietro Blanco "Il castello di Brucoli," *Quaderno dell'Istituto di Disegno dell'Università di Catania* 2 (1964-65), 23-48; Giuffrè, *Castelli*, 32; *Castelli medievali di Sicilia*, 388-91.
21 The Queen's Chamber was an endowment of the Queens of Aragon, and included extensive and wealthy territories in south-east Sicily. Giovanni Çabastida held the prestigious position of governor from 1452, and resided mainly in Sicily between 1462 and 1472; even after his death in the tower of Brucoli, his wife Caterina Llull y Çabastida, a shrewd merchant, lived there periodically. The approximate dating of the tower can be seen on a memorial stone on the north-west face, and which bears the inscription: turris çabastida vocor quotiam[ça]bastida ioannes me fieri fecit sumpsi quoque nomen regina siculis diva regnante ioanna ab illo aedita sum bruculae frugum custodia. On the Queen's Chamber and its governors, see Giuseppe Agnello, *Ufficiali e gentiluomini al servizio della Corona. Il governo di Siracusa dal Vespro all'abolizione della Camera reginale* (Siracusa: Barbara Micheli Editore, 2005); Giuseppe Agnello, "La Camera Reginale di Siracusa," in Giuseppe Pagnano (ed.), *L'architettura di età aragonese nell'Italia centro-meridionale. Architettura di età aragonese nel Val di Noto* (Siracusa: Dipartimento ASTRA, Università degli Studi di Catania-Facoltà di Architettura di Siracusa, 2007), 105-10. On Caterina Llull y Çabastida, see: Gemma Colesanti, *Caterina Llull y Çabastida. Una mercantessa catalana nella Sicilia del '400* (PhD diss., Universitat de Girona, 2005), 17, 51, 68, 73.
22 The cases examined are noble buildings linked to the feudal aristocracy involved in the construction or renovation of grand baronial mansions situated in the centre of their fiefs; other cases involve residences used as summer retreats which had a ceremonial function and an internal spatial organization based on comfort and social requirements. See: Fulvia Scaduto, "Residenze fortificate in Sicilia in età moderna," *Lexicon. Storie e architettura in Sicilia* 7 (2008) 37-44; Id., "La lunga tradizione delle residenze 'fortificate' in Sicilia (XVI-XVIII secolo)," in Marcello Fagiolo (ed.), *Residenze nobiliari. Italia Meridionale* (Roma: De Luca Editori, 2010), 343-50, with bibliography.
23 On the palace: Quentin Hughes, *The building of Malta during the period of the knight of St. John of Jerusalem 1530-1795* (Malta,1986), 205-7; Leonard Mahoney, *5000 years of architecture in Malta* (Valletta: B.E.&A., C.Eng., M.I.C.E., A.&C.E., 1996), 86-8, 117-23; Quentin Hughes and Conrad Thake, *Malta the baroque Island* (Malta: midseabooksltd, 2003), 77-9.
24 It is very likely that the first floor was built in the second half of the fifteenth century. Further interventions and decorative integrations (balustrades, windows, etc.) were carried out during the government of the Grand Master Antonio Manuel de Vilhena (1722-36) whose coat of arms is found on the coping of the main facade.
25 Giovan Francesco Abela, *Della descrittione di Malta…* (Malta: Paolo Bonacota, 1647), 61-5: 'vi si può nel piano del tetto far giocare alcun pezzetto d'artiglieria.' Denis De Lucca (ed.), *A description of Baroque Malta by Albert Jouvin de Rochefort* (Malta: Heritage Books, 2004), appendix: 'nous passames le pont-levis du château flanqué de quatre petites tour rondes, une desquelle fert de montée pour aller sur la plate-form qui le couvre, où il y a quelques arquebuses à croc; car ce chasteau est à la verité basti de grosses pierres de taille que le canon auroit difficulté à percer; mais le dedans ne consiste qu'en une grande salle […] où il y a quantité d'armes come dans quelque petit arsenal, qui tient le mileu des petites cabinets dan les tourelles qui sont aux quatre coins de cette gran salle.'
26 Sources and chronicles indicate that Cassar had been in the service of the Knights in Gerba (1560) at the side of a mysterious French engineer, Carlo d'Amance; he also worked on the fortifications of Valletta with the military engineer Francesco Laparelli. There is still some uncertainty about his training; his biographies mention a trip to Italy (1569) as architect of the Order. Giovanni Mangion, "Girolamo Cassar Architetto maltese del Cinquecento," *Melita Historica* 6 (1973), 192-200; Marco Rosario Nobile, "Girolamo Cassar," in Nobile and Garofalo, *Gli ultimi indipendenti*, 227-41.
27 Verdalle was born in Toulouse in 1531 and held the position of Grand Master from 1582 to 1595. Alain Blondy, *Un prince de la Renaissance à l'aube de la contre-réforme: Hugues de Loubens de Verdalle (1531-1582-1595). Cardinal et Gran Maître de l'Ordre de Malte* (Saint Denise: Bouchene, 2005), 149.
28 Philibert de l'Orme, *Le premier tome de l'Architecture* (Paris: 1567), 18, 19. Jacques Androuet du Cerceau, *Les plus excellents bastiments de France* (Paris, 1576-1579); Jacques Androuet du Cerceau, *Livre d'architecture. Troisième livre* (Paris, 1582). For these works, see the website *Architectura. Architecture, textes et images XVIe - XVIIe siècles* of the Centre d'Études Supérieures de la Renaissance, Tours, http://architectura.cesr.univ-tours.fr. See also: David Thomson, "Les trois Livres d'architecture de Jacques Ier Androuet Du Cerceau, à Paris en 1559, 1561 et 1582," in Sylvie Deswarte-Rosa (ed.), *Sebastiano Serlio à Lyon. Architecture et imprimerie* (Lyon: Mémoire Active, 2004), 449-50; Françoise Boudon, "*Les plus excellents bastiments de France de* de Jacques Ier Androuet Du Cerceau, à Paris en 1576 et 1579", Ibidem, 451-3.
29 Sebastiano Serlio, *Libro sesto di tutte le habitationi…*, ms. Munich, Bayerische Staatsbibliothek, Cod. Icon. 189, in particular f. 18v and tav. XVIII ('*Della Casa del principe illustre in modo di fortezza*'), f. 27v and tav. XXVII, f. 28v and tav. XXVII. Serlio writes (f. 16v): 'Qua nella franza li gentiluomini massimamente li più nobili habitano fuori della città … le loro habitationi siano in fortezza et circondati da acqua … et almeno possino rissistere à battagli da mano col suo ponto le-

vaturo et altre diffese'. See the Architectura website, and Mario Rosci, Il trattato di architettura di Sebastiano Serlio. Il Sesto libro delle habitationi di tutti li gradi degli homini (facsimile of the Munich manuscript of *Book VI*), (Milan: ITEC Editrice, 1966).

30 During the second half of the sixteenth century, modern towers or angular, bastion-like tower-pavilions appear in numerous pseudo-fortified residences in Italy, corresponding to types elaborated by Serlio and Androuet du Cerceau. For example, in the Villa Medicea in Artimio, realized (1596-1600) for the Grand Duke Ferdinando I de' Medici after a design by Bernardo Buontalenti, four angular bastioned bodies appear. In general, see: Alain Erlande Brandenburg and Alberto Faliva (eds.), *Rinascimento franco-italiano. Serlio, Du Cerceau e i Dattaro* (Cremona: s.n., 2005); Alberto Faliva (ed.), *Ville del rinascimento padano. I Bastioni, il Portico e la Fattoria/The Bastions, the Portico and the Farmyard* (Milano: Electa, 2010).

31 The Selmum Palace in Mellieha is a more modern expression of the Verdala Palace model. Mahoney, *5000 years*, 88; Hughes and Thake, *Malta*, 186.

32 Vincenzo Scamozzi, *L'Idea della Architettura Universale* [Venezia 1615], (reprint Verona: CISA, 1997), 252-3. The project 'd'un Palazzo in Fortezza, per resistere alle scorrerie', illustrated in the *Terzo Libro* which is dedicated to the construction of private buildings, was intended for '*Eccellentissimo Signor Christoforo Duca di Sbaras e Cavallerizzo del Re di Polonia […] per un suo sito (quasi in frontiera de' Tartari) […] l'entrata si fa per via d'un ponte levatoio à traverso la fossa […] su gli angoli del Palazzo sono quattro Bellouardetti, con i loro fianchi, e diffese*'.

33 In the Villa Albergati the bulwarks are used as wide terraces from which one can admire the park: Anna Maria Matteucci, "Villa Albergati. Originalità dell'architettura barocca emiliana," in Gabriele Mignardi and Marco Ravenna (eds.), *Le magnifiche stanze. Paesaggio, architettura, decorazione e vita nella villa palazzo degli Albergati a Zola* (Bergamo: Edizioni Bolis, 1995), 55-91. Also noteworthy is the splendid project for a mansion belonging to Camillo Pamphili, with angular bulwarks with symbolic function attributed to Borromini, but credited by some scholars to Girolamo Rainaldi.

34 Documents and information on the palace in Pippo Pandolfo, *Spadafora San Martino. Storia di una comunità e del suo territorio* (Messina: Edizioni EDAS, 2010), 81-95. We know from a document dated 1660 that the 'fort' had a modest artillery outfit. In 1675, during the anti-Spanish revolts, the castle was besieged by French soldiers and within 24 hours was destroyed and plundered. The date 1687 on the internal portal possibly refers to the completion of renovation works following the damage it suffered on that occasion. In 1822 an Austrian contingent carried out a survey of the building, which is now in the *Kriegsarchiv* (Military Archives) in Vienna.

35 Documents on the grand stairway date from 1673, but the villa's foundation dates back to 1669. Scaduto, *La lunga tradizione*, 346 and notes 12, 13 with bibliography; Stefano Piazza, *Le Ville di Palermo. Le dimore extraurbane dei Baroni del Regno di Sicilia (1412-1812)* (Roma: Istituto Poligrafico e Zecca dello Stato, 2011), 38, 41-42.

36 Vincenzo Giuseppe Filangeri had some experience in the military field; during the anti-Spanish revolts (1674) he held the office of General Vicar in the war of Messina.

37 The comparison of the drawing of the villa with the sketch of a place fortified with bastions by the mathematician and engineer Carlo Maria Ventimiglia, 'Visitatore Generale delle Fortezze di Sicilia', is interesting; see: Erik H. Neil, "Architects and architecture in 17th & 18th century Palermo: new documents," *Annali di architettura* 7 (1995), 159-76. Moreover on the Villa: Erik H. Neil, *Architecture in Context: The Villas of Bagheria, Sicily* (PhD diss., Harvard University, 1995-96), 130-1.

38 Scaduto, *La lunga tradizione*, 347 and notes 15, 16 with bibliography. It is likely that an initial project to remodel the ancient medieval castle. New interventions after it was severely damaged during the 1693 earthquake were commissioned by Princes Ignazio and Vincenzo.

39 The palace, commissioned by Prince Baldassare IV Naselli, Count of Comiso, as stable and representative dwelling, reverts to former solutions; avant-corps with loggia had already appeared in the sixteenth-century Royal Palace of Messina and in the palace belonging to the same family in Comiso (1576), but here in Aragona (the city rebuilt at the beginning of the fifteenth century) they are inserted in a context full of symbolical values. Scaduto, *La lunga tradizione*, 347 and note 17, with bibliography; Stefano Piazza, *Dimore feudali in Sicilia fra Seicento e Settecento* (Palermo: Edizioni Caracol, 2005), 23-6.

40 Completion of the facade can be dated to 1705, but the works continued until 1718. For more information on the residence, remodeled according to the wishes of Ferdinando Francesco Gravina see: Neil, "Architecture in Context," 207-25, in particular 212-5; Piazza, *Dimore feudali,* 37-42; Scaduto, "Residenze fortificate," 40 and notes 17, 18.

41 Calogero Carità, *Castelli e torri della provincia di Agrigento* (Palermo: Banca Popolare Sant'Angelo, 1982).

42 The project was part of the reconstruction which took place after the 1693 earthquake destroyed the ancient city of Spaccaforno with its 'fortilitium,' which later occupied a new site. Giacomo Amato's drawings of the plan and lateral facade of the palace are conserved in the Galleria Interdisciplinare Regionale della Sicilia in Palazzo Abatellis, Fondo dei disegni di Giacomo Amato, Archivio fotografico G 2648, vol. IV, p. 52, n. 47 and G 2649, vol. IV , p. 53, n. 48. On the palace, see: Melchiorre Trigilia, *Storia e guida di Ispica* (Ragusa: So.Ge.Me. Editore, 1992), 15, 70-71; Scaduto, *La lunga tradizione*, 347 and note 20.

43 Barbaric raids and pirate attacks on the south-east coast of Sicily were actually incessant and they continued until at least the beginning of the nineteenth century. The fief of the Statella family was also subjected to constant incursions. Melchiorre Trigilia, "I pirati nel litorale della Sicilia sud-orientale," *Pagine del Sud*, 23 (2008), 56-64; Melchiorre Trigilia, *Il litorale ispicese* (Ispica: Trigilia Cultura, 2014), 43-6. In general: Salvatore Bono, "La Sicilia e i barbareschi," in *Storia della Sicilia*, Vol. VII (Napoli: Società editrice Storia di Napoli del Mezzogiorno continentale e della Sicilia, 1978), 183-93.

44 On the Liechtenstein Palace in Landskron (Bohemia) and on the projects of Carlo Fontana, see: Allan Braham and Hellmut Lorenz (eds), *Carlo Fontana. The Drawing at Windsor Castle* (London: A. Zwemmer Ltd, 1977), 125-9, with bibliography. For Martinelli's project (1700), which shows angular turreted pavilions and central reliefs on a single sloping rampart with horizontal ashlars, see: Hellmut Lorenz, *Domenico Martinelli und die österreichische Barockarchitektur* (Wien: Österreichische Akademie der Wissenschaften, 1991), 75-8.

45 Biographical notes in Neil, *Architecture in Context*, 316-29 and 384-5. The involvement of planners with solid experience in the field of military architecture (both Napoli and Daidone) is certainly not fortuitous in the design choices for the villa, which symbolically refers to the status of the Prince; these choices are influenced by the increasing social and political status of the client. On the villa, see: Neil, *Architecture in Context*, 205-244; Neil, *Architects and architecture*, 162; Rosario Scaduto, *Villa Palagonia. Storia e restauro* (Bagheria: Falcone Editore, 2007); Piazza, *Le Ville di Palermo*, 52-54.

1.1.2 The *Castrum Sanctae Crucis* in Cremona: From Fortified Castle to Courtly Residence

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Abstract
The Castle of Santa Croce in Cremona was reconstructed by the ducal couple Francesco Sforza and Bianca Maria Visconti from 1452 and was transformed into a courtly residence, where they – and in particular the duchess and her sons – usually spent some parts of the year. Cremona was the second most important city of the state, where Francesco Sforza and Bianca Maria celebrated their marriage. The complete loss of the monument (except for the remains of a round tower) seems to have discouraged its study, so that the history of the castle is little known. But thanks to a great number of documents in the Archivio di Stato in Milan, this paper will trace the history of the reconstruction of the castle by the Sforzas, the lost identity of its designer (hitherto believed to have been Bartolomeo Gadio), and the organization of its building site. Besides, a number of drawings from the sixteenth to eighteenth centuries – some of them unknown to scholars – will be used to reconstruct the form and the functions of the various parts of the castle, both in the Sforza period and also during the sixteenth and seventeenth centuries. The Castle of Santa Croce seems to present all the characteristics of a 'fortified palace', because it was a medieval castle which became a courtly residence during the Quattrocento, with a vast garden for hunting and a documented *studiolo* for the duchess. In the sixteenth century, the original square keep with angular towers was inserted into a larger system of fortifications. The castle has always been fundamental both for the Sforzas and, afterwards, for the French and Spanish governments, being at the south-east boundaries of the State (with the Venetian Republic). Also, it was often chosen as a strategic place, due to its central location between Milan, Mantua, Brescia and Piacenza, as was the case during the *Dieta* of the most important lords of the period, organized by Ludovico Sforza in 1483.

Keywords
Architecture, history, Sforza, castle, Cremona, engineers

The castle of Santa Croce in Cremona was reconstructed from ca. 1452 and transformed into a courtly residence.[1] Cremona was in fact the second most important city of the state, where Francesco Sforza and Bianca Maria Visconti celebrated their marriage in 1441; above all, it was the dowry city of Bianca Maria Visconti.[2] The complete loss of the monument has discouraged the study of the castle, except for the 1941 book by Gino Simoni, which is the most complete study of the subject and contains many documents about its construction.[3] An early interest in Cremonese urban history produced a group of publications concentrating on the evolution of the city's walls during the Modern Age, and these invariably include sections on the castle,[4] which from the beginning was integrated in the circuit of the walls, but the information about the monument remained very poor and repetitive.
Before the fifteenth century there already was a castle on the same site called *Castrum Sanctae Crucis*, because it was built on the remains of a church with that dedication.[5] The primitive structures of the castle are not

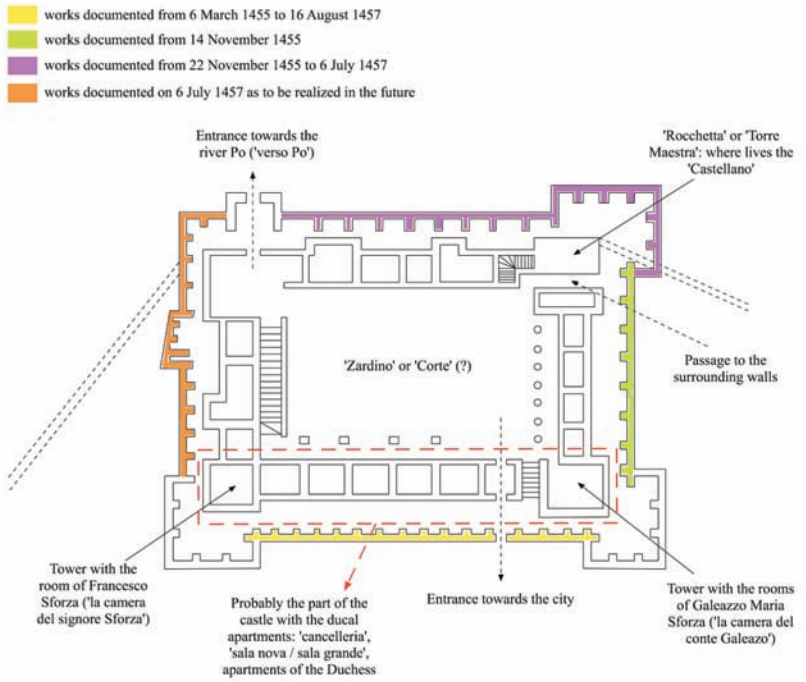

Figure 1. Hypothetical reconstruction of the disposition and work phases of the castle of Cremona between 1453 and 1457, based on the plan by Antoni Campi. All information comes from the analysis of archival documents; parts not well documented or totally unknown are left without indications.

well documented, but old Cremonese sources tell us that the castle was constructed after the conquest of Cremona by Barnabò Visconti in 1370.[6]
The quantity of documents on the reconstruction of the castle is so large that we cannot deal with all of them, but we will discuss the ones that are most important for the history of the castle's transformation between 1452 and 1457 (Figure 1).[7] These valuable documents shed light on three different aspects: (1) the transformations of the castle and the functions of its rooms; (2) the organization of a fortified building site during the Sforza period, including the provenance of the materials, the structure of the work, and the various technical terms used for the different building parts, materials and tools; and (3) the roles of the various masters involved, especially the engineer responsible for the project, the master who supervised the work, and the site manager who directed the workers.

A new castle or a new courtly residence?

Construction began at least as early as 1453, since a document of 12 January of that year states that works were being carried out on the rooms for the infantry and on other rooms. This long letter mentions brick floors and wooden ceilings and the possibility of building two wells.[8] It seems that in 1453 construction works concentrated on service rooms, especially those for the soldiers, and then on the stables,[9] which were destroyed in August of the same year, when the castle was invaded by the soldiers of Taddeo dal Verme.[10] The military situation in the Duchy of Milan was indeed unstable, Francesco Sforza having taken power only three years before, and it can be noted that the most important work at the castle took place during the year 1455, that is: after the Peace of Lodi (9 April 1454). There are fewer documents for 1454, and it is unclear if the work continued steadily; materials were requisitioned in the winter to build a 'guardaroba'[11] and some works on the bridges of the castle are mentioned in July 1454.[12]
The major efforts seem to be concentrated in 1455. In fact, the entire winter of 1454-5 was taken up with collecting the materials[13] – lime, bricks, tiles and wood – which had to be prepared in order to restart work in the spring.[14] Probably the work on the main external structure, perhaps using pre-existing buildings, had been concluded and now the workers were attending to the interiors and to the construction of the most important new part of the castle during the Sforza period, the *ghirlanda* or *barbacane*, a completely walled enclosure. During the year 1455 work went on simultaneously on the surrounding walls and on the interiors of the castle, as is suggested by a letter of 27 February in which the engineers state that they have finished the foundations of the enclosure at the side towards the city and, at the same time, one of the two fireplaces for the *sala* (probably identical to the *sala grande*), and that they were completing another fireplace.[15]
For the interior works the most important year was certainly 1455, because the documents mention the rooms reserved for the residence of the Duke, the Duchess and the young prince Galeazzo Maria Sforza, with all the annexes they needed to live comfortably in the castle. This aspect of the work is particularly interesting, because when the Sforza family, and in particular the ducal couple Francesco Sforza and Bianca Maria Visconti, took power, their court residence in Milan was not the castle of porta Giovia (which became the courtly residence later, during the government of Galeazzo Maria Sforza), but the ducal palace near the Cathedral. So in the city of Milan there were originally two different places, one used for the court to reside in and the other acting as a fortification. Obviously in the fourteenth century the Visconti had other castles where they sometimes lived during their travels through the Duchy, including the castle of Pavia – the favourite residence of Gian Galeazzo Visconti, but these functioned mainly as fortresses. Instead, the castle of Cremona is the first *castello sforzesco* which was reconstructed as both a fortress and a courtly residence for the Dukes.
In March 1455 the first mentions are made of the wood that was needed to construct the 'sala dela Illustrissima Madona duchessa' (Bianca Maria Visconti),[16] which is again cited in October as not yet finished.[17] There was also a room reserved for the young Galeazzo Maria Sforza inside a tower: we know this because on 6 March 1455 mention is made of a wall extending from a certain door – probably one of the entrances to the castle – to the 'torre donde è la camera de lo Illustrissimo conte Galeazo.'[18] Because the letter also informs us that this wall faced the city, it seems likely that the rooms for Galeazzo Maria Sforza were located in the north-east tower, just to the right of the major entrance from the city. This assumption is confirmed by unpublished eighteenth-century drawings now in the Archivio di Stato in Novara.[19] These include plans of the ground floor and the first floor of the castle that illustrate all the rooms, numbered from 1 to 159. The first floor of the north-east tower shows a distribution of rooms that seems compatible with a ducal residence, given the presence of a major room (n. 67), other small rooms (n. 68-9 and 71-3), and a private passage linked to the *tribuna* inside the chapel (n. 74) located on the lower floor (n. 8). Obviously the Duke must have had a private apartment. In fact, a 'camera de la Illustrissima Signoria Vostra' is mentioned in a letter to Francesco Sforza from November 1455,[20] and another document of 23 May 1457 mentions a 'guarda camera del signore Sforza' and a 'camera ch'è apozata a la torre del signore Sforza,'[21] which seems to indicate that Francesco Sforza had his apartments in another tower of the castle, though it is not clear which one. The plans of the Archivio

Figure 2. Archivio di Stato di Milano (ASMi), *Catasto Teresiano, Mappe originali di primo rilievo, Cremona Città*, 725.1. Detail showing the castle of Cremona, between 1720 and 1723. *Source*: http://archiviomilano.cineca.it/Divenire/home.htm

di Stato in Novara or the Catasto Teresiano (Figure 2) do not allow the identification of the spaces located in the south-west tower, which was destroyed after its representation on the plan of Cremona by Antonio Campi in 1583. Unfortunately Campi's plan is not detailed enough to reveal the distribution of the rooms in the fifteenth and sixteenth centuries, and the other towers represented in the plans of the Archivio di Stato in Novara (except for the one already assigned to Galeazzo Maria Sforza's apartments) do not seem to be appropriate for a ducal residence.

Other work in the interior of the castle is documented in letters of July and October 1455[22] describing interventions in a *sala grande*: perhaps they built the wooden ceiling and then worked on the six *balchoni*. These were in fact balconies or galleries which they had to *intayare*, a term which usually refers to sculpture in wood or stone. We do not know if these balconies were located inside or outside the room. What we do know is that the balconies were 'con soe arme ducale et divise, straffori, rittorti, intalii et cornixe polite,'[23] that is, they were decorated with the Sforza arms and tracery or fret-work, spirals, reliefs and frames.

Other documents about the interior decoration, which are important for appreciating the richness of the residence in the castle of Cremona, exist for 1457: on 18 July, for example, the engineer informed the Duke that they had finished the floor of the corridor or vestibule which lead to the *sala nova* and were decorating the external wall of the room with figures and arms; he then asked if the Duke wanted Sforza arms inside the room as well, and whether he preferred them painted or sculpted in stone or wood; and also asked the Duke to send a drawing from Milan.[24] Finally there is a well-known letter which attests to the presence of a *studiolo* inside the castle and work on its furniture. The letter of 30 August 1457 is in fact addressed to the Duchess Bianca Maria, saying that *lo studiolo de la Excellentia Vostra è fornito et è bello* and also that they have finished the beds, one of them for the room of Galeazzo Maria Sforza, together with the conclusion of a fireplace and a chest; they also mention some benches ('archabanchi', *arcibanchi* in modern Italian) to put inside the *salla nova* and speak about making a *tribunale*.[25]

Bastida, *barbacane*, *ghirlanda*: their identification

The correspondence between the Duke and his engineer in Cremona, Giovanni da Lodi, contains several terms relating to military architecture which not always correspond to their modern usage. There is a group of letters in which the engineer reports details about a *bastida*, which according to its modern definition[26] is a mobile or semi-permanent enemy outpost, added to a fortified place where building a permanent fortification is inconvenient. This description fits perfectly with what Giovanni da Lodi wrote to Francesco Sforza on 3 August 1453 when he reported that the enemy had started to build a 'bastida che sarà greve obstacullo a Cremona.'[27] It is also possible that the ducal army had its own *bastida* in Cremona (maybe semi-permanent) because in a previous document of June 1453, in connection with reconstruction-work, the engineer had mentioned this kind of building. It is not clear if the *bastida* was movable or fixed; in fact, on 6 July 1454 the Duke recommended 'non se perda tempo in proseguire ala bastita da Cremona,'[28] and in September 1454 he arranged to provide lime for the building.[29] Another document reports an important detail about the *bastida*: on 10 December 1454, Giovanni da Lodi wrote that they had arranged to restore the 'bastida ultra Po', in particular its tower.[30] Possibly the *bastida* became a permanent fortified place during this period outside the city walls and across the river Po.

To understand the defence systems of the Santa Croce Castle, another expression used by Giovanni da Lodi needs clarification. He frequently mentions a *barbacane*, used as a synonym for *ghirlanda*. It is important to underline that for the masters in Cremona these two words had the same meaning. *Ghirlanda* was a local expression used to identify the external surrounding walls of the castle: for instance, until the nineteenth century the *ghirlanda* of the Sforza Castle in Milan was still visible.[31] The word *barbacane*, on the other hand, could have several meanings but was generally used to refer to an external, forward structure, separated from the castle. The *barbacane* was used to protect the entrance to the castle:[32] this definition suggests that

the *barbacane* was one of the two structures located in front of the gates of the castle, but this does not correspond with the meaning of *ghirlanda*.[33] Thanks to a number of documents that report on this *barbacane* or *ghirlanda* between 1455 and 1457, however, these two terms can be explained. In the first document, dated 10 February 1455, the engineer asks to the Duke for money to begin the foundations of the *barbacane*, because the weather was dry and suitable;[34] the engineer decided to begin it from the side facing the city. After the excavation of the foundations,[35] they started building the base of the *barbacane* (22 October 1455),[36] and asked the Duke what kind of weapons they should put in this structure, mentioning 'bombardere, balestriere et schiopete.' In November 1455 they were working at the *barbagane overo girlanda […] atorno la columbera […] fin a ala camera de la Illustrissima Signoria Vostra*[37] and in May 1456 at the 'barbachane acomenzando al cantone de batti ponte da sotto per fin a la torre de la camera de lo Illustre Signor Conte Galeazzo.'[38] This information, connected with the previous mention of the beginning of the *barbacane* from the city side of the castle, gives the impression of something surrounding the castle, namely, walls (just like the *ghirlanda* of the castle in Milan), as they appear on the plan of Antonio Campi of 1583. It is possible that the Lombard masters employed local jargon to describe different military structures; as for the *barbacane*, their definition was different from that in common Italian military vocabulary.

The designer loses control: an early example of a strike in the fifteenth century

The castle of Cremona perfectly illustrates the complexity of the organization and direction of a military building site in fifteenth-century Lombardy. Scholars tend to simplify the roles of the different personalities involved in the design and construction of a monument. In this case, historians have always identified the ducal engineer Bartolomeo Gadio as the designer of the transformations of the castle under Francesco Sforza, ignoring the other masters who worked there. The documents show us another scenario: we can identify four different roles, that of the designer, the supervisor, the foreman and the administrator. Bartolomeo Gadio[39] has been identified as the designer of the castle because his role was the supervision of all ducal buildings in the state (*Commissario generale delle fabbriche ducali*), so his official task was to inspect the works periodically and to deal with practical, administrative and social problems.[40] There was also a ducal administrator, who probably oversaw the expenses and, being one of the Duke's trusted men, would also mediate between the others: this was Giacomo Cipello ('Iacomo Zupello' or sometimes 'Cipellus' or 'de Cipellis'). The actual designer was, evidently, the ducal engineer Giovanni da Lodi;[41] in his letters to the Duke it emerges that he had not only the practical direction of the building site, but also powers of making decisions in agreement with the ducal couple on how to build and decorate the various parts of the castle; there are also mentions of drawings that were made by him and quickly sent to Milan, probably for approval by the Duke.[42] However, he was also the director of the building site in Cremona, so that he controlled the foreman and the workers on a daily basis, but this business was not easy. Two documents of February 1455 relate the beginning of problems between Giovanni da Lodi and the foreman, Giacomo De Lera,[43] who was the head of a team of very well-known masons in fifteenth-century Cremona.[44] The situation worsened when Giacomo De Lera and his team gave to the engineer an ultimatum, saying that without the money they would go and get other jobs,[45] and they really abandoned the works during a short absence of Giovanni da Lodi.[46] Nevertheless, with the return of the workers, the repetition of such episodes went on, so that on July 1455 Giovanni da Lodi, probably exasperated by the situation, seems to have listened to the proposals of other masters from Como, and others from Cremona, who had offered to continue the *barbacane*,[47] but at the end of the saga the work was taken on by Giacomo De Lera.[48]

In sum, the archival documents explored in this paper testify to the importance of the castle of Cremona; its reconstruction was realized almost contemporarily with new works in the castle of Milan, but it merged defensive and courtly functions. The rich documentation also permits to clearly identify the role of the designer; contrary to the common opinion of scholars this was Giovanni da Lodi, who was engaged in a complicated relationship with the foreman, Giacomo de Lera, and the supervisor of all ducal buildings, Bartolomeo Gadio.

1 Research for this paper was conducted in full collaboration, but Valeria Fortunato wrote the introduction and the second paragraph ("*Bastida*, *barbacane*, *ghirlanda*: their identification"), while Jessica Gritti wrote the first and third paragraphs ("A new castle or a new courtly residence"? and "The designer loses control: an early example of a strike in the fifteenth century").

2 As is well known, Bianca Maria was officially the Duchess, since she was the daughter of Filippo Maria Visconti, the last Duke of Milan from the Visconti family. When discussing the places connected with the ducal family in the age of Francesco Sforza, it is important to bear in mind that Francesco Sforza, especially at the beginning of his government, was the Duke *de facto*, but officially only the husband of the Duchess.

3 Gino Simoni, *Il Castello "Santa Croce" di Cremona 1370-1784* (Cremona: Regia Deputazione di Storia Patria, 1941).

4 Giorgio Balistrocchi, *Le mura di Cremona ieri e oggi* (Quinzano d'Oglio: Fausto & Celotto, 1978); Mariella Morandi, *Cremona e le sue mura* (Cremona: Editrice Turris, 1991); Carla Bertinelli Spotti and Luciano Roncai (eds.), *Castelli e difese della provincia*

di Cremona (Cremona: Edizioni dei Soncino, s.d.), 101-15.
5 Simoni, *Il Castello*, 19.
6 The extent of this castle is not known: some scholars suggest that it corresponded to the internal structures of the Sforza castle, but this is not certain. We know that the castle was located across the walls, a position which was probably useful for defence and quite usual: it was in fact like the Milanese castle of Porta Giovia, which was built during the government of the Visconti family in the second half of the fourteenth century. The structures of this first castle in Cremona were probably totally enveloped inside the Sforza's reconstruction and then became substantially unidentifiable, especially because today there remains only a single tower, probably a later sixteenth-century addition. Ibidem, 19; Balistrocchi, *Le mura*, 15.
7 The Archivio di Stato in Cremona is currently preparing a book on the Cremona castle, which will contain brief résumés or transcriptions of all the relevant documents, edited by Angela Bellardi, Valeria Leoni and Monica Visioli, to be published in 2015.
8 12 January 1453: Archivio di Stato di Milano (hereafter ASMi), *Autografi*, 84/20: 'Illustrissime princeps et Excellentissime domine domine mi Singularissime. Avviso la Vostra Illustrissima Signoria como ho fornito le parzalie de le camere de li fanti quale sono de sopra de verso li coratori del castello, etiam se labora in le altre che sono de sopra la sala, etiam solato lo solaro de matone chi è de sopra la dicta sala, etiam solato lo solaro de ase chi è sopra le camere de li fanti. Et haveremo a caro da sapere da la Vostra Illustrissima Signoria se quella volese che facesse solare de matoni overo de terra batuta, perchè de questo la Vostra Illustrissima Signoria non mi è ha lassato ordine veruno che fosse solato puy de matoni che de terra. Ceterum aviso la Vostra Illustrissima Signoria como se labora a le camere de soto secondo l'ordine secondo me fo lassato, et ogni cosa se fornirà in bono ordine et usato[?]. Etiam vorebe fare quelli doy pozi i quali me sono ordinati per la Vostra Illustrissima Signoria che li fanti che starano de sopra possano cavare de l'aqua. Et io ho pensato de volire metere doy tolte de Sarizo. Et perché ho veduto per Cremona certi pozi in le strate publice che non se adopereno puy perché sono pieni de tereno se la prelibata Signoria Vostra fosse contenta torebe doy tolte et doy prede per li visti pozi et vorebe metere a li dicti pozi uno barbachane, ad questo tuto quello che la Illustrissima Signoria Vostra me stimarà tuto quello exequarò […]. Data Cremone die XII Januarii 1452. E Illustrissimi et Excellentissimi domini vostri fidelis servitor Iohannes de Laude inzignarius.' The letter is formerly dated 1452, but considering the sequence of the other letters coming after, we think that this letter must be collocated at the beginning of 1453: probably in this case the engineer instead of using the Milanese system of dating, used the Cremonese one, *ab incarnatione*, which implies that the beginning of the new year was deferred to 25 March.
9 30 January 1453; 19 April 1453: ASMi, *Autografi*, 84/20.
10 21 August 1453: ASMi, Autografi, 84/20. '[…] Notiffico a la Illustrissima Signoria Vostra como messer Tadeo dal Vermo cum le sove zente de arme è intrado per forza in le stalle del castello, digo che hano butado zosso la porta grande, denanzi de le stalle del castello de Santa Croce de Cremona, e sonti intradi per quello modo, e questo è stado per consillio de ser Perino Archarione[?], et deinde son intradi in lo zardino et lo hano tuto disfato et hano guasto uno di pavilioni, c'hano guasto le letere dove dormiano li galuppi, c'hano facto mangiatore per li cavallii, c'hano messi li cavalli in le camere de li galuppi, c'hano disolarati li solarii per far mangiadore a li cavalli, c'hano facto tanto male che l'è una vergogna a dire, c'hano disfacte le dicte stalle per tale modo che constarà a la Illustrissima Signoria Vostra forsi più de zinquanta libre a dever riconzar quello lor hano guasto, senza el danno del zardino […]. Cremone die XXI Augusti MCCCCLIII. Antonius filius magistri Iohannis de Laude ducalis ingenierii loco eius patri cum recomandatione.' In this letter we can note the mention of a *zardino*: a garden or properly 'zardino' appears some other times in documents and some scholars thought this could be a park or a real garden where the Dukes go hunting. See 30 April 1467: ASMi, *Carteggio Visconteo Sforzesco*, 1468; Simoni, *Il Castello*, VII; Nadia Covini, "Oltre il 'castello medievale': fortificazioni, terre murate e apparati difensivi del territorio cremonese nel Quattrocento," in Giorgio Chittolini (ed.), *Storia di Cremona: Il Quattrocento. Cremona nel Ducato di Milano* (1395-1535) (Azzano San Paolo: Bolis Edizioni, 2008), 88. Nevertheless there is no concrete evidence of a garden like this in the castle of Cremona and this document seems to confirm that they simply called *zardino* or sometimes *corte* (which means court) the wide place in the centre of the castle (see Figure 1).
11 8 February 1454: ASMi, Autografi, 84/20.: '[…] Notifico alla Illustrissima Signoria vostra como io sonti stado cum el magnifico Horlando Palavecino e cum Iohanne Lodovicho suo figliolo, e gli presentai una litera per parte de la Illustrissima Signoria Vostra che era asignata Iohannes, in la quale se conteneva el facto del legname per far el guarda roba in lo castello de Sancta Croce de Cremona sopra la camera de la Illustrissima Madonna vostra Madona duchexa, nostro conforto et cetera […].' This document is interesting because it contains also a list of expenses.
12 28 July 1454: ASMi, *Autografi*, 84/20. This last document also mentions a site where the munitions were located, and the necessity to remove the brushwood from the ditches for fear of fire, so it can be supposed that at that moment there were already some ditches around the castle. We do not know exactly where the ditches were located, because it seems difficult to identify these ditches with those that are documented around the whole castle after the construction of the wall enclosure, which was realized only in the following years. It is also probable that the old castle was surrounded by ditches and that some of these subsisted.
13 15 January 1455; 10 February 1455 (two documents); 12 February 1455; 19 February 1455: ASMi, *Autografi*, 84/20. Also in the document dated at 15 January we have another list of expenses.
14 10 December 1454: ASMi, *Autografi*, 84/20.
15 27 February 1455: ASMi, *Autografi*, 84/20.
16 2 March 1455: ASMi, *Autografi*, 84/20.
17 14 October 1455: ASMi, *Autografi*, 84/20.
18 6 March 1455: ASMi, *Autografi*, 84/20. The tower and the room of Galeazzo Maria Sforza appear again on 7 January and on 6 July 1457: ASMi, *Autografi*, 84/20.
19 Archivio di Stato di Novara (hereafter ASNo), *Museo, Raccolta De Pagave, Disegni*, sottofascicolo 18.
20 14 November 1455: ASMi, *Autografi*, 84/20.
21 23 May 1457: ASMi, *Autografi*, 84/20. 'Illustrissime princeps et Excellentissime domine domine mee singularissime et cetera. Aviso la Illustrissima Signoria Vostra como per vostra altra ne ho scritto che maestro Iacomo de Lera e li soy conpagny hanno abandonato la impressa del barbagane del castello de Cremona per manchamento de li denarii et etiam de novo ne havisso la Illustrissima Signoria Vostra che ancora non se lavora in del dicto barbacane, farà la Illustrissima Signoria Vostra secondo che a ley pare. Ceterum aviso la Illustrissima Signoria Vostra como ho facto fare lo sollaro de la deta salla et etiam li sollarii de le camere e azo fato fare el sollaro de la guarda camera del signore Sforza et fato doy solarii sora le camere deli soldati solamente de asse e azo fato levare quella camera ch'è apozata a la torre del signore Sforza per fina al sparapecto de la ditta torre secondo me ha comandato Bartolomeo da Cremona per parte de la Illustrissima Signoria Vostra e così ho fato lavorare per fino a tanto che mi ho possuto, ma li maistri e lavorenti me fuzero de dii in dii zo del lavorerio e questo si è per machamento de li denarii e in tuto li maestri e li lavorenti non me credeno puy niente perché fina al dì de hoze li ho sustenuti de facti e de parole, ma mo me diceno larchamente che loro hano tolto cumiato perché no voleno

lavorare senza dinari ma prego devotamente e umellemente la Illustrissima Signoria Vostra che se degna de fare talle provesione che tale principio habia fine, che li sia denarii a suficiencia azò che se possa dare la lor mercede ma puro sempre sarò solicito e atento de far fare overo de fare cosa che sia in piacere a la Illustrissima Signoria Vostra a la quale sempre me aracomando. Data Cremone die XXIII madii in MCCCLVII. E domini domini vostri humilissimus fidelissimus servitor magister Iohannes de Laude ducalis ingeniarius cum recomatatione et cetera.'

22 12 and 18 July 1455, 6, 8 and 11 October: ASMi, *Autografi*, 84/20.

23 11 October 1455: ASMi, *Autografi*, 84/20.

24 18 July 1457: ASMi, *Autografi*, 84/20. '[…] Ulterius fazo aparegiare de ordinare et intonegare la sala nova de drentre et de solare quella andatore chiè fuora dela sala nova et etiam è ponuto in opera parte de le figure et arme chiè ne la fazata dela dita sala. Haveremo a caro a sapere se io dovesse fafare arma alcuna in dita sala de dentre, di colore overe de relevo de petre over de lignami e volendo fare cotale cosa che la Illustrissima Signoria me mandasse il desegno e modo de poterlo fornire […].'

25 30 August 1457: ASMi, *Carteggio Visconteo Sforzesco*, 727; Monica Visoli, "L'architettura," in Chittolini (ed.), *Storia di Cremona*, 252 and note 35. 'Illustrissima atque Excellentissima domina domina mea singularissima cum humili recomandatione. Aviso la Signoria Vostra como hozi serano fornite et messe in opera al loco suo quelle letere quale haveva ordinate la prelibata Vostra Signoria et cossì è fornita la letera per la camera de lo inclito conte Galeazo quale se meterò in lo loco suo sia fatto lo camino de ditta camera quale etiam serà fatto in questa septimana. Et così lo cassareto qualo serve a l'usso do la camera de lo prelibato domino conte Galeazo domane serà fatto. Lo studiolo de la Excellentia Vostra è fornito et è bello. Ala parte de fornire la salla nova de archabanchi et etiam de fare uno tribunale penso che magistro Zohanne da Lode sia venuto ala prelibata Signoria Vostra per alchuni dubii ce era per alchuni ussi, quale essendo spazato cum effectivo spazamento prego la prelibata Vostra Signoria se degnia mandarlo. Siché a tempo possa essere fornite ditte cose. La camera qualo hoavevo ordinata la prelibata Vostra Signoria per repponere la monitione etiem in questa septimana serà fornita. Ex domini vostri castro Cremone die XXX augusti 1457. Eiusdem prelibate Illustrissime domine domine vostre fidelis servitor Iacobus Cipellus cum recomandatione.'

26 Flavio Conti, *Glossario dei termini relativi all'architettura fortificata ed elenco soci della sezione lombarda,* (Roma: Istituto Italiano Castelli, 1993), http://www.castit.it/pagine/04supporti/glossario/glosdef.html.

27 3 August 1453: ASMi, *Autografi*, 84/20 '[…] Notiffico a la Illustrissima Signoria Vostra como li inimicii nostri, edificano una bastida abreda/abieda[?] la qualle è vicina a Cremona a doy milii over pocho più, e lì lavoreno dii e notte per forza. Questo se pò, vedere stagando in Cremona in su la rocheta de Sancto Luca e lasando fortificare questa tale bastida serà greve obstacullo a Cremona, unde a questo la Illustrissima Signoria Vostra faza quella provissione pare e piace. […].'

28 The sense in ancient Italian means they wanted to proceed urgently with the structure. 6 July 1454: ASMi, *Missive*, 16, f. 451v; Maria Verga Bandirali, "Documenti per Benedetto Ferrini ingegnere ducale sforzesco (1453-1479)," *Arte Lombarda* 60 (1981), 68, n. 8: 'Fiorentino de Fiorentia. Aciò non se perda tempo in proseguire ala bastita da Cremona, volimo che servi via per demandare per ogni modo del mondo della calcina ad Cremona et faray consignarla ad Gabriel da Narni, nostro officiale delle bollete lì; et fa che ad questo non intervenga veruna dimora. Mediolani VI iulii 1454. Bonifacius. Cichus.'

29 18 September 1454: ASMi, *Registri delle missive*, 26, f. 48v; Ibidem: 'Benedicto de Florentia dicto Florentino. Volimo che subito, visis presentibus, debii mandare ad Cremona ala bastita nostra moza cinquanta de calcina, la quale faray consignare ad Gabriele da Narni et a Paolo da Narni deputati sopra dicta opera, et in questo non li perdere una hora de tempo. Mediolani, XVIII septembri 1454. Zaninus.'

30 10 December 1454: ASMi, *Autografi*, 84/20. '[…] Per una altera scrisse avisando la Illustrissima Signoria Vostra como a mi parerebe essere bon modo se aparegiasse in questa invernata per lo ponte levador et per la piancha de la basteda ultra Po, li becadelli et le prede da li polegi cum li soy coperchii etiam le prede da far le cavalle de li bolzoni, et da fare la banzolla del ponte levador de pietra di marmoro perché a farla de legname durarebe pocho in quello loco per rispeto de crestute de le aque che spesse fiade li cresse per lo Po. Anchora denovo scrivo perché a mi parebe pur bona provissione aparegiar esse pietre et inpionbare entro de li pollegi perché se la Illustrissima Signoria Vostra intende de far lavorare a la dicta bastida al bon tempo queste talle cosse serabeno molto necessarie et serà molto utille a trovarse queste talle cosse aparegiade al tempo necessario […]. Ulterius aviso la Illustrissima Signoria Vostra como facto equalare tute quelle borre [sic] et valle erano in la decta bastita per tale modo che sta molto bene et cetera […].' Due to the change of the river course, which in the fifteenth century flowed adjacent to the city walls (see figure 2), it is not easy nowadays to reconstruct the exact position of this *bastida*. We do not know if the present *Via Bastida* in Cremona coincides with the location of this lost building.

31 Documents prove that this *ghirlanda* already existed in 1480. According to Luca Beltrami, who had the possibility to see this building before its demolition, some parts possibly belonged to the Visconti era. Luca Beltrami, *Il castello di Milano (Castrum portae Jovis) sotto il dominio dei Visconti e degli Sforza, 1368-1535* (Milano: Ulrico Hoepli, 1894), 628-49.

32 Conti, *Glossario*.

33 That *barbacane* and *ghirlanda* were synonymous in mid-fifteenth century Lombardy seems confirmed by the usage of the word *barbacane* in another letter, referring to the border of a well (12 January 1453 [formerly 1452]: ASMi, *Autografi*, 84/20; see note 8).

34 10 February 1455: ASMi, *Autografi*, 84/20. '[…] Di novo aviso como considerato lo tempo el quale è molto sutto e bono per far el fondamento de la ghirlanda, se faza tale provixione de calcina et de denari per modo ditto lavorerio si possa finire. Ulterius perchè el bixogna reporre, governare et salvare certe monitione como è nave, carri et altro ligname quali altre volte se adoperava in campo et per lo suprascripto tempo passato et per lo presente lo tegno sotto li portichi de le stalle del zardino. E lo sole, lo ayere, lo vento li guasta […].'

35 The documents give us some information about the development of the *barbacane*, so we can try to reconstruct the progression of the works (see figure 1). Giovanni da Lodi ordered to destroy the castle wall toward the city, in particular he talked about the side between the door and the tower where it was settled the room of Galeazzo (6 March 1455: ASMi, *Autografi*, 84/20). After this preliminary work, they started fundaments and basis of the new *ghirlanda* (18 July 1455 and 22 October 1455: ASMi, *Autografi*, 84/20), deciding to extent the building to the city walls, near the *rocchetta* (14 November 1455: ASMi, *Autografi*, 84/20). Meanwhile, the engineer explained the intention to continue the walls also around the *castellano*'s tower and the duke's apartments. After few days, the masters started the foundation around the *rocchetta* and the side of the castle toward the outside of the city (22 November 1455: ASMi, *Autografi*, 84/20). After the end of the winter season, Giovanni da Lodi decided to start again the building of the *barbacane*, so he asked to clean the ditches of the external side of the castle, in order to begin the basis of the wall (6 July 1457: ASMi, *Autografi*, 84/20). The last document about the *barbacane* informed that only in the summer of 1457 the walls between the entrance and the tower of Galeazzo was almost complete and the *barbacane* and its buttresses had an height double than the ceiling of the first bombers

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(13 August 1457: ASMi, *Autografi*, 84/20. '[…] Avixo la Illustrissima Signoria Vostra come e l'è levato il muro del barbachano acomenzando al cassero del castello verso la citate verso la torre dov'è la camera del conte Galeazo perfino al muro de la citate verso il Puo il dito muro del barbachano et li contraforti è alto equale de le volte de le prime bombardiere […]').

36 22 October 1455: ASMi, *Autografi*, 84/20.

37 14 November 1455: ASMi, *Autografi*, 84/20.

38 7 May 1456: ASMi, *Autografi*, 84/20.

39 On Bartolomeo Gadio see Maria Cri-stina Loi, "Gadio, Bartolomeo (Bartolomeo da Cremona)," in *Dizionario Biografico degli Italiani*, vol. 51 (Roma: Treccani, 1998), 178-180; Damiano Iacobone "Gadio, Bartolomeo," in Paolo Bossi, Santino Langé, Francesco Repishti (eds.), *Ingegneri ducali e camerali nel ducato e nello stato di Milano (1450-1706). Dizionario biobibliografico* (Firenze: Edifir, 2007), 74.

40 This also applies to the castle of Cremona, as can be seen from occasional documents in which Bartolomeo Gadio is mentioned in connection with such tasks. He was the point of reference for Giovanni da Lodi in Milan for every problem related to the castle, as we can see from many letters (2 March 1455; 5 March 1455; 23 May 1456: ASMi, *Autografi*, 84/20).

41 For a short biography of Giovanni da Lodi see Jessica Gritti, "Lodi, Giovanni da," in Bossi, Langé, Repishti, *Ingegneri ducali*, 80-1. Giovanni da Lodi was the official ducal engineer in Cremona and was substituted after his death by Giacomo De Lera, on 9 June 1458 (ASMi, *Registri delle missive*, 39, f. 258). This Giovanni da Lodi should not be confused with the more famous Giovanni Battaggio da Lodi.

42 See for example the letter of 5 March 1455 for the realization of a fireplace. 5 March 1455: ASMi, *Autografi*, 84/20. See also note 48.

43 Giacomo De Lera was a member of a dinasty of businessmen, who directed the major part of the buildings constructed or modified in Cremona during the second half of the fifteenth century and the beginning of the sixteenth. Giacomo belonged to the Bocoli family, called De Lera; he had a brother, Bartolomeo, and two sons, Guglielmo and Bernardino, all occupied in the art of building. For information about the Bocoli family, see Jessica Gritti, "Una vita in cantiere. Materiali per Bernardino de Lera architetto," *Arte Lombarda* 146-147-148 (2006/1-2-3), 94-110. About Giacomo De Lera, see Jessica Gritti, "De Lera, Giacomo Bocoli," in Bossi, Langé, Repishti, *Ingegneri ducali*, 66.

44 Lack of money made it impossible to buy lime and pay the workers and the furnace masters who had to provide the bricks. 23 February 1455: ASMi, *Autografi*, 84/20. '[…] Ulterius avisso la Illustrissima Signoria Vostra como non ho calzina per possere fare lavorare puy como per altre ne ho scritto, perquè maestro Iacomo Dallera e li soi cumpagnii se alamenteno de mi digiano lor mo che bon tempo da possere lavorare non hano calzina. Ma oltre de questo se lamenta el sopra scrito mastro Iacomo e li soy compagnii non havere habuto la so prestanza la qualle la mi promisse la Illustrissima Signoria Vostra. Ceterum al fato de li fornassary aviso la Illustrissima Signoria Vostra como non hano facto provesione alguna da cossere perquè me diseno che hano de bisogna del dinare e crano[?] my ly ho retrovato CC millia prede nove in fornaze sichè pertanto precho la Illsutrissima Signoria Vostra che se vollia dignare che tale principio habia fine. Et ancora de questo prego la Illustrissima Signoria Vostra che se degna da volerme respondere azò che sapia zò che habia a fare per la qualle cossa sempre me delectarò da fare overo da far fare cosse che sia in piacere a la Illustrissima Signoria Vostra a la qualla sempre me aracomando […].'

45 27 February 1455: ASMi, *Autografi*, 84/20. '[…] Aviso la Illustrissima Signoria Vostra come maestro Iacobo da lera e li compagni li quali hanno ad fare lo muro de la girlanda overo lo barbachano de lo Castello de Cremona molto se agraveno de li fatti mei dicando che io non giè do lo modo de lavorare primo de denari secondo de calcina e dicono che lori portano gran damno che se lori havesseno havuto el dinaro et cossi la calcina che tuto lo muro de verso la cittate serebe afundato mo al presente dicono che non abiante el modo del dinaro ni de calcina che lori se deliberano de piliare un altro lavorero adziò se posseno sustentare la lori vita. E puro cum bone parole li tegno suspexi li ditti maestri perfina a tanto che la Illustrissima Signoria Vostra mandarà dinari e calcina per potere fare lavorare […].'

46 16 March 1455: ASMi, *Autografi*, 84/20. '[…] Aviso la Illustrissima Signoria Vostra come quelli dì che stette a Milano e quanto fuy tornato a Cremona ho atrovato che quelli lavorenti li quali lavoraveno a butare zusa la scarpa dele fossa del castello non giè n'ò atrovato niuno et hano abandonato lo ditto lavorero. Et etiam una parte de li maestri et lavorenti che lavoraveno in castello se sono partiti dal lavorero e pur con bone parole e promesse azo fatto ritornare li maestri e una parte di lavorenti a la sua impresa […].'

47 See the letter of 18 and 21 July 1455: ASMi, *Autografi*, 84/20.

48 The task of Giovanni da Lodi in Cremona was not so easy and attempts to discredit him in the eyes of the Duke were made, as emerges from a letter of 5 March 1455, in which Giovanni wrote that Bartolomeo Gadio and Giacomo Cipello had reported to the Duke on the great cost of two fireplaces which he had made, insinuating that he had wasted the Duke's money. For this reason, he wrote to point out that only one of the fireplaces had been begun and that Bartolomeo Gadio and Giacomo Cipello cannot have known the final cost, because the works were not yet finished; he added, provocatively, that the fireplaces were not made of gold or silver or decorated with refined colours, but only of brick, iron and lime. 5 March 1455: ASMi, *Autografi*, 84/20. 'Illustrissime princeps et Excellentissime domine domine mi singularissime cum omni debita ricomandatione. Questi di passati Bartholomeo da Cremona me scrisse che Iacomo Zupello li haveva scripto che io haveva fatto fare duy camini ne la sala nova del castello li quali constavano ducati ducente e al presente non è fornito noma uno e de questo mi maravelio de luy chel habia scripto de duy camini non siando fornito noma uno e non sapiando ancora lo pretio lo quale lori debeno costare. Avisando la Illustrissima Signoria Vostra che questo camino chi è fornito non è fatto d'oro né de arzento ne hanca non è messo de colori fini ma solim è fatto de ferro de prette e di calcina cum certi strafori e retorti si che non po' essere de cottanto precio quanto scrisse Iacomo Zupello. De novo io azo fatto acomenzare intaliare l'altro camino de la ditta sala ma per non falire e de non essere stimulato da quelli homini che non cognosceno lo lavorare e torò via la fatiga del scrivere inter la alligata mando lo desegno de questo altro camino che ho principiato. E sel pare ala Illustrissima Signoria Vostra che se fornissa prego la se degni de avisarne presto quello che azo a fare, pregandola che la se degna de mandarme cottale comissione inscripto che de tuto questo lavorero del castello che lo possa fare e far fare e edificare e fare edificare secundo la mia fantasia e disegno, fazando sempre opera bona e laudabile. E questo faze sempre con consilio de boni maestri perché che pur cognosce più quatro che uno. E ancora mi sforzo più de sparare el dinaro più che posso perché non son de cossì puocho intelletto ne matto che farà spindere ne butare via el dinaro ma me ingegno e sforzome de far fare cose belle e utile secundo merita la Illustrissima Signoria Vostra ala quale sempre mi ricomando. Data Cremone V marcii 1455. E domini domini vostri fidelissimus servitor magister Iohannes de Laude dicalis ingignerius.'

1.1.3 From Old to New: The Transformation of the Castle of Porto de Mós

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Abstract
Articulated with the neighbouring villages of Ourém and Pombal, Porto de Mós played a strategic role in the defence of the important cities of Leiria and Coimbra since medieval times. In the thirteenth century, under King Dinis, the castle acquired its relatively regular shape with four towers, which was the basis of subsequent reforms, such as the fourteenth-century addition of a fifth tower, by King Fernando. The last major construction campaign that added a palace to the castle took place in the mid-years of the fifteenth century and is due to Afonso, fourth Count of Ourém and putative heir to the duke of Braganza. While the exact date of Afonso's campaign is not known, most of the works must have taken place after the count's return to Portugal from his second trip to Italy, in 1452, since they included innovations of an experimental character that originate there. On the one hand, they introduced new military features to the castle including openings for firearms. On the other hand, they increased the available liveable space as well the residential character of the castle through the addition of tiled roofs rising above the battlements and new (as well as novel) loggias. The interior of the building was subdivided and much altered, maintaining a small distribution patio followed by the main courtyard around which a series of new chambers is organized. New features reflecting increasingly sophisticated notions of comfort were also added such as fireplaces, and large windows and loggias providing striking views over the surrounding landscape. In order to understand the resulting fortified palace, one must take into account Afonso's cosmopolitan life and his long voyages in Europe, especially in Italy. After the works due to him, the palace of Porto de Mós reflected the most advanced European innovations in both military and residential architecture of its time and could not be rivalled by any of its other Portuguese counterparts.

Keywords
Porto de Mós, Count of Ourém, castel, palace, architecture, comfort

The castle
The castle of Porto de Mós is located in the Portuguese region of Estremadura and was built on a hillock, 176 m high, to make optimal use of the topography of the land.[1] Its foundation in the twelfth century fits within the general context of the Christian 'Reconquest' and the maintenance of new territories. Together with the castles of Ourém and Pombal, it had an important strategic role in the defence of the cities of Leiria and Coimbra.[2] However, it was only in the early thirteenth century, during the reign of King Dinis, that the castle acquired its main layout, possibly reusing built structures of previous reigns. The original plan of the castle was adapted to its geographic location. The small size of the hillock hindering the use of a large area, the castle adopted instead a small and irregular pentagonal form. As was customary, it was organized around a small courtyard that could accommodate a small military garrison and some supporting infrastructures, allowing for a maximization of the castle's defensive capabilities.[3] The castle was defended by four towers erected on the four corners of the structure[4] and protruding outwards from the wall, which allowed defending the base of each tower from the top of the next one.[5] Possibly, these works were made after King Dinis donated Porto de Mós to Queen Elizabeth of Aragon, in order to provide the fortress with better facilities for its new status.
In subsequent years, we find once again an information gap on the architecture of this castle until the reign of Fernando I, in the fourteenth century. The new king, according to the chronicler Fernão Lopes, after the funeral ceremonies of his father Pedro I, retired to the castle of Porto de Mós and made his first decisions as king there,[6] including a major reconstruction programme of Portugal's fortifications. This reference is important, as it acknowledges that the castle of Porto de Mós already had physical conditions to house a monarch. Thus, it is not surprising that in 1387 it could be called a 'paço', a palace.[7] It was possibly in the course of these actions that a fifth tower was built in the north wall, which was thus reinforced at the pentagon's edge. This hypothesis fits within the political and social context and is reinforced by the analysis of the wall in question, which seems to present a small rupture to fit the new structure. In any case, all of the architectural elements mentioned so far fit within the building paradigm of the 'Gothic castle'.[8] After these works and still during the reign of King Fernando, the building suffered some damage from the wars with Castile[9] and during the crisis of 1383-5, and it seems that this damage was only repaired in the mid-fifteenth century, when the fourth Count of Ourém decided to intervene in the old defensive structure.[10]

From castle to palace

The starting date of the great enterprise undertaken by Afonso, Count of Ourém, is unknown. However, the renovations of the castle were perhaps carried out after the works which the count commissioned at his other palace of Ourém,[11] and possibly after the battle of Alfarrobeira in 1449, extending through the following decades.[12] Among his many journeys, the Count of Ourém had travelled to Italy in late 1451 where he remained during the first half of the following year. Much of the work was probably done after his return.[13]

Contrary to what he did in Ourém, in Porto de Mós the count did not order the construction of a new palace, but instead decided to change the existing building. This decision may be connected to the impossibility of building a new structure given the available area and to the fact that the extant structure already presented some features of habitability and comfort. Nevertheless, its reconstruction was quite extensive and altered the face of the enclosure in order to provide the old fort with residential conditions worthy of its new owner. The reconstruction programme improved the existing structure's organisation, proportion and balance, in a very ingenious project that ultimately did nothing more than fill and reorganise the available indoor space and, on the outside, compose the facades,[14] in a way that corresponded to

Figure 1. The Castle of Porto de Mós in its present appearance. *Source*: Photographic archives of the Porto de Mós city council library.

the 'educated forms' of the Italian Renaissance that were influential all over Europe during the fifteenth and sixteenth centuries.[15]

Throughout the fifteenth century, Porto de Mós no longer endured any effective military threat. Nonetheless, it continued to be an important marker in the landscape and a symbol of an emerging and dominant 'lordly' power. This village can be considered the birthplace of the House of Ourém, since it was in this castle that the troops of Nuno Álvares Pereira (Afonso's grandfather) were stationed before the battle of 1385 after which he was honoured with countless lands, including the village of Porto de Mós.

In addition to a strong symbolic dimension, surely felt by Afonso, these lands were also an important element of luxury, status and socio-political assertion by the new House of Ourém, whose head aspired to being regarded as the new Constable of the Kingdom and to achieve 'visibility' within the royal circles. This could explain why the military function of the castle was side-lined, though not neglected. Alongside this fact there is the episode of intrigue with the infante Pedro[16] in which the Count of Ourém watched over the castles of Porto de Mós and Ourém against the infante Pedro, in his retreat in the ducal lands of Coimbra.[17]

The mid-fifteenth-century reconstruction works provided the pre-existing structures with some innovative elements of military architecture, albeit in a somewhat experimental way. The wall-walk was kept on all towers and walls, supported by a set of very long pyramidal corbels,[18] elements that, like merlons, can be seen as a symbol of nobility.[19] In addition, a new defence system was adopted for the main entrance, which was protected from above by two machicolations and laterally by two very basic embrasures,[20] simple conical openings, accommodating artillery.[21] Embrasures were also added to the north-east corners of the towers E and F, to protect the vulnerable castle-front facing the river ; here the slope was less steep and easier to climb, and it was indeed from this side that the castle had been assaulted at its first conquest in 1148.

Porto de Mós' main gate, facing the village, was protected, during the fourteenth century, solely by two towers, framing the gate. The door itself was further reinforced by several mechanisms, including its bolting with two wooden bars at mid height and a vertical shutter closing it from the inside. This structure was possibly remade by Afonso, as shown by the mason's marks.[22] On the outside of the fort, a small part of a barbican could still be seen in the 1940s. Barbicans, which functioned as the first obstacles to be encountered by the enemy, became widespread in Portugal after the middle of the fourteenth century and throughout the fifteenth century, and this solution was also applied, it seems, in Porto de Mós under the supervision of Afonso. However, whether this was an extensive barbican surrounding the

whole fortress, as was the most common formula,[23] cannot be confirmed. Construction works included a strong consolidation of the pre-existent structure; almost all towers had their corners reinforced through the incorporation of well-carved cornerstones in limestone, which possibly means that parts of the towers were rebuilt in this period. This is also suggested by the distribution of the different mason's marks. There are 39 identified mason's marks, most of them attributed to the period of Afonso, scattered throughout the entire fortress.

Although aristocratic residences in the late Middle Ages sought a certain visible prominence through the incorporation of military elements, they also sought to make their spaces increasingly more comfortable.[24] For this purpose, very broad changes were made to the existing building. Prominent among these was the addition of two great structures, one in the south front (between towers E and O) and the other in the north front (between towers F and I and I to L), thereby increasing the available living area so as to improve the residential potential of the fortress. In each of these areas new compartments were created, opening onto a loggia. The one facing south, towards the village, is organized in four bays with rib vaults and heraldic keystones, supported by corbels with vegetal decoration, a model which, according to José Vieira da Silva, had first been introduced in Portugal by master Huguet in Batalha. This loggia connects the inner space to the outer landscape through finely decorated windows with four countercurved arches resting on thin octagonal columns.[25] Flanking the loggia are two balconies, the one to the west supported by six staggered modillions, the one to the east by four. They both look as if designed to protect the large span created by the loggia.[26] For the same purpose a new body was also added to tower F, creating a triangular edge, which is repeated in towers E and O (the latter absorbed by the south loggia). It creates a constructive pattern that is repeated throughout the building and in the organisation of the indoor space of the towers.

The inside of the building was also subdivided and extensively modified through the maintenance of an entrance area[27] and the construction of new compartments (A, B, C, D, and E) around the courtyard[28] which, like the classic house model, appears to organise the circulation, providing access to the new quarters of the ground and upper floors.[29] To access the latter, there was possibly a stairway, located roughly in the same place as the current one, starting next to the door of compartment A, where there is a massive block of stone, and turning south separating compartment A from E. This structure would be supported by the visible discharge arc inside these compartments. However, this central area probably underwent reconstruction as well, since in the previous centuries there must have

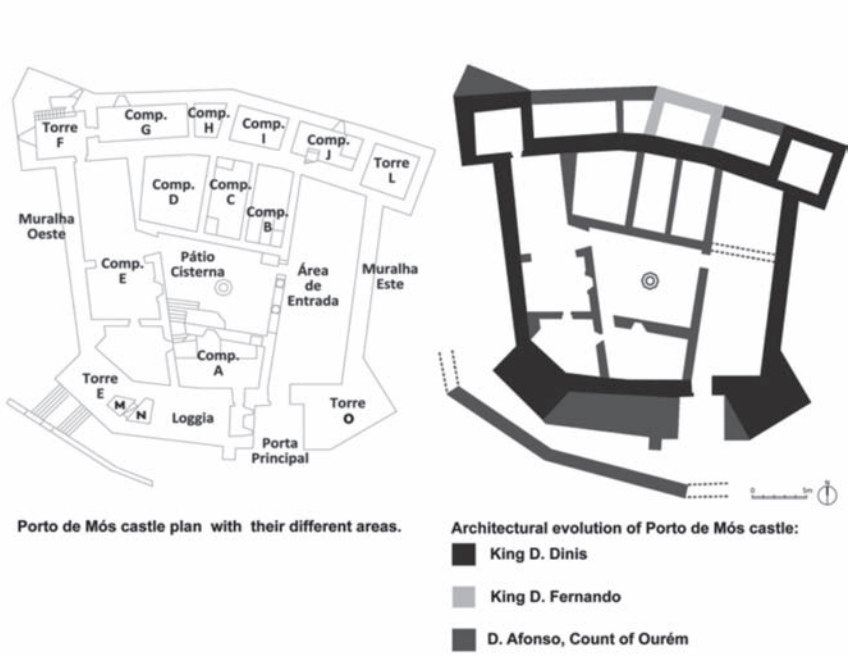

Figure 2. Plan of the Castle of Porto de Mós, showing its spatial distribution and architectural evolution. *Source*: Adapted from architectural surveys made by DGEMN.

been compartments here, some of which were destroyed or integrated in the new structure.

The spaces of the upper floors are currently undocumented. However, we do know that the nobler areas were heightened when compared with some tower floors, as can be seen in the loggias and in the window of the west wall. Most of the stairways were possibly built in stone. On the other hand, all these spaces, in line with the classical decoration of the patio, from which the columns and fluted pilasters with Ionic capitals remain, probably presented different decorative architectural elements. This is confirmed by the fragments of the frieze with geometric decoration that were found during the restoration works of DGEMN[30] and by later archaeological interventions. These compartments (A, B, C, D, and E) seem to belong to the Count of Ourém's campaigns, not only because of the architectural features that unify them, such as the vaulted ceilings supported by corbels and the design of the doorframes similar to those found in the palace of Ourém, but also because they all present shallow foundations and thin walls. Furthermore, within compartment B, the remains of a silo filled with spoils from the twelfth and thirteenth centuries have been discovered; the upper part of the old silo was undoubtedly destroyed when the Count built the new compartment.

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The castle's roofing is an interesting result of this fifteenth-century campaign. Different kinds of roof were used to cover the building. The towers were probably crowned by spires[31] covered with scaled tiles,[32] similar to the present state of the south-west and south-east towers (the result of restoration works in the 1940s). These roof tiles are glazed in green, the colour of the house of Ourém.[33] The shape of these roof structures is unknown, but domestic and foreign parallels, namely French,[34] suggest they may have been conical[35] or quadrilateral.[36]

As stated by Alexandra Barradas, by the end of the fifteenth century the castle of Porto de Mós could compete with the state-of-the-art in Europe. It had been updated through the introduction of military technical novelties and an Italianizing taste, resulting from the Count's many travels,[37] including the use of the courtyard for organising the space, the jagged lintels on the doors,[38] the columns and the pilasters, and the machicolations crowning the towers and walls.[39] As for the cistern courtyard, analysis of the stone work and its decorative elements seems to confirm the hypothesis of Rafael Moreira, who suggested that the fourth Count of Ourém may have hired an Italian craftsman – a *scalpellino* or *marmorano* – for their execution. This exogenous taste was wisely combined with forms of the late Gothic and with distinctively 'national' features, as exemplified by the castle of Leiria, the convent of Tomar and the monastery of Batalha. With the latter, aside from the undeniable stylistic influences, there was possibly a shared use of craftsmen; perhaps officers and craftsmen working in Batalha also intervened in the Porto de Mós building site.[40] This hypothesis is supported by the fact that similar mason's marks are found on both buildings. Another common element is the stone used in both buildings, since the quarries of Porto de Mós are known to have supplied the construction site of Batalha. Surely Afonso, lord of the region, ensured for his own work the same raw material that was supplied for the royal enterprise.[41]

The collected data does not allow to determine with certainty the functionality of the different compartments of the castle and its final form before the interventions of DGEMN. But the remaining documentation informs us that a prison was located inside the castle. The enhancement of the residential function of the castle is also apparent by the introduction of new elements, concerned with the comfort of the space.[42] In Porto de Mós, in addition to the loggias, large windows of noble appearance were opened, with their pointed arches providing light and ventilation. Moreover, seated in their 'conversadeiras' (stone window seats) facing the outside of the building, those who lived in the castle could enjoy the outdoor scenery. This feature present in the remodelling works of Afonso, is found in the west wall and in the top floor of each tower, where large windows emerge facing the outside, organised in a rhythmic and harmonious way. Another important element found in this castle, that once again suggests the notion of convenience, is the existence of a brick chimney and the attending fireplace framed in stone on the third floor of tower F. This not only provided greater comfort by keeping the room warm, but was also a symbol of social status.[43]

Reflecting a growing concern in palatial buildings of this period, the castle also includes features related to water and hygiene. There was a cistern, for instance, which provided autonomous water supply. Considering its architectural features, the cistern dates from the fifteenth century, and was possibly also introduced by the Count of Ourém. This is not surprising if we add the important and exquisite piping system that spreads throughout the building and interconnects with the new constructions. Finally there are also two compartments that can be considered dumps or evacuation sites (M and N). These two structures possibly received waste from different areas of the castle, channelling them by gravity beyond the barbican, a steeper area, distant from the castle, since there is not a flowing water line that could do it. However, the water intake and conveying system would be much more complex.

In sum, the castle of Porto de Mós under the aegis of D. Afonso was given new defensive systems, but also elements that enhanced the comfort and luxury that the residential building needed to house its new lord. Its appearance would have been quite elegant and sophisticated as the Count of Ourém brought to this building the knowledge and the taste of his cosmopolitan life and long stays in European countries, especially in Italy, which he wisely managed to combine with the best made in Portugal. As written by A. de Almeida Fernandes: 'The good repute of the house was that of its owner.'[44]

1 Orlando Ribeiro, *Opúsculos Geográficos*, vol. VI (Lisbon: Fundação Calouste Gulbenkian, 1995), 187-8.
2 Saúl Gomes, *Introdução à História do Castelo de Leiria* (Leiria: Câmara Municipal de Leiria, 1995), 65-77.
3 *Mário Barroca, "Arquitectura militar,"* in Nova História Militar de Portugal, vol. I (Lisbon: Circulo de Leitores, 2003), 112.
4 Compare with the castles of Amieira do Tejo (Tânia Falcão and Heloísa Santos, "Castelo de Amieira: diálogos entre a arqueologia, a arquitectura e uma certa arqueologia sentimental," *Património. Estudos* 10 (2007), 148-54) and Nisa (Duarte de Armas, *Livro das Fortalezas* (Lisbon: INAPA, 2006), f.125v).
5 Mário Barroca, "Uma Paisagem com Castelos," in *Arquitectando Espaços: Da Metapolis* (Porto: Faculdade de Letras da Universidade do Porto, 2003), 174-81.
6 Saúl Gomes, *Porto de Mós. Colectânea Histórica e Documental, séculos XII a XIX* (Porto de Mós: Câmara Municipal de Porto de Mós, 2005), 42.
7 Gomes, *Porto de Mós*, 42.
8 José Silva, "Séculos XIV a XV," *História das Fortificações Portuguesas no Mundo* (Lisbon: Edições Alfa, 1989), 55.
9 Gustavo Sequeira, *Inventário Artístico de Portugal. Distrito de Leiria*, vol. V. (Lisbon: Academia Nacional de Belas Artes, 1955), 117.
10 Alexandra Barradas, *Ourém e Porto de Mós. A obra mecenática de D. Afonso, 4.º conde de Ourém* (Lisbon: Edições Colibri, 2006), 274.
11 José Silva, *Paços Medievais Portugueses* (Lisbon: IPPAR, 2002), 154.
12 Silva, *Paços*, 275.
13 Barradas, *Ourém e Porto de Mós*, 279.
14 Silva, *Paços,* 276.
15 José Fernandes, "*Cidades e casas da Macaronésia – Evolução do território e da arquitectura doméstica nas ilhas atlânticas sob influência portuguesa, quadro histórico, do séc. XV ao séc. XVIII* (PhD diss., Universidade Técnica de Lisboa,1992), 170.
16 Son of King João I and regent of Portugal between 1439 and 1448.
17 Saúl Gomes, "D. Afonso V," in *Colecção os reis de Portugal* (Lisbon: Circulo de Leitores, 2006), 68.
18 Barradas, *Ourém e Porto de Mós*, 277.
19 Mário Barroca, *Em torno da residência senhorial fortificada. Quatro torres medievais na região de Amares* (Porto: Faculdade de Letras da Universidade do Porto, 1989), 23.
20 'Estamos convictos de que só numa cronologia próxima dos finais do terceiro quartel de Quatrocentos os castelos portugueses terão começado a exibir os primeiros sinais objectivos de adaptação às novas armas; foram eles, antes de mais, o rasgar de troneiras (orifícios circulares adaptados às bocas de trons ou bombardas) nos panos das muralhas e das torres das velhas fortalezas, em cuja capacidade de resistência aos ataques dos sitiadores se continuou, portanto, a acreditar até muito tarde'. *João Monteiro, "Castelos e armamento,"* in Nova História Militar de Portugal, vol. I (Lisbon: Circulo de Leitores, 2003), 167.
21 Mário Barroca, "Tempos de resistência e de inovação: a arquitectura militar portuguesa no reinado de D. Manuel I (1495-1521)," in *Portugália*, Nova Série, vol. XXIV (Porto: Faculdade de Letras da Universidade do Porto, 2003), 97.
22 The mason's marks in question are attributed to the time of Afonso since they are mostly found in those parts of the castle (such as the south front) that can securely be dated to Afonso's time.
23 Barroca, "Uma Paisagem," 120.
24 Manuel Conde and Marina Vieira, "A habitação e a arquitectura corrente do Norte Transmontano em finais da Idade Média," in Iria Gonçalves (ed.), *Paisagens rurais e urbanas. Fontes, metodologias e problemáticas, Actas da primeiras jornadas* (Lisbon: Centro de Estudos Históricos da Universidade de Lisboa, 2005), 85.
25 Silva, *Paços*, 154.
26 Ibidem, 155.
27 Barradas, *Ourém e Porto de Mós*, 296.
28 'An element that confirms the presence of a house and not a military structure.' Barradas, *Ourém e Porto de Mós*, 278.
29 To access the latter, there was possibly a stairway, located roughly in the same place as the current one, which started next to the door of compartment A, where there is a massive block of stone, and turning south, separating compartment A from E by a visible discharge arc that would support the stairway.
30 Direcção Geral de Edifícios e Monumentos Nacionais, a state-run institution that conducted conservation work in heritage buildings in the twentieth century.
31 As suggested by textual sources such as this one: 'from the four [towers] that remained, the spires fell from two of them during the earthquake'. Gomes, *Porto de Mós*, 928.
32 During the archaeological excavations fragments of scaled tiles attributable to the fifteenth century have been found.
33 Barradas, *Ourém e Porto de Mós*, 296.
34 Ibidem, 296.
35 Similar to the castle of Santa Maria da Feira.
36 See the numerous representations of quadrilateral or even hexagonal roofs (Olivença) made by Duarte de Armas.
37 Afonso visited several European places: London, Flanders (Bruges, Ghent), Burgundy, Iberian Kingdoms (Toledo, Valencia, Barcelona), Italy (Pisa, Florence, Bologna, Milan, Siena, Rome), Basel, Strasbourg, Cologne and Bonn, the Middle East (Jerusalem, Cairo and Damascus), North Africa, among others. Barradas, *Ourém e Porto de Mós*, 133-4, 139-40.
38 The same as the ones found in the castle of Ourém.
39 Some authors believe that these machicolations originally supported arches in brickwork, as in the castle of Ourém, but the iconographic and archaeological evidence indicate that this was probably not the case.
40 Barradas, *Ourém e Porto de Mós*, 280.
41 Ibidem, 281.
42 Conde and Vieira, "A habitação," 91.
43 Danièle Alexandre-Bidon, "Le confort dans la maison médiévale une synthèse des données," in Danièle Alexandre-Bidon, Françoise Piponnier and Jean-Michel Poisson (eds.), *Cadre de vie et manières d'habiter (XIIe-XVIe siècle)* (Paris: CRAHM, 2006), 133.
44 A. Fernandes, *A Nobreza na época Vimarano-Portugalense, parte I Problemata* (Guimarães: 1981), 120-1.

1.1.4. Symphony in Brick: Moscow Kremlin at the Time of Ivan III

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Abstract
This paper discusses the ensemble of the Moscow Kremlin which emerged during the reign of the Grand Prince Ivan III (1462-1505) to reveal it, first, as an intercultural complex, and second, as a *palazzo in fortezza* whose distinctive features enabled a harmonious conjunction of palatial residence and military defence. The rise in status of the principality of Moscow during the period required that a new diplomatic ceremonial be elaborated, along with an architecture that would mirror the lineage, kinship and historic roots of the state and the sovereign, as well as demonstrate the sovereign's command of contemporary cosmopolitan knowledge. The grandiose construction that ensued produced a symphonic, wholly cohesive narrative, based on a harmony of vernacular tradition and of cutting edge civic and military engineering innovation brought over by invited Italian architects, and in continuity with previous fortifications and urban evolution. Alongside the new Grand Prince's palace, and a new entire ensemble required for diplomatic protocol modelled on the Italian palazzo paradigm, the perimeter, fortified in a manner fully suited for all-out warfare, embraced the most symbolic cathedrals, the residence of the highest hierarch of the Church, the treasuries of the State and of the Church, with all the regalia and holy items, administrative buildings, a number of monasteries, and the homes of select nobility. Crucially, in keeping with Russian mediaeval tradition, a fortified enclosed territory functioned as the administrative, spiritual and social centre for the population of the adjacent areas and was meant to accommodate it (provide shelter) in times of strife. The resulting protected perimeter thus formed a civic fortress, which in its self-sustainability, capacity for communication with the world beyond and ability to protect itself can feasibly be compared to the Vatican.

Keywords
Kremlin, residence, fortezza, palazzo, Moscow, Renaissance

The central argument of this paper is that an uncompromised coherence between courtly comforts and military demands were possible and natural in the Moscow Kremlin due to its continuous conjunction, over the centuries, of a ruler's residence and defensive structures. The ensemble had been evolving on the site of the original twelfth-century settlement. Its overall shape was not dictated by geometry, but by natural geography, whose potential for defence had determined the selection of the area for a settlement in the first place. The perimeter was neither regularized, nor did it require specific architectural interventions to reconcile the demands of residence and defence, because the defensive walls followed the historically determined outline of the original fortified settlement, which had been dictated by the natural defensive features of the terrain. Within the existing enclosure, new fortifications and new palaces were added to protect against a powerful enemy, to mirror a change in the status of the ruler and the principality, or to project an image of cosmopolitanism.

The comprehensive nature of the ensemble stemmed from the fact the Moscow Kremlin, like all fortified princely residences in mediaeval Russia, was intended to provide protection not only for the ruler's household, but also for the inhabitants of the settlement and, in times of trouble, for the population of the surrounding areas. The residence of the prince lay therefore at the heart of the last line of national defence, which made it necessary for the fortifications to be suited for the demands of a full-scale war. Moreover, the fortified enclosure also served as the political, administrative and spiritual centre for the entire polity. This meant that it had to embrace edifices and architectural ensembles enabling it to fulfil these functions, which resulted in a fortress-state.

As shall be argued below, the overall achievement of the Kremlin of Ivan III was its ability to display dynastic and cultural continuity on the one hand, while engaging cohesively with contemporaneity on the other. The Kremlin's architectural language of power had been evolving over the centuries and at the time of Ivan III only required an update. Though much of the construction was new in terms of both engineering and culture, the architecture of the late fifteenth-century Kremlin still embodied sovereignty. The new architecture did not represent a reconfiguration of its fundamental conceptual significance. Rather, the architectural additions (and the innovative artistic language used for the ceremonial spaces) constituted a strategic effort to combine indigenous and international artistic narratives of political display. The existing indigenous symbolism was emphasized and augmented by openly articulating Russia's political intention to establish herself now also within the framework of the European courts and states.

Moscow first became a contender for political supremacy amid the many

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principalities that were linked through kinship in the fourteenth century, during the rule of Ivan Kalita (1288-1340). In 1325 the Metropolitan of Russia, transferred the Holy See to Moscow and initiated a building programme befitting the head of the Church, which established Moscow as the spiritual centre of the fragmented lands. In this period the foundations of four stone ecclesiastical edifices – the Kremlin's first stone structures – were laid: the Dormition Cathedral (1327), the Church of John Climacus (of the Ladder) 'for the Bells' (1329), the Church of the Saviour 'Near my Estate' or 'on the Hill' (1330), and the Church of Archangel Michael (1333).[1] The Dormition Cathedral,[2] whose dedication derived from the main cathedral of the previous spiritual centre, was intended as the principal church of the principality, the seat of ecclesiastical authority, and the symbol of the ruling house, its patron.[3] Upon arrival in Moscow the Metropolitan was granted lands on the territory of the Kremlin to construct the estates that were needed for his role as the highest hierarch. This led to the emergence of an architectural complex of private chambers, with ancillary buildings and a church, which was to function also as a ceremonial space for the Metropolitan performing his duties as head of the Church.[4] Overall, the ecclesiastical construction on the territory of the fortified enclosure and the complex semiotics of the buildings, designed to support aspirations to national leadership, signified Ivan Kalita's intention to lay the foundations for a capital of a unified nation.

It should be noted that at that time the chambers of the Prince of Moscow himself and those of his household were still made of wood. Despite his efforts to literally set in stone the claim of his principality to national supremacy, he did not consider this palace of prime importance. No architectural attempts of a magnitude comparable to the nation-building ecclesiastical constructions were made to glorify the person of the Prince, and even his private church, the future Annunciation Cathedral, which was also founded at that time, was not of stone – in fact its early history is barely discernable in the chronicles. Political expediency required monumental evidence to legitimize Moscow's aspirations to leadership among a multitude of other principalities. Evidently the core of this legitimacy was seen in the continuity of spiritual tradition, and power was only viewed as legitimate when administered in communion with the Church. This tradition was seen as inseparable from dynastic continuity, and both were already eloquently articulated in the Moscow Kremlin of the first third of the fourteenth century.

The Prince's household, various ancillary structures, the Metropolitan's estates, his church and the four stone ecclesiastical edifices, along with a large number of more modest churches and monasteries, with their ancillary buildings and many facilities, were all located within the enclosure. In addition, the city's new status, and in particular the establishment of the Metropolitan there, transformed it into a centre of art production, which meant that the enclosure of the Kremlin now also encompassed an even greater number of workshops. Amid this great construction programme of state importance, the fortifications themselves were also given attention. A new citadel, built of oak, was erected; its construction started on 25 November 1339 and was completed in the spring of 1340.

Under Grand Prince Dmitry of the Don (1359-89), the first stone fortress was erected in 1366-7 (Figure 1). New evidence and published archaeological investigations have permitted, after a long period of speculation, to establish with near certainty the area and perimeter of the first stone wall around the Kremlin, as well as the construction methods employed and the dimensions of the foundations.[5] Some sections of the new fortress precisely followed the lines of the previous fortifications, as has been shown by finds of bases of the 1367 white stone walls in the sand fills (protective earthen works) of the Old Russian period. Moreover, it has been possible to reconstruct the perimeter of the first stone defences around the Kremlin with great accuracy because their foundations were used as bases for large sections of the new fortifications that were built under Ivan III the Great at the turn of the sixteenth century, and which are now still standing. In some areas, where the terrain and the hydrogeological conditions are favourable, junctures of the three main fortification periods of the Kremlin have been uncovered, showing that layers of twelfth-century earthworks served as foundations for the 1367 white stone walls, which in turn served as foundations for the Renaissance fortress.[6]

Figure 1. Apollinary M. Vasnetsov, *Moscow Kremlin at the Time of Dmitry Donskoy*, Watercolour, 1922 (The Museum of the History of Moscow). *Source*: E.N. Kryuchkova, *Moscow Kremlin. From a Prince's Fortress to the Tsars' Residence* (Moscow: 2012), 21.

That the 1367 fortress was intended to satisfy stringent military demands is demonstrated by the fact that it was erected in haste and in a period of clear military threat from Lithuania and the principality of Tver; but it proved successful, for already in 1368 and again in 1370 it sustained sieges and repelled the troops of the Lithuanian field marshal Prince Olgerd. A recent reconstruction based on rigorous archaeological investigation has established that the 1367 stone fortress indeed satisfied the requirements of contemporary warfare: apart from the walls and towers (at least five towers are documented), the fortification system contained earthworks, a moat, and wooden defensive structures surmounting the stone walls. The walls were also protected from potential damages from seasonal flooding, while the foundations of the walls along the Moskva River lay at a depth of as much as nine meters.

The rise of Moscow continued and under Ivan III (1462-1505) the status of the principality of Moscow changed to that of the capital of united Rus'. He himself became the Grand Prince, Ruler of All Rus', and the new state sought to establish herself as heir to the Byzantine Empire. In 1472 Ivan wedded Zoe (Sophia) Paleologue, the niece of the last Byzantine Emperor, and a union with her therefore carried many political connotations. Sophia had been raised in Rome, and it may have been at her suggestion that Ivan invited Italian architects to carry out a grandiose construction programme. The new Kremlin was to demonstrate not only the new political weight of the state of Rus', but its economic and military might, as well as the cosmopolitan knowledge of its sovereign. The commissions to the Italian architects thus included a new ensemble for the Grand Prince's palace, modelled on the Italian *palazzo* paradigm, and a new fortress, built according to the latest engineering knowledge of its Italian architects. It is noteworthy that the architects who carried out the transformative works in Moscow originated from Northern Italy, and brought with them the architectural traditions of Lombardy.[7] Notable among the masters are Pietro Antonius Solari, who designed the new Kremlin wall and its towers, and Marco Ruffo, who designed the palace for the Grand Prince (finished after Ivan's death).

The kind of cultural legacy that was brought to Moscow can be illustrated by considering the track record of one of the chief Italian architects at the court of Ivan III. The Solari family had been most active in the construction of a number of major buildings in Milan. Giovanni Solari in the 1450s directed the works on the Duomo and the Sforza Castle, and he also worked as military engineer for Duke Galeazzo Maria Sforza. Upon his death his work was continued by his sons and his grandson, Pietro. As a young man, Pietro worked with his father in Milan on the Duomo and the Ospedale Maggiore, and also at the Certosa di Pavia. In 1490 Pietro Solari left Milan and set out for his new employment in the service of Ivan III.[8]

This background helps explain the appearance of the new Kremlin fortifications – the mighty fortress with twenty towers, gates, bridges, and all the mechanisms contemporary military engineering had at its disposal to make the enclosure impregnable, while ensuring easy communication between the enclosed area and the outer world. The idiom, aesthetic as well as technical, of these new fortifications was transported from Renaissance Italy but adapted to the Kremlin's terrain and existing layout, and emerged as a versatile statement as to the state's current position and political intent (Figure 2).

Inside the Kremlin's enclosure, the Italian architects faced the conundrum of fitting the new civic constructions into the existing architectural sprawl. Amid the *in situ* structures and entire ensembles they did, however, manage to single out a space which most strongly answered to their paradigm of city planning: a geometrically correct square framed by symbolic edifices. In the days of Ivan III, this became the square known today as the Cathedral Square: the space within the Kremlin enclosure which was delineated by the Grand Prince's palace, the Reception Hall (built in 1491 for dispatching diplomatic protocol) and the three Cathedrals of state significance, which besides fulfilling ecclesiastical roles served also as scenes of court ceremony

Figure 2. Apollinary M. Vasnetsov, *Moscow Kremlin at the Time of Ivan III*, Watercolour, 1921. *Source*: Москва, Вехи истории, 2010.

and as depositories of the country's most treasured devotional artefacts, so that they effectively represented shrines of historic memory.

While the civic monuments of the time demonstrated a triumph of international cultural narratives, in the matters of ecclesiastical architecture it was the national tradition that was reinforced and newly articulated. For the construction of the Dormition Cathedral, the Italian architects were sent by the Grand Prince to the city of Vladimir to study the Dormition Cathedral there, so as to use it as a prototype for the one to be erected in Moscow on the site of its predecessor. The skilled Italians introduced a number of structural innovations, which made the cathedral's interior appear lighter and more spacious, but the aesthetic principles of Russia's national architecture were strictly adhered to. It should be noted that it was in the process of their work on the Dormition Cathedral that the Italian masters introduced the use of red bricks, having started their production on a site nearby. This marked a new departure for Muscovite architecture, gave a new appearance to the fortified walls and towers, and bound the traditional and the contemporary, the indigenous and the cosmopolitan on yet another level.

Another major church, the Cathedral of Archangel Michael (1505-8) represents a manifest yet subtle fusion of traditional Russian and contemporary Renaissance philosophies. Many of the features of its exterior decoration were derived from Italian (in this case often Venetian) prototypes, while the interior retained a strictly vernacular ideological idiom. Over the centuries since 1508 many of the exterior embellishments were removed or altered to bring the church's appearance in line with the indigenous canon, but the luxuriant ornaments in the form of sea-shells, which still remain, and the embellishment of the roof with sculptures in the form of Venetian vases, which survive only as fragments in the collections of the Moscow Kremlin, testify to the boldness of the initial decorative programme. At the same time, the interior could not have been more Orthodox, as befitted the dynastic resting place of the ruling house. Such aesthetics articulated openness in matters of the state on the one hand, and the state's firm foundation in the indigenous paradigm of credibility and legitimacy on the other.

Simultaneously, the complex system of the Grand Prince's palace was being erected, and this also combined the two cultural idioms. Its Reception Hall (1491) survives to this day; it was adjacent to the Palace and played an important compositional role in giving a geometrically correct form to the representational part of the fortified enclosure. The palatial ensemble itself, composed of numerous buildings interconnected by corridors and passageways, in no way compromised the comforts or protocol of court life. With private chambers tucked away from the public eye, immediately connected with the *loci* of diplomatic interaction (the geometrically articulated square) and protected by the militarily impeccable fortifications, the sovereign and his household had no limitations with regard to a pleasant living.

The new enclosure did not only protect, but ensured communication with the outside world. This emphatically included contacts with international embassies, whose number had grown, and which now increasingly comprised representations from Western Europe. In an ultimate affirmation of the new status of the ruler of Muscovy Ivan III had his full title carved on plaques placed over the principal gates (or gate-towers) through which all embassies entered and left the fortified city. One inscription, in Slavonic, was located on the inside of the principle gate-tower.9 The other side, facing arriving guests, boasted an identical plaque with the same text in Latin – an eloquent statement of welcome and of the diplomatic horizons of the Russian State.

In conclusion, the new fortified enclosure can justly be called a *palazzo in fortezza*, as it incorporated a new palatial complex, new edifices required for a new diplomatic protocol modelled on the Italian palazzo paradigm, the most symbolic cathedrals, the residence of the highest hierarch of the Church, the treasuries of the State and Church, with all the regalia and holy items, administrative buildings, a number of monasteries and the homes of select nobility, alongside numerous workshops and ancillary buildings, provisions for times of strife, and water supplies. The resulting protected perimeter thus formed a civic fortress, which in its self-sustainability, capacity for communication with the world beyond and that to protect itself had reached an apogee of its evolution to that date. It seems fair to conclude that the grandiose construction initiated by Ivan III produced a symphonic, wholly cohesive narrative, based on a harmony of vernacular tradition and of cutting edge civic and military engineering innovation brought over by invited Italian architects, and in continuity with the previous fortifications and urban evolution.

1 See, among others, Ю.П. Мосунов, 'Храм Архангела Михаила 1333 года в Московском Кремле', in С.А. Беляев and И.А. Воротникова (eds.), Московский Кремль XIV столетия. Древние святыни и исторические памятники (Москва, 2009), 107. In the course of the centuries and despite many alterations, the sites of the churches remained the same, and new churches erected to replace those which had perished or had been taken apart invariably retained the original dedication. Three of the four ecclesiastical constructions founded in the first third of the fourteenth century have survived to this day, not in their original form, but in fragments, on the original sites and with the original dedications. The other one, the Church of the Saviour on the Hill, was demolished in the twentieth century. Recent research suggests, moreover, that the new structures incorporated, as much as possible, elements of the original ancient prototypes into their fabric. Ibidem, 107-17.

2 Notions of continuity and their role in lending legitimacy to political power were certainly what guided Metropolitan Peter when he initiated the construction of the cathedral, which he chose as his last resting place, thereby making it the cradle and perpetuator of national tradition in the new political centre. Furthermore, the dedication to the Dormition of the Theotokos was modelled on that of the principal cathedral of the Vladimir-Suzdal' Principality and the seat of the Holy See before its transfer to Moscow.

3 Reports of archaeological investigation on the territory of the Kremlin published in the 2013 compendium 'Moscow Kremlin of the 14th Century' indicate that the Dormition Cathedral was close in its plan and dimensions to St. George Cathedral in Yuriev-Polsky, built in 1230-4. Yuriev-Polsky was founded in 1152 by Yuri the Long-Armed, who had also founded Moscow (1147). Yuriev-Polsky was part of the Vladimir-Suzdal' Rus, which had succeeded Kiev as the centre of political and spiritual authority, and whose princes acted as consolidators of the scattered and warring princedoms around the new *de facto* capital of the city of Vladimir. The role of the princes of Vladimir as consolidators and peace-makers had postulated them, their capital city and, as we shall see, the city's architecture, as archetypal. After the Vladimir-Suzdal Principality was devastated by the Mongol-Tatar tribes in 1238, its spiritual authority remained undimmed, and it was the artistic idioms of this region that were subsequently invoked by the Princes of Moscow to project notions of historical, dynastic and cultural continuity, as in the course of the centuries the city was establishing herself as the centre of a polity with a distinct political and cultural identity. It must be stressed the recently published report of the archaeological campaigns (there are few other sources on the first stone constructions on the territory of the Moscow Kremlin) confirms the prevalent hypothesis of the Vladimir-Suzdal' roots of fourteenth-century Muscovite architecture.

4 The chambers gradually transformed into a palace, which, after the Russian church became autocephalous, became known as the Patriarch's Palace, and together with the church the buildings occupy the exact same places today as where they were founded in the first third of the fourteenth century.

5 Т.Д. Панова, 'Белокаменная крепость Москвы по данным археологии и письменных источников' in Московский Кремль XIV столетия, 2009, 15-43.

6 Ibidem, 35.

7 Among others in Н.А. Вьюева, 'Вступление,' in Н. Вьюева et al, Грановитая палата Московского Кремля (Арт Деко, 2013), 3-15.

8 Ibidem, 11.

9 The inscription on the plaque of the Spasskaya Tower (now in the Moscow Kremlin Museum) stated that the tower was made: 'In the summer of 6999 (1491 from the birth of Christ) by the grace of God, on the order of Ioann Vasilievich, the Lord and Grand Prince of Vladimir, and Moscow, and of Novgorod, and of Pskov, and of Tver', and of Yugor', and of Vyatka, and of Perm', and of Bolgaria and others in the 30th summer of his rule, and it was constructed by Antonio Solari from the city of Milan'.

1.1.5 Seventeenth-Century Fortified Villas in the County of Gorizia, with Residences Modelled on the Type of a Venetian Palace with Corner Towers

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Abstract

After the second Venetian-Austrian war (1615-7), the nobility of the County of Gorizia, one of the frontier lands of the Holy Roman Empire, began to modernize their uncomfortable castles, outdated as to the military purpose, or to build new ones in the form of fortified yet comfortable countryside residences. Even though the Gorizia nobles were subjects to the rulers of the Holy Roman Empire in terms of politics and religion, they were strongly attached to the neighbouring Serenissima as concerns architecture and art in general (e.g. plans for the conversion of the Renaissance castle of the Attems family in Heiligen Kreuz by Vincenzo Scamozzi). However, from a typological viewpoint, a more interesting issue seems to be that of the fortified villa. It developed gradually in this area and employed for the residence the design of a comfortable Venetian palace with added corner towers. In spite of the built-in loopholes, these did not enable any effective defence since in the majority of cases they were only extensions to corner rooms. Together with the walls, which surrounded the residence as well as the festive court, the gardens and the ancillary buildings, they provided a limited defence in minor armed conflicts in which no heavy artillery was used. The towers thus primarily performed a symbolic role and the fortification elements were subordinated to the residential function and to the needs of the owners, as in the example of Villa Colloredo at Dobrovo where one of the corner towers of the walls also served as a chapel. Residential villas with corner towers were mainly built on exposed, clearly visible, but easily accessible locations in the landscape, so that the important status of their lords was conspicuous already at a great distance. The owners mostly belonged to the nobility of a more recent origin coming from the Italian lands and they yet had to secure their social rank among the Gorizia and Austrian aristocracy.

Keywords

County of Gorizia, Venice, Holy Roman Empire, fortified villa, palace, seventeenth century

After the second Venetian-Austrian war (1615-7), also known as the War of Gradisca, the nobility of the County of Gorizia, one of the frontier lands of the Holy Roman Empire, began to modernize their uncomfortable castles, which from a military viewpoint were outdated, or to build new ones in the form of fortified but comfortable countryside residences. Even though in terms of politics and religion the Gorizia nobles were subjects to the rulers of the Holy Roman Empire, they were strongly attached to the neighbouring *Serenissima* in terms of architecture and art in general. The Venetian architect Vicenzo Scamozzi (1548-1616), for example, wrote in his *L'idea della architettura universale* (1615) that he had prepared plans for the conversion of the Renaissance castle of Hermann Count of Attems at Heiligen Kreuz.[1] This castle, built at the end of the fifteenth century,[2] was initially owned by the prominent Gorizia noble family Thurn (Della Torre), but was sold in 1605 to Hermann Attems by Heinrich Matthias Count of Thurn (1567-1640).[3] It was only in the second half of the seventeenth century that minor alterations were made to the four-wing castle with arcade courtyard and corner towers.[4] It is difficult, however, to establish to what extent, if at all, the Venetian architect's plans were employed.[5] At the invitation of the former imperial ambassador in Venice Raimund Count of Thurn (ca. 1555-1623), Scamozzi also made a stop in the nobleman's palace in Gorizia and on his estates in the Isonzo region,[6] and he is thought to have made designs for the Thurn palace in Cormons.[7] Raimund Count of Thurn was not the first imperial ambassador at an Italian court who came from the ranks of the Gorizia nobility. His precursors in the second half of the sixteenth century included his own father, Franz Count of Thurn (1519-66), as well as Veit Baron of Dornberg (1529-91) and Johann Baron of Cobenzl (about 1530-94). Upon returning home they brought back works of art and architectural designs, manuscripts and treatises, as well as a sophisticated artistic taste, which helped establish the art and culture of the Italian Renaissance in the Inner Austrian provinces, especially in Gorizia. As is evident from the preserved correspondence, the diplomats kept abreast of the greatest achievements in Italian Renaissance art and architecture and reporting on them was one of their regular tasks. As attendants at the court, they had access to the foremost courtly and provincial artists and architects, whom they could request (as in the case of Scamozzi) to turn certain ideas they had picked up while serving in the Italian art capitals into reality. This way, new architectural and artistic models were introduced in the Slovenian provinces that remained in use until well into the seventeenth century.[8]

From a typological viewpoint an interesting issue concerns the type of the fortified villa, which gradually developed in this area. Its residential part followed the model of a comfortable Venetian Renaissance palace, but with

Figure 1. Villa Cobenzl in Lože. *Source: ©Umetnostnozgodovinski inštitut Franceta Steleta ZRC SAZU.*

the addition of corner towers. One example is the Villa Cobenzl at Lože (Leuttenburg), built by Johann Philip of Cobenzl before 1675 (Figure 1).[9] The main body of the Villa was based on the Venetian type of a palace with an elongated central hall and adjacent corner rooms (*quattro stanze un salon*), but this Venetian spatial layout was adapted to the new Baroque trend in that the staircase was placed at the end of the hall and not between a pair of rooms transversely to it. This emphasizes the movement along the central spatial axis, which starts at the entrance portal on the ground floor and concludes with a bifora on the *piano nobile*, but also means that a passage through the building was not possible. Though the corner towers were provided with loopholes, they were not useful for any effective defence, since (in the majority of cases) they were merely extensions of the corner rooms. Together with the walls that surrounded the residence, the festive court, the gardens and ancillary buildings, the corner towers provided a limited defence in minor armed conflicts in which no heavy artillery was used. When heavy guns were used, fortified villas proved very vulnerable despite their fortified appearance. This is demonstrated, for example, by the case of the fortified Villa Thurn at Vipolže during the second Venetian-Austrian war. The villa had already been badly damaged during the first Venetian-Austrian war (1508-16), and Franz Baron of Thurn, counsellor at the court of Emperor Ferdinand I (1503-64) and ambassador to Venice from 1557 onwards, be-

gan to renovate it in the autumn of 1560.[10] He probably brought the plans for a four-wing layout of the residence, with a central courtyard and low corner towers in the form of bastions, back from his trip to Rome, where he went in 1559 as a special envoy to persuade the new pope Pius IV to approve Ferdinand's appointment as emperor.[11] Before returning to Venice he made a stop in Siena, where he presumably acquired plans of fortified villas designed by Peruzzi. After the Sack of Rome in 1527, the Sienese architect and painter Baldassare Peruzzi (1481-1536) sought refuge in his hometown, where he worked on the fortifications and also taught architecture until his return to Rome in 1535.[12] During his stay in Siena Peruzzi elaborated the typology of the fortified villa which he employed for fortifying the country villas of the Sienese nobility.[13] He presented these innovations to his students in a form of informal lectures which were preserved in manuscripts, mostly as copies of his *Taccuino sienese* and other architectural sketches. Together with other architectural treatises (such as copies of the treatises by Francesco di Giorgio Martini) these were held among others in the library of the community of German students in Siena.[14] It was probably during his visit of Siena in 1559 that Thurn acquired the copies of sketches of fortified villas that are now bound in Codex No. 10935[15] housed in the National Library in Vienna.[16] Among these sketches are examples that served as the source for the design of the fortified villa at Vipolže.[17]

In 1616, Venetian troops launched two attacks on the fortified villa at Vipolže and – as described in detail by Faustino Moisesso in 1623[18] – easily captured it after a bombardment. After the partly demolished building was repaired in the late seventeenth century, only the northern wing was partly preserved, with a pair of low towers that are still reminiscent of the low towers of Villa Farnesina in Caprarola.

The towers thus primarily performed a symbolic role, and the defensive elements were subordinated to the residential function and the needs of the owners. This is confirmed by the example of Villa Colloredo at Dobrovo, where one of the corner towers also served as a chapel. In general, fortified villas were surrounded by walls which served not so much for defence but rather for providing privacy within the settlement in which they stood.

Residential villas with corner towers were mainly built on exposed, clearly visible, but easily accessible locations in the landscape, so that the important status of their lords was conspicuous already from afar. A good example is Villa Rabatta at Kanal ob Soči, dating from the seventeenth century but demolished in the First World War.[19] Most owners belonged to the nobility holding important commanding posts, or they could be nobles of more recent descent, having come from the Italian lands and still looking to to secure their social rank among the Gorizian and Austrian aristocracy.

Figure 2. Villa Coronini in Kromberk. *Source: ©Umetnostnozgodovinski inštitut Franceta Steleta ZRC SAZU.*

Such an example is the Coronini family, which came to Friuli and Gorizia from Berbenno near Bergamo in 1487[20] and was accepted into the Gorizia Estates as late as 1604.[21] When in 1609 Giovanni Maria Coronini (d. 1616), commander of the fortress at Marano,[22] bought an estate which he named Crannperg (Kromberg) (Figure 2), he needed a building whose architectural appearance alone would indicate the family's ancient origins, while at the same time constituting a comfortable and luxurious residence, as was common in northern Italy. On the one hand, this seemingly fortified type of residential building, with a Venetian ground plan and four towers, reveals the need for self-assertion of this family of Italian origin while climbing up the social ladder among the Gorizian nobility; on the other hand, it also assimilated the most modern architectural trends in countryside aristocratic architecture that were spreading from neighbouring Friuli. The building receives its military outlook from the massive towers with slanted walls at the base; in each tower this lower level is separated by a rope-like stringcourse from the upper levels, which have windows with keyhole-shaped loopholes underneath them. The adapted Venetian ground plan with a staircase at the end of the entrance hall is extended with towers; each of the corner rooms opens onto an additional room inside the tower which is almost of the same size. Evidently the towers had a residential and not a defensive function from the very beginning. The building was badly damaged in 1915, during the battles

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on the Isonzo Front, and restored by the family in the 1930s.[23]
An even worse destiny befell another fortified villa with four corner towers, which belonged to the Tolmin branch of the Coronini family and which was situated at Rubije above the confluence of the rivers Soča and Vipava: it was demolished almost to the ground during the Great War.[24] Due to its strategic position, it had already been a target of fierce attacks during the War of Gradisca. The design of the residential building is strongly reminiscent of Kromberg: the closed-up three-and-a-half-storey building core is dominated by four towers which, in contrast to those of Kromberg, are slender and give the building an upward thrust. These towers, too, have slanted walls on the ground floor, with quoins and keyhole-shaped loopholes; they are separated from the upper floor by a stone stringcourse. The main facade is more widely open here, since the central axis was clearly marked by a rusticated portal on the ground floor, a trifora on the *piano nobile*, and a bifora on the second floor. The towers are no longer just attached to the main body of the building but incorporated into it in such a way that we get the impression of a scenic design of the facade, as can also be seen in Villa Thurn at Vipolže.
A similar demonstration of ancient aristocratic origins by means of architecture could also be seen with old Friuli noble families on the territory of the Republic of Venice, such as the Colloredos and the Strassoldos, who had to struggle for recognition and respect in a society which even denied the use of noble titles.[25] Therefore these families resorted to the only means that were suited to proving outwardly their ancient noble origin: all villas of the Colloredo family have characteristic fortification elements. The ground plan of Villa Colloredo at Gorizzo, built around the mid-seventeenth century, is of an extended Venetian type, but it differs from other Venetian-type villas by its expressly medieval fortified-castle element, that is the moat with a bridge giving access to the residential building.[26] Even more closely resembling a castle seems to be Villa Colloredo at Susans, designed as a villa with four corner towers. The family continued to adhere to this principle even in the early eighteenth century, when they had a villa with two towers built at Muscletto.[27]
The preserved inscription over the entrance to Villa Colloredo at Susans states that the building was constructed in 1636.[28] It was built by Fabritius Colloredo (1576-1645), chamberlain at the Medici court in Florence,[29] and the plans were made by the Medici court architect, Matteo Nigetti (d. 1649).[30] The ground plan of the original design survives, to which the present building closely corresponds, with the exception of the exterior semicircular staircase. The ground floor with slanted walls of the towers, the division of the parlour into two parts, the position of the staircase, and the chapel's incorporation into the main building all point to a Tuscan variant of the castle type. A representative of this type is the Gonzaga family's castle in Mantua, built in the fourteenth century, which became a model for numerous early villas of the Medici family.[31] On the other hand, the facade of the villa at Susans already manifests numerous Venetian elements, such as the stone bands that run horizontally along all facades, connecting the window openings that are distributed in a Venetian pattern, and accentuating the vertical division of the building into three storeys – all of these characteristics show the power of local influences.
The villa very likely served as a model for Villa Colloredo-Mels at Dobrovo in the Collio. It was built in the second quarter of the seventeenth century by the brothers Hieronimo, Rodolpho and Lelio Francesco Colloredo,[32] and is the only one of the villas presented in this paper to consistently adhere to the ground plan of a Venetian Renaissance palace with a staircase placed between a pair of rooms transversely to the axis of the elongated hall. This layout also accounts for the 'Venetian' type of the facade, as only the *piano nobile* is marked with larger windows on the first floor. The idea of the building is a sum of two building types: a Renaissance castle and a Venetian palace, but it was in fact executed as a classical Venetian Renaissance villa with the addition of four towers. The towers are slender and rectangular in shape to make an impression of greater massiveness from the best viewing points, whereas their thin walls and the size of window openings prove that they never had a major defensive function.[33] The loopholes, too small for practical use, and the stone quoins are merely decorative elements, intended to conceal the weakness of the towers by giving them a solid and invincible appearance. It is exactly the emphasis laid on these typically feudal architectural elements that proves that the towers were added to the villas as an expressly representational symbol whose task was to testify, even from afar, to the prominence and power of the owner or feudal lord.
The question of the origin of the formal type of the Venetian villa with four towers still remains open. In southern Italy, where the feudal system was still at full power in the second half of the fifteenth century, architect Giuliano da Maiano (1432-90) combined two types of architecture in the Villa di Poggio Reale in Naples (1489): a Tuscan city palace with arcades and a traditional castle with four towers.[34] This type spread very early also among the mansions in Gorizia and Carniola; the earliest of them, Heiligen Kreuz, was started already toward the end of the fifteenth century, and Brdo near Kranj was started in 1510.[35] But this type of architecture obviously did not suit the nobility of Gorizia County, who were – despite constant skirmishes and wars – closer to Venice in terms of culture than to the centres of Graz and Vienna, which were, due to poor road connections and their geographical position, rather remote. Family ties also played a role in this, because

the new state border drawn up after 1516 between the *Serenissima* and the Holy Roman Empire did not manage to break them off.

Possibly the Tuscan architect Giuliano da Sangallo (1445-1516) indirectly had an important share in the development of this monolithic four-tower design through his plan for Villa Medici at Poggio a Caiano (1480-97),[36] for it seems that one of the first villas of this type was Villa Colloredo at Susans. The Villa Medici ground plan betrays that it draws on a city palace with an inner courtyard of a regular form and with four residential spaces in the corners, similar to Sangallo's design for Palazzo Strozzi in Florence.[37] At Poggio, the architect replaced the inner courtyard with a hall and the four corner apartments with corner rooms. The ground plan of Villa Medici clearly emphasizes a tripartite division of the building into a central hall and residential rooms; the direction is placed at a right angle to another axis with the entrance which is less emphasized in the ground plan. The central part with the hall is partitioned into three sections; an important role in the plan is given to the staircase leading to the raised one-storey arcaded platform. If this ground plan is compared to the original plan for Villa Colloredo at Susans from the early seventeenth century, a work by another Tuscan architect who worked for the Medici family, it is possible to say that it is a somewhat reduced variant of the former, but with four towers added at the client's desire. The architect at Susans retained an elevated access to the building with a grand staircase as well as the division of the building's central part into two sections: the vestibule or atrium and the hall. The orientation of the hall to the entrance is different, because evidently the tendency towards a single-axis scheme was observed. However, outwardly the architecture still keeps its static character as well as the symmetry of all four sides of the building. The contemporary realization of this plan at Kromberk, Dobrovo and Rubije already shows signs of assimilation with local architectural and cultural traditions, since the Tuscan design was here transformed into the Venetian form, with a similar ground plan.

1 Vicenzo Scamozzi, *Dell'idea della architettura universale* vol. 1, book 3 (Venice, 1615), 247: 'E gli anni adietro fummo chiamati, e benissimo trattati dall'Illustrissimo Signor Ermano Baron de Attimis, &c. e facemmo Disegni per un suo nobilissimo Palazzo, à Santa Croce, Terra di sua giuridittione; oltre à Goritia, & il Lisontio Fiume, & altresi ne facessimo diuersi Disegni all'Illustrissimo Signor Conte Raimondo dalla Torre per fabricare à Cormons, Terra di sua giuridittione; ambedue nella Patria del Friuli'. Sandra Vendramin, "Notizie di opere e attribuzioni scamozziane," in Franco Barbieri and Guido Beltramini (eds.), *Vicenzo Scamozzi 1548-1616* (Venezia: Marsilio editori, 2003), 542, believes that Scamozzi visited the Gorizia region between 1600 and 1604, but in fact Scamozzi could have received the invitation to prepare plans for Heiligen Kreuz only after 1605, when Hermann von Attems bought the castle from the Thurn family.

2 Helena Seražin, "Vipavski Križ: Umetnostni spomeniki," in *Enciklopedija Slovenije* vol. 14 (Ljubljana: Mladinska knjiga, 2000), 258-259; Igor Sapač, *Grajske stavbe v zahodni Sloveniji: Srednja in spodnja Vipavska dolina* (Ljubljana: Viharnik, 2009), 151.

3 The contract between Heinrich Mattias von Thurn and Hermann von Attems was signed on 15 March 1605. Tanja Martelanc, "Grad Attems – Heiligenkreuz," in Helena Seražin (ed.), *Upravna enota Ajdovščina: Občini Ajdovščina in Vipava* (Ljubljana: Založba ZRC, 2012), 619. With the money gained by selling the estate in Heiligen Kreuz, Heinrich Matthias von Thurn bought the estate Veliš in the Czech Kingdom in 1606 and thereby got accepted among the members of the Czech Estates. Under the lead of Heinrich Matthias, members of the Prague Estates defenestrated royal representatives on 23 May 1618; this event led to the Thirty Years' War. Hermann Hallwsch, "Thurn-Valsassina, Heinrich Mattias Graf," in *Allgemeine Deutsche Biographie* (1895), http://www.deutsche.biographie.de/pnd12132141X.html?anchor=adb.

4 Sapač, *Grajske stavbe*, 151.

5 Ibidem, 162.

6 Raimond von Thurn was imperial ambassador in Venice (1593-97) and in Rome (1598-1603) and later commander of the fortress at Gradisca d'Isonzo. Carl Czoernig, *Gorizia: La Nizza Austriaca: Il territorio di Gorizia e Gradisca* (Gorizia: Casa di Risparmio di Gorizia, 1969), 578; Claudia Bortolusso, "Torre (della) Raimondo," in Cesare Scalon, Claudio Griggio and Ugo Rozzo (eds.), *Nuvo liruti: Dizionario biografico dei Friulani: vol. 2: L'età veneta: N-Z* (Udine: Forum, 2009), 2484-7; Gino Benzoni, "Della Torre, Raimondo," in *Dizionario Biografico degli Italiani*, 37 (1989), http://www.treccani.it/enciclopedia/raimondo-della-torre_(Dizionario-Biografico)/. Scamozzi's visit to Vipavski Križ (Heiligen Kreuz), Gorizia and Cormons, where the mightiest imperial fortresses were located along the border with the Republic of Venice, could indicate that the place in the Soča region where he

prepared plans for Thurn, can be identified as Gradisca d'Isonzo, where they owned Palazzo Torriani. His visit to these places most probably was not completely neutral, because he certainly travelled also as a spy for the Republic of Venice. Raimond von Thurn also owned a fortified villa at Vipolže (Vipulzano), a castle at Devin (Duino) and a villa at Renče (Ranziano).

7 Scamozzi, *Dell'idea*, 247.

8 Helena Seražin, "Cesarski veleposlaniki iz vrst goriškega plemstva v vlogi posrednikov novih arhitekturnih modelov in umetnostnih smeri," *Kronika: Časopis za slovensko krajevno zgodovino* 60, n. 3 (2012), 645-66.

9 Helena Seražin, "Lože pri Vipavi – grad ali vila?," *Goriški letnik*, 21-22 (1993-4), 80.

10 Gino Benzoni, "Della Torre, Francesco," in *Dizionario Biografico degli Italiani*, 37 (Rome: Istituto della Enciclopedia italiana, 1989), 541-5.

11 Carlo Morelli di Schönfeld, *Istoria della Contea di Gorizia, vol. 3, Dall'Anno 1700 all'Anno 1790* (Gorizia: Tipografia Paternolli, 1855), 361-2.

12 Nicholas Adams, "Peruzzi, Baldassare," in Jane Turner (ed.), *The Dictionary of Art*, 24 (London, New York: Grove, 1996), 532-3.

13 Sabine Frommel, "Piacevolezza e difesa: Peruzzi e la villa fortificata," in Christoph L. Frommel (ed.), *Baldassare Peruzzi: 1481-1536* (Venice: Marsilio, 2005), 337-8.

14 Valeria Annecchino, "Baldassare Peruzzi e la didattica dell'architettura a Siena," in Frommel (ed.), *Baldassare Peruzzi*, 310.

15 Österreichische National-Bibliothek, Handschriften-, Autographen- und Nachlass-Sammlung, Codex 10935.

16 Seražin, "Cesarski veleposlaniki," 649. Directly related to "Codex" n. 10935 of Vienna is also "Codex" n. 10873, which contains identical sketches of Peruzzi's fortified villas. These are drawn on paper manufactured in Salzburg after 1557, paper manufactured in the Austrian lands after 1555, Venetian paper from the first half of the sixteenth century, and paper manufactured in Augsburg after 1563 (Annecchino, "Baldassare Peruzzi," 317), which could likewise connect him with Franz of Thurn.

17 Helena Seražin, *Kultura vile na Vipavskem in Goriškem od 16. do 18. stoletja* (Trieste: Založba tržaškega tiska, 2008), 115-21.

18 Faustino Moisesso, *Historia della ultima Guerra nel Friuli* (In Venetia: appresso Barezzo Barezzi, 1623), 182-3.

19 Igor Sapač, *Grajske stavbe v zahodni Sloveniji: 4: Brda in Zgornje Posočje* (Ljubljana: Viharnik, 2011), 101-36. The estate was bought in 1623 by amabassador Antonio Rabatta (d. 1650), who was married to Felicita Colloredo, sister of Hieronimo (d. 1638) and Rodolpho (d. 1657) Colloredo, brothers who in the 1630s built the fortified Villa Colloredo with four towers in Coglio (Sapač, *Gradovi 4*, 54). The Rabatta family originated from Tuscany.

20 Branko Marušič, "Coronini," in *Enciklopedija Slovenije: 2* (Ljubljana: Mladinska knjiga, 1987), 82.

21 Czoernig, *Gorizia*, 787.

22 Rudolf Klinec, "Coronini," in *Primorski slovenski biografski leksikon, vol. 1* (Gorizia: Goriška Mohorjeva družba 1974-81), 196.

23 Igor Sapač, *Grajske stavbe v zahodni Sloveniji: 3: Območje Nove Gorice in Gorice* (Ljubljana: Viharnik, 2010), 10-12.

24 Luigi Foscan and Erwin Vecchiet, *Castelli del Carso medieval* (Trieste: Italo Svevo, 1985), 139-40. The villa is presently undergoing renovation works.

25 Peter Lauritzen and Alexander Zielcke, *Palaces of Venice* (Oxford: Phaidon, 1985), 18.

26 Christoph Ulmer, *Ville Friulane: Storia e civiltà* (Udine: Magnus, 1993), 73-4.

27 Ulmer, *Ville*, 74-7.

28 Ulmer, *Ville*, 96, loc. cit.: '*Fabritius Colloredus Marchio Sanctae Sophiae Anno Domini MDCXXXVI*'.

29 Maria Rosa Pardi Malanima, "Colloredo, Fabrizio," in *Dizionario Biografico degli Italiani*, 27 (1982), http://www.treccani.it/enciclopedia/fabrizio-colloredo_(Dizionario-Biografico)/.

30 Ulmer, *Ville*, 96.

31 James S. Ackermann, *The Villa: Form and Ideology of Country Houses* (London: Thames and Hudson, 1995), 65-8.

32 Sapač, *Gradovi 4*, 32, 54.

33 Ivan Stopar ascribes an important defensive function to the towers exactly because of the loopholes. Ivan Stopar, *Gradovi na Slovenskem* (Ljubljana: Cankarjeva založba, 1989), 376.

34 Christoph L. Frommel, "Living all'antica. Palaces and villas from Brunelleschi to Bramante," in Henry A. Millon and Vittorio Magnago Lampugnani (eds.), *The Renaissance from Brunelleschi to Michelangelo: The representation of architecture* (Milan: Bompiani, 1994), 193.

35 Ivan Stopar, *Grajske stavbe v osrednji Sloveniji: Gorenjska vol. 1: Ob zgornjem toku Save* (Ljubljana: Viharnik, Znanstveni inštitut Filozofske fakultete, 1996), 25-6.

36 Ackermann, *The Villa*, 79-85.

37 Frommel, "Living," 192.

1.2 Piedmontese Baroque Architecture Studies Fifty Years On

ROUNDTABLE CHAIR
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The current decade marks the fiftieth anniversary of the great flowering of studies on Piedmontese Baroque architecture during the 1960s. Proceeding from pioneering works of the 1950s such as Rudolf Wittkower's chapter "Architecture in Piedmont" in his *Art and Architecture in Italy 1600-1750* (1958), or Paolo Portoghesi's series of articles and brief monograph on Guarini (1956), international and local scholars like Henry Millon, Werner Oechslin, Mario Passanti, and Nino Carboneri produced an impressive array of publications on the period. Some of the milestones of this scholarly output include the architecture section of the exhibition Mostra del Barocco Piemontese (1963), Andreina Griseri's *Metamorfosi del Barocco* (1967), and Richard Pommer's *Eighteenth-Century Architecture in Piedmont* (1967). This scholarship culminated in major international conferences on Guarino Guarini (1968) and Bernardo Vittone (1970), as well as the initiation of the Corpus Juvarrianum in 1979.

This roundtable aims to commemorate the golden age of studies on Piedmontese Baroque architecture through a critical assessment of the heritage of the 1960s. Have Griseri's and Pommer's 'challenging' (Wittkower) concepts proven robust? Does a traditional geographic-stylistic designation remain fruitful for investigating a region whose two major architects built throughout Europe and whose ruling dynasty entered supraregional marriage alliances? Do recent interdisciplinary methodologies – drawing from fields like geography, sociology, or history of science – reframe the roles of agents like civic authorities, construction workers, or military engineers? Has new material evidence altered long-held assumptions?

Discussion positions may directly address historiography or methodology of the 1960s, or present alternative approaches in the form of case studies or new research projects that critically engage with this historic body of scholarship on Piedmontese Baroque architecture, urbanism, and landscape. At its previous conferences, the EAHN did not highlight the architecture of the host region in dedicated panels. Turin, however, arguably presents an ideal venue for an international roundtable with regional focus: then as now, Piedmont is a major European crossroad for cultural influences from the Italian peninsula, France and Spain, northern Europe, and the former Hapsburg empire. Piedmontese Baroque architecture continues to occupy both local and international scholars, as demonstrated by the recent series of monographic conferences in Turin on architects like Alfieri, Garove, and Juvarra organized by the Bibliotheca Hertziana together with the Venaria Reale consortium. Breaking out of these monographic constraints, this roundtable will provide an opportunity to reflect on where the field has been during the past half century, as well as where it might go in the next fifty years.

1. EARLY MODERN

1.2.1 The Exchange of Architectural Models between Rome and Turin before Guarini's Arrival

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Abstract
The architectural advisors of Maria Cristina of Bourbon, Regent of Savoy from 1637 to 1648, were Count Filippo San Martino d'Aglié, appointed "Gran Maestro delle Fabbriche" in 1643, and her former brother in law, Prince Maurizio of Savoy. The two men had been close since their sejour in Rome when Maurizio was still a cardinal and Filippo his gentleman of the chamber; they both had grown up in the cultural and artistic milieu of the city and shared the same interests developed inside the Accademia dei Desiosi. For them it was quite logical also to consider ideas and suggestions of the architects whom they had known during their stay in Rome for the challenging architectural programmes being planned in Turin. In addition, between the death of Carlo di Castellamonte in 1630 and the professional maturation of his son Amedeo, the ducal engineers were attracted by the monumental persuasiveness of the works of their Roman counterparts. This focus on Rome was enhanced by the arrival in Turin of the Theatines and the Minims with their first settlements during the 1620s, and by the promotion of the 'dynastic cult' with the resumption of works in the chapel of the Holy Shroud in the 1650s. However, the novelty of the contemporary urban and architectural planning of Turin as a capital city was not ignored by Roman architects as can be seen in some unrealized projects for the renewal of Rome. That Turin could thus command the attention of contemporaries tends to reinforce the theses of Andreina Griseri and of 1960s scholarship on Turin as a model city. The 1640s and 1650s in Turin coincide with a phase of transition and experimentation before the arrival in 1666 of Guarino Guarini, who marked a turning point in Baroque architecture in Piedmont.

Keywords
Turin, Rome, Baroque, Rainaldi, Shroud, architecture

The prevailing Rainaldian influence, over the Berninian or Borrominian, is one of the aspects of the spread of Roman Baroque in Piedmont, well highlighted since the first surveys of the 1960s. For example Richard Pommer mentions Girolamo Rainaldi's S. Teresa in Caprarola as a forerunner (via Borromini) of the 'open architecture' he argues is characteristic of Piedmont.[1] Rudolf Wittkower signalled, however, a more direct exchange of tendencies concerning the project of Carlo Rainaldi for S. Maria in Campitelli in Rome. The northern Italian influence in the typology, a false Greek cross juxtaposed on a domed sanctuary, considered alien to Roman models, is opposed to the original scenic definition of the columnar articulation derived from the personal experience of the architect, soon imported into Piedmont by Francesco Lanfranchi in the project for the church of S. Rocco (1667).[2] Andreina Griseri and Nino Carboneri, in their studies on Giovenale Boetto and Andrea Pozzo, not only identified the sacred theatres and ephemeral structures of the Jesuit as vehicles of transmission for the spatial solutions of perspective illusion, but also emphasized the importance of the Rainaldian experience.[3]
In respect to these first observations on the spread of Rainaldian architectural models in the Duchy of Savoy, we would like to suggest earlier channels and periods prior to those indicated by standard histories.
Filippo Baldinucci (1681) reports that the Roman architect Carlo Rainaldi was 'very active in serving Carlo Emanuele, Duke of Savoy' and was thus awarded the equestrian order of Saints Maurice and Lazarus.[4] Lione Pascoli in the *Lives* dedicated to Vittorio Amedeo II of Savoy strengthens the argument of Baldinucci, writing that Rainaldi:

> was much employed by Carlo Emanuele of Savoy for the buildings of Piedmont, and much by Cardinal Maurizio during the times he was in Rome; and beyond considerable donations he received from them several times, he had the honour of the Cross of the Noble Order of Infantrymen Maurice and Lazarus received by the hands of the cardinal himself, who performed the function publicly.[5]

If we consider the two testimonies truthful and the dating of the merit around 1649 – the year from which Rainaldi figures in the documents with the title of Knight – his functions as architect would date back to the years of the Regency of Maria Cristina of Bourbon after her reconciliation with Tommaso and Maurizio of Savoy, and to the first decade of the reign of her son Carlo Emanuele II.[6]
Despite her strong ties with France, the Regent could not escape the meddling of her brothers-in-law in architectural and urban policy, particularly of

Maurizio who, having renounced the purple, had obtained the hand of her daughter Ludovica, becoming her son-in-law. Maurizio was a counsellor of Cristina for architecture together with Count Filippo San Martino d'Aglié, appointed Gran Maestro delle Fabbriche in 1643.[7] Close since the time of Roman cardinalate of Maurizio, the two noblemen were formed in the cultural and artistic milieu of the city and of the Academy of Desiosi.[8] It was quite logical for them to also consider, for the demanding architectural initiatives planned in Turin, ideas from architects with whom they had entered into relationship during their stays in Rome.

On the other hand, between the death of Carlo di Castellamonte in 1630 and before the professional maturation of his son Amedeo, none of the engineers of the ducal entourage manifested significant talent and artistic autonomy. It is therefore likely that the dukes would ask for external consultants for their building projects.

Particular consistency and significance are revealed in the two Valperga albums, analyzed by Giuseppe Dardanello, who has thoroughly studied its composition stressing that for many of the drawings, dating mostly from the first half of the century, the attributions still remain uncertain.[9] The hypothesis, albeit vague, that some of these sheets may have something to do, also by indirect means, with solutions proposed by Carlo Rainaldi, is worth exploring, as well as in other collections and in some project drawings of the *Theatrum Sabaudiae* (1682).

Rainaldi was introduced to the Cardinal Maurizio of Savoy, who may have met him as a young architect and musician in Rome in the Orsini court at Montegiordano, and along with his father Girolamo at the construction yard of the Theatines at S. Andrea della Valle, adjacent to the small national church of S. Sudario.[10] The same Theatines, who were asked by Carlo Emanuele I and then Vittorio Amedeo I to establish their quarters in Turin near the ducal palace, were the first after the advent of Carlo Emanuele II to ask for the resumption of the construction of the chapel of the Holy Shroud.[11] In this context of renewed dynastic propaganda, in addition to the continuation of the Shroud chapel, was the scheduled reconstruction of the church of S. Sudario in Rome entrusted to Carlo Rainaldi.[12]

The uncle and brother-in-law Maurizio had a considerable influence over the decisions of the inexperienced young duke.[13] Only Gerhard Eimer has raised the issue of what might have been the relations between Carlo Rainaldi, Maurizio and his nephew Carlo Emanuele II and whether he could have been involved in Turin as consultant or as an architect before the arrival of Guarini in 1666.[14]

Rainaldi could be a valuable partner since he had designed (with his father) the expansion of the Pamphili Palace in Rome and the adjacent chapel of S. Agnese in compliance with the programmatic model suggested by the hispanophile Pope Innocent X of a royal palace with palatine chapel from the Escorial.[15] Susan Klaiber has also shown how the Dukes in Turin intended to imprint the design of the chapel of the Holy Shroud and the palatine church of S. Lorenzo with similar parameters of *grandeur*.[16]

The new design for the Chapel of the Holy Shroud, the most prestigious architectural commission sponsored by the Savoy dynasty, was surprisingly entrusted to the impresario and sculptor Bernardino Quadri, at the expense of the first court architect, Count Amedeo di Castellamonte, relegated to a subordinate role.[17] Quadri could claim experience in the most important Roman decorative campaigns of the 1640s, from the nave of S. Peter's with Bernini, to that of S. John Lateran, where he is remembered for a serious conflict with Borromini. Forced to leave the city at the end of 1649, he found refuge in the court of Savoy, which immediately enlisted him in the role of architect. It may be suggested that he could have been accompanied by Rainaldi, who in that year apparently received the Cross of the Order of Saints Maurice and Lazarus, and with whom he shared a hatred for Borromini. The hypothesis of a journey to Turin by Rainaldi is likely also because some of his architect relatives lived in nearby Milan, working at the Regia Camera Lombarda.[18] We suggest that in the process of the construction of the chapel of the Holy Shroud also Carlo Rainaldi, who remained in contact with Cardinal Maurizio even after his investiture as a knight, may have participated in some stage.

The northern Italian influence of the Rainaldian idiom is well known, but certainly we need to reflect on the linguistic similarity of some sheets of uncertain attribution to Carlo or Amedeo di Castellamonte with preparatory drawings by Carlo Rainaldi for S. Agnese in Agone and S. Maria in Campitelli: from the experimentation of a domed structure on columns (see in this regard the drawings discovered by Stephan Albrecht in the Staatliche Graphische Sammlung of Munich),[19] to the project of an oval with crossed axis articulated with free-standing columns.[20]

Turning from religious to civil architecture, Wittkower noted that while the architects of central Italy never abandoned isolated façades, the breaking of this tradition in Turin was due to a strong French influence. In fact, the only architect in Rome to propose something similar to the uniform façades around piazza San Carlo by Carlo di Castellamonte was precisely Carlo Rainaldi thus confirming his possible direct knowledge of the city. Those were proposals for two of the major architectural and urban initiatives under Alexander VII Chigi: a project for the Piazza del Popolo with the twin churches surrounded by uniform architectural 'stage sets' in a vanishing perspective, and a project for S. Peter's Square, with four planimetric options (square,

Figure 1. Carlo Rainaldi. Project for S. Peter's Square in Rome. *Source*: the Vatican Library, Chigi P.VII.9, f. 40v-41R.

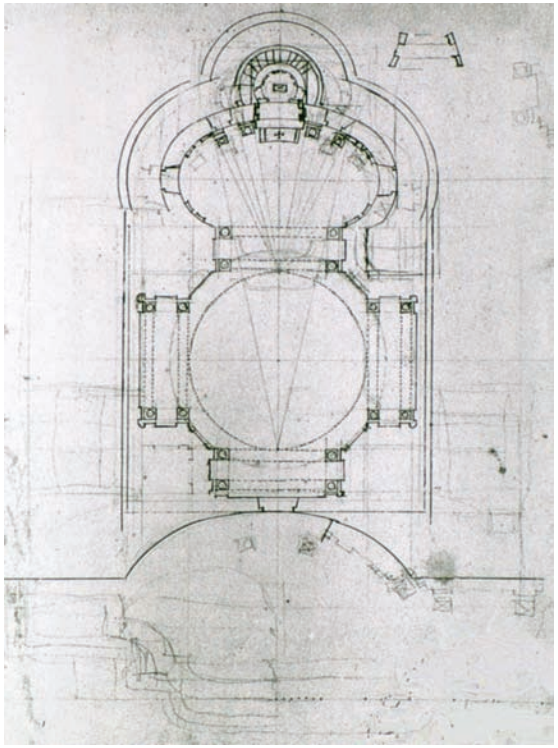

Figure 2. Antonio Falletti da Barolo (1671-1760, attributed). Plan of a church with a Greek cross with an oval sanctuary inspired by the basic Rainaldian concepts developed by Guarini Guarini and Andrea Pozzo. *Source*: Torino, the Biblioteca nazionale universitaria, serie X, inv. n. codice q. II. 40, folio 20. Note the perspectively framed sacellum accessible by steps behind.

round, oval and hexagonal) articulated with the same continuous arcaded façade (Figure 1).[21]

The advent of Carlo Emanuele II of Savoy coincides with a transitional stage for Turinese architecture before the arrival in 1666 of Guarino Guarini, who marked a decisive turning point in the fate of Baroque architecture in Piedmont.

The spread and persistence of Rainaldian lessons is confirmed by the project of Boetto and Pozzo for the church of Mondovì and the anonymous basilica of SS. Maurizio e Lazaro;[22] by the diffusion of a compositional scheme for altars established by Girolamo Rainaldi in the main altar of S. Pietro in Valle in Fano; and by the graphic production of the Jesuit architect Antonio Falletti from Barolo at the beginning of the eighteenth century documented here with an interesting drawing attributed to him by Richard Bösel (Figure 2).[23] While Rainaldi's connections with Piedmont were brushed upon tangentially by scholars such as Wittkower, Pommer, and Griseri around fifty years ago, the intertwining of circumstances, dates, and characters only hinted at here indicate, in my opinion, a crucial knot yet to be untied.

1 Richard Pommer, *Eighteenth Century Architecture in Piedmont. The open structures of Juvarra, Alfieri & Vittone* (New York: New York University Press, 1967), 5.
2 Rudolf Wittkower, *Art and Architecture in Italy: 1600 to 1750* (Harmondsworth: Penguin Books, 1958).
3 Nino Carboneri (ed.), *Andrea Pozzo architetto, 1642-1709* (Trento: Arti grafiche Saturnia, 1961); Nino Carboneri and Andreina Griseri, *Giovenale Boetto* (Fossano: Cassa di Risparmio di Fossano, 1966).
4 Filippo Baldinucci, *Notizie de' professori del disegno da Cimabue* (Firenze: Santi Franchi, 1681), 492, 639-40: 'impiegato molto ne' servigj di Carlo Emanuele Duca di Savoja […] conferitogli dall'Altezza Serenissima dello stesso Carlo Duca di Savoia, per mezzo del Cardinal Maurizio, per guiderdone della servitù prestatogli nel tempo ch'e' fu alla corte di Roma'. The knighthood of Rainaldi is documented by Gerhard Eimer, *La fabbrica di S. Agnese in Navona. Römische Architekten, Bauherren und Handwerker im Zeitalter des Nepotismus* (Stockholm: Almqvist & Wiksell, 1970), I, 125, n. 11b.
5 Lione Pascoli, *Vite de' pittori, scultori, ed architetti moderni* (Roma: Antonio de' Rossi, 1730), I, 310: 'molto fu impiegato da Carlo Emanuele di Savoia per le fabbriche di Piemonte; e molto dal cardinal Maurizio nel tempo che stette in Roma; ed oltre i riguardevoli donativi ricevuti più volte da loro, ricevé anche l'onore della croce del nobil ordine de' fanti Maurizio e Lazzaro avuta dalle stesse mani del cardinale, che fece la funzione pubblicamente'.
6 Gaudenzio Claretta, *Storia della reggenza di Cristina di Francia duchessa di Savoia* (Torino, 1868-69); Franca Varallo (ed.), *In assenza del re: le reggenti dal XIV al XVII*

secolo (Piemonte ed Europa) (Firenze: Olschki, 2008).

7 Andreina Griseri, *Il Diamante. La villa di Madama Reale Cristina di Francia* (Torino: Istituto Bancario San Paolo di Torino, 1988); Vera Comoli and Costanza Roggero Bardelli (eds.), La *prigione di Fillindo il Costante: opera inedita* (1643) di Filippo San Martino d'Agliè (Torino: Centro Studi Piemontesi, 2005); Clelia Arnaldi Di Balme and Franca Varallo (eds.), *Feste barocche: cerimonie e spettacoli alla corte dei Savoia tra Cinque e Settecento* (Cinisello Balsamo: Silvana Editoriale, 2009).

8 Vittorio Enrico Gianazzo di Pamparato, *Il principe cardinale Maurizio di Savoia mecenate dei letterati e degli artisti* (Torino: Stamp. Reale Della Ditta G. B. Paravia e C., 1891); Alessandro Baudi di Vesme, *Schede Vesme: l'arte in Piemonte dal XVI al XVIII secolo* (Torino: Società Piemontese di Archeologia e Belle Arti, 1963-1982); T. Mörschel, "Il cardinale Maurizio di Savoia e la presenza sabauda a Roma all'inizio del XVII secolo," *Dimensioni e problemi della ricerca storica*, 2 (2001), 147-78; Michela Di Macco, "'L'ornamento del Principe'. Cultura figurativa di Maurizio di Savoia (1619-1627)," in Giovanni Romano (ed.), *Le collezioni di Carlo Emanuele I* (Torino: Fondazione e Banca Cassa di Risparmio di Torino, 1995) 350; Matthias Oberli, 'Magnificentia Principis': das Mäzenatentum des Prinzen und Kardinals Maurizio von Savoyen (1593-1657) (Weimar: VDG, 1999); Riccardo Merolla, "L'Accademia dei Desiosi," *Roma moderna e contemporanea*, 3 (1995), 121-55.

9 Giuseppe Dardanello (ed.), *Disegni decorativi e di architettura per le corti di Carlo Emanuele I e di Cristina di Francia dagli album Valperga* (Torino: Fratelli Ceriana s.p.a. Banca, 1989); Id., "Gli Album Valperga della Biblioteca nazionale di Torino," in G. Alisio (ed.), *I disegni d'archivio negli studi di storia dell'architettura* (proceedings of the Conference, Naples, 12-14 June 1991) (Napoli: Electa Napoli, 1994); Id., *Memoria professionale nei disegni dagli Album Valperga: allestimenti decorativi e collezionismo di mestiere* (Torino: Fondazione CRT, 1995); Id. (ed.), *Disegnare l'ornato: interni piemontesi di Sei e Settecento* (Torino: Fondazione Cassa di Risparmio di Torino, 2007); Id., "Cantieri di corte e imprese decorative a Torino," in Giovanni Romano (ed.), *Figure del Barocco in Piemonte. La corte, la città, i cantieri, le province* (Torino: Editris, 1988) 163-252.

10 Marisa Tabarrini, "Carlo Rainaldi e i Savoia a Roma: la chiesa del Santo Sudario," in Simona Benedetti (ed.), *Architetture di Carlo Rainaldi nel quarto centenario della nascita* (Roma: Gangemi, 2012) 296-321.

11 Francesco Andreu, "I Teatini a Torino," *La Zagaglia: rassegna di scienze, lettere ed arti* 22 (1964), 165-71; Giuseppe Dardanello, "Progetti per le prime cappelle della Sindone a Torino," in *Politica e cultura nell'età di Carlo Emanuele I. Torino, Parigi, Madrid* (proceedings of the Conference, Turin 21-24 February 1995) (Firenze: Olschki, 1999), 345-63; John Beldon Scott, *Architecture for the Shroud: relic and ritual in Turin* (Chicago: Univ. of Chicago Press, 2003).

12 Tabarrini, "Carlo Rainaldi e i Savoia a Roma".

13 Oberli, *Magnificentia Principis*.

14 Eimer, La fabbrica di S. Agnese in Navona, I, 125, n. 11c.

15 Elisabeth Sladek, "L'architettura dei palazzi di Borromini," in Christoph Luitpold Frommel and Elisabeth Sladek (eds.), *Francesco Borromini* (proceedings of the Conference, Rome, 13-15 January 2000) (Milano: Electa, 2000), 86-97.

16 Susan Elizabeth Klaiber, "The first ducal chapel of San Lorenzo: Turin and the Escorial," in *Politica e cultura nell'età di Carlo Emanuele I*, 329-43; Ead., "Le fonti per San Lorenzo," in Giuseppe Dardanello, Susan Klaiber and Henry A. Millon (eds.), *Guarino Guarini* (Torino: Allemandi, 2006), 329-37.

17 Giuseppe Dardanello, "Bernardino Quadri e il 'negotio scabroso fra l'architetto et un stuccatore,'" in Id., *Disegnare l'ornato*, 77-88; Silvana Ghigonetto, "Bernardino Quadri. Scultore, stuccatore e architetto ticinese alla corte sabauda," in Giorgio Mollisi (ed.), *Svizzeri a Roma nella storia, nell'arte, nella cultura, nell'economia dal Cinquecento ad oggi*, Arte & storia, XI (2011), 52, 188-99.

18 Benedetti, *Architetture di Carlo Rainaldi*. On Giovanleo Rainaldi, a cousin of Carlo and author of the Descrittione del Piemonte del 1635, see F. Barrera, *Il Piemonte nella cartografia del Cinquecento e Seicento* (Torino: Società degli ingegneri e degli architetti di Torino, 1991), schede 28-29.

19 Stephan Albrecht, "Die Planungsgeschichte der Kapelle des Grabtuchs Christi in Turin: ein neuer Zeichnungsfund," *Marburger Jahrbuch für Kunstwissenschaft* 37 (2010), 183-208.

20 On the Rainaldian research for domed structures on columns see Fulvio Lenzo, "Una cupola su colonne. Nuovi elementi per la comprensione di Sant'Agnese in Agone," *Annali di architettura* 24 (2012).

21 See also the anonymous drawing known as a counterproject for S. Peter's Square characterized by a continuous Serlian with evident similarity with that by Castellamonte in Turin (BAV, Chigi P. VII. 9 f. 23.). Augusto Roca De Amicis, "La piazza," in Antonio Pinelli, Maria Beltramini and Alessandro Angeli (eds.), La Basilica di San Pietro in Vaticano, vol. 3 (Modena: Panini, 2000), III, 283-301; "Le prime idee di Bernini per Piazza S. Pietro: lo stato degli studi e qualche precisazione," *Palladio* 12, n. 23 (1999), 43-50.

22 See in particular the altars of S. Francesco di Paola and S. Maria del Monte dei Cappuccini. On the compositional schemes showing Rainaldian roots, although on previous patterns from Serlio and Michelangelo, see Augusto Roca De Amicis, "Girolamo Rainaldi tra sperimentalismo e apertura al Barocco," in Gianfranco Spagnesi (ed), *Atti del XXIII Congresso di storia dell'architettura* (Rome, 24-26 March 1988) (Rome, 1989) 1, 285-291; Id., "Guarini e l'Emilia," in Dardanello, Klaiber, *Henry A. Mitton*, 471-9.

23 Nino Carboneri, "Guarini ed il Piemonte", in *Guarino Guarini e l'internazionalità del barocco*, vol. 2 (proceedings of the Conference, Turin, 30 September - 5 October 1968) (Torino: Accademia delle Scienze, 1970) 347-83; Richard Bösel, "'Nach romanischer Art getragen': die Wiener Gardekirche von Nikolaus Pacassi; Vorbildrezeption zwischen Zitat und Paraphrase," *Römische historische Mitteilungen* 41 (1999), 71-94.

1. EARLY MODERN

1.2.2 Guarino Guarini: The First 'Baroque' Architect

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Abstract
In her contribution to the conference *Guarino Guarini e l'internazionalità del barocco* of 1968, Silvia Bordini presented a historical overview of the criticism of Guarini, claiming at one point that remarks of eighteenth-century writers 'accomunano Guarini nella generale valutazione negative dell'arte barocca'. As Bordini rightly claims, this criticism of Guarini was indeed part of a broader trend of censuring the work of architects whom we would now characterize as 'Baroque'. But late-eighteenth-century criticism of Guarini was also unique, and in significant ways not discussed by Bordini. Prominent theorists – Jacques-François Blondel, Francesco Milizia, Antoine Quatremère de Quincy, and others – made clear distinctions between Guarini's failings and those of other architects, and particularly those of Borromini, the architect whom modern scholars most often consider the focus of eighteenth-century criticism. Quatremère de Quincy, in his well-known definition of 'baroque' as an architectural term, in fact singled out Guarini alone as 'le maître du baroque'. My discussion focuses on what made Guarini's architecture unique, and 'Baroque', in the minds of late-eighteenth-century critics. Such a discussion seeks to reevaluate current perceptions of what the term 'Baroque' meant when it was introduced into architectural criticism and to recognize the criticism of Guarini as a distinctive and crucial part of the formation of these early notions of 'Baroque' architecture. In so doing, my discussion also calls for a reappraisal of the significance of Piedmontese architecture in the formation of the concept of 'Baroque' architecture more generally.

Keywords
Guarini, Borromini, Quatremère, Milizia, historiography, Baroque

In her contribution to the conference *Guarino Guarini e l'internazionalità del barocco* in 1968, Silvia Bordini discussed the history of Guarini's reception from the late seventeenth century to the 1960s, and claimed that eighteenth-century writers' criticism set Guarini within the broader critical attack on architects of his day.[1] In this paper, I take issue with this claim; I argue instead that Guarini held a unique position in eighteenth-century criticism. This uniqueness had to do with what critics perceived as his relation to Borromini: Guarini came to stand as perhaps the most important model of an architect who followed Borromini. This particular idea of Guarini is significant because, as I will proceed to show, it was transformed into a fundamental element of Quatremère de Quincy's concept of the 'baroque' in architecture. Indeed, recognizing the place of the criticism of Guarini in the early development of the concept of the 'Baroque' in architecture indicates that that concept itself needs reconsideration; 'Baroque' was not to do simply with seemingly overly elaborate architectural forms per se, but rather with a particular mode of imitation of such forms. Overall, then, this paper undertakes to show not only that Guarini was a unique figure in eighteenth-century criticism, but that the recognition of this uniqueness allows for a substantial re-evaluation of what 'baroque' meant when codified in architectural discourse.

My discussion takes the form of a response to Bordini's paper, but it nonetheless also responds to approaches to the study of Guarini in the 1960s more broadly. Bordini spoke of Guarini's relation to Borromini as a preoccupation of Guarini's critics from the eighteenth century to the early twentieth century.[2] In scholarship of the 1960s, the subject appears repeatedly in discussions of Guarini's architecture; Argan, Carboneri, Griseri, Millon, and Pommer, as well as a number of other speakers at the 1968 conference on Guarini, commented on the relation between the two architects.[3] My approach differs from that of these scholars in that, instead of attempting to validate or diminish the idea that Borromini influenced Guarini, I consider the idea of this influence as a historical construct and also seek to show how analyzing this construct as it was presented in eighteenth-century texts yields fruitful insight into architectural theory of the time.

I want to begin the discussion by paying closer attention to comments on Guarini made by two of the eighteenth-century critics Bordini cited, Francesco Milizia in his biography of Guarini included in his *Le vite de' più celebri architetti d'ogni nazione e d'ogni tempo* (1768) and Antoine Quatremère de Quincy in his definition of the term 'Baroque' in his *Encyclopédie méthodique:Architecture* (1788).[4] Bordini implied, and thus rightly perceived, that Quatremère's reception of Guarini was influenced by Milizia's remarks.[5] At the same time, however, she seems not to have realized the more precise nature of this influence.

Milizia's influence on Quatremère is more apparent if, instead of comparing Quatremère's text with the original Italian edition of Milizia's *Vite*, as Bordini did, we compare it with the French translation of Milizia's text. The line of particular interest is translated from the Italian, 'Se vi è stato mai architetto che abbia portato all'ecesso le stravaganze borrominesche, è certamente il P. Guarino Guarini', to the French, 'De tous les architectes qui ont adopté le style bizarre de Borromini, il n'en est aucun qui ait donné dans tant d'exèsque le pere Guarino Guarini'.[6] The idea of Guarini being an architect who took Borromini's extravagance to excess in the Italian edition is transformed in the French into the idea that Guarini, of all the architects who took up Borromini's bizarre style, was the one who took it to the greatest excess. Two important shifts take place in this act of translation: Borromini moves from being extravagant to being bizarre and Guarini goes from being simply one example of a follower of Borromini's who took his faults to excess to being the example, of all of Borromini's followers, who took his faults to the greatest excess. The idea of bizarreness taken to an extreme, or its superlative form, the association of Borromini with bizarreness, and the example of Guarini as the architect who took Borromini's bizarreness to an extreme reappear in Quatremère's definition of 'Baroque'. The relevant parts of his definition are as follows:

> Le baroque, en architecture, est une nuance du bizarre, il en est, si on veut, le rafinement, ou, s'il étoit [sic] possible de le dire, l'abus. Ce que la sévérité est à la sagesse ou goût, le baroque l'est au bizarre, c'est-à-dire qu'il en est le superlatif. […] Borromini a donné les plus grands modèles de bizarrerie. Guarini peut passer pour le maître du baroque.[7]

Quatremère's 'Baroque' thus embodied elements of a pre-existing concept in architectural discourse, this portrayal of Guarini as a model of a follower of Borromini as presented by Milizia. To this pre-existing concept, Quatremère applied the term 'Baroque'. The term, as we know, was already in use in architectural discourse at the time and had already been defined in an architectural dictionary, but Quatremère's 'Baroque' clearly diverged from earlier usage: prior to Quatremère's definition, the term 'Baroque' in architectural discourse did not have a clear association with the term 'bizarre' and, even while it was associated with the term 'bizarre' in more general parlance, it was defined as one of its synonyms, not its superlative.[8] Moreover, the term had not been applied to Guarini in this way that bound its meaning to Guarini's relation to Borromini.[9] By constructing a particular semantic relation between 'Baroque' and 'bizarre' and by using Guarini's relationship to Borromini to illustrate this relation, Quatremère, on the one hand, created something that was strikingly new in terms of the meaning of the 'baroque' in architecture and yet, on the other hand, in part, simply reframed and allotted a term to a pre-existing concept.

If we accept Milizia's, or, more precisely, his translator's, portrayal of Guarini as a source for Quatremère's 'Baroque', we must also acknowledge that this portrayal of Guarini was not itself either entirely original or unique. Before the publication of Milizia's *Vite*, a number of French writers had identified Guarini as an architect who followed or created work in the style of Borromini.[10] Moreover, the idea that Guarini's work embodied that which was particularly bad about Borromini's had also been voiced: in his *Cours d'architecture* (1683), for example, François Blondel claimed that Guarini not only wanted to follow Borromini, but that he had 'choisi ce qu'il y avoit de plus extravagant dans ses [Borromini's] pratiques' as well.[11] Although Milizia's critique clearly differs from these others in its specification that Guarini took Borromini's faults to excess, it nonetheless certainly grew out of such criticisms. The idea that Guarini had taken Borromini's faults to excess was, however, no longer unique to Milizia by the time of Quatremère's publication. In fact, the idea circulated in French texts in the years following the publication of Milizia's *Vite*: one writer, for example, claimed that Guarini 'adopta la maniere du Borromini, & en chérit sur sa bizarrerie' and another that, 'Avec moins génie que le Boromini [sic], il [Guarini] a beaucoup renchéri sur tous les défauts qu'on lui reproche'.[12] Thus, while particular terms and semantic relations of Quatremère's definition of 'Baroque' seem to come directly from Milizia, the ideas about Guarini that Quatremère's term embodied belonged to more long-standing and widespread perceptions of Guarini as a follower of Borromini's.

Recognizing the link between Quatremère's definition of 'Baroque' and the history of the reception of Guarini is significant in two ways. First, for our understanding of Guarini's early reception, it underscores that he was viewed as exceptional by eighteenth-century critics, albeit for his failings rather than his merits. Second, in terms of our understanding of eighteenth-century architectural theory more generally, recognizing the link between Quatremère and Guarini's reception shifts the context within which we understand Quatremère's concept of the 'Baroque'. Early studies of the development of the broader concept of 'Baroque' treated Quatremère's definition as just one of many examples of the etymology and usage of the term, and in so doing created what became a standard framework within which his definition was understood.[13] Perhaps as a result, subsequent scholars have failed to recognize that Quatremère did not simply absorb the meaning of 'Baroque' from general parlance into architectural discourse. Rather, he created a

new meaning of 'Baroque' that was specific to architecture and, moreover, he did so by endowing it with an idea that was current in architectural discourse, yet for which there was no specific term. In particular, Quatremère created terminology that described architecture that was perceived as imitative of and worse than that of Borromini, a broader phenomenon of which Guarini was a prime example.

1 Silvia Bordini, "La critica Guariniana," in Vittorio Viale (ed.), *Guarino Guarini e l'internazionalità del Barocco*, vol. 2 (Turin: Accademia delle scienze, 1970), 284.
2 Ibidem, 288.
3 For example, see Giulio Carlo Argan, *Storia dell'arte italiana*, vol. 3 (Florence: Sansoni, 1968), 372; Nino Carboneri, "Architettura," in Vittorio Viale (ed.), *Mostra del barocco piemontese*, vol. 1 (Turin: Città di Torino, 1963), 3; Andreina Griseri, *Le metamorfosi del Barocco* (Turin: Einaudi, 1967), 183-4; Henry A. Millon, *Baroque & Rococo Architecture* (New York: G. Braziller, 1961), 18-19; Richard Pommer, *Eighteenth-Century Architecture in Piedmont: The Open Structures of Juvarra, Alfieri &Vittone* (New York: New York University Press, 1967), 9; Sandro Benedetti, "Guarini ed il Barocco romano," in Viale (ed.), *Guarino Guarini e l'internazionalità*, vol. 1, 713-25; Georges Cattaui, "Guarini et la France," in Viale (ed.), *Guarino Guarini e l'internazionalità*, vol. 2: 511. Bordini comments on a number of these works in her text. See Bordini, "La critica Guariniana," 302-3.
4 Francesco Milizia, *Le vite de' più celebri architetti d'ogni nazione e d'ogni tempo* (Rome, 1768), 378-9; Antoine Quatremère de Quincy, *Encyclopédie méthodique: Architecture* (Paris, 1788), s.v. 'Baroque'. Quatremère's definition of 'Baroque' appeared in the first part of the first volume, published in 1788, of his three-volume work. For the publication history of Quatremère's text, see Laurent Baridon, "Le dictionnaire d'architecture de Quatremère de Quincy: codifier le néoclassicisme," in Claude Blanckaert and Michel Porret (eds.), *L'encyclopédie méthodique, 1782-1832: des lumières au positivisme* (Genève: Droz, 2006), 718. Bordini herself cites passages from the Italian translation of a later text of Quatremère's. See Bordini, "La critica Guariniana," 284, f. 3.
5 Bordini speaks of Quatremère's writings containing certain '*temi ripresi*' from Milizia's work. See Bordini, "La critica Guariniana," 285. Benedetti similarly juxtaposes the comments on Guarini of these two critics, but also recognizes greater similarities between the two and speaks of the distinctions they make between Guarini and Borromini. See Benedetti, "Guarini ed il Barocco romano," 713-4.
6 Milizia, *Le vite*, 378; Francesco Milizia, *Vies des architectes anciens et modernes*, (Paris, 1771), 2: 320.
7 Quatremère, *Encyclopédie méthodique*, s.v. 'Baroque'.
8 The term 'Baroque' was defined by Charles François Roland de Virloy as: 'Baroque, se dit des choses qui ontune figure irrégulière'. See Charles François Roland le Virloys, *Dictionnaire d'architecture, civile, militaire et navale, antique, ancienne et moderne* (Paris, 1770), s.v. 'Baroque'. Quatremère refers to *Le dictionnaire de Roland le Virloys* in the introduction of the first volume of the *Encyclopédie méthodique* and, thus, may have been familiar with this earlier definition. See Quatremère, *Encyclopédie méthodique*, 1: ii. The lack of synonymy between 'Baroque' and 'bizarre' in architectural discourse of the eighteenth century is apparent in a comment made by Marc-Antoine Laugier, an author Quatremère cites on several occasions in the Encyclopédie méthodique. In speaking of architecture in Strasbourg, Laugier writes, 'au lieu d'ornemens baroques, qu'on y mette du vrai, du naturel, du singulier, du bisarremême, sans aller jamais au-dela des bornes, & on fera du beau, du suprenant, du prodigieux'. Laugier clearly disassociates 'Baroque' and 'bizarre', the former being unacceptable and the latter acceptable. See Marc-Antoine Laugier, *Essai sur l'architecture* (Paris, 1753), 238. There was, however, a clear relation between 'baroque' and 'bizarre' in the definition of the term 'Baroque' included in the edition of the Dictionnaire de l'Académie française closest in date to Quatremère's publication: the Academy defined 'Baroque' as: 'Terme qui n'a d'usage qu'en parlant Des perles qui sont d'une rondeur fort imparfaite. Un collier de perles baroques. Baroque se dit aussi au figuré, pour Irrégulier, bizarre, inégal. Un esprit baroque. Une expression baroque. Une figure baroque'. See *Dictionnaire de l'Académie française*, (Paris, 1762), s.v. 'Baroque'.
9 Jérôme de La Lande applied the term to Guarini's Porta di Po: he writes: 'on y va par la porte du Pô, qui est la plus orientale des quatre, & en même temps la plus décorée. Elle est ornée de marbres & des colonnes doriques cannelées & à bossages: on y retrouve toujours le goût baroque du P. Guarini'. See Jérôme de La Lande, *Voyage d'un françois en Italie, fait dans les années 1765 et 1766*, vol. 1 (Venice, 1769), 226. Note that the term 'Baroque' disappears from this passage in later editions.
10 For example, George-Louis Le Rouge claimed that Ste. Anne-la-Royale was in '*le goût du Boromini [sic] Romain*', Antoine-Nicolas Dézallier d'Argenville also claimed that the church was '*dans le goût du Borromini*', François Blondel claimed that Guarini wanted to '*suivre l'example du Borromini*', Germain Brice similarly claimed that Guarini '*entreprit de suivre les extravagances du Cavalier François Boromini [sic]*', and Pierre Jean Grosely spoke of Ste. Anne-la-Royale and the S. Sindone in relation to the '*école du Borromini*'. See Le Rouge, *Les curiousitez de Paris, de Versailles, de Marly, de Vincennes, de S. Cloud et des environs*, vol. 2 (Paris, 1718), 488; Dézallier d'Argenville, Voyage pittoresque de Paris (Paris, 1749), 265; Blondel, *Cours d'architecture enseigné dan sl'Academie royale d'architecture*, vol. 2 (Paris, 1683), 250; Brice, *Description nouvelle de la ville de Paris*, vol. 2 (Paris, 1698), 303; *Grosley, Nouveaux mémoires, ou observations sur l'Italie et sur les italiens*, vol. 1 (London, 1764), 64-5. The animosity of French writers towards Guarini in particular, as opposed to other Italian architects who came after Borromini, can be understood in relation to reactions towards his architecture in Paris, the church of S. Anne-la-Royale. For a discussion of the negative response to this project, see Susan Klaiber, "Guarini e Parigi: interscambi culturali e critici," in Giuseppe Dardanello (ed.), *Sperimentare l'architettura: Guarini, Juvarra, Alfieri, Borra e Vittone* (Turin: Cassa di Risparmio di Torino, 2001), 30-2.
11 Blondel, *Cours d'architecture*, 250. Blondel refers to Guarini as the 'l'architecte

qui a commencé l'eglise des PP. Theatins à Paris'.
12 *Dictionnaire historique et géographique portatif de l'Italie*, vol. 1 (Paris, 1775), 554; Louis-Mayeul Chaudon, *Nouveau dictionnaire historique*, vol. 3 (Caen, 1779); 362.
13 Examples of such studies include, Bruno Migliorini, "Etimologia e storia del termine 'barocco'," in *Manierismo, Barocco, Rococò* (Rome: Accademia Nazionale dei Lincei, 1962), 46; Otto Kurz, "Barocco: storia di una parola," in *Lettere italiane* XII (1960), 425; Id., "Barocco: storia di un concetto," in VittoreBranca (ed.), *Barocco europeo e barocco veneziano* (Florence: Sansoni, 1962), 23. Note that, in these studies, the direction of influence between Quatremère and Milizia is described as the reverse of that proposed in this paper. The authors discuss Milizia's clear borrowing of Quatremère's definition of 'Baroque' for his own definition of 'barocco'. For Milizia's definition, see Francesco Milizia, *Dizionario delle belle arte del disegno* (Bassano: 1797), s.v. 'barocco'.

1.2.3 The Multifaceted Uses of Guarini's *Architettura Civile* in 1968

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Abstract
In 1968 the conference *Guarino Guarini e l'Internazionalità del Barocco* took place in Turin. The conference papers published in 1970 show the various ways in which the presenters had found arguments in the text of Guarini's treatise *Architettura Civile*, for instance to draw philosophical and symbolical conclusions from the comparative analysis of his drawings, or to deconstruct Guarini's supposed knowledge of stereotomy by a close-reading of *Trattato IV*. The way in which the treatise was applied for the 1968 conference contributions echoes the influence of Sigfried Giedion in the historiography of Guarini. In his search for a theoretical foundation for modern architecture, Giedion pointed at the work by the Baroque architects in general and by Guarini in particular. After all, Guarini was the author of an extensive theoretical text on architecture in the baroque period. By doing so, Giedion promoted Guarini as an architect and scientist combined in one person, connecting his artistic genius with his theoretical abilities, and his buildings with his text. It is interesting to evaluate the application of the treatise in the conference contributions of 1968 in order to question the handling of treatises in architectural historiography in general. This paper will present an analysis of the argumentative uses of *Architettura Civile* in the 1968 conference papers. The hypothesis that forms the basis of the analysis is Manfredo Tafuri's distinction of the operative architect and the critical architectural historian, an idea expressed in 1968 as well. Is this distinction visible in the argumentative uses of Guarini's treatise? And in which way has the existence of the treatise influenced Guarini historiography?

Keywords
Guarini, Baroque, treatise, methodology, Tafuri

In his life of Alberti, Vasari wrote that the architect's books did not contain lies, and that he was known rather for his books than his buildings.[1]This remark is an early example of the role and utility of treatises, more than the buildings themselves, in art and architectural history. Ego-documents are common sources in architectural history, and therefore the study of Guarino Guarini's architectural treatise *Architettura Civile* is comprehensible. Sigfried Giedion's presentation of the treatise in *Space, Time & Architecture: the growth of a new tradition* (1941) is well known. Searching for a theoretical foundation for modern architecture, Giedion highlighted work by Baroque architects in general and Guarini in particular because of his extensive theoretical text. Giedion promoted Guarini as an architect and scientist combined in one person, connecting his artistic genius with his theoretical abilities, and his buildings with his text.
The 1968 conference *Guarino Guarini e l'Internazionalità del Barocco* reflected the status quo of Guarini research, and as such also reflects the contemporary application of *Architettura Civile*. Evaluating the application of the treatise in the conference contributions of 1968 serves to question the handling of treatises in architectural history in general. This paper analyzes the argumentative uses of *Architettura Civile* in the 1968 conference proceedings. The analysis rests on the hypothesis that Manfredo Tafuri's 1968 call for a distinction between the operative architect and the critical architectural historian is connected to the contemporary state of Guarini research in general and the argumentative uses of the treatise in particular. Importantly, Rudolf Wittkower, the keynote speaker of the conference, had provided a large stage for Guarini in his *Art and Architecture in Italy 1600-1750* (1958). Although there is no explicit reference to Giedion in the text,references, or bibliography, Giedion's 'spirit' is clearly present, for instance in the comparison with Borromini, in his terminology, and in his elaboration of the relation between science and architecture.[2] Wittkower, instead of copying Giedion's hypothesis of theoretical parallels between Guarini and Leibniz, introduces more specialized scientific comparisons with Desargues, resulting in an even more thorough synthetic image of Guarini. Wittkower was not only present at the conference in 1968 in person, but also in method, as we shall see.

The broad scope of the 1968 conference is reflected in the title and it was divided into six sessions, ordered by the methods selected to study Guarini. The sessions are: the architectural works, Guarini as theorist, Guarini's sources, interpretation of Guarini, Guarini and the diffusion of the Baroque, and Guarini as mathematician, philosopher and scientist. The conference title suggests a comparison of the work of Guarini in international context, presuming a general Baroque culture and the existence of a person representative for it. The session divisions show two lines: study of the artefacts on one hand, and study of the afterlife on the other. I will analyse the use of the text and illustrations of the treatise per session, for the session's theme is to a certain extent related to the quantity and quality of employing the treatise. Not all papers refer to *Architettura Civile*, and when they do, it is not necessarily for argumentative means.

In the session focusing on Guarini's architecture two different uses of *Architettura Civile* emerge. First, presenting *Architettura Civile* as a necessary (or even better) instrument to understand the architecture.[3] Thus the treatise is considered a factual source – a conclusion that echoes Vasari's remark about Alberti.[4] And second, using exclusively *Architettura Civile*, especially the prints, for the composition of research questions.[5] Passanti presents his conclusions visually in new drawings to elucidate obscurities in the prints in *Architettura Civile*.
The second session naturally refers primarily to the treatise. Several researchers use *Architettura Civile* to study Guarini in a literary context, but their conclusions vary. The diachronic study of *Architettura Civile* in the line of Vitruvian treatises bestows Guarini with cultural and intellectual status.[6] But a more synchronic line considers the scientific modernity and accuracy of *Architettura Civile*, with less positive conclusions.[7] These varying literary approaches yield a method of considering *Architettura Civile* as a substantive reflection of Guarini's other treatises, through which his whole written oeuvre can be considered unambiguous.[8] This synthetic approach opens the way to describe *Architettura Civile* as representative for the author's mind and personality.[9]
In the third session, on Guarini's sources, *Architettura Civile* is sometimes read as the diary of the architect, where his whereabouts are easy to deduce and his personal opinion is clearly described. For example, *Architettura Civile* is used to reconstruct Guarini's travels, and thus his possible inspirations.[10] Furthermore, treatise statementsare read as direct and truthful declarations of the architect's personal choices.[11] Importantly, the quotes from *Architettura Civile* are used both in and out of their treatise context. Marconi, however, chooses not to take *Architettura Civile* as a factual source, and pays attention to reconstructing context, a philological approach to the treatise.[12]
In session four, regarding the interpretation of Guarini, the text of *Architettura Civile* is not explicitly presented as an argument, but the illustrations are regularly referred to. The representations are presented as arguments with the same validity as a factual text, incidentally next to images from other

treatises by Guarini as well, synthesizing the illustrations from his entire oeuvre.[13] The text of the treatise, and even the architecture itself, is here detached from the illustrations.
In the final two sessions, *Architettura Civile* is presented twice in order to debunk a myth about Guarini, for which the argument originated from the treatise itself. In the first example the treatise is challenged to a test for mathematical correctness, with the conclusion that Guarini's mathematical knowledge did not enable his bold constructions, and should be regarded as 'uno dei tanti miti destituiti di serio fondamento'.[14] Second, the text of *Architettura Civile* is used to contradict Wittkower's notion of spatial infinity in Guarini's architecture.[15]

This analysis summarizes the ways in which a treatise can be used as an argument: occasionally legitimate, often divergent and inconsistent amongst themselves.The text is presented as a source of facts, and not; a representation of Guarini's (obviously complex) personality, and not; a source for a synthetic approach, and not. The illustrations are used as factual sources, and not.
Interestingly, the argumentative use of *Architettura Civile* is even fundamentally problematic, since it was published 50 years after Guarini's death. The text was edited by Bernardo Vittone, who had broken with Guarini's formal tradition and had written ambiguously that he found Guarini's cupolas obscure.[16] It remains unknown what kind of manuscript Guarini had left behind and what was added or altered by Vittone – it is only stated that he cleaned and reassembled the material, but the details remain vague.[17] The 1968 authors even mention that *Architettura Civile*, both text and illustrations, contains errors and traces of sloppiness.[18] Why was this not taken into consideration in general in 1968?
Remarks made by Manfredo Tafuri illuminate these problems. He saw the state of Guarini research as a reflection of the complex situation in which art criticism found itself and for which no solution was available – causing Bordini to write: 'continuiamo, paradossalmente'.[19] Tafuri knew of the problems in Guarini research. In *Teorie e storia dell'architettura* he criticizes Guarini research for its inability to draw logical conclusions, especially because of its treatment of images.[20] His solution proposes a rigid separation in contemporary architectural culture, namely between architects, who are allowed to look forward, and historians, who are allowed to critically look at the past.[21] In that way historians are allowed to set their utopian ideas aside and have scope to create a more nuanced impression of history, focusing on the problem instead of the object.[22] Thus, for Guarini, a synthetic image may be created, but more mannerist than classicist in character – Tafuri proposes a methodological *concordia discors* instead of *concinnitas*.[23] He takes the first step in showing that Baroque treatises, including *Architettura Civile*, are not equivalent, but can be divided into different categories.[24] Tafuri addressed a bigger problem, also exemplified in the case of Guarini research, yet even more problematic than he describes in *Teorie e storia*, because the authority of the architectural treatise wasn't reconsidered *per se*.

The 1968 presentation of Guarini illustrates the methodologies used to study the architect, and is also reflected in the argumentative use of *Architettura Civile*. Bordini sums it up: 'Guarini viene studiato e gradualmente riscoperto per via indiretta'.[25] As I have shown, *Architettura Civile* is regularly tendentiously used as an argument in 1968, despite cautionary signals; moreover it is fundamentally untrustworthy as a source. The argumentative use of *Architettura Civile* subsequently is visible at two levels: directly and indirectly, in the latter case responsible for the creation of myths built on a weak foundation. If *Architettura Civile* remains the 'Bible' of Guarini research, we must pay more attention to its process of canonization, and need to know more about the way in which the publication of 1737 came into being. If we cannot get that part clear, we must reconsider the orthodox use of it.

1 Anna Maria Brizio (ed.), *Vite scelte di Giorgio Vasari* (Torino: UTET, 1969), 228. Thanks to Konrad Ottenheym for pointing this quote out to me.
2 Rudolf Wittkower, *Art and architecture in Italy 1600 to 1750* (Harmondsworth, Middlesex: Penguin Books, 1958), 268-75. On this topic I would like to refer to my own publication "The limits of infinity. Sigfried Giedion and the evolution of the reception of Guarino Guarini/De grenzen van oneindigheid. Sigfried Giedion en de receptiegeschiedenis van Guarino Guarini,"*OASE* 86 (2011), 34-47.
3 Vittorio Viale (ed.), *Guarino Guarini e l'internazionalità del Barocco*, vol. 1 (Torino: Accademia delle Scienze, 1970), 36, 41, 401-2. An example in session two: Viale, *Guarino Guarini*, vol. 1, 475. For my analysis in this paper I have looked primarily to the use of *Architettura Civile* as it was published in 1737, and not to the publication of prints of Guarini's designs under the title *Dissegni d'architettura civile* […] in 1686. It is noted though that many of these prints were also used for the 1737 publication. Guarino Guarini, Nino Carboneri, and Bianca Tavassi La Greca, *Architettura Civile* (Milano: Il Polifilo, 1968), XVIII.
4 Viale, *Guarino Guarini*, 49. In session four Fagiolo refers to the texts of Guarini's treatises as a 'sussidio […] [con un] crisma di una certezza causale assoluta'. Vittorio Viale (ed.), *Guarino Guarini*, vol. 2, 205.On the subject of authorial genius, see: Dana Arnold, "The authority of the author. Biography and the reconstruction of the canon," *Reading Architectural History* (London, New York: Routledge, 2002), 35-82.
5 Viale, *Guarino Guarini*, Vol. 1, 422, 425-48. In session four: Viale, *Guarino Guarini*, Vol. 2, 290.

6 Viale, *Guarino Guarini*, Vol. 1, 451-2.
7 Ibidem, 535.
8 Ibidem, 558. In session four: Viale, *Guarino Guarini*, Vol. 2, 126, 180.
9 Viale, *Guarino Guarini*, Vol. 1, 564, 508. Ibidem, 25.
10 Ibidem, 622, 706.
11 Ibidem, 685.
12 Ibidem, 617, 624. In session two: Viale, *Guarino Guarini*, Vol. 1, 574-85.
13 Viale, *Guarino Guarini*, Vol. 2, 117, 195, 204, 206-7.
14 Ibidem, 556-7.
15 Ibidem, 593.
16 Ibidem, 284, 356.
17 Guarini, *Architettura Civile*, XVIII-XX, 5.
18 Viale, *Guarino Guarini*, Vol. 1, 50, 91, 438, 533-5, 563. Viale, *Guarino Guarini*, Vol. 2, 554-6.
19 Viale, *Guarino Guarini*, Vol. 2, 305.
20 Manfredo Tafuri, *Theories and history of architecture* (New York: Harper & Row, 1980), 116.
21 Andrew Leach, "Choosing history: Tafuri, criticality and the limits of architecture," *The Journal of Architecture* 10, n. 3 (2005), 235-6. In doing so, Tafuri criticized the method of among others Sigfried Giedion.
22 Maristella Casciato, "The Italian Mosaic: The Architect as Historian," *Journal of the Society of Architectural Historians* 62, n. 1 (2003), 98.
23 Viale, *Guarino Guarini*, Vol. 1, 671, 674.
24 Tafuri, *Theories*, 137.
25 Viale, *Guarino Guarini*, Vol. 2, 289.

1.2.4 Idealism and Realism: Augusto Cavallari Murat

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Abstract
In the late 1960s, when Andreina Griseri and Richard Pommer published their works on Piedmontese Baroque architecture, *Forma urbana e architettura nella Torino barocca. Dalle premesse classiche alle conclusioni neoclassiche* (1968) was published in Turin, the outcome of national research projects coordinated by Augusto Cavallari Murat since 1962. An engineer who graduated from the Politecnico di Torino, then professor and director of the Istituto di Architettura tecnica at the same university, Cavallari Murat produced many publications now included among the milestones of architectural history and restoration. *Forma urbana* chose Turin, in particular the space bounded by city walls considered the historic centre, as a case study to introduce and explore an approach to the built environment. The method presents its results in a conjectural philological survey, a tool to provide a unified configuration of the historical urban center, after it merged into the UNI standard. The author examines the Baroque period in depth (seventeenth and eighteenth centuries), because it 'gets to the roots of the appearance and of the concrete planning more distant in time, all the way to the prior operations of tracing out by Roman colonization […] and to the subsequent uses of theoretical principles and practical operating modes of the city's architecture' in the nineteenth century.
The paper highlights the methodology of research undertaken by scholars from the Politecnico di Torino in the 1960s, likening it with the scholarly literature produced during the same period on Piedmontese Baroque architecture. The comparison between these contemporaneous studies highlights Cavallari Murat's position, today perhaps idealistic, regarding the concepts of 'historic centre' and 'monument'. However, the historical research method applied by Cavallari Murat and his survey technique still crop up as an emblematic reference for 'making history' today. Thus, *Forma Urbana*, almost 50 years after its publication, remains relevant.

Keywords
Cavallari Murat, method, research, survey, Baroque, Torino


ISTITUTO DI ARCHITETTURA TECNICA
DEL POLITECNICO DI TORINO

FORMA URBANA
ED ARCHITETTURA
NELLA TORINO BAROCCA
(DALLE PREMESSE CLASSICHE ALLE CONCLUSIONI NEOCLASSICHE)

VOLUME PRIMO
METODO E TESTO CRITICO
TOMO PRIMO

UNIONE TIPOGRAFICO-EDITRICE TORINESE
TORINO, 1968

Title page, Istituto di architettura tecnica del Politecnico di Torino, *Forma urbana e architettura nella Torino barocca (dalle premesse classiche alle conclusioni neoclassiche)* (Torino: Unione Tipografico Editrice Torinese, 1968).

Augusto Cavallari Murat, in Vittorio Marchis (ed.), *Progetto cultura società. La scuola politecnica torinese e i suoi allievi* (Turin: Associazione Ingegneri e Architetti ex-allievi del Politecnico di Torino, 2010), 162.

In the late 1960s, when Andreina Griseri and Richard Pommer published their works on Piedmontese Baroque architecture, *Forma urbana e architettura nella Torino barocca (dalle premesse classiche alle conclusioni neoclassiche)* (1968) was published in Turin, the outcome of national research projects coordinated by Augusto Cavallari Murat since the beginning of the decade. Cavallari Murat was born in Chiavenna (Sondrio) in 1911. He graduated in Civil Engineering from the Politecnico di Torino in 1934 where Giuseppe Albenga was his teacher. In the 1950s, he became a lecturer on campus in Turin and then professor of Technical Architecture at the University of Cagliari. A regular teacher in Padua, he came back to Turin in 1961 where – as a full professor from 1962 – he taught Technical Architecture, Architectural Documentation, Architecture and Architectural Composition until 1976. He was the founder and the director of the Istituto di Architettura tecnica at the Politecnico di Torino. Based on various didactic experiences and research projects, he introduced a new method for analyzing an area with a multidisciplinary perspective. Fellow of important cultural associations, a well-known engineer, historian and critic, he died in Turin in 1989.[1]
Cavallari Murat produced many publications now included among the milestones of architectural history and restoration. He wrote in the same period during which the objectives of new disciplines that explored urban history, the history of the city and regional history were outlined. *Forma urbana e Architettura nella Torino barocca*, a great scientific publication of nearly 1500 pages, is the outcome of a work that involved an important team of researchers - Pier Giovanni Bardelli, Vincenzo Borasi, Gualtiero Borelli, Luigi Cappa Bava, Secondino Coppo, Mario Flameni, Mario Oreglia, Giovanni Picco, Paolo Scarzella, Adele Scribani - who also wrote some sections of the study.[2] The publication is divided in two volumes, opening with a dedication to Carlo Promis, the first teacher of Architecture at the Regia scuola di applicazione per gli ingegneri in Torino, which later merged with the Regio museo industriale, Politecnico di Torino. The first volume, in two books, treats "Method and the critical text" and the second integrates the theoretical framework with "Maps and Regulations", essential reference for scientific research. Beginning with the first chapter of the book, he inquired into the history of city planning and its purposes. He wrote the new discipline had to identify 'the range of phenomena of aggregation and composition that was needed to serve the activities of some characteristic cultural operators'.[3] The history of the city is considered as 'a multifaceted cultural event'[4] that, to be understood, had to be studied by researchers with different competencies in history, geography, art, economy and city planning, and who exchanged views amongst themselves.
Forma urbana chose Turin, in particular the space bounded by the city walls considered the historic centre, as a case study to introduce and explore an approach to these new branches of knowledge and the built environment. The method presents its results in a conjectural philological survey, a tool to provide a unified configuration of the historical urban centre in two and three-dimensions, then merged into the UNI standard rule 7310/74. Determining methods of description and classification of blocks, the study presents ideograms documenting the volume of the buildings, others distinguishing the type of space and its characteristics, still others representing cartographic symbols.
In 1968 Cavallari Murat published the two volumes presenting the survey of Turin, considering only the area built within city walls during Baroque period and built above the line of the Baroque additions in the nineteenth century, thus emphasizing the value of seventeenth and eighteenth-century culture. The author examines the Baroque period in depth because – he writes in the preface – 'it goes to the roots of the appearance and of the concrete planning more distant in time, all the way to the prior operations of tracing out by Roman colonization […] and to the subsequent uses of theoretical principles and practical operating modes of the city's architecture'[5] in the nineteenth century. In later years he published *Antologia monumentale di Chieri* (1968-9), *Lungo la Stura di Lanzo* (1972), *Tra Serra d'Ivrea, Orco e Po* (1976) and many essays gathered in *Come carena viva* (1982), a compendium of his studies, which included some research regarding the conjectural philological survey. The writings show Cavallari's 'ability to investigate

technical and scientific phenomena with a historian's methods'.[6]
The study of documents, in addition to the survey itself, is essential for the research project; the material - illustrated or not, belonging to public or private archives - was analyzed with scientific methods, realistic and meticulous, still employed today. His works, likening them to the scholarly literature on Piedmontese Baroque architecture produced during the same period, for example by Mario Passanti or Nino Carboneri, show Cavallari Murat proposing a similar methodology of historical research, but present the differences between his survey and multidisciplinary perspective in contrast with other modes of studying. For example, when Cavallari studies Turin's southward expansion, the first expansion of the city founded on the choice of structural integration with the existing one, he draws a pattern based on critical historical cartography in which the main street, the Contrada Nuova, and the main square, Piazza San Carlo, are the centre of land management at the beginning of seventeenth century. Cavallari examines the main axes of the project and then he writes about (and he draws) each parcel and its shape. Therefore he considers each palazzo in its architectural composition, comparing historical documents – quoted in the footnotes - with the existing buildings and with the first schemes of survey, thus integrated with new information. When Passanti, in his *Architettura in Piemonte*, studies the same area, he also writes about the three expansions of the city and he prints a fundamental scheme of them too. However, the perspective is completely different: Passanti, in fact, does not draw a critical survey of the parcels, but he draws and writes about each building with an historical and mathematical approach. A complete, complex comparison of approaches is beyond the scope of this paper. Now it will suffice to emphasize that both researchers (and Politecnico teachers) wrote, and taught, with the same purpose: to propose a method for analyzing the buildings in order to understand architecture and, then, design. Both left their marks on the school of Turin. Cavallari Murat immediately became an important reference for insights not only about local culture. His method, applied to the Baroque city, became fundamental for the research of many scholars at the Politecnico di Torino like Vera Comoli, among others. She published *Torino*, in the series "La città nella storia d'Italia", and further studies about 'bene culturale', 'bene ambientale' and landscape. Comoli wrote about 'the unnecessary debate about the historic centre […] instead to agree to a policy more constructive and more culturally correct, introducing analysis not addressed to "the structure of the historic city", but to the "historical structure of the city"'.[7]
In Cavallari's works, the 'structure' is the 'urban scape', understood as a 'feeling of artistic totality',[8] as a scene with unbounded limits that it binds 'to the times of the premises and to the time of the subsequent evolution and future'.[9] The result is a reading of the 'whole', placed in a historical periodization, in which the historic centre, already defined in 1958 by the engineer as like a 'flap of existing urban fabric' in which you recognize 'historical, cultural and artistic statements',[10] is linked to newer parts of the city. The city, in fact, is no longer read through the stories of individual monuments, but through looking at the same 'whole'.
The concepts of monument and historic centre, however, state an idealistic and abstract position, today they are only elements for studying the historical structure of the city. Nevertheless, the historical research method applied by Cavallari Murat and his survey technique still crop up as an emblematic reference for 'making history' today. Thus, Cavallari's method, updated with contemporary studies and modern information technologies, is the same historical research method in use today and his writings, almost fifty years after their publication, still remain relevant.

1 Riccardo Nelva, "Augusto Cavallari Murat," in Vittorio Marchis (ed.), *Progetto cultura società. La scuola politecnica torinese e i suoi allievi* (Turin: Associazione ingegneri e architetti ex-allievi del Politecnico di Torino, 2010), 162-3.
2 The researchers worked with Augusto Cavallari Murat 'under the auspices' of the Consiglio nazionale delle ricerche (CNR). (Istituto di architettura tecnica del Politecnico di Torino, *Forma urbana e architettura nella Torino barocca (dalle premesse classiche alle conclusioni neoclassiche)*, Turin: UTET, 1968), XII.
3 'gamma dei fenomeni aggregativi e compositivi che serve alle attività di alcuni tipici operatori culturali'. Augusto Cavallari Murat, "Il compito restaurativo nel paese stabilizzato e l'equivoco del falso storico," in Istituto di Architettura Tecnica del Politecnico di Torino, *Forma urbana e architettura*, 6.
4 'un fatto culturale poliedrico', Ibidem, 10.
5 'affonda radici negli aspetti e nella concretezza urbanistica più lontani nel tempo sino alle antecedenti operazioni di tracciamento delle romane colonizzazioni […] e sino alle successive utilizzazioni di principi teorici e di modi operativi pratici dell'architettura della città,' Ibidem, XIII.
6 'capacità di indagare le fenomenologie tecniche e scientifiche, con metodo storico.' Roberto Gabetti, "Augusto Cavallari Murat: commemorazione letta dal socio corrispondente Roberto Gabetti nell'adunanza del 15 novembre 1989," *Atti della Accademia delle Scienze di Torino* 124 (1990), 121-5, in "Roberto Gabetti. Scritti per atti e rassegna tecnica", *Atti e Rassegna tecnica della Società degli Ingegneri e degli Architetti in Torino* LV-3 (2001), 91.
7 'l'inutile dibattito sui centri antichi […] per aderire invece a un criterio più costruttivo e più corretto culturalmente, introducendo analisi rivolte non alla "struttura della città storica", ma alla "struttura storica della città"'. Costanza Roggero Bardelli, "Architettura e storia per il progetto: Vera Comoli Mandracci, " in "Vicende e dibattiti torinesi,"

Atti e Rassegna tecnica della Società degli Ingegneri e degli Architetti in Torino LXI-1 (2007), 28.
8 'sensazione di totalità artistica'. Augusto Cavallari Murat, "Il compito restaurativo nel paese stabilizzato e l'equivoco del falso storico," in Istituto di Architettura Tecnica del Politecnico di Torino, *Forma urbana* 10.
9 'si lega ai tempi delle premesse ed ai tempi delle evoluzioni successive e future.' Augusto Cavallari Murat, "Il compito re-staurativo nel paese stabilizzato e l'equivoco del falso storico," Ibidem.
10 '"lembo di tessuto urbano preesistente" in cui si riconoscono "testimonianze storiche, culturali ed artistiche."' Augusto Cavallari Murat, "Centro storico e città moderna," *Atti e Rassegna tecnica della Società degli Ingegneri e degli Architetti in Torino* XII-4 (1958), 116-8.

1.2.5 A Regional Artistic Identity? Three Exhibitions in Comparison

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The *Mostra del Barocco Piemontese* organized by Vittorio Viale in 1963 suggested the recognition of a strong architectural identity in the historical experience of Piedmont. The exhibition inspired major initiatives of study that led an international contingent of art and architectural historians to wonder about the personality and work of artists such as Guarino Guarini, Filippo Juvarra and Bernardo Vittone. Subsequent research shifted the interest to urbanism and history of the city, while the exhibition *Diana Trionfatrice. Arte di corte nel Piemonte del Seicento* (Turin 1989) recognized the engine of the artistic development in the dialectical relationship centre-periphery between the provincial areas and the capital of Savoy. The exhibition *I Trionfi del Barocco. Architettura in Europa 1600-1750* (Stupinigi 1999) intended to illustrate the development of architectural types in seventeenth and eighteenth-century Europe, and pointed out the innovative role played by Piedmontese architecture in the development of exemplary models. This discussion position critically compares the results obtained by these three exhibitions in outlining the research issues that still need to be addressed.

1.2.6 Wittkower's 'Gothic' Baroque: Piedmontese Buildings as Seen Around 1960

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Abstract
At first glance, the 1960s historiography on the history of Piedmontese Baroque architecture appears to be quite disconnected from pre-World War II research on the subject: its factual style of writing, promising impartiality and underpinning objects by the evidence from written sources, marks a clear contrast from pre-war publications which had been inspired by cultural history. My paper considers the approach to Early Modern Piedmontese architecture taken by Rudolf Wittkower in his 1958 book Art and Architecture in Italy 1600 to 1750 and confronts it with Albert Erich Brinckmann's early twentieth-century research. Crucially, both Wittkower and Brinckmann chose the same selection of architects. Yet their respective approaches reveal two completely different methodological concepts: whereas Brinckmann operates on the basic assumption of the Piedmont as 'artistic landscape', Wittkower demonstrates an unbroken continuity between the three architects Guarini, Juvarra, and Vittone. Informed by the architecture of Modernism, Wittkower conceptualises this continuity as 'skeleton structure' which, according to him, was ultimately influenced by Gothic architecture. This perspective, transcending as it does place and time, reveals new paradigms of writing architectural history during the 1960s.

Keywords
Architectural history, Baroque, Piedmont, Wittkower, Brinckmann, space

'Se vogliamo comprendere il significato delle immagini barocche come "*storici*" – se cioè consideriamo come nostro compito di svelare lo spirito nel quale queste immagini furono create, quali processi di pensiero ne sono il presupposto (…).'[1] These programmatic sentences were delivered by Rudolf Wittkower in 1960 at the international congress 'Manierismo, Barocco, Rococò' in Rome where he provided an outline of the current tasks of research into the Baroque. He distinguished three phases of research: first, the pioneers after 1887; second, the inter-war period; and third, what he perceived as a flood of new studies undertaken from 1940 onwards. At the time, Wittkower – who had emigrated to Great Britain in 1933 and taught in the United States since 1954 – was the most notable international protagonist of research into the seventeenth and eighteenth-century architecture of Piedmont. His Rome lecture formed a kind of epilogue to his most important book *Art and Architecture in Italy 1600 to 1750*, published two years previously in the series "The Pelican History of Art".

The book's chapter on Piedmont emphasised the role of architecture which Wittkower saw as unfairly overshadowed by painting. In his approach, the author employed the nineteenth-century developmental model of 'Early', 'High', and 'Late', complemented by a category he dubbed 'High Baroque Classicism'.[2] Wittkower's high esteem for the architecture in northwestern Italy is demonstrated by his travelling in the region.[3] The foreword to his book made his view explicit: as Bernini's statuary, Borromini's buildings, or Cortona's architecture and decoration, the architectural works by Guarini, Juvarra and Vittone are without peers. Even in the period after World War II, this high regard for the architecture of Piedmont formed a stark contrast to its lack of familiarity outside Italy.[4] In the preface to his *Cicerone* of 1855, Jacob Burckhardt had frankly confessed to have omitted Turin and the whole of Piedmont; in the ensuing decades, the architecture of northwestern Italy was a field that especially attracted the interest of German scholars, notably Cornelius Gurlitt (1887) and in particular Albert Erich Brinckmann to whom I shall return presently. After 1945, Wittkower perceived himself as an advocate of these buildings, as becomes obvious from his 1972 reminiscences: 'In my student days, back in the early 1920's, Guarini's name was completely unknown.'[5]

Art and Architecture in Italy is characterized by a combination of topography, chronology and themes as well as currents of artistic production which was inspiring for the historiography on seventeenth and eighteenth-century art and architectural history. The 1963 Turin exhibition catalogue *Mostra del Barocco Piemontese* conceived by Vittorio Viale is also distinguished by an advanced level of stylistic criticism.[6] Wittkower's 1960 lecture clarified that a term such as 'classicismo tardo barocco Bolognese' was not self-

sufficient. Rather, he was ultimately concerned with the so-called problem of contents which he understood not simply as iconographic meaning but as a reciprocal interaction between 'contents' and style germane to every work of art and inseparable from it.[7] Such a 'symbolic', Warburgian interpretation – Wittkower argued – had thus far rarely been applied to the Baroque, a criticism he explicitly also turned against his own recent 'Pelican History of Art' volume.[8]

Internationally, Wittkower was not the first scholar to be intrigued by the Baroque architecture of Piedmont. As early as 1924, Albert Erich Brinckmann had written – in the fifth edition of his *Baukunst des 17. und 18. Jahrhunderts in den romanischen Ländern* – that Piedmontese architecture in particular offered uncharted territory (*Neuland*) which had wrongly been overlooked by specialists on Baroque art, as Italian architecture only came to its full completion in Piedmont where the crucial link in the artistic chain linking Rome to Austria and Southern Germany was to be found.[9] Brinckmann had initially edited the *Theatrum Novum Pedemontii* (1931), a collection of designs and buildings by Guarini, Juvarra, Vittone and other early modern Piedmontese architects. Together with Vittorio Viale and Lorenzo Rovere, he formed part of the team of scholars working in 1937 under the patronage of Crown Prince Umberto of Savoy on the first volume of the catalogue of Filippo Juvarra's oeuvre, with Brinckmann focusing on the drawings. I have not yet been able to clarify whether any contacts Brinckmann might have had to Italian Fascism played a role in this context.[10] It is quite unlikely that the emigré scholar Wittkower would have been unaware of Brinckmann's international role as representative of the so-called 'New Germany' during the Nazi period.[11] Yet the esteem in which Brinckmann was held as an academic is demonstrated by Wittkower's quotations from the former's publications and his characterization of the 1937 *Corpus Juvarrianum*as a 'standard work'.[12]

The distance to Brinckmann ultimately rested on methodological differences. Wittkower noted that Brinckmann's *Baukunst des 17. und 18. Jahrhunderts in den romanischen Ländern* of 1915 was 'stimulating, but difficult to digest'.[13] This survey, forming part of the multi-volume *Handbuch der Kunstwissenschaft*, is arranged according to formal elements and types rather than chronology. This formalistic approach was diametrically opposed to Wittkower's historical and positivist way of thinking. He aimed to expand the data on individual works of art and architecture by integrating the history of artists as much as possible with references to artistic theory or cultural history. Nevertheless, Wittkower's Piedmont chapter is subdivided into the same trio of architects – Guarini, Juvarra, Vittone – as employed in Brinckmann's publications. Yet the way in which these architects are approached clearly demonstrates the differences between the two pre- and post-war art-historical generations. Writing in the tradition of the geography of art (*Kunstgeographie*) of the 1920s, Brinckmann perceived Piedmont as an 'artistic landscape' (*Kunstlandschaft*),[14] forming simultaneously a regional as well as a European culture – the latter because of the architects' origins beyond the region. The encounter taking place in Piedmont was transfigured enigmatically by Brinckmann's rhetoric, yet without making further ideological claims: 'It was only on Piedmontese soil, in its special atmosphere, that the forces could unfold and lead to wonderful success'.[15] In contrast to such spatial concepts – denoting 'landscape' as an entity – Wittkower did not even pose the question of Piedmont as a region. He gave a concise sketch of the city of Turin as setting of historical protagonists – courtly patrons on the one side, architects on the other – provided a short outline of the architects' lives and a largely stylistic discussion, before focusing on individual works of architecture.

What is particularly notable is the way in which Wittkower saw the interrelation between the Piedmontese Baroque and the architecture of northern Europe. In this regard he did not address the design of palaces, as we might expect, as France had long been in the vanguard of European architecture in this field. Rather, Wittkower is concerned with the fundamental question as to the role exerted by early modern articulations in the Vitruvian tradition on the design of seventeenth and eighteenth-century interior spaces. Wittkower disagreed with earlier formalist interpretations[16] which perceived articulation as visualisation of the architectural formation of space. The articulations"surface structure' and pictorial use contrasted with Wittkower's understanding of architecture that had been formed under the strong impact of modernism:[17]He was primarily interested in the typology of ground plans, geometrical proportions and the volumetric appearance of architecture.[18]

These interests derived from the work on his book *Architectural Principles in the Age of Humanism* (1949) and could be applied particularly suitably to the centralized buildings of the Piedmontese Baroque. For him, the Vitruvian articulations – which maintained their relevance until the late eighteenth century – acted primarily as iconographic signs yet did not form factors which generated interior space through proportion and rhythm. This explains why he essentially perceived a 'skeleton structure' in the oeuvre of the three great architects building in seventeenth- and eighteenth-century Piedmont. According to Wittkower, this skeleton structure consistently bore Gothic traits, the origins of which he located in the German architectural tradition: in the case of Guarini, these are embodied in the translucent domes;[19] in the case of Juvarra, they are manifested in reducing the relevance of walls in

Figure 1. Filippo Juvarra, Superga (1716-31), Turin. Crossing pier. *Source:* photograph by Uwe Harry Rüdenburg

Figure 2. Bernardo Vittone, S. Chiara (1741-2), Bra. Dome. *Source*: Rudolf Wittkower, *Vittone's Domes*, 1972.

1. EARLY MODERN

favour of piers (S. Maria del Carmine, 1732-35; Superga, 1716-31) (Figure 1)[20]; in the case of Vittone, they become obvious in the penetration of the zone of the dome (S. Chiara, Brà, 1741-2) (Figure 2).[21]

Wittkower interpreted such complex vaults and wall reliefs not as a reshaping of the Vitruvian articulations but rather as a conscious break with the Italian tradition – a break attributed primarily to Juvarra and taken on by Vittone. As mentioned earlier, Wittkower did not offer the kind of 'symbolic' analysis for the Piedmontese churches which he himself was to undertake in his 1963 study of S. Maria della Salute in Venice, a church he interpreted as 'heavenly crown' of the Virgin.[22] In the case of Piedmont, however, we can observe that Wittkower, too, inevitably arrived at the construct of a continuous tradition by postulating the 'skeleton structure' as decisive architectural feature. Yet the cultural entity thus constructed was not generated by the mysterious 'soil' as claimed by Brinckmann but by the architects working in the region. Around 1960, the paradigm of space had been replaced by that of time.

Translation: Andreas Puth

1 Rudolf Wittkower, "Il barocco in Italia," in Accademia nazionale dei Lincei (ed.), *Manierismo, Barocco, Rococò: concetti e termini* (Rome: Accademia nazionale dei Lincei, 1962), 321.

2 In the book's preface, he extends these subdivisions of the index even further: '(…) but it became necessary to expand the "primary" terminology by such terms as "transitional style", "High" and "Late Baroque classicism", "archaizing classicism", "crypto-romanticism", "Italian Rococo", and "classicist Rococo", all of which will be explained in their proper place'. Rudolf Wittkower, *Art and Architecture in Italy 1600 to 1750* (Harmondsworth/Baltimore/Victoria: Penguin Books, 1958), X-XII.

3 Joseph Connors and Jennifer Montagu: "Introduction to the New Edition," in Rudolf Wittkower, *Art and Architecture in Italy 1600-1850*, 3 vols., (New Haven CT: Yale Univ. Press, 1999), XII.

4 In their preface to the revised 1999 edition, Connors and Montagu comment on this aspect: 'When [Anthony] Blunt asked Wittkower to lecture at the Courtauld Institute in 1946 and Wittkower proposed as his topic the architecture of Vittone, Blunt thought he was surely joking and had made the name up.' Ibidem.

5 Rudolf Wittkower, "Guarini the Man," in Id. (ed.), *Studies in the Italian Baroque* (London: Thames and Hudson, 1975), 177.

6 Città di Torino (ed.), *Mostra del Barocco Piemontese*, 3 vols. (Turin, 1963).

7 '(…) che alla fine il COME ed il COSA non si possono separare senza violare l'unità dell'opera d'arte e che, se non si riconosce questo postulato essenziale, qualsiasi tentativo di rispondere al PERCHÉ è destinato a rimanere frammentario.' Wittkower "Il barocco in Italia," 325.

8 Ibidem, 326.

9 'Sie erst ist Abschluß der italienischen

Baukunst und bildet die Kette, die von Rom nach Österreich und Süddeutschland reicht.' Albert Erich Brinckmann, *Die Baukunst des 17. und 18. Jahrhunderts in den romanischen Ländern*, (Atheneion: Berlin-Neubabelsberg, 1924).

10 The preface by the minister for education, Cesare Maria de Vecchi di Val Cismon, links Turin (and thus implicitly Juvarra) not only with the Risorgimento but also with the Fascist state: 'Il domain di Torino è in una incrollabile unità quello stesso d'Italia. Domani fascista, domain imperial in un nuovo ciclo di storia…' City of Turin (ed.), *Filippo Juvarra*, contributors L. Rovere and V. Viale (Regesto della vita e delle opere) and A.E. Brinckmann (I disegni), Comitato per le onoranze a Filippo Juvarra sotto L'Alto Patronato di S. A. R. Il Principe di Piemonte (Milan: Zucchi, 1937), 22.

11 Sabine Arend, "Albert Erich Brinckmann (1881-1958)," in Jutta Held and Martin Papenbrock (eds.), *Schwerpunkt: Kunstgeschichte an den Universität im Nationalsozialismus* (Göttingen: V& R unipress, 2003), 127; for Brinckmann's activity during World War I, see also Evonne Levy, "The German Art Historians of World War I: Grautoff, Wichert, Weisbach and Brinckmann and the Activities of the Zentralstelle für Auslandsdienst," in *Zeitschrift für Kunstgeschichte* 74 (2011), 373-400.

12 The full comment is as follows: 'Standard work; full bibliography' see Wittkower *Art and Architecture in Italy*, 402.

13 Ibidem, 392. In their preface to the 6th edition (as in n. 7), Connors and Montagu note: 'Aside from the sensitive pages in Brinckmann's books of the 1930's, Piedmontese baroque was uncharted territory,' XII. A similarly positive evaluation can be found in Henry A. Millon, *Drawings from the Roman period 1704-1714,* Corpus Juvarianum, 1 (Rome: Edizione dell'Elefante, 1982): 'The volume also included Brinckmann's illuminating discussion of Juvarra's drawings for religious and secular structures, theater and scene designs, architectural fantasies, and urban design,' XIII.

14 For a fundamental discussion of the term *Kunstlandschaft* ('artistic landscape'), see Herbert Beck and Horst Bredekamp, "Die mittelrheinische Kunst um 1400, I: Der Mittelrhein als Kunstlandschaft," in *Kunst um 1400 am Mittelrhein. Ein Teil der Wirklichkeit* (Liebieghaus: Frankfurt/Main, 1975), 30f; also Haussherr, Reiner "Kunstgeographie und Kunstlandschaft," in *Kunst in Hessen und am Mittelrhein* 9 (1969) (Beiheft), 38-44. The recent 'Geography of Art' attempts to reassess, and re-engage with, these earlier concepts; seeThomas DaCosta Kaufmann, *Toward a geography of art* (University of Chicago Press: Chicago/London, 2004), 68-104.

15 The full quotation: 'In its great achievements, art within Europe will not merely be rooted to the soil; likewise, it is collector and disseminator of general European culture. In its highest achievements, however, it augments the entirety of the heritage and assumes in turn the individual character of the unsurpassable. This applies to the Piedmontese architecture of the High Baroque. It has not grown from any native Baroque. Manifold influences from abroad have contributed considerably to generate the style. Yet it was only on Piedmontese soil and in its special atmosphere that the forces could unfold and lead to wonderful success. If all the highest architectural achievements of the European eighteenth century bear a feudalist character, Italy too needed a political-feudalistic centre of power in order to provide the necessary impact to cluster what was dispersed and make it subservient to creative will which was simultaneously and similarly alive in architect and patron.' 'In großen Leistungen wird Kunst innerhalb Europas nicht nur bodenständig sein; ebenso ist sie Sammlerin und Verbreiterin allgemeiner europäischer Kultur. In ihren höchsten Leistungen aber mehrt sie das Gesamterbe und gewinnt wiederum den individuellen Charakter des Unübertrefflichen. Solchen besitzt die piemontesische Baukunst des Hochbarocks. Sie ist keinem heimischen Barock entwachsen. Einflüsse vielfältig von außerhalb haben beträchtlichen Anteil am Werden des Stils. Doch nur auf piemontesischem Boden, in seiner besonderen Atmosphäre konnten sich die Kräfte entfalten und zu wundervollem Erfolg führen. Wenn alle architektonischen Höchstleistungen des europäischen achtzehnten Jahrhunderts feudalistischen Charakter tragen, so mußte auch für Italien ein politisch-feudalistisches Machtzentrum notwendige Antriebe geben, um Zerstreutes zu bündeln und schöpferischem Willen, gleichzeitig und gleichartig lebendig in Architekt und Bauherrn, dienstbar zu machen.' Albert Erich Brinckmann, *Theatrum Novum Pedemontii. Ideen, Entwürfe und Bauten von Guarini, Juvarra, Vittone wie anderen bedeutenden Architekten des piemontesischen Hochbarocks* (Schwann: Düsseldorf, 1931), 9.

16 Hans Kauffmann, 'Über "rinascere", "Rinascità" und einige Stilmerkmale der Quattrocentobaukunst,' in *Concordia Decennalis. Deutsche Italienforschungen. Festschrift der Universität Köln zum zehnjährigen Bestehen des Deutsch-Italienischen Kulturinstituts Petrarcahaus 1941* (Cologne: 1941), 123-46.

17 Alina Payne, "Rudolf Wittkower (1901-1971)," in Ulrich Pfisterer (ed.), *Klassiker der Kunstgeschichte*, vol. 2 (München 2007-2008); *Von Panofsky bis Greenberg* (Munich: Beck, 2008), 112-3.

18 This interest in centralized buildings probably derives primarily from his book *Architectural Principles in the Age of Humanism* (1949) which contains a chapter on centrally-planned structures of the Renaissance.

19 'He maintained that in contrast to the qualities of strength and solidity aimed at by Roman architects, Gothic builders wanted their churches to appear structurally weak so that it should seem miraculous how they could stand at all. Gothic builders – he writes – erected arches' which seem to hang in the air; completely perforated towers crowned by pointed pyramids; enormously high windows and vaults without the support of walls.' Wittkower, *Art and Architecture in Italy*, 274.

20 S. Maria del Carmine, Turin: '(…) the wall as a boundary of the nave has been replaced by a skeleton of high pillars.' Ibidem, 277. For the architecture of the Superga, see my forthcoming book *Gebaute Entfestigung. Architekturen der Öffnung im Turin des frühen 18. und 19. Jahrhunderts*, to be published 2014 in the series *Studien aus dem Warburg-Haus* (Berlin: Akademie-Verlag).

21 Rudolf Wittkower, "Vittone's Domes," in Id. 1975 (as in n. 5), 212-22, here 217.

22 Rudolf Wittkower, "Santa Maria della Salute", in Id. (ed.), *Studies in the Italian Baroque*, 125-52.

1.3 On the Way to Early Modern: Issues of Memory, Identity and Practice

OPEN SESSION CHAIR:
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1.3.1. Quadrature and Drawing in Early Modern Architecture

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Abstract
Late fifteenth-century treatises (e.g. Roriczer, 1486; Francesco di Giorgio, 1489-92) demonstrate the use of the rotation of the square or 'quadrature' in design (this term, along with *ad quadratum*, is also applied to the use of a square or grid). Recent scholars have revealed the probable use of this design method in specific buildings, some dating from late antiquity, by overlaying rotated squares onto plans. What has not been given much attention is the step-by-step drawing process that quadrature involves, beginning with the tracing of a line and circle using pencil, rule, and compass. How did the architect use these drawing tools, the only ones available, to rotate the square as well as draw other geometries as the basis for plans and, most importantly, three-dimensional spaces?
Using the same instruments, this paper revisits some plans where scholars have found quadrature: the Teatro Marittimo, Francesco di Giorgio's San Bernardino degli Zoccolanti as well as Bramante's S. Peter's and Tempietto. When speculating on the 'moves' used to generate a plan, it quickly becomes clear that economy was a desideratum: faced with the different possible steps for generating a particular form, the architect would tend towards the smallest number. Furthermore, the rotation of the square efficiently generates an ever increasing and diminishing series of proportionally related parts, enabling the architect to simultaneously design from the outside in as well as the inside out.
Quadrature, along with the rotation of the triangle, provided architects with a simple yet powerful tool for generating centralized plans based on the circle, square, octagon, and hexagon, as can be demonstrated in Villa Rotonda, Sant'Ivo, and San Lorenzo in Turin. The method, however, was not implemented blindly. Rather, the architect envisioned spatial volumes, including complex domes, and then used quadrature to interrogate them and make them real.

Keywords
Quadrature, *ad quadratum*, drawing, geometry, Baroque architecture, Renaissance architecture

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1.3.2 Some Observations on Andrea Palladio, Silvio Belli and the Theory of Proportion

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Abstract
James Ackerman observed that the influence of the *Quattro Libri* lies mainly in its structure and conciseness, through which Andrea Palladio was able to lay out a system based on exact and universal laws, described by images and text.
A crucial element in Palladio's thought was the value given to the theory of proportions. By basing his dissertation on this subject, he satisfied the need to simplify and reduce any structure into a clear-cut one, and turning it into a more consistent system.
However, there is no evidence that he was an expert in mathematics. Ackerman suggests that it is possible that he used ready-made tables while writing the treatise. By doing so, he turned theory into practice. Palladio discussed the theory of proportions with Silvio Belli, a mathematician, engineer and member of the Accademia Olimpica. His writings, particularly *Della Proportione, et Proportionalità* (1573), were crucial for Palladio as they provided the mathematical bases for his system.
Both Palladio and Belli transformed the body of knowledge transmitted by Archimedes, Euclid and Vitruvius into a rational framework upon which Architecture could be based (S. Montecchio, 1573).
The purpose of this research is to analyze Belli's influence on Palladio's theories and their practical applications, as well as some key-examples in order to discuss the strong impact of the method introduced in the *Quattro Libri*, and eventually of Palladianism.
Palladio's influence was enormous, especially in the Anglo-Saxon world, not only for his own works, but also for the large number of models of Antiquity clearly described and 'decodified' in his treatise. In the course of time, however, modified versions of it were largely diffused. Therefore, a theory once indissolubly linked to practice was often misunderstood and reduced to a mere set of rules for builders, thus losing the very essence of its original meaning.

Keywords
Palladio, Belli, ratio, proportion, treatises, Renaissance

In his fundamental work on Andrea Palladio of 1966, James Ackerman observes that his architecture is based on the interrelation of all the parts of a building, and therefore the design is 'tightly knit as an organism' and 'the evolution of this truly three-dimensional approach to design is related to contemporary developments in mathematics'. In Palladio's aesthetic, continues Ackerman, proportion plays a fundamental role in the attainment of beauty, and he gives 'much more importance to proportional relationships than those of earlier Renaissance architects'.[1] Here, he effectively encapsulates one of the most important aspects of Andrea Palladio's work. As we know, several, thorough studies have shown the detailed system regulating and guiding his method of composition for his buildings, both in plan and elevation; a system that improved on and completed the experiments of the first Renaissance artists.
Among the many and important studies that have contributed to the understanding of Palladio's *opera* are the researches that followed the publication of Wittkower's analysis, the conference dedicated to La Divina Proporzione which took place at the Triennale of Milan in 1951,[2] as well as the countless in-depth studies on Palladio that followed Ackerman's monograph.[3]
The study of proportions in the Renaissance, to which Palladio is central, has been one of the most debated issues for almost a century now, especially following Rudolph Wittkower's brilliant intuitions. The value attributed to the theory of proportions is a crucial element in the Palladian vision, however it is important to distinguish between the application of proportional principles to the projects that were actually executed, and those discussed in *I Quattro Libri dell'Architettura*. This discrepancy is a recurrent theme in the works of Renaissance architects and treatise writers, and it becomes a determining factor in the case of Andrea Palladio, since his influence is more strongly connected to his treatise than to his realized works.[4] The sometimes very evident divergence between the executed works and their literary and figurative descriptions shows a different attitude towards the potential application of a rigid and immutable system. This is one of the major areas of interest within Palladian studies, and it is even more valuable as it determines the development of the phenomenon we call 'Palladianism'.
Scholars unanimously agree that both in his actual projects and in those illustrated in the treatise he used the theories of proportions known at the time; however there is no proof that his skills in Mathematics were particularly advanced, and there is no evidence that he studied the subject at any point. Ackerman suggests that he might have consulted the mathematician and engineer Silvio Belli, whose name is often mentioned along with Palladio's from the sixteenth century on. Belli was also the author of a treatise that offered a simplified version of the theories of ratio and proportion.

This research proposes a further reflection upon the subject. There are three interrelated aspects that will be taken into particular consideration. First of all, there are the above-mentioned differences between Palladio's realized architecture and the plates of the treatise. Then, there is his design method *more mathematico*,[5] that can be summed up as a sequence sketch-project-realization-treatise, where he starts with more 'emotional' sketches and studies, and gradually achieves a complete, conclusive form that suited the needs of a treatise. Finally, we will look at the notion of reduction and simplification as a possible guiding principle for both Belli and Palladio.

The definition of a method: the project between practice and theory

Giulio Carlo Argan writes that

> since [Palladio] did not have an actual 'scuola'... in the beginning of his old age he decided to give the core of his teachings to an illustrated and written book, I Quattro Libri dell'Architettura, published in 1570. This is neither a treatise like that of Serlio, nor Vignola's Regola, but the account of a life of study and experience, a critical re-reading...[6]

Howard Burns too highlights the personal approach in the work, and talks about it as an 'autobiography'. He also adds that many of the plates in the treatise feature drawings completed after the planning phase and the realization of the project.[7]

Even in his own works, Palladio seems to apply the same method he had used while drawing ancient monuments, in which he organizes an inventory of *exempla* of architectural types – not models! – for use by future generations.[8] In his many studies on ancient architecture, carried out during his travels to Rome, Palladio alternates between quick sketches, full of information, and more complete and analytical drawings, which Ackerman defines as 'proto archeological and documentary'.[9] Many of these drawings would eventually be incorporated into Barbaro's edition of Vitruvius and then into his own treatise.[10] Some of the ancient buildings he was studying were already partially in ruins during the Renaissance. It was therefore necessary to find a way to draw them, possibly after comparing them with drawings from other architects. In order to give them a complete form, he needed to reinvent them, and to do so, they had to be simplified, by referring back to some general principle.[11] He completed buildings by adding the missing parts; he integrated original elements into them, through application of general proportional principles, such as the symmetrical dispositions of similar spaces about an axis. This way, he highlighted rules and proportional relations, especially emphasizing the logic of the composition and of the language. Despite his interest in materials and other aspects of construction, neither these, nor the adjustments required by contingent issues, such as the presence of preexisting structures, and economic or temporal circumstances were taken into account in his drawings.[12]

Then there were the so-called *capricci*, where Palladio overlaid several levels of study – in-depth analysis, redesign and reinvention – and created a sequence in which many different phases of the drawing were intertwined and woven together. Examples of this are the reconstructive drawings of the Palestrina Temple of Fortune, which might have inspired the two centralized plans of the Villa Rotonda and the Villa Trissino.[13]

While relatively obvious, these observations are of great importance: his transition from practice to theory – and not the opposite, at least most of the time – is what influenced Palladio's imitators most strongly.[14]

Incongruences between the buildings represented in the treatise and those actually realized can be found all through *I Quattro Libri*, most of all in the villas and in his first works. An example is Villa Godi,[15] where we notice a fundamental difference in intent between the actual edifice and the drawings in the treatise: the latter highlight a sort of circular motion that connects each room. Likewise, the unfinished 'Malcontenta' reveals the existence of two parallel projects, one on paper and the other one made of brick and stone.[16] The case of the Palladian villas – one of the most popular subjects of research within Renaissance architecture – is very unique: not many other architects came back to the same typology so often and over such a long period of time, but this provided Palladio with the opportunity to develop different solutions to the same problem.[17]

At the time of the preparation of the drawings for the plates of *I Quattro Libri*, Palladio completed and perfected them using the same process he had applied to ancient buildings. However, as Howard Burns points out, we must not forget that many of the choices made in the treatise were dictated by particular contingencies, such as time constraints, the wish to pay homage to a certain family by publishing their villa or city building (whether or not it had been built), by editorial requirements, and, last but not least, Palladio's own entrepreneurial and self-promotional impulse. Howard Burns writes:

> Each building is introduced by the name of the owner or owners. In the case of the villas of Vicentines, Palladio sometimes praises the owner or mentions his father. It was not always, one can conjecture, the quality of the building or of the design which lead to the inclusion

> or exclusion of a work: often it must have been the status, reputation and relation of the owner to Palladio himself.[18]

In terms of the relationship between the actual building and its representation, the comparison between the execution of the loggias of the *Basilica* of Vicenza and the plates illustrating it in the treatise is also emblematic. In this project Palladio explored new issues, especially in the use of stone and structural calculations.[19]

James Ackerman points out that the influence of the *Quattro Libri* lies mainly in its structure and conciseness, through which Andrea Palladio was able to lay out a system of exact and universal laws, described by images and text. By basing his dissertation on the theory of proportions Palladio satisfied the need to simplify and reduce existing structures into one clear-cut, consistent system. Mathematics plays a fundamental role in the elaboration of the theory expressed in the treatise. Although there is no evidence that Palladio was expert in mathematics, it is possible, Ackerman suggests, that he took his numbers from ready-made tables in order to come to his conclusions in the treatise.[20] Palladio may have discussed the theory of proportions with Silvio Belli, one of the founders of the Accademia Olimpica, who was present on the construction site of the Basilica of Vicenza. His studies may have influenced Palladio as they corresponded to the mathematical bases for his system. Even though not much is known about Silvio Belli, a few facts about his life are certain. Sebastiano Montecchio mentions his name along with Palladio's in 1574, and in *Memorie intorno alla Vita e Alle Opere di Andrea Palladio* (1843), Antonio Magrini mentions Belli and the several occasions that his name was cited next to Palladio's.[21] Palladio himself, in a letter to Martino Bassi, refers to Belli as 'the most excellent surveyor' of the Veneto and of the time: 'Silvio de Belli Vicentino Geometra il più eccellente di queste nostre parti'.[22]
Belli published two works on mathematics: the *Libro del misurar con la vista* (Venezia: Nicolini, 1565, other editions in 1566 and 1570), and the treatise *Della Proportione et Proportionalita,* I-III (Venezia: Franceschi, 1573-1595). Although Belli's treatise on proportion did not contribute in any substantial way to the progress of mathematics at the time, and recent studies show that he only partially understood Euclidean theories, these same new studies have highlighted the influence of his treatise in the second half of the sixteenth century:

> Belli almost certainly thought that he had something to offer to the growing body of knowledge… [He] lacked mathematical prowess, by today standards at least… Even given Belli's misunderstanding of Euclid, however, his treatise give us an important view of the understanding and appreciation of ratio and proportion as it existed at the Olympic Academy during Palladio's lifetime.[23]

In the treatise Belli opens the Third Book with a definition of proportion as 'the equality of ratios', and then continues with the definitions of 'arithmetic', 'geometric', 'harmonic' and 'contraharmonic' proportions, upon which all of Palladio's theory in the *Quattro Libri* is based (Figure 1). In turn, that establishes a direct link to the definition of proportion proposed by Vitruvius in Book III, chapter I:

> Proportion is a correspondence among the measures of an entire work, and of the whole to a certain part selected by standard. From this result the principles of symmetry. Without symmetry and proportion there can be no principles in the design of any temple; that is, if there is no precise relation between its numbers, as in the case of those of a well-shaped man.[24]

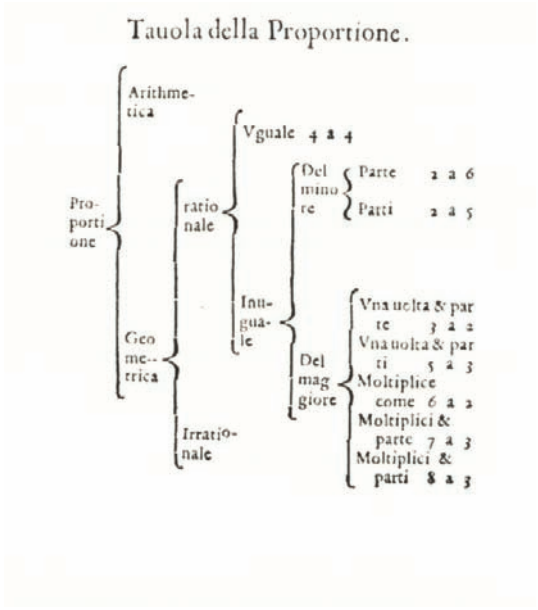

Figure 1. Silvio Belli, 'Tavola della Proportione', *Della Proportione et Proportionalità*, Venezia, 1573, Libro Secondo, 14 verso

Palladio too recalls this definition in the First Book, and describes ratio and proportion as 'the relationship of the whole to the parts, and of the parts along themselves and to the whole', and lists seven types of 'ideal' spaces: 'the circle, the square, and rectangles with the following length-to-width ratios: 1:1; 4:3; 3:2; 5:3; 2:1'.[25]
There have been studies of many concrete examples of the use of these relations, amongst them the analyses of the Villa Barbaro, the Villa Emo, the Rotonda, and the Palazzo Antonini.[26] Palla-

dio was definitely under the influence of Daniele Barbaro who, in his *Dedica ai Lettori* in the 1556 edition of Vitruvius, illustrated by Palladio, maintained that the use of mathematics dignifies the arts and their underlying theories. In their written works, Belli and Palladio share the same interests and intentions, which are expressed through the notion of usefulness and clarity. Their systems both aim to achieve simplification through the attainment of a new, more immediate language.[27] In the dedication of his treatise to Cardinal Alessandro Farnese, Belli explicitly expresses the need for simplicity and clarity, drawing a comparison between Geometry and Mathematics, emphasizing the difficulties in explaining them in classical texts, and glorifying mathematical disciplines: 'The Mathematical disciplines gladden, excite, exalt, press and convert reason, understanding and contemplation to the truth…'.[28]

Likewise, Palladio states that he intends to provide the reader with a clear system that can be easily applied: 'mi è parso cosa degna di huomo; il quale non solo a se stesso deve essere nato, ma ad "*utilità*" ancho de gli altri; il dare in luce i disegni di quegli edificij che in tanto tempo; e con tanti miei pericoli ho raccolti, e ponere brevemente ciò che in essi m'è parso più degno di consideratione; e oltre a ciò quelle regole, che nel fabbricare ho osservate e osservo'. He then addresses the importance of clarity in language: 'Et in tutti questi libri io fuggirò la lunghezza delle parole, e semplicemente darò quelle avvertenze, che mi parranno più necessarie; e mi servirò di quei nomi, che gli artefici hoggidì communemente usano' [italics by the author].[29]

Looking at Palladio's education, it seems impossible to find a time when he might have dedicated himself to the study of Mathematics (in its extended, Renaissance meaning); however we can definitely trace his interest in arithmetic, geometry and the system of proportions, which he shared with all major architects of his time.[30] In the sixteenth-century context, and in the evolution of his own poetics, he could not have disregarded this body of knowledge, however limited his understanding, and it guided him through all of his work, becoming especially necessary when he had to reorganize for the printed book all the knowledge he had accumulated over the years.

The Roman antiquities he had studied, measured and reinvented in his drawings-redrawings-reprojects during his frequent trips to Rome, the entire system of architectural orders, Vitruvius's teaching, all of this had to be translated into an immediate form, easily understandable and concise. He resorted to a formula of text and plates already used by others, but by him given an innovative, systematic and authoritative shape (Figure 2). The treatise was successful because everything was reduced to a simple formula, to a logical system connecting each single part to the whole. Palladio was also aware of the fact that he was providing a set of frameworks applicable

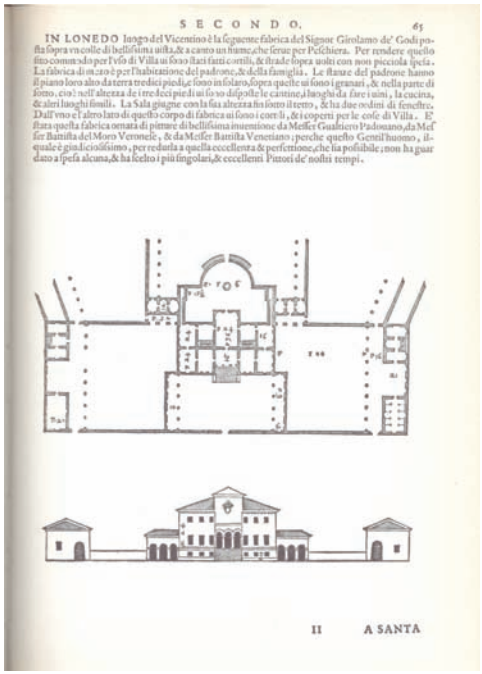

Figure 2. Andrea Palladio, Villa Godi, Lonedo. *Source: I Quattro Libri dell'Architettura* (1570), 65

to different solutions: types rather than models, schemes rather than overelaborated *exempla.*[31]

If Belli's work was influential, it was more on a practical level than on a mathematical one: that is, it is likely that Palladio could have been inspired by Belli in his attempt to find a method for simplifying and making intelligible the complexity represented by ancient architecture. Palladio could have drawn from Belli's frameworks and made use of his methods in his own more practical context.[32]

These observations lead to more direct reflections upon the treatise and the meaning and reasons behind its great diffusion. Palladio wanted the treatise to be an instrument of dissemination, immediate and clear. It was a vehicle for knowledge, that propagated a new approach to architecture which spread from 1570s Venice to the rest of the world over two centuries, thus generating the phenomenon of 'Palladianism'.[33]

Palladio's language and method of exposition were, says Ackerman, especially suited to the Anglo-Saxon world.

According to Tafuri, Inigo Jones considered Palladio a 'starting point' towards new and original interpretations, and considered his work to be a 'system of certainties, equipped with a sufficiently wide range of variations'.[34]

But the wealth of solutions suggested by the treatise was not noticed by all of his readers, many of who saw it as rigid, although this was in part because of the partial and distorted later editions of the *Quattro Libri* produced out of misunderstandings of Palladio's architecture.

Both Palladio and Belli transformed the body of knowledge transmitted from Archimedes, Euclid and Vitruvius into a rational framework upon which architecture could be based (S. Montecchio, 1573). All of this accounts for the impact of Palladio and Palladianism in the Anglo-Saxon world, where

simplified versions of his architecture were diffused through a series of books that often became pattern books for builders. As a result, a theory that had once been indissolubly linked to practice was often misunderstood and reduced to a mere set of rules for builders and constructors.

1 James Ackerman, *Palladio,* (London: Penguin Books, 1996), 161.
2 The book by Rudolph Wittkower, *Architectural Principles in the Age of Humanism* (London: Academy Edition, 1962), is the starting point for any research on this subject. For the studies on the reception of Wittkower see: Alina A. Payne, "Rudolf Wittkower and Architectural Principles in the Age of Modernism," *Journal of the Society of Architectural Historians* 53-2 (1994), 322-42 and its bibliography. On the conference of 1951, see Anna Chiara Cimoli and Fulvio Irace (eds.), *La Divina Proporzione. Triennale 1951* (Milano: Electa, 2007). The bibliography on the role of proportion in Italian Renaissance architecture is too vast to be reported here. Therefore, only those books and essays that have been specifically used for the purposes of this paper will be quoted in the text and in the notes. Among them, Antonio Foscari and Manfredo Tafuri, *L'armonia e i conflitti* (Torino: Einaudi, 1983) and Manfredo Tafuri, *Venezia e il Rinascimento* (Torino: Einaudi 1985). These texts are of particular interest for the purposes of this study, since they analyze the cultural scene in Venice in the years of the arrival of Palladio. See also Deborah Howard and Malcolm Longair, "Harmonic Proportions in Palladio's Quattro Libri," *Journal of the Society of Architectural Historians,* 41, n. 2 (1982), 116-43; B. Mitrovic, "Palladio's Theory of Proportions and the Second Book of I Quattro Libri dell'Architettura," *Journal of the Society of Architectural Historians* 49 (1990), 272-92.
3 Studies on Andrea Palladio, which grew greatly thanks also to the institution of the Centro Internazionale di Studi di Architettura Andrea Palladio in Vicenza (1958), are constantly in progress. Knowledge about his works is continuously growing, through a vast series of different kinds of research. Among the most important and recent contributions on Palladio are the exhibition and the symposium for the fifth centenary of his birth in 2008: Guido Beltramini and Howard Burns (eds.), *Palladio* (Venezia: Marsilio, 2008) and Franco Barbieri et al., *Palladio 1508-2008. Il Simposio del Cinquecentenario* (Venezia: Marsilio, 2008), both important also for the updated bibliographical indications. For more specific studies and in-depth investigation in the field of Mathematics and Architecture, see for instance, Lionel March, *Architectonics of Humanism. Essays on Number in Architecture* (Chichester, West Sussex: Academy Edition, 1998); Stephan Wassel, "The Mathematics of Palladio's Villas," *Nexus* 2 (1998), 173-86; see also note 26 for the essays in *Nexus* 10, n. 2 (2008). Updates on the bibliography can be found at the Palladio Museum, "Bibliografia palladiana", http://www.palladiomuseum.org/library/palladio.
4 Giulio Carlo Argan, *Palladio e palladianismo: discorso inaugurale delle manifestazioni per il 4. Centenario della morte di Andrea Palladio pronunciato in Campidoglio il 15 maggio 1980*, Comitato nazionale per le celebrazioni (ed.), (n.p., 1980).
5 Tafuri, *Venezia e il Rinascimento*, 193-212.
6 Giulio Carlo Argan, *Palladio e palladianismo.*
7 Howard Burns, "The Quattro Libri dell'Architettura," in Francesco Paolo Di Teodoro (ed.), *Saggi di letteratura architettonica da Vitruvio a Winckelmann*, vol. 1 (Firenze: Olschki, MMIX), 113-50.
8 Argan highlights how the instructions given in the treatise, both in the text and in the drawings and measurements only give very little and generic information to a potential imitator observing them. As Quatremere de Quincy says, Palladio offers a good number of typologies, not models. Giulio Carlo Argan, *Palladio e palladianismo.*
9 James Ackerman, "Palladio: in che senso classico?" (keynote at the 35th Palladio workshop, Centro Studi Andrea Palladio, Vicenza, September 6, 1993), 15-9.
10 Marco Vitruvio Pollione, *I dieci libri dell'architettura di M. Vitruuio. Tradotti & commentati da Monsignor Barbaro eletto Patriarca d'Aquileggia*, (Venezia: Francesco Marcolini, 1556). In 1556 Daniele Barbaro published the translation, along with comments and illustrations by Andrea Palladio, of Vitruvius treatise. James Ackerman, "Daniele Barbaro e Vitruvio," in C.L. Striker and P. von Zabern (eds.), *Architectural Studies in memory of Richard Krautheimer* (Mainz, 1996), 1-5. In this essay Ackerman discusses the complex theory of harmonic proportion elaborated by Daniele Barbaro and the importance of numbers/mathematics for architectural drawings. Pierre Gros, "Lo studio di Vitruvio e le antichità romane," in Franco Barbieri et al., *Palladio 1508-2008. Il Simposio,* 132-5 and Werner Oechslin, "'Sottili ragioni'. I disegni palladiani per le edizioni vitruviane di Daniele Barbaro," in *Vitruvio e il disegno di architettura* (Venezia: Marsilio, 2012), 107-34.
11 On Palladio's drawings of the antique, Howard Burns, "Studiare e restaurare le antiche rovine," and Howard Burns et al., "Disegno e progetto," in Beltramini and Burns, *Palladio,* 286-99, 300-13.
12 An example can be a study by Palladio of Bramante's Tempietto. In the drawing 'Alzato del Tempietto di San Pietro in Montorio del Bramante,' circa 1547-47, in Vicenza, Pinacoteca Civica, Gabinetto dei Disegni e stampe, D.26v, there are some corrections and mistakes. Therefore, it can be considered an interpretation rather than an exact drawing of the existing structure. Most of these corrections were repeated in the plates of the *Quattro Libri*. The same can be said for most of Palladio's drawings. Cfr. the comment on the drawing by Howard Burns, in Beltramini and Burns, *Palladio*, 69.
13 Ackerman, *Palladio: in che senso classico.*
14 Howard Burns et al., "Vitruvio e la teoria e la pratica della progettazione," in Beltramini and Burns, *Palladio,* 276-85.
15 In this respect, the case of Villa Godi is emblematic. Between the building actually realized and its representation in the Second Book, there are substantial differences. For the discussion about the chronology and the evolution of the this project the bibliography is vast. See for instance Franco Barbieri, "Palladio in villa," *Bollettino Centro Internazionale di Studi di Architettura Andrea Palladio,* vol. XV, 1973, 193-209; Giangiorgio Zorzi, *Le ville e i teatri di Andrea Palladio* (Milano: Neri Pozza Editore, 1968); Howard Burns, *La Villa italiana nel Rinascimento* (Vicenza: Angelo Colla, 2012).
16 The same can be said for the Villa Foscari 'La Malcontenta' and more in general for most of the villas that Palladio describes in *I Quattro Libri dell'Architettura*.
17 Crucial to the discussion of the topic – a discussion that produced myriad of essays – were the studies of Fritz Burger, James Ackerman and Rudolph Wittkower (for instance, see the 'Schematized plans of ten of the Palladio's villas' in Wittkower, *Architectural Principles)*.
18 Burns, "The Quattro Libri dell'Architettura," 120-1.
19 Guido Beltramini, "La Basilica," in Beltramini and Burns, *Palladio*, 80-9. Furthermore, the Basilica is probably the most

interesting demonstration of Palladio's attitude towards the issue of 'monument'. See Argan, *Palladio e palladianismo.*

20 Ackerman, *Palladio: in che senso classico.*

21 Sebastiano Montecchio, *De Inventario haeredis* (Venezia, 1574), 163, in Antonio Magrini, *Memorie intorno la vita e le opere di Andrea Palladio* (Padova, 1843). Here there are several references to the relationship Palladio-Belli.

22 'Intorno alcune questioni sopra varii lavori nel Duomo di Milano.' Andrea Palladio al M. Magnifico Martino Bassi, 3 luglio 1570. Letter published in Magrini, *Memorie intorno la vita*, 17-9. Cfr. also T. Temanza, *Vita di Andrea Palladio* (Venezia 1762), 47. In 1556 Belli was appointed lecturer at the Accademia Olimpica (*lettore della sfera e altre cose matematiche*), and in the same year he gained the position of *soprastante*, municipal engineer of Vicenza. From 1566 he was *proto delle acque* in Venice, a very prestigious position, and from 1578 *ingegnere ducale* in Ferrara. In the introduction to the treatise on ratio and proportion, he announced the intent to carry on a series of studies about different fields of Science. But this project was not realized. Cfr. Franco Barbieri, *Silvio Belli*, ad vocem, in *Dizionario biografico degli Italiani*, vol. 7, 1970; Alessandra Fiocca, "Silvio Belli ingegnere: empiria e matematica nella cultura tecnica del Rinascimento," in Daniele Biancardi and Franco Cazzola (eds.), *Acque e terre di confine: Mantova, Modena, Ferrara e la bonifica di Burano* (Ferrara: Editrice Cartografica, 2000), 15-49. See also the recent study on Belli's treatise: Silvio Belli, *On Ratio and Proportion. The Common Properties of Quantity*, Translation and Commentary by Stephen R. Wassel and Kim Williams (Fucecchio, Florence: Kim Williams Books, 2002), with updated bibliography and a biographical note. The treatise *Della Proporzione et Proporzionalità* was organized in three chapters that followed the dedication to Alessandro Farnese ("To the Magnanimous Cardinal Alessandro Farnese") and an introduction ("To the Readers"). In the First Book he wrote 'On the definitions, divisions and comparisons of quantity', in the Second Book 'On the definitions, divisions and considerations of ratio,' and in the Third Book 'On the definitions, divisions, and considerations of proportion'.

23 Stephen R. Wassel and Kim Williams, *Silvio Belli*, 27-8. Lionel March considered the treatise as the 'arithmetical companion to Barbaro's commentary on Vitruvius Book III'. Lionel March, *Architectonics of Humanism*, 8.

24 This translation of Vitruvius, *De Architectura*, Libro III, capitolo 1, is from: Vitruvius, *The Ten Books of Architecture* (New York: Dover Publications, 1960).

25 Andrea Palladio, *I Quattro Libri*, quoted in Wassel and Williams, *Silvio Belli*, 20.

26 In this respect, see for instance the essays published in the issue of the magazine *Nexus* dedicated to Andrea Palladio in the year of the fifth centenary; in particular: Stephen R. Wassel, "Andrea Palladio (1508-1580)," 213-24; Lionel March, "Palladio, Pythagoreanism and Renaissance mathematics," 227-43; Tomas Garcia-Salgado, "A Perspective Analysis of the Proportions of Palladio's Villa Rotonda: Making the Invisible Visible," 269-82, *Nexus Network Journal. Architecture and Mathematics* 10, n. 2 (2008).

27 Howard Burns has also raised the question of the paternity of the final version of the texts for the treatise. Burns, *op. cit.*

28 'There are, oh Most Illustrious and Most Reverend Sir, some rules of numbers, of lines, of surfaces, of angles and of figures that open the true way to an easy and certain understanding of all the sciences, and the arts; the ancients called these the Elements. Among these items there are the so called Elements of Geometry… But they are treated in such a difficult way that even after many years of study only a few reach an understanding of them. Thus it came to be that almost everyone moves to the other sciences and the arts without the aforesaid rules… However, as said Plato in this regard, through the person of Socrates, in the books of the Republic, the mind's eye that becomes blinded by all other study, or is even plucked out altogether, can only be recreated, and awakened, through the discipline of Mathematics, and elsewhere Plato himself said as much. The Mathematical disciplines gladden, excite, exalt, press and convert reason, understanding and contemplation to the truth…', Wassel and Williams, *Silvio Belli*, 33.

29 Andrea Palladio, *I Quattro Libri dell'Architettura*, Libro I, 5-6.

30 Lionel March, "Palladio, Pythagoreanism"; Giovanni Ferraro, "Bernardino Baldi, le matematiche, l'architettura," in Francesco P. di Teodoro (ed.), *Saggi di letteratura architettonica da Vitruvio a Winckelmann*, vol. 1, (Florence: Olschei, 2009), 207-20.

31 Giulio Carlo Argan writes that in the treatise Palladio offers examples that could be adapted to a wide range of different situations, a series of architectural typologies, rather than models to copy in whole. Argan also remarks that in the treatise all xylographies have the same characteristics: they all present orthogonal projections of the edifices, and are all represented under the same type of light. In the *Quattro Libri* Palladio doesn't aim to present immutable models, but rather variable architectonic typologies… and images must not just be uncritically copied, but a way to stimulate the architect's imagination and creativity. On the issue of type and typology see Giulio Carlo Argan, Tipologia, ad vocem, Enciclopedia Universale dell'Arte, then published in Giulio Carlo Argan, *Progetto e Destino* (Milano: Il Saggiatore, 1965) and Rafael Moneo, "On Typology," *Opposition,* 13 (1978), 22-45, with references to the previous debate on the issue.

32 Moreover, Burns writes that Palladio devoted himself 'on the one hand to a career as a working architect attentive to the practical aspects on building and on the other to developing general ideas about architecture and design in the form of an architectural treatise…' Howard Burns, 'Ornamenti and Ornamentation in Palladio's Architectural Theory and Practice,' in Horse Bredekamp and Arnold Nesselrath (eds.), *Pegasus. Census of Antique Works of Art and Architecture Known in the Renaissance* 11 (Berlin-Brandenburgische Akademie der Wissenschaften, 2009), 37-84.

33 For the influence of Palladio and the so-called phenomenon of Palladianism, among the most important studies and their bibliographies are: Besides Ackerman, *Palladio*; Argan, *Palladio e palladianismo,* see also Margherita Azzi Visentini, *Il palladianesimo in America e l'architettura della villa* (Milano: Edizioni Il Polifilo,1976); Guido Beltramini et al. (eds.), *Palladio nel nord Europa: libri, viaggiatori, architetti*, catalogue of the exhibition, (Milan: Skira, 1999); E. Forssman et al. (eds.), *Palladio: la sua eredità nel mondo* (Milan: Electa, 1980); Werner Oechslin, *Palladianesimo. Teoria e prassi*, (Venezia: Arsenale Editrice, 2006); Manfredo Tafuri, "Alle origini del Palladianesimo. Alessandro Farnese, Jacques Andreout Du Cerceau, Inigo Jones," in *Storia dell'Arte* 11 (1971); Robert Tavernor, *Palladio e il Palladianesimo* (Milano: Rusconi, 1991); Rudolf Wittkower, *Palladio e il Palladianesimo* (Torino: Einaudi, 1984).

34 Tafuri, *Alle origini del Palladianesimo*, 156-7 and *passim*.

1.3.3 Moralizing Money through Space in Early Modernity

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Abstract
Late Medieval and Renaissance cultural attitudes towards money were deeply shaped by the Christian sin of usury. Contemporaneous bankers faced a serious issue: how to pacify questions about the legitimacy of their work while still exercising their trade, often making copious returns. This talk addresses how usury impacted the built cityscape, arguing that ideological contentions concerning the morality of money are witnessed in the bank building itself. The paper examines how, in the wake of Italy's full-blown monetization, the bank building became critical to the reputation of banks, local and international alike, arguably because of issues concerning usury. Through analyzing the spatio-structural form of late medieval and early modern Italian banks, the paper insists that spatial strategies, as well as how the body of the banker was managed within the bank, were mechanisms actively used to pacify usury and bolster the generation of profit.

Keywords
Renaissance, medieval, architecture, usury, banking, money

This paper has two chief concerns. The first focuses attention on the location, places, and types of spaces that were used for banking in Italy in the wake of Europe's full-blown monetization. I will discuss the spatial location of bank buildings in Rome and Florence comparatively, asking why communities of merchant bankers topographically positioned their banks where they did during the late medieval and Renaissance periods. In doing so, this paper makes the argument that there was what I will call an orchestrated, architectural-spatial system of banking in Rome and Florence that became topographically concentrated over time. My interest here is in scrutinizing systems: urbanistic structures that were perhaps even more important than the lithic and wooden bank buildings themselves.

The second issue – a related one – involves considering how bankers and the civic body, interested in promoting Christian capitalism, used spatial dynamics in their banks to actively combat accusations of usury, a sin against justice and charity. Usury was a pressing concern for medieval and Renaissance bankers. It was a deep-running spiritual offense that involved deriving personal benefit from charging interest. The accusation was that the banker was using God's time – that is, the entire dimension of time – for private gain. Rather than plowing a field or making a shoe, charging interest does not involve manual labor. According to theological arguments, charging interest meant that money was made with time itself, something that God alone should control.

The institutions that I will discuss momentarily are local banks and international mercantile operations. First, a quick review of terminology. Economic historians group early modern banks into distinct categories: pawnbrokers and moneychangers, local banks, international merchant banks, and quasi-public, charitable banks. Local banks were facilities where one could exchange coins, collect wages, deposit funds, or make transfer payments.[1] By contrast, international merchant bankers had multiple operations in disparate geographic areas. They were engaged in sophisticated trade across long distances though networks of branch banks and relationships with other large-scale banks. These international branch banks would specialize in a combination of monetary deposit and lending, foreign exchange, insurance sales, and monetary speculation. It should be acknowledged that these are generalizations.

Let us now turn to the topography of money in Rome. In examining the city's medieval banking system, there is a pattern of 'temporal dispersion and then clustering'. Rome's post-antique banks show explicit tendencies of concentration in several areas throughout the city. The city's statutes of 1363, which include rubrics governing bankers, indicate that mercantile bankers operated in multiple nodes in the city.[2] They set up shops in front of the ba-

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silica of Old S. Peter's, on the Piazza di Ponte, by the Pantheon, around the Campidoglio, and in the district of Sant'Angelo.[3]

By the 1450s, however, many of Rome's mercantile banks began to gravitate to a specific topographic area of the city: around the church of San Celso on the Piazza di Ponte, a locale on the Pantheon and Campidoglio side of the Tiber, across from Castel Sant'Angelo and the Vatican. Tax documents and other records show that many Florentine families had banks in Rome on the Piazza di Ponte by the 1450s. Roughly seventy-five years later, before the sack of Rome in 1527, the Rione di Ponte boasted close to thirty Florentine banks many of which operated on the Canale di Ponte, the street leading from the Piazza di Ponte away from the Vatican.[4]

Probably in an effort to assert its interest in keeping the power of the bankers on the Canale di Ponte in check, and to further centralize the flow of capital, Pope Julius II transferred the papal mint, or zecca, to one end of the Canale di Ponte as early as 1505. This building was completed by Antonio da Sangallo approximately twenty years later. The international branch banking presence on the Canale di Ponte was strong enough for it to be termed the 'Forum of the Bankers' on Leonardo Bufalini's 1551 map of the city (Figure 1).

The density of banks on the Canale di Ponte constructed a collective network of banks – this was particularly important because then (as now) banks did not necessarily have reserves of specie on hand to meet demand if a significant portion of their creditors were to withdraw capital. Confidence in the solvency of a bank was key to a firm's credibility, and having a stronghold on

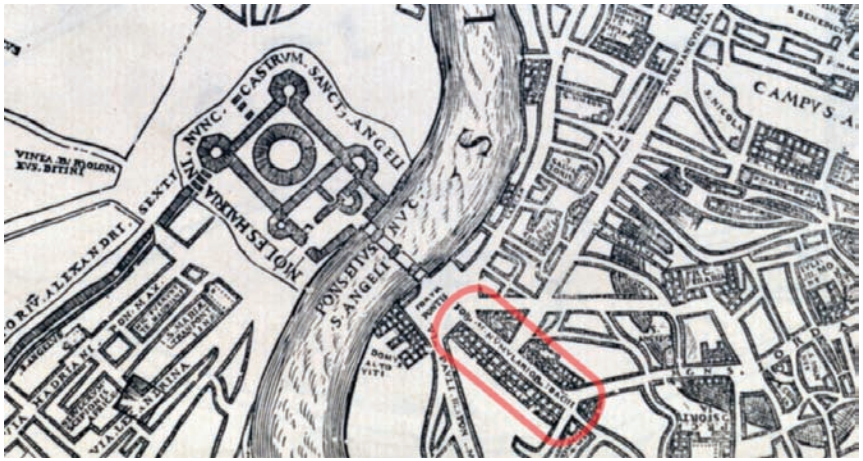

Figure 1. Leonardo Bufalini, Map of Rome, 1551, detail showing the Canale di Ponte or the 'Forum of the Bankers'. *Source*: the author.

the Canale di Ponte could only have solidified a firm's reputation by its association with a defined physical marketplace. Reputation was explicitly discussed as a chief concern amongst a discursive set of qualities that made a successful enterprise. According to a petition sent in 1605 to the Venetians by the Florentine nation, 'There is not any doubt that the merchant storekeepers [principally bankers] have core need of three things: reputation, credit, and money; with which they govern and know every good effect.'[5]

Likewise, the consolidation of banks was a system that drew upon social capital: the shared norms and information that are fostered by closely linked social networks. In these networks members interact with one another through multiple links that cross economic, social, political, and cultural bounds due to efficient and mutual benefit. Often, however, at this time social binds were recursively iterated though high endogamy.[6]

It should be said that the density of the Roman branch banks exemplifies the idea of topographical organization based on horizontal contracting. In horizontal contracting, repeated interactions within the network generate social capital. Social capital reduces cost below what it would be if the entities were regulated under government exchange. The spatial organization of the international branch banks that operated in Rome, in other words, significantly enhanced capital accumulation.

Let us now turn to a comparative consideration of the topography of money in Florence. Whereas Florence's medieval local banks operated in disparate parts of the city, archival research that I have done shows that a dense agglomeration of banks accreted around the piazza of Mercato Nuovo by the early fifteenth century. Using Florentine tax records I have determined that in 1427 – the first time that a general tax on income was instated – several of the men who list themselves either as a banker or member of the Arte del Cambio declared ownership of a bank.[7] The guild tax returns also furnished data that has enabled me to establish where most of these banks were located. Prior to this research, we had known vaguely that there were banks in the area of Mercato Nuovo, however the siting of the shops had not been determined. I have schematically mapped the site locations of the nine banks listed in the 1427 general tax records. Other archival research that I undertook reveals that by 1480 the number of local banks in the vicinity of Mercato Nuovo increased. What emerges is a spatial network of banks.

The pattern of the bank clustering in Rome and Florence brings to the fore questions about what benefits accrue when businesses that offer similar services are located in startling proximity to one another. This would seem irrational from the perspective of market competition. If multiple operations that offer similar services are located beside each other, centrifugal competitive forces would arguably restrict the opportunity for price flexibility, thus

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constraining profit margins. In the case of pre-industrial lending companies, aggregation theoretically hampered the ability to maximize the interest rates charged. Thus there must have been hidden advantages to the clustering, namely those of generating faith and trust in an abstract system of money itself.

Undoubtedly, one of the key reasons for the density of banks in both Rome and Florence – and such consolidation of types of trade in general – was that such a spatial pattern eased the transfer of information. The images on the screen show only a handful of the myriad types of specie that were used in Italy. With currency exchange rates fluctuating across time and space – not to mention the numerous other unpredictable aspects of pre-industrial trade that concerned merchant bankers – the bankers were particularly keen to have reliable information, a public good that economists term as non-excludable. This means that once information has been communicated it is difficult to resell. It is also non-rival – the supplier does not incur more cost if he provides information to others.

Since it is difficult for the private individual or corporation to prosper from information collection and diffusion, economists have argued that institutions sometimes are most efficient at providing information. For the medieval and Renaissance world guilds or corporate bodies formed to regulate trade exist primarily to ease information flows. The *mercanzia*, or merchant guild, of an Italian city provided a continuous flow of information on supplies of raw materials, prices, transport and general market conditions, both foreign and domestic.[8] Such trade consortia, especially ones that have a broad bandwidth, are effective because they efficiently disseminate a reliable flow of data to their membership and also to clients. Another way of thinking about this is that space was both localized and networked in a world-system structured by the circulation of specie. The urban cluster of late medieval and Renaissance banks is thus entirely logical from the vantage point of producing a relatively unhindered capital market. It is important, then, to point out that these processes are not exclusive to post-industrialism.

While there was no typology that distinguished local banks, I would like to suggest that there were several other components that made the topographical organization of banks not just a network, but rather an architectural-spatial system. Aside from the density of the banks themselves, there were several components of this system that I will discuss in turn.

The fixed location of local banks was a significant component of this architectural-spatial system. Banking happened at a place codified as such. One witnesses this, for example, on a wooden cover of a Sienese *biccherna*, or a register made by financial magistrates.[9] The Arte del Cambio prohibited wandering around and exchanging money. Unlicensed, itinerant bankers were fined with substantial penalties.[10] Just as it was key to have a fixed place for banking, identifiable ownership of that property and its contents was mandated: subletting one's table was illegal, and such an offender risked being banned from guild membership.[11] Likewise, there were a series of material objects that helped to constitute a local bank. Guild members were required to have a money pouch. Most bankers also kept a cash box, which was inspected every two months by a guild official. Transactions were recorded in ledger books, like the ones pictured on the *bicchierna* cover. Indeed, account books, which traced monetary flow, were as much of a part of the capitalist system as was coined money itself.

At this point, it is worth remembering that usury, discussed at the outset of the paper, remained a biting issue, although tolerated in practice. For example, in a Lenten sermon from the late fifteenth century, the mendicant preacher San Bernardino da Siena specifically targeted the bankers around Mercato Nuovo as depraved, blood drinking sinners.

To offset charges of usury, bankers devised strategies to codify exchanging and collecting capital as licit activities. In other words, there were a number of ideological mechanisms actively used to counter the restriction of moral prohibitions on the generation of profit. The routine inspection of banks, as well as the careful documentation of monetary flow, are examples of two mechanism devised to combat usury. By means of such measures, the circulation and compilation of capital was constructed as a positive, vital force. Through the configuration of spatial relationships in the bank, capital transactions were made overt. They were asserted, rather than disguised, that is to say they were made to be legitimate. The regulation of the performance of banking was an indexical measure of the desire to make monetary transactions explicit. Within the banks, transactions were regulated heavily. Thus, the body of the banker was put under purposeful scrutiny. How he acted and even moved inside of his bank was subject to legal guild codes. Statutes required that the head banker work at a table that was usually covered with a cloth.[12] Everything that he did literally had to be above the table. He and his partners and assistants stood, perhaps because standing was a protective stance, and enabled better scrutiny of exchange procedures. This woodcut of a local banking office from the 1490s is a visual corollary to guild mandates.

I want conclude by touching on an issue that bears on the ideas that I have discussed to today: the polemical historiography of the origins of capitalism. Many economic historians still follow Max Weber, who argued that the acceleration of the 'spirit of capitalism', as he termed it, was situated in the post-Reformation period. He believed that it was with Protestantism when moneymaking became a constant end in itself. Weber viewed economic

change in sequential and progressive terms. He argued for seeing the development of capitalism as a metamorphosis of institutional and total economic systems – a movement from a medieval, manorial and self-sufficient economy to a commercial revolution that eventually would result in mechanistic industrialization, several centuries later. For Weber, the geographical composition of national territories is deeply bound to the onset of capitalism. Modernization has been characterized as the disembedding of time and space through mechanisms that structure activities into new organizational patterns. Banking as a system involves monetary transactions that transpire at disparate times and over extended geographic spaces, which realigns social relationships.[13] Money itself is a 'symbolic token' as it permits exchange between individuals and institutions. With the symbolic token of money – a medium of standardized value – localized spatial networks are fractured. Money enables transactions between parties that never meet, thus disembedding localization. By way of ending this paper, I would like to suggest, then, that under these terms, 'modernization' or 'capitalism', if we want to call it that, existed wholeheartedly as part of the spatio-structural systems and vast networks of banks in late Medieval and Renaissance Florence and Rome, as well as in many other urban concentrations.

1 Richard Goldthwaite, *Banks, Palaces, and Entrepreneurs in Renaissance Florence* (Brookfield, VT: Variorum, 1995), 20; William Caffero, "Banking," in Frederick M. Schweitzer and Harry Ezekiel Wedeck (eds.), *Dictionary of the Renaissance* (New York: Philosophical Library, 1967), 174.

2 For the 1363 Statutes, see Camillo Re, *Statuti della città di Roma storico-giuridiche* (Rome: Tipografia della Pace, 1880). The earliest copies of the 1363 Statutes date to the reign of Martin V (1417-31), though earlier versions probably dated from at least 1279, see Laurie Nussdorfer, *Brokers of Public Trust: Notaries in Early Modern Rome* (Baltimore: Johns Hopkins University Press, 2009), 266.

3 It is not unusual that bankers operated close to a religious site. *Tavole*, for example, braced one another in the piazza fronting the Duomo of San Martino in Lucca, where the space on which the money-changer set up his table was either rented or owned in the Trecento. An oath from 1111 inscribed in the façade of San Martino dictated that *campsores* (money-changers) operating in cathedral piazza should not commit theft, tricks or falsification, see Thomas Blomquist, "Banking, European," in Joseph R. Strayer (ed.), *Dictionary of the Middle Ages*, vol. 2, (New York: Scribner's, 1983), 74.

4 Jean Delumeau, *Vita economica e sociale di Roma nel Cinquecento* (Florence: Sansoni, 1979), 56-7; Hubertus Günther, "Das Trivium vor Ponte S. Angelo: ein Beitrag zur Urbanistik der Renaissance in Rom," *Römisches Jahrbuch für Kunstgeschichte* 21 (1984), 213; Richard Ingersoll, "Rome: Piazza di Ponte and the Military Origins of Panopticism," in Zeynep Çelik and Diane Favro (eds.), *Streets: Critical Perspectives on Public Spaces* (Berekley: University of California Press, 1994), 180; Claudia Conforti, "La 'nazione fiorentina' a Roma nel Rinascimento," in Donatella Calabi and Paola Lanaro (eds), *La città italiana e i luoghi degli stranieri: XIV-XVIII secolo* (Rome: Laterza, 1998), 175.

5 As quoted in Armando Sapori, *Studi di Storia Economica: secoli XIII, XIV, XV*, vol. 1 (Florence: Sansoni, 1982), 48. Sapori cites ASF, *Carte Strozziane*, serie III, n. 383, inserto n. 12, fasc. B.

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7 Maria Letizia Grossi, "Le Botteghe fiorentine nel Catasto del 1427," *Ricerche storiche* 1 (2000), 3.

8 Maureen Fennell Mazzaoui, *The Italian Cotton Industry in the Later Middle Ages, 1100-1600* (New York: Cambridge University Press, 1981), 121.

9 Niall Atkinson, "Architecture, Anxiety, and the Fluid Topographies of Renaissance Florence" (PhD, Cornell University, 2009), 61.

10 Maria Luisa Bianchi and Maria Letizia Grossi, "Botteghe, economica e spazio urbano," in Franco Franceschi and Gloria Fossi (eds.), *Arti fiorentine: la grande storia dell'artigianato*, vol. 2, (Florence: Giunti, 1999), 34.

11 Giulio Gandi, *Le arti maggiori in Firenze* (Florence: Giannini & Giocannelli, 1929), 98.

12 Archivio di Stato di Firenze, *Arte del Cambio*, 5, Stat. del 1299, rubr. XI, XXI, XL, LVII: '…*sedentes ad tabulam cum tasca, libro et tappeto*…'.

13 Anthony Giddens, *The Consequences of Modernity* (Cambridge, UK: Polity Press, 1991); Anthony Giddens, *Modernity and Self-Identity* (Stanford: Stanford University Press, 1991). Also see Lars Bo Kaspersen, *Anthony Giddens: An Introduction to a Social Theorist* (Malden, MA: Blackwell Publishers, 2000), 86-7.

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1.3.4 Staging War in Maghreb: Architecture as a Weapon by the 1500s

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Abstract
The kingdom of Portugal held coastal positions in North Africa from 1415 to 1769. These enclaves resulted mainly from appropriations of former Muslim cities occurred until the early 1500s. Not only did the arrival of a new power and faith imply a re-evaluation of the built urban space, but also it would represent an on-going laboratory for military architecture, for testing new techniques that were incorporating more and more gunpowder artillery. Beyond technological, urban and military innovations, the Portuguese presence was affirmed through a symbolic image that would often surpass the political occupation itself. It was during the turning of the fifteenth to sixteenth century that architecture played a significant rhetorical role. The key issue revolves around the foundation of a new image of the city where not only churches or cathedrals evolved from former mosques, but late-gothic castles also effaced Muslim *kasbahs* in order to transmit a new message. The festive look given by several flags hoisted along recent fortified bastions reaffirms the political emphasis on the Christian claim beyond the Mediterranean upon the transition from Late Medieval to Early Modern times. This was the apparatus staged in Azemmour where declarations of war came as architectural statements and ornament. This paper wishes to further elaborate on questions such as image, appearance and performance applied to honorific keep towers in Tangier's lower castle, over Asilah's main sea gate or in Safi's sea castle. For that purpose, recent field studies and research will be used to comment or illustrate the argument through iconography, as well as up-to-date site surveys. Altogether, they help recreate virtual battles taken five centuries ago through a rhetoric scenography of the physical occupation and answer how Early Modern technical advancements were being compromised by retro medieval imagery.

Keywords
Military architecture, Portugal, Maghreb, late-medieval, Early Modern

1.4 Architects, Craftsmen and Interior Ornament, 1400-1800

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Is the study of interior ornament an integral part of architectural history? To date, the literature on architectural history has largely neglected the relationship between spatial form and interior ornament, resulting in the development of a sub-genre focused on interior design and decoration. Given the scale of ornament in early modern architecture across Europe, this separation of the building from its decoration militates against a holistic understanding of architecture and divides the Vitruvian triad that lay at the centre of architectural education and practice: firmitas, utilitas and venustas. For example, in the large literature on Palladianism there has been little and discrete coverage of the interior. Perhaps the multifaceted and complex nature of interiors, mediated as they were by patron, architect and craftsman, complicates overarching historical narratives? But this separation of architecture from ornament does not reflect the real experience of buildings. Is it time to reunite these realms? Given the rehabilitation of craft in contemporary discourse, might interior ornament reclaim its place in architectural history? Appropriately, pioneering research on Filippo Juvarra's work in Turin provides an exemplar for broader study of the relationship between architects and craftsmen in early modern Europe.
This session aims to explore the evidence for communication and creative collaboration between architects and craftsmen, including plasterers, carvers and painters. While detailed written instructions are relatively rare, a range of other materials – such as drawings, models and building accounts – illuminates the process. To what extent were architects equipped to design ornament, and to what extent did they rely on craftsmen for ornamental design? Papers are invited that consider these issues in broad or specific terms.

1.4.1 Architecture Before the Architects: Building S. Theodore's Chapel of S. Mark's Basilica in Venice, 1486-93

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Abstract
The boundary separating a building's interior from its exterior corresponds to the historical separation – theoretical, ideological – between architecture and ornament, the fine and applied arts, and between the architect and the craftsman. But this is far from the reality of the situation: in fact, the building yard and workshop were sites for the exchange of ideas concerning the making of architecture, and places where the inventive skills of the artist merged with the technical expertise of the craftsman. In Venice in the fifteenth century, the Renaissance idea of architecture was not yet clearly defined, nor was the professional role of the architect: in fact, recent studies indicate that important names such as Lombardo or Codussi were more akin to the stonemason than to an intellectual figure like Alberti. One site exemplifies this interaction: the building yard for the construction of a little-known chapel dedicated to S. Theodore, located in a corner of S. Mark's Basilica (adjacent to the Sacristy). The entire building process (from 1486 to 1492) charts the changing of the *maestri* and their swapping of workmen via the records of payment and the ordering of materials. From these sources it is clear that the same master sculpted the main portal and the interior frames, that the same *proto* directed the yard and carved the floral frieze, and that the same painter frescoed both the façade and the interior decorations. It is also clear that craftsmen moved from one building yard to another, along the coast of the Adriatic Sea, fostering technical experimentation and artistic innovation. This paper explores how architectural projects in this period relied on an intricate nexus of collaborations.

Keywords
San Marco, Venice, Spavento, stonemasons, building-yard, fifteenth century

Figure 1. Chapel of San Teodoro: interior view during the 1961 restoration, when its original appearance was restored. *Source*: Archivio Procuratoria di San Marco.

The Chapel of San Teodoro, together with the new sacristy, was constructed immediately behind San Marco from 1486 to 1493, hemmed in by a canal, the Palazzo Ducale and the Palazzo Patriarcale. Battered by interventions over the centuries, its original design – from its foundations to the lost external dome – is only now beginning to be understood thanks to the discovery of new documents, allowing us to appreciate its architectural and historical importance.[1] (Figure 1) The sacristy is both a service space and an official reception room, and rich mosaics cover the low vault with its exceptional span. The adjacent San Teodoro is about half the size, but despite its small dimensions it has considerable impact. Built as the private chapel of the canons of the Basilica, it was later used as a tribunal of the Inquisition. It is a single room consisting of a squared, central space now covered by a cross vault – originally a dome – with two lateral barrel vaults in which four niches are inserted. Three further radial niches enclose the space of the apse, creating a peculiar play of frames and corners. The proportions and rhythm give harmony to the space, while the lack of decoration creates a notion of refined abstraction. An interpretative reading of San Teodoro suggests an elegant and conscious rationalization of a traditional space following humanistic and geometric precepts, or, to use Manfredo Tafuri's description of the neo-Byzantine style, 'Byzantine *dispositio,* Albertian *inventio*'.[2]
The exterior has two façades, one overlooking an inner courtyard, the other rising above the canal and connecting the chapel and sacristy with imposing stone cladding. The design of the canal façade aims for an extreme purity of line: as John McAndrew has noted, its form was 'more severe than any important work yet built in Early Renaissance Venice'.[3] The other façade of the building, where the entrance is located, is also simple in design and its only

decorative element is the main portal in Istrian stone, finely carved with floral friezes. But – as we shall see – its original appearance was not so austere, and the facade of the courtyard was an important aspect of the building. The complex as a whole, including the chapel's wood-and-lead dome, indicates that this was an expensive and ambitious project, one that the *Procuratoria* commissioned for one of the most exclusive sites in the vicinity of the basilica.

The 'architects'

In late-fifteenth century Venice, the Renaissance idea of architecture was not yet clearly defined, nor was the role of the architect. Recent studies demonstrate that preeminent names such as Lombardo or Codussi were more similar to a stonemason than to an intellectual architect like Alberti, that a sculptor could also be a yard director, and that entire *equipes* of different artists – painter, sculptors – moved together from one building yard to another.[4] By removing the 'problem' of attribution and its accompanying rhetoric, new avenues of research regarding buildings and their executors may open up.

The execution of San Teodoro was entrusted in its entirety to the *proto* of the Procurators of San Marco, Giorgio Spavento, described as 'the least known of the paramount masters of architecture in early Renaissance Venice'.[5] Despite the fact that his name appears in connection with the most important building projects of his time – from models for the Rialto Bridge and the bell tower of San Marco, to the Fondaco dei Tedeschi and the church of San Salvador – we have little reliable information on his activities. The Sacristy was his first project and the only building that he ever supervised through to its completion. He was constantly on site and oversaw every aspect of this work. Yet, there is no reference in related documents to models or drawings by him, and the only mention of the project occurs when Spavento gives the stonemasons 'forme et mexure' (shapes and measures) for the chapel portal. As a result, his skills as an architect are in question. His formation and network of relationships are unknown.

In historical scholarship, Spavento's work has been consistently linked to that of Mauro Codussi, one of the most important protagonists of the Venetian early Renaissance. And yet, it would seem that Codussi and Spavento could not be more different: on the one hand, there is the figure of Codussi, who 'appeared in Venice as suddenly and brilliantly as a comet' – an innovator, an intellectual architect who introduced the 'Albertian avant-garde'[6] to the lagoon; on the other, there is Giorgio Spavento, the shadowy *proto dei Procuratori,* part-engineer, part-administrator, possibly an architect – a singular figure who embedded himself in the 'culture' of construction sites and whose design skills were hidden by his institutional role.

This categorization is, however, completely outdated. A more profound insight is required if we are to penetrate the real system of architectural production in Renaissance Venice. We must turn to primary sources that reveal entirely different narratives from those presented in the art-historical literature to date. Our focus must be less on the celebrated names of architectural history and more on the often-anonymous workers.

In fact, a reading of the construction documents related to the sacristy and to San Teodoro reveals that Codussi's only role was as the supplier of Istrian stone. This job was not considered in any way demeaning, for it was not unusual for the *proto* to be involved entrepreneurially in some way in the transportation of stone in addition to his other duties. In Venice at the end of the fifteenth century, trade with Istria was organized particularly when the construction of a building of great importance was involved: the *capomaistro* (master mason) of the building yard went to Istria to choose the best material in person, accompanied by a team of trusted quarryment and transporters, all of whom were paid by the client.[7] Often the masters who went further afield returned with boats full of large quantities of stone to be sold throughout Venice. It was a commercial business much more financially rewarding than purely artistic work. All of this sheds light on the type of collaboration that could bind one construction site to another or one master to another.

Already in 1486, Codussi's name appears in connection with some minor work in San Marco, mainly as a supplier of stone. The bills in the Procurators' ledger make it clear that the commission was for Spavento's site and that Codussi was directing the entire operation, from the quarrying to the transportation. A whole team of people worked for him – quarrymen, masons, sailors – their names constantly recurring, and not just in connection with the sacristy and San Teodoro. It is very important to highlight the fact that in these years Codussi was involved in the construction of both the bell tower of San Pietro di Castello (1482-90) and the prestigious convent and church of San Zaccaria (about 1483-91). For both *fabriche* (construction sites), the contract stipulated that he went in person to Istria in order to select the best stone. In fact, from 1483 to 1488, there are records of him and his brother Bernardo making about two shipments a year to Venice.[8] From this information, it is clear that Codussi and Spavento collaborated; a link existed between their respective *fabriche,* even if it was only economic and commercial in nature. But there is more.

The stonemasons

In fact, from 1485 to 1487, the stonework was entrusted to Giacomo Lanza. Lanza was not just any master, for, like Giorgio Spavento, he was paid

directly by the Procurators as official master of the stonemasons. At the beginning, Lanza was not only the supervisor, but also the executor. However, from 1487 to 1488 a significant change occurred, and it is this detail that allows us to infer just how Codussi and Spavento exchanged knowledge and how their building sites were connected.[9]

From 1488 – but only in the construction of the sacristy – Lanza was replaced by two new master stonemasons named Corradino and Domenico, a father and son team who began to supply Spavento's site with stone. But Corradino and Domenico were involved not only in travelling back and forth across the Adriatic Sea, but also in the project itself. The remaining stone cladding of the canal façade is their work, as is the internal and external stonework.[10] Their names were certainly known in Venice, for they were close collaborators of Mauro Codussi. Corradino worked on all of Codussi's major projects of the time, appearing in the documents among the artisans working at San Michele in Isola, the bell tower of San Pietro, the Scuola di San Marco and the Scuola di San Zaccaria. Pietro Paoletti says that 'he was skilled only as *squadratore*' (squarer), but he also records Corradino's constant participation resulting from his role as supervisor.[11] Domenico, his son, came directly from the San Zaccaria site. After his father's death in 1489, he continued the work in San Teodoro.

This movement of workers is extremely significant. It was certainly profitable for them from an economic point of view: but it is especially interesting to see that from the moment the decision was taken by the Procurators to supply the stone for Spavento's project directly from Istria, it was the two men trusted by Codussi, Corradino and his son Domenico, who took charge. And with them, from 1489, went all the *taiapiera* (stonemasons) who were working on the sacristy and in San Teodoro, as well as the team of Istrian quarrymen, even the transporters, all of whom were Codussi's men.

The relationship between Mauro Codussi and Giorgio Spavento was such a connection, a bond that was not created in the privacy of a study or an erudite circle, but rather one that was deepened by the intellectual and practical skills of these craftsmen. It is easy to imagine that when Spavento sought advice from Codussi regarding the façade that flanks the canal and runs alongside the Ducal Palace – a complex and institutional setting – Codussi didn't send him a drawing or a design, but rather his own trusted men. The forms and style of the façade are close to some of Codussi's work, suggesting that the façade's design represents the result of the two architects sharing their experimentation with the compositional language of buildings. But it is characteristic that this sharing of ideas was not *conceptual;* rather, it occurred 'physically', in the handiwork of actual people.

The other *maistri*

The same inextricable connection between sites and the exchange of personnel can also be perceived in the payments for the main door of the chapel, as well as in those pertaining to the decorative details of the project. Here it is noteworthy that there is no difference between the sculptural elements inside and outside the building. We have noted above that Domenico was not a sculptor as such, but a skilful *squadratore*, who made all of the stone parts of the building, as demonstrated by the long list of tasks for which he was paid on the closure of the site: stone plates for facades, window frames, decorations for the interior were all included in the same payment.[12] Instead, the more important differences exist in payments for sculpture: for the main portal Spavento provided the measures, and two different stonemasons were called to realize the different parts. The capitals, frieze and the *volto* (arch-gable) were made by Matteo da Valle, whereas the pillars were carved by a stonemason called Sebastiano.[13] It is important here to identify these masters as part of the history of Venetian architecture and sculpture, not only for the purpose of attribution, but because, as we shall see, through these names it is possible to better understand the artistic scene of the late-fifteenth century (Figure 2).

Matteo da Valle was a stonemason of Istrian origin;[14] he may be related to the workshop of Giovanni Buora, since his name appears in the building yard in San Giorgio Maggiore, as his first assistant in 1495. In 1504, da Valle

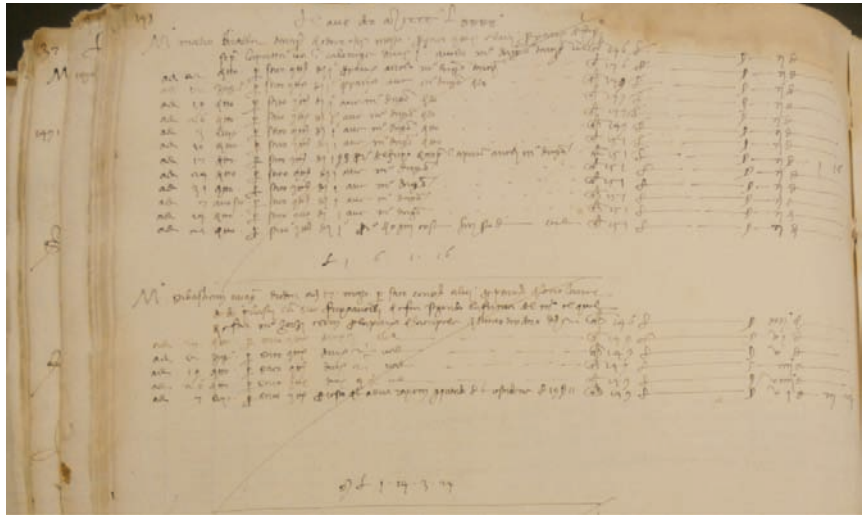

Figure 2. Payments to Matteo da Valle and Sebastiano for the carving of the portal. *Source*: State Archive in Venice, Procuratori de Supra, *Quaderno,* c.148sx.

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was commissioned to make the high altar of the Scuola di Sant'Orsola, and in the same year was employed in the construction of the new monumental basilica of Santa Giustina in Padua, where he was first appointed as master builder, and then – on account of various vicissitudes on the *fabrica* – as *proto* until his death in 1532. The consonance between the designs for Santa Giustina and San Salvador has usually been explained by scholars as being related to their previous collaboration in St Theodore. But the interesting point is that da Valle worked for Codussi too: according to Paoletti, da Valle was among the masons who worked on the facade of San Zaccaria between 1485 and 1486, particularly on the pillars, pilasters, entablature, and the three curvilinear gables of the upper facade. It confirms once again the strong link between sites and masters, placing Matteo da Valle in a larger frame of reference.

The name of the other stonemason who carved the portal pillars in *fuxaruolli* and *foiami* (tapered pearl and vegetal decoration), *maistro* Sebastiano, is even more difficult to document because he can so easily be confused with many stonemasons of the same name working in Venice at that time. Some studies however identify him with the artisan who carved the stone frame for the altarpiece by Cima da Conegliano in the church of San Giovanni in Bragora around 1495.[15] From the documents in the parish archive it emerges that around the stone altarpiece there was another framed fresco, painted by a Tommaso de Zorzi *pintor* (painter).[16] The subject of this fresco, lost in the seventeenth century after the altar transformation, is unknown, but probably it was similar to the paintings still visible all around the church; that is, a red frieze with floral decoration in white and black. These decorations were discovered and restored in 1925, following the original traces.[17] However, comparing information from the archives with the surviving traces of frescoes, I have been able to identify Tommaso de Zorzi as the artist who painted the inner courtyard façade of San Teodoro in 1492.[18] This is confirmed by some residual traces of old plaster with polychrome decoration visible to the naked eye: the largest fragment is hidden under the arch of the staircase leading to the upper sacristy. It is composed of a series of six *cassettoni* with a shield or *patera* in the inner circle. Around the doorway and windows are still visible red backgrounds, straight black lines and a few hints of white painted decoration. Literary sources are not helpful for understanding external pictorial decoration in Early Renaissance Venice: however, as the paintings by Vittore Carpaccio and Bellini show, this was the most common and representative pattern used in frescoed decorations in Venice.[19] But the material data confirms the words recorded in the ledger, and comparisons with other examples suggest that the fresco on the façade of San Teodoro was probably very similar to that of San Giovanni in Bragora.

Tommaso worked with Sebastiano on two occasions at two different building yards, executing painting and sculpture for both interiors and exteriors of Venetian buildings. The pair constituted a sort of team, which moved around the city under the direction of other masters. What is more, Tommaso himself frescoed another façade by Spavento, that of Santi Filippo e Giacomo, whose main door was carved by Domenico Lanza, the brother of Giacomo, who also made the beautiful portal of the church of the Ospedale del Gesù in Castello, a project also directed by Spavento.[20]

All of these examples – little traces – reveal that the culture 'before' architects in which Codussi, Spavento and others operated was mainly based on practice, but it was also a fertile ground in which the new ideas coming from Florence, Urbino and Rome were able to take root and grow. These architectural projects relied on an intricate nexus of collaborations, a continuous exchange of expertise, without barriers between disciplines: a sort of connective tissue that created the common ground of Early Renaissance art and architecture in Venice.

1 The manuscript ledgers of the building yard are kept in the State Archives of Venice, Procuratori di San Marco de Supra, *Cassier* e *Quaderno*. I consulted them for my PhD thesis at Iuav University, now forthcoming as Maria Bergamo, *San Teodoro e la cupola perduta: Giorgio Spavento e la Sacrestia di San Marco*.

2 Manfredo Tafuri, "La 'nuova Costantinopoli': La rappresentazione della 'renovatio' nella Venezia dell'Umanesimo (1450-1509)," *Rassegna* 4, 9 (1982), 31.

3 John McAndrew, *Venetian Architecture of the Early Renaissance* (Cambridge, MA: The MIT Press, 1980), 426.

4 Elisabetta Molteni and Gianmario Guidarelli, "Il monastero di San Michele e l'architettura," in *San Michele in Isola: Isola della conoscenza,* exh. cat. Correr Museum, Venice, 12 May–2 September 2012 (Turin: UTET, 2012), 79-96; Maria Bergamo, "Codussi, Spavento &co. Building the Sacristy of St Mark's Basilica in Venice," in *San Rocco*, 6 (2013), 86-96.

5 The first to compile a detailed biography of Giorgio Spavento and a comprehensive catalogue of his works, including S. Theodore and the sacristy, was Pietro Paoletti in his *L'architettura e la scultura del Rinascimento in Venezia* (Venice: Ongania, 1893). Currently, the principal studies are: McAndrew, *Venetian Architecture of the Early Renaissance,* 429; Manfredo Tafuri, "Pietas repubblicana, neobizantinismo e umanesimo: Giorgio Spavento e Tullio Lombardo a San Salvador," *Ricerche di storia dell'arte* 19 (1983), 5-36; and Id., *Venezia e il Rinascimento: Religione, scienza, architettura* (Turin: Einaudi, 1985), 25-68.

6 Loredana Olivato and Lionello Puppi, *Mauro Codussi* (Milan: Electa, 1977).

7 See Susan Connell, *The Employment of Sculptors and Stonemasons in Venice in the Fifteenth Century* (New York: Garland,

1988); Mario Piana, "'Bella et mirabil cosa è la materia delle pietre vive, che sono condotte da Rovigno': Note sull'estrazione, l'impiego, la patinatura della pietra d'Istria a Venezia," in *La pietra d'Istria a Venezia,* Proceedings of the Conference, Venice, 3 October 2003 (Verona: Cierre, 2006), 63-76.

8 Paoletti, *L'architettura e la scultura del Rinascimento,* 101, 109.

9 It is clearly visible, reading the payments dating from October 1487 (*Cassier,* fol.29r; *Quaderno,* fol. 63dx) to June 1488 (*Cassier,* fol.50r; *Quaderno,* fols. 92sx and dx). This passage exactly corresponds to the construction of the first and second level of the façade.

10 Domenico is paid as more than just a stone supplier: "a maistro Domenego e Choradin per li piui lavori per lui fatti de manifattura", *Cassier,* fol. 50r.

11 Paoletti, *L'architettura e la scultura del Rinascimento,* 167; Olivato and Puppi, *Mauro Codussi,* 189.

12 *Cassier*, fols.168r-174r.

13 On the work of Domenico for the main portal made in 1490: *Cassier,* fol. 107r. For Sebastiano's work: *Quaderno,* fols.148dx-145sx. For Matteo da Valle's work: *Cassier,* fols. 107v, 108r, 129v.

14 The sources for Matteo da Valle's collaboration with Codussi is Paoletti, *L'architettura e la scultura del Rinascimento*, 174. On his relationship with Buora see Anne Markham Schulz, "Giovanni Buora lapicida," *Arte lombarda* 65 (1983), 49-72. Currently, the best bibliography on Santa Giustina's building is in Guido Beltramini, "Cinque progetti, sette architetti: la fabbrica cinquecentesca della basilica di Santa Giustina a Padova," in *Santa Giustina e il primo cristianesimo a Padova*, ex. cat. Padua, Diocesan Museum 27 November 2004-27 February 2005 (Padua 2004), 48-92.

15 Anne Markham Schulz, "Sebastiano di Jacopo da Lugano," *Arte veneta* 37 (1984), 159-63; Emanuela Zucchetta, "Sulle tracce 'dei' Sebastiano da Lugano: architetti e lapicidi nella Venezia del '500," *Arte & storia* 40 (2008), 116-25.

16 On the frieze see the documents (Parish Archive of San Giovanni in Bragora b. 1, foll. 31r-33v) published by Peter Humfrey, "Cima da Conegliano, Sebastiano Mariani and Alvise Vivarini at the East End of S. Giovanni in Bragora in Venice," *The Art Bulletin* 3 (1980) 355, n. 27.

17 As reported in the analysis made during the 1925 restoration by superintendent Ferdinando Forlati (Archives of the Monuments Superintendent of Venice, B. A8, San Giovanni in Bragora 1857-1957).

18 *Cassier,* fol.154v.

19 Francesco Valcanover (ed.), *Pittura murale esterna nel Veneto. Venezia e provincia* (Bassano del Grappa: Ghedina & Tassotti, 1991); Wolfgang Wolters, *Architettura e ornamento: la decorazione nel Rinascimento veneziano* (Verona: Cierre 2007), 100.

20 Santi Filippo e Giacomo's portal notice are in Paoletti, *L'architettura e la scultura del Rinascimento*, 117, doc. 118. On the church of Ospedale del Gesù see Matteo Ceriana, "Opere di Tullio Lombardo diminuite o scomparse (e altre minuzie)," in *Tullio Lombardo: Scultore e architetto nella Venezia del Rinascimento,* Proceedings of the Conference, Venice, 4-6 April 2006 (Verona: Cierre, 2007), 23-68.

1.4.2 Decoration in Religious Architecture of the Eighteenth Century in the South Eastern Part of Central Europe

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Abstract

When researching the religious architecture of the Baroque era it is essential to consider each building as a *Gesamtkunstwerk* and to include research into technique, materials and decoration. Architects often designed ornaments, J.L. von Hildebrandt being the most prominent example. There are several examples of the interweaving of architectural design and interior ornament in the buildings of the South Eastern part of Central Europe, for example, in historical Styria and the North Western part of Croatia. The churches constructed by J.G. Stengg's building workshop from Graz, and those in the north western part of Croatia which were influenced by it, often share identical motifs among stuccowork, the decoration of altars, and architectural forms. A 1730s motif of rhomboidal mesh with rosettes, for example, can be found simultaneously in stucco decorations on the vault of the church in Pokupsko and as ornaments on the capitals of churches at Styria (at Rogatec, for example, or on the façade of the Barmherzigen-Brüder church in Graz), while a type of irregular window frame, the so-called 'Casula-Fenster', can be found in the aforementioned churches and, at the same time, as a painting frame on the altars designed by Stengg himself (at the monastery church in Rhein, and in Pokupsko). These examples of corresponding motifs in architecture and ornament emphasize the need for more holistic research. Such an approach highlights how these churches were the result of a type of organization within the building workshops of the period in which decorators were employed as co-workers. This important aspect of Baroque architectural design has been neglected by traditional art-historical studies of the Central European area. This paper addresses this position by offering a new examination of some of key eighteenth-century Baroque interiors in this region.

Keywords

Casula-frame, mesh, decoration, models, workshop

Introduction

An affirmative answer to the question posed in the call for papers for this session – is it necessary to reunite the study of architecture and interior decoration – may at first hand seem obvious when discussing Baroque art in Central Europe, given the importance of the notion of *Gesamtkunstwerk* often recognised as its key feature, especially in art-historical studies of the first half of the twentieth century. Although contemporary studies do not make frequent use of the term, and the thesis of Baroque *Gesamtkunstwerk* has been the subject of critical discussion, the indivisibility of architecture and interior decoration as the key characteristic of many important examples of Baroque art is incontestable.[1] This phenomenon, however, is no longer in the focus of contemporary art-historical studies. In fact, there has long been a tendency to separate the 'major' arts of architecture, painting and sculpture from the 'minor' arts of furniture, decoration and the other applied arts.[2] The monographic study of artistic oeuvres, *Kunstgeschichte als Künstlergeschichte*, also enjoys a long tradition,[3] so that the integral study of a building's architectural form and its interior decoration has been pushed further into the background.

In eighteenth-century Central Europe, within different cultural and patronage contexts, there are numerous examples of the concurrent planning of architecture and interior decoration by a single artist or, more often, by a workshop. In the north, the architect Georg Wenzeslaus von Knobelsdorff was the author of the both the architectural form and the rococo interiors of the palaces for Friedrich II of Prussia.[4] In southern examples, the mutual compatibility of architecture and interior design is more common in creating the illusion of a *theatrum sacrum* in religious buildings, such as in the church of S. John of Nepomuk in Munich (1734).[5] The concept of the *theatrum sacrum* was central to the spatial organization of Baroque churches and was complemented by a carefully planned interior and decorative scheme. The religious service also included a series of 'special effects' – ceremonial liturgical vestments, music, scents, vessels – and their conjunction resulted in an experience resembling a modern 'multimedia performance', aimed at creating an overwhelming effect on the believer who experienced it with all senses but with a special emphasis on the visual element.[6]

The aim of this paper is to explore the role of decoration in the realization of this effect on several examples of construction and interior decoration of churches in the southeastern part of Central Europe (historic Styria and north-west Croatia). The buildings discussed here display a similar use of new decorative motifs – the *Casula*-frame and mesh ornament – in both architectural form and applied decoration, which provides an insight into the practice of building workshops and their associates, as well as into the extent to which architecture and interior decoration were inseparably intertwined. Simultaneous use of the same motifs both in architecture and interior decoration was not common in the artistic production of this region, and occurs in the 1730s in the oeuvre of Stengg and his workshop.

Decoration unites architectural form and interior space and points to the fact that all elements were conceived as a part of an integrated whole by the architect and the artists responsible. The architects of the Baroque age in Central Europe were often themselves creators of ornamental and decorative elements or employed permanent associates, which makes it difficult to identify the 'hands' of individual artists.[7]

Before proceeding to the analysis of particular examples, it is important to draw attention to a significant gap in the research on church altars: current research focuses mainly on the authorship of single altarpieces and/or its sculpture, while the altar architecture itself, its typology and development, has been ignored. However, altars in general – as small-scale architectural projects – present a link between architecture and decoration, and architects themselves were often responsible for the design of altars; a phenomenon discernible in the examples described here.

In the early modern era, the use of decoration in architecture was governed by the rules and canons of classical architecture which spread across Europe from the mid-fifteenth century through treatises and drawings.[8] However, by the end of the seventeenth and the beginning of the eighteenth century, in the period of the new 'primacy of ornament',[9] these rules were gradually abandoned and new decorative motifs were used; in Central Europe these took the form of *rocaille*, *Bandlwerk* and mesh. Their origin and dissemination, as well as their (simultaneous) application in different artistic centres, is a testimony to the artistic exchange between the artists of this area.

Religious architecture and interior decoration in the sphere of influence of the Stengg workshop from Graz: churches in Pokupsko, Rogatec, Graz and Rein

The churches discussed in this paper are situated in northwestern Croatia and historic Styria, part of modern day Slovenia and Austria. This region at the southeastern border of Central Europe, with Graz as its artistic and political centre, played a seminal role in the development of Baroque art, which reached the peak of its artistic production between 1730 and 1760.[10] The buildings discussed here are connected to the activity of the large and widespread workshop of the architect Johann Georg Stengg (1689-1753) from Graz. From the 1720s onwards, Stengg was Graz's leading architect: he introduced new vaulting systems (dome vaults) and surface articulation to

the architecture of Styria, although his oeuvre has only recently been thoroughly researched and valorized.[11] His principal works include the church of the Annunciation in the Barmherzige Brüder monastery in Graz (1735-38), the restoration of the Cistercian monastery church in Rein (1738), and the Schielleiten castle. Based on the design, vaulting system and lighting, I have attributed two further buildings to Stengg's workshop and associates: the parish church of St Ladislaus in Pokupsko (Croatia), erected and decorated in 1736-39 as a commission of the Zagreb bishop Juraj Branjug; and the parish church of St Bartholomew in Rogatec (Slovenia) in 1738-43.[12] Building and sculptors workshops from Graz were active throughout the region from the sixteenth century; a tradition that continued into the eighteenth century. This reveals the necessity of broadening the research areas beyond present-day national and political borders, a tendency which has intensified in recent decades.[13]

Analysis of examples

The simultaneous use of the irregular *Casula*-frame and mesh ornament in the churches in Pokupsko, Rogatec, Graz, and the monastery church in Rein, indicates either a collaboration between their architects and the artists responsible for the interior decoration, or the architect's authorship of both the architectural project and the individual elements of its interior decoration (such as altars). The application of similar motifs in different contexts, as architectural decoration and at the same time as recurring elements in stucco decoration and on altars, was the result of working practices of a large workshop with numerous permanent associates, as well as a reflection of the frequent use of workshop models (drawings) in this period.[14]

Casula-frame

This irregular, bell-shaped frame, known in the German language as *Kasselfenster*, *Casulafenster* or *Glockenfenster*, appears as a window frame on a façade (Graz), on a belfry (Pokupsko), and in a side chapel (Rogatec), but also on side altars (Pokupsko and Rein). This irregular frame was used by the architect Guarino Guarini in his projects for the church of St Philip Neri in Turin (1679) and the church of S. Maria della Divina Provvidenza in Lisbon (1679-81).[15] Its diffusion in Central Europe in the early eighteenth century was facilitated by drawings and prints, but also by the treatise written by Paul Decker, *Der fürstliche Baumeister* (Nürnberg, 1677-1713), where it appeared as a frame for vault decorations.[16] It was mostly used as a window frame, for example in the architectural designs of J.B. Fischer von Erlach,[17] J.L. von Hildebrandt,[18] K.I. Dientzenhofer,[19] or J. Prunner.[20]

In the context of the examples described here, the use of this motif points to the common origins and activities of the building workshop associates. It appears on the façade of the church in Graz by J.G. Stengg, and at the same time on the belfry of the church in Pokupsko, and above the entablature in the side chapels at Rogatec.[21] This irregular window frame 'follows' the architectural form of these buildings – where the curved vault line and undulating spaces create a new centralized and unified space in the architecture of this region in 1730. The use of new, irregular frames emphasizes the dominant curved line. The same frame also appears in interior decoration, as an altarpiece frame on the side altars of S. Joseph and S. Mary in the church in Pokupsko. These altars, together with the corresponding pulpit, play an important role in complementing and intensifying the spatial effect of the vaulted triumphal arch at the beginning of the chancel, accentuating their scenic quality and forming a formal unity with the high altar. This is one of the earliest examples of the insertion of an altar within a vaulted triumphal arch, something that became widespread across this region during the course of the eighteenth century, and which clearly denotes the careful consideration of the decoration of interior spaces as a complement to architectural form.[22] The irregular frame of the altarpiece in turn matches the shape of the belfry window, denoting the use of the same models in planning the architectural form and the interior decoration of a church realized by the Stengg workshop. A similar principle was applied in the monastery church in Rein, where the side altars, attributed to Stengg, contain identically-shaped frames.[23]

The practice of the architect's involvement in the design of the interior, with the same workshop responsible for both the architectural shell and the interior decoration, was common during the Baroque age, not only in 'provincial' building workshops. A decade earlier, Hildebrandt used this type of frame (present in the Savoy castle in Ráckeve, Hungary, 1702) for the altars at the Belvedere castle chapel (1723), while his associate, A. Beduzzi, used it for the side altars in the monastery church at Melk (1723).[24]

Mesh motif

Another decorative motif used to enrich both architectural form and applied decoration – in this instance on altars and stucco decorations – is the motif of a diamond-shaped mesh with rosettes on the intersection points. As with the *Casula*-frame, the mesh motif, or *mosaïque*, spread quickly and, along with *Bandlwerk,* became a characteristic decoration of the Central European rococo style.[25] It appears mainly in two variants: as a diamond-shaped mesh with beads or rosettes in individual fields, and later with intersection points

Figure 1. Stucco decorations on the chancel vault of the parish church of S. Ladislaus, Pokupsko, 1739, detail. *Source*: Photography by Dubravka Botica

Figure 2. Pilaster capital on the façade of the Barmherzige Brüder monastery church of the Annunciation in Graz, J. G. Stengg, 1735. *Source*: Photography by Dubravka Botica.

decorated with vegetal motifs. Its widespread use for interior decoration has not been fully researched. Its popularity increased in the last decades of the seventeenth century, when forms with pronouncedly non-architectonic features were designed in response to Louis XIV's demand for a new decorative vocabulary. Among the more significant proposals were the grotesques/arabesques of Jean Bérain, who had already used the mesh motif on a fireplace crowning around 1680.[26] As with the *Casula*-frame, this motif appeared in Central Europe in the interior decorations of aristocratic palaces (Hildebrandt's Sala Terrena in Upper Belvedere, Vienna, 1721-4), and soon became part of the decorative repertoire of builders and workshops.[27] Unlike France, in Central Europe this decorative motif was used in both religious and profane architecture, and in the applied arts. Its widespread use in the first decades of the eighteenth century marked the peak of French influence on artistic production in this area.[28]

The mesh motif is variously used in the stucco decoration and altars at Pokupsko and in the architectural decoration of Stengg's churches (Graz) and castles (Schielleiten), and those structures designed under his influence (Rogatec). In these examples, the mesh motif is used in a specific form, with accentuated rosettes on the intersection points, and at the castle in Schielleiten with rosettes in the individual fields.[29] The similarity of these mesh designs is yet another confirmation of the use of a workshop model for both architecture and interior decoration. In the parish church in Pokupsko, the vault sections in the chancel are decorated with stucco cycles[30] featuring *Bandlwerk* with diagonally arranged motifs of vases, ribbons and lambrequins, palmettes, lyres, vegetative elements and appended bells; these are accompanied by densely-formed meshes with rosettes on intersection points placed within an oval frame composed of twined tendrils (Figure 1). The delicately coloured narrow strips, tendrils and meshes, resembling a drawing on a flat surface and diffusing the light entering from the large windows, do not obscure the main focus of the church's interior decoration, the high altar. Beside the mesh motif itself, one should note the ingenious composition of marked diagonals which reveal the influence of French grotesque/arabesque patterns.[31] They are especially akin to Jean Bérain's grotesque motifs based on 'C' and 'S' shaped curves, palmettes and shells, draperies and lambrequins.[32]

The oval representations of the four Evangelists on the nave vault at Pokupsko are framed by an irregular, asymmetrical cartouche frame: the upper part of the frame contains the mesh motif, while the lower part contains narrow half-crescents with protruded volutes and vegetal motifs on curved ends.[33] The rendering and variety of motifs of this cycle differs considerably from earlier examples in inland Croatia.[34] The occurrence of similar motifs in stucco decoration and other elements of interior design are especially significant in the

context of this session's theme. The edges of the aforementioned altars at Pokupsko, situated within the vaulted triumphal arch, are decorated with the same mesh, as well as with the protruded volute endings and half-crescent motifs which appear in the plasterwork.

Further examples display the same mesh motif, with rosettes on intersection points, but applied in different contexts. Stengg applied the motif on façades, as a part of the enrichment of architectural form. The capital of the façade of the church in Graz includes mesh ornament combined with a stylized acanthus leaf that approximates *rocaille* work[35] (Figure 2). The same mesh appears above the window on the church in Pischeldorf, and the decoration of the frame with discs and curved volutes suggests the same origin as the cartouche in the nave of the church in Pokupsko. The parish church of S. Bartholomew in Rogatec is an interesting example of the application of this pattern in a new context. Here the cartouche from the vault in Pokupsko is transformed and applied as a frame around the chancel oratory, while the simplified pilaster with rosettes on the mesh and acanthus leafs similar to Stengg's design for the façade in Graz.[36]

Conclusion

The eighteenth century witnessed the introduction of new types of decoration of pronouncedly irregular form and non-architectural character, originating mainly from French design. The same decorative patterns applied in various churches in the south-eastern part of Central Europe during the course of the 1730s – as enrichments to architectural form and as elements of interior design and stucco decoration – are clear indications of a close collaboration between artists in the construction, design and decoration of Baroque churches. These were typically associates of a larger building workshop whose working practices were marked by frequent use of models and workshop drawings, as in the examples describe here. Such was the organization of the Stengg workshop in Graz which boasted more than 45 associates. However, in order to fully understand its production, it is necessary to consider a far broader area than the one centred on Graz, and to follow these historic relationships.[37] Although the workshop drawings have not been preserved, the archival sources are far from being fully explored, especially the papers of local aristocratic families.

Numerous questions remain to be addressed when it comes to the study of working practices in the Baroque period, as well as the issues of authorship of plans and models, of executors and collaborators. Research topics limited to architecture or interiors alone, or those concentrated on monographic studies of single artists, cannot answer these questions.

1 Bernd Euler-Rolle, "Kritisches zum Begriff des 'Gesamtkunstwerks'", in G. Pochat and B. Wagner (eds.), *Theorie und Praxis, Barock. Regional-international* (Graz: Kunsthistorisches Jahrbuch Graz, 1993), 365-74.

2 This division applies to most surveys of Baroque art in Central Europe. See for example, Hellmut Lorenz (ed.), *Geschichte der bildenden Kunst in Österreich, Barock* (München: Prestl Verlag, 1999).

3 Hellmut Lorenz, "Kunstgeschichte oder Künstlergeschichte – Bemerkungen zur Forschungslage der Wiener Barockarchitektur," *Artibus et Historiae: rivista internazionale di arti visive e cinema* 4 (1981), 99-131.

4 The architect Georg Wenceslaus von Knobelsdorff (Crossena. d. Oder, 1699-Berlin, 1753) designed the architecture and most of the interiors of the castles at Charlottenburg, Potsdam and Sanssouci for the Prussian emperor Friedrich II. On decorations and their relation to architecture, see the seminal study of Tilo Eggeling, *Raum und Ornament, Georg Wenceslaus von Knobelsdorff und das friederizianische Rokoko* (Regensburg: Schnell&Steiner, 2003).

5 The Asam brothers, painter Cosmas Damian (Benediktbeuren, 1686-Munich, 1739) and stucco master and sculptor Egid Quirin (Tegernsee, 1692-Mannheim, 1750) achieved supreme examples of *theatrum sacrum* in their numerous designs of church interiors (churches in Weingarten, Einsiedeln, the Holy Spirit in Munich) through the use of lavish stucco decorations and illusionistic painting.

6 Nigel Llewellyn, "*The High Mass*," in Michael Snodin and Nigel Llewellyn (eds.), *Baroque, 1620-1800. Style in the Age of Magnificence* (London: V&A Publishng, 2009), 189-203.

7 See for the example the case of collaboration between J. L. von Hildebrandt and A. Beduzzi in the chapel of the Mirabell castle in Salzburg. Wilhelm Georg Rizzi, "Antonio Beduzzi und Johann Lucas von Hildebrandt," *Alte und Modernekunst*, vol. 166/167, n. 24 (1979), 34-45.

8 Günter Irmscher, *Ornament in Europa* (Köln: Deubner Verlag für Kunst, Theorie & Praxis, 2005), 13.

9 Hermann Bauer and Hans Sedlmayr, *Rokoko. Struktur und Wesen einer europäischen Epoche* (Köln: Dumont Taschenbücher, 1992), 9.

10 Günter Brucher, *Barockarchitektur in Österreich* (Köln: DuMont Verlag, 1983) 295.

11 Sandra Maria Rust, "Der steirische Barockarchitekt Johann Georg Stengg (1689-1753)" (PhD diss., Universität Wien, 2009).

12 The church in Pokupsko is the first church of the so-called quatrefoil type in Croatian Baroque architecture which displays the new vaulting system of dome vaults, as well as smooth transitions between sections of space accentuated by soft diffuse light from rounded corners of chapels, similar to Stengg's oeuvre. The church in Rogatec has been ascribed to J. Hoffer who was strongly influenced by Stengg's realizations, while M. Kemperl stresses the influence of Viennese architecture in his formative years. Metoda Kemperl, *Korpus poznobaročne sakralne arhitekture na slovenskem Štajerskem* (Lju-

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bljana: Filozofska Fakulteta Univerze v Ljubljani, 2007), 21 ff.
13 Martin Engel, Martin Pozsgai, Christiane Salgeand, Huberta Weigl, "Einleitung," *Barock in Mitteleuropa. Werke, Phänomene, Analysen, Wiener Jahrbuch für Kunstgeschichte, (Festschrift für H. Lorenz)* 55/56, (2006/2007), 11-20.
14 All major building workshops held collections of designs, *Muster-* or *Skizzenbücher*, but only few have been preserved; the more famous include the *Dientzenhoffer Skizzenbuch,* dating from 1670s and 1680s, today in the Bayerisches Nationalmuseum in Munich, with 141 designs of religious buildings. Vorarlberg builders used the collection known as the *Auer-Lehrgänge*. The use of sketches and models in the workshop of J. G. Stengg is testified by the realized belfries and façade decorations. See Rust, "Der steirische Barockarchitekt Johann Georg Stengg (1689-1753)," 226.
15 Published in Bernardo Vittone, *Disegni di Architettura civile ed ecclesiastica* (1737).
16 Paul Decker, *Fürstlicher Baumeister/ Oder ArchitecturaCivilis, Wie Grosser Fürsten und Herren Palläste/mit ihren Höfen/Grotten/Orangerien/und anderen dazu gehörigen Gebäuden füglich anzulegen und nach heutiger Art auszuzieren…*" (Augsburg, 1711, vol. 2, 1716) with illustrations. Fig. 35, Audienz-Zimmer, http://digi.ub.uni-heidelberg.de/diglit/decker1711.
17 On the façade of the church of S. Mark in Salzburg (1699-1705), on the side belfries of S. Charles Borromeo in Vienna (1715), and on the library of the Hofburg in Vienna (1723-6).
18 On the central *avant-corps* of the Rákeve castle on the Danube (1701) near Budapest.
19 The church of S. Adalbert in Počaply u Terezína/Potschaplan der Elbe (1724-26).
20 On the Kalvarienberg chapel near Kremsmünster (1736-37).
21 J. G. Stengg used this type of window frame in the chapel in Heiligenkreuz. After its first appearance in Pokupsko, this type of window frame would be used in other churches of the quatrefoil type (churches in Ehrenhausen, Nova Ves in Zagreb).
22 This solution would be used in religious architecture of the eighteenth century, not only in churches belonging to this group – the most impressive example in Croatia is the church of S. Mary of Snow in Belec.
23 Rust, "Der steirische Barockarchitekt," 104, 229, 359-36. The altars in the church in Rogatec also contain paintings in irregular frames, but they were realized a decade later and by a different workshop; the high altar was realized by S. Mersi, and those in the side chapels by J. Straub.
24 Georg Wilhelm Rizzi, "Das Werkskizzenbuch der Familie GalliBibiena. Zwei Entwurfszeichnungen für Seitenaltäre, vor 1723," in Michael Krapf (ed.), *Triumph der Phantasie. Barocke Modelle von Hildebrandt bis Mollinarolo* (Vienna: Böhlau Verlag, 1998), 155-7.
25 Both motifs were often used together, the earliest architectural examples being the decorations of Hildebrandt and S. Bussi on the Upper Belvedere castle (Sala Terrena, garden doorways, from 1723), and it was also used by the aforementioned architects v. Knobelsdorff in the decoration of the interior of the Sans souci castle in Potsdam and the Asam brothers in interior decorations of the monastery church in Einsiedeln (1724-6) or the church of the Holy Spirit in Munich (1727).
26 Jean Bérain the Elder (1638-1711), *Diverses pièces très utiles pour les Arquebuzières* (1659); from 1674, he was the main decorative artist at the French court (*Dessinateur de la Chambre et du Cabinet du Roi*). Bérain's models were used in the interior decoration of Vaux-le-Vicomte (1661) and the Galerie d'Apollon in the Louvre (1671). Fiske Kimball, "Sources and Evolution of the Arabesque of Berain," *The Art Bulletin*, 4, n. 23 (1941), 307-16, 314; Ute Coburger, *Von Ausschweifungen und Hirngespinsten Das Ornament und das Ornamentale im Werk Egid Quirin Asams (1692-1750)* (Göttingen: V & R unipress, 2011), 99.
27 It also appears in Decker, *Fürstlicher Baumeister* (1711), plates 16, 17. http://digi.ub.uni-heidelberg.de/diglit/decker1711
28 Hellmut Lorenz, "Architektur," in Id. (ed.), *Geschichte der bildenden Kunst in Österreich, Bd. IV, Barock,* (München: Prestl, 1999), 227-8. The new decorative style is lighter, more buoyant, delicately coloured, with arabesque and *rocaille* elements, meshes, palmettes, textile motifs, and linearly accentuated acanthus leaves. This change, and the emergence of new motifs which replaced the previously dominant acanthus motif, is exemplified by the stucco decorations in the Jesuit church of St Catherine in Zagreb (1713-26) realized by the Quadrio workshop.
29 The variant with individual fields decorated with beads appeared in Hildebrandt's oeuvre a decade earlier, 1720 (Upper Belvedere).
30 Their description in the 1740 visitation suggests that there had not been significant modifications, apart from overpainting removed in the course of the recent restoration campaign In the course of the nineteenth century the stucco decorations were overpainted in grey, while the vault sections were filled with patterns of painted elements and painted in dark blue, as visible in older photographs (A. Schneider, 1914). The church was badly damaged in 1991 during the Homeland war, and the restoration included the removal of overpainting and the stucco decorations were restored in their original pink colour, with vault surfaces in white. The restoration campaign of stucco decorations in the chancel was completed in 2004, and in the nave in late 2007, Dubravka Botica, "Štukature u župnojcrkvisv. Ladislava u Pokupskom. Prilogkorpusuštukature 18.stolječa u kontinentalnojHrvatskoj", In SanjaCvetnič, Milan Pelc, Daniel Premerl (eds), *Sic arsdepreditur arte. Zbornik u ČastVladimiraMarkoviča,* (Zagreb: Institutzapovijestumjetnosti, Odsjekzapovijestumjetnosti Filozofskog fakultetaSveučilišta u Zagrebu, 2009), 67-80.
31 Their twined ribbons resemble the Arabic alphabet, hence the French term *arabesque.* The term *grottesche*, from Italian *grotta*, cave, refers to Roman decorations discovered during the excavation of DomusAurea in early sixteenth century.
32 G. Irmscher defines a subtype of grotesques with ribbon motifs or *Bandlwerk*as *Bérain-Grotteske*, used in France around 1670/80 and again around 1710/1720, and in Central Europe until 1740s. Günter Irmscher (2005), 130.
33 According to the categories proposed by G. Irmscher, this form is most similar to the *Laub-und Bandlwerk-Kartusche*, used in the period between 1710 and 1740, Günter Irmscher (2005), 97.
34 The choice and rendering of decorative motifs show affinities with the activity of the stucco-masters' workshop of Johann KajetanAndroy from Graza, the most distinguished representative of "Bandlwerk-Ornamentik" in Styria. Of Graubünden origin, from 1728 he was active in Graz, where he became the city *Stuccatuermeister*. He realized more elaborate stucco cycles in the monasteries of St Lambrecht, 1735/36-1745 and Vorau, 1733, in Johanneum, 1739, in the sacristy of the Mariahilf church in Graz, before 1740, and in the church of St Jacob in Tamsweg, 1741, Saur, *AllgemeinesKünstlerlexikon*, *Die BildendenKünstlerallerZeiten und Völker*, vol. 3, (München-Leipzig: K. G. Saur Verlag, 1992), 702.
35Considering the affinities of mesh rendering with the design of J. K. Androy, it is safe to assume their collaboration on one of the most important commissions in Graz in the 1730s.
36 These examples show interesting affinities with the oeuvre of the Asam brothers, with the mesh as a recurring motif, for example on the vault sections of the churche in Einsiedeln and the church of the Holy Spirit in Munich, and sometimes even on capitals (churches in Kladrau and Osterhofen). Reproduced in Ute Coburger (2011), 332-3.
37 The large workshop included over 45 associates, with a relatively small number of realized artwork in Styria, Sandra Maria Rust (2009), 226, which opens the possibility that some of its members were active in the south-eastern part of the region. Names and individual contributions of Stengg's associates are yet to be researched.

1.4.3 Architects of the Islamic Work and Phrasing Concepts in Geometry

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Abstract
The advent of Islam was a turning point in the development of art and architecture in the Middle East. The emphasis on text rather than figure encouraged by the new religion gave rise to an innovative use of scripts in religious buildings that gradually established calligraphy as an artistic speciality. The calligraphy on the interior and exterior of mosques and mausoleums functioned as an aesthetic and decorative element to enhance phenomenal properties and spiritual qualities of the building by citing religious quotations and poetry. It also served as an instructive device to convey secular information regarding the building's patronage and other details of construction. Along with light and colour, calligraphy contributed to a holistic understanding of architecture in micro and macro scales. Spatial qualities of calligraphy were associated with the message that it carried and its interaction with the spectator. Using different types of scripts while changing the size, density, and direction of the lettering on surfaces enabled architects and artists to stress centrality, verticality, or horizontality within spaces, and consequently to divide the interior into areas with different spatial qualities. The level of abstraction, materiality, and light determined the visibility and legibility of the text and also affected the interaction between users and building. Such sophisticated use of calligraphy reflected close collaborations between artists and architects to design a cohesive and unified spatial sequence and experience. Exploring the complexities of patronage though historical narratives, this paper will explore spatial qualities of calligraphy in two seventeenth-century mosques in Isfahan, Iran, in order to explain the dynamics of collaboration among artists, craftsmen, and architects. It will also explain how calligraphy served as a tool to control and enhance vantage points, orchestrate sequences of pausal moments and circulation paths, and to enhance social interactions.

Keywords
Geometric èattern, Girih, imagination, architect, Islamic World

Emergence of the sciences and the architect's field of concepts and forms
The advent of Islam was a turning point in the development of art and architecture in the Middle East. The emphasis on text rather than figure encouraged by the new religion gave rise to an innovative use of scripts in religious buildings that gradually established calligraphy as an artistic specialty. Geometry became the main drive and operation behind this innovative use of scripts on edifices and structures. Prevalent use of geometric grid systems of bricks and glazing tiles to conceive writings on revetments are the best examples of this innovative approach to design and use of script in space. The period of post-transition of Islamic culture from Damascus to Baghdad during the ninth and tenth centuries played a major role in re-defining the intellectual character of architects, a status that continued in the following centuries.
It is the scientific movement of the tenth century in Baghdad, namely the House of Wisdom (*Bayt al-Hikmat*), however, that marks the beginning of a distinguished era in the architecture of Islamic culture. This was an era that also re-identified what 'architecture' engaged, and thereby what the word 'architect' (*Muhandis)* expressed. This was also a movement that brought together fields of geometry, philosophy, and at later centuries literary criticism, further integrating the fate of the geometrical explorations as means to engage meaning in space.

Geometry and the intermediary architect
Mathematics was regarded as 'high knowledge' due to its truthfulness, and geometry was considered as its immediate presence in tangible form, a tool mediating between mathematical field, astronomy, and philosophy. In the taxonomy of sciences, geometry was considered as a field that could translate ideal conceptions into the material world. In looking at the school of Alexandria, Muslim scholars generated their own taxonomy of sciences, a critical context upon which the architecture, and thereby the meaning of the "architect", must be studied.
Al-Farabi (870-950) is known to be the first Muslim scholar who provided a comprehensive classification of the sciences. He regarded the sciences – and in particular geometry – as both theoretical and practical. Architecture fell into the category of *ilm al-hiyal* ('science of deception'), a subcategory of practical geometry, *ilm al-hiyal* refers to a science of trickery that approximates the state of certainty and truthfulness in the material world (the term is generally translated as the sciences of mechanics). Architecture, then, was viewed as natural magic (or even trickery) or, more mundanely, as a field

1. EARLY MODERN

of mechanical science that sought ways to apply mathematical truths (intelligible) to the material world. Al-Farabi explains this category of sciences:

> *Ilm al-hiyal* is comprised of the knowledge of finding a recourse by which the human can apply all those concepts whose existence have been proved by mathematical reasons onto the objects of the external world, and to give them [mathematical concepts] existence in the external objects. Note that in the mathematics, lines, planes, solids, and numbers, and other mathematical concepts are studied only separate from external objects and in intelligible terms (…).

As such, the 'architect' is the person who embodies this knowledge and carries out such magical transformation through means of geometry. At this level, the architect masters the geometrical field, while constantly exercising it through matter. Al-Farabi further articulates this intermediary field and distinguishes between draughting and making:

> But when it comes to crafting things and materializing them by will and manufacturing them in physical bodies and sensory objects, we realize that material things and sensory objects have qualities, which do not accept every configuration and resist accepting it easily. Rather a plot is required in order to accommodate that configuration in physical bodies and overcome those deterring qualities.

Therefore, the 'architect' is one who first exercises geometry through draughting. Al-Farabi's articulation of *Ilm al-Hiyal* is very similar to that of moving from design to building, in the sense that materials resist accepting design configurations. The architect is charged with a state of in-between, translating ideal geometry to the craft of physical things. It was in this era that treatises on practical geometry flourished, making accessible to the architect principles of geometry (*Handasa*), measure, shape, and figure. Geometry not only provided access to truthfulness but also to the attainment of beauty through the aesthetics of proportioned shapes and figures. In Arabic language, the term denoting geometry is *handasa*, which is derived from *andaza* meaning measure; this is associated with *qaddara* (design) deriving from *q.d.r* (measure, number). Historian Oleg Grabar refers to geometry as 'something that makes things 'proportioned', a concept that involves measure and number.'[1] Ikhwan al-Safa followed al-Farabi, as well as teachings of Pythagoras, Plato, and Aristotle, and considered geometry in 'intelligible' and 'sensible' modes.

The distinction between the intellectual and practical arts contributed to the further clarification of the meaning of 'architect', as the architect was charged with the title of *Muhandis*, meaning a person who knows *Handasa*. The architect became a person who entertained the intellectual geometry while putting it into practice. It is to be mentioned that it is in this same era that the Islamic geometric patterns, namely *girih* (Persian knot) or *aqd* (Arabic knot), emerged. These geometric patterns formed a unique and robust Islamic visual culture including the introduction of new styles of geometric calligraphy in buildings and ornaments. Practical geometry became a transformative tool to translate ideal geometry into applied geometric patterns, making it available to the architect and craftsman. The architect found himself in an intermediary field, between theoretical and practical ends of the geometry, between the geometer and working in the field.

Demonstration of geometric knowledge and expression of meanings

A surviving tenth-century document titled *Kitab Fima Yahtaju Ilaihi al-Kuttab wa al-Ummal min 'Ilm al-Hisab* ('A Book on Those Geometric Constructions Which Are Necessary for a Craftsman') by Abul Wafa Muhammad al-Buzjani (940-998), a Persian polymath, mathematician and astronomer, provides a key to understanding the significant role of geometry and its demonstrative knowledge. At the beginning of his third chapter, al-Buzjani disapproves of experimental methods for dividing a circle's perimeter into equilateral shapes. Instead, he argues for an accurate and methodical calculation, as articulated below:

> It is prevalent amongst craftsmen that when they want to draw a polygon in or on a circle, they experiment with the leg distance of a compass and mark the circle's perimeter several times in order to find the numbers of divisions on the circle. But this way of dividing [a circle] is not acceptable for architects-masons, prudent individuals, and master craftsmen. Dividing the circle using the above method is not only a very difficult task, but the points of division are also approximate and are not accurate. Therefore, the preferred act for architect-masons and masters of craft is to conceive it in a way that ensures that the length of the polygon is identified first.[2]

Al-Buzjani's drawing instructions for polygons and shapes within other shapes can be considered as one of the earliest documents that stress the role of drawing and draughtsmanship as essential components of the architect's field of expertise.

An anonymously authored appendix to al-Buzjani's treatise provides glimpses of the depth of geometric pattern discoveries in the eleventh to thirteenth centuries. *Fi Tadakhul al-Ashkal al-Mutashabiha aw al-Mutawafiqa* ('On Interlocking Similar or Congruent Figures', housed in the National Library of France in Paris) introduces about 110 various *girih* patterns in visual and verbal detail. Such verbal and visual instructions confirms that the target audience for the book was not mathematicians and geometers, but rather artisans and architects who had to apply these patterns in their geometric designs with precise draughtsmanship.
The fourteenth-century Arab historiographer Ibn Khaldun also asserted that geometry was essential to artisanship and to carpentry:

> In view of its origin, carpentry needs a good deal of geometry of all kinds. It requires either a general or a specialized knowledge of proportion and measurement, in order to bring the forms [of things] from potentiality into actuality in the proper manner, and for the knowledge of proportions one must have recourse to, the geometrician. Therefore, the leading Greek geometricians were all master carpenters. Euclid, the author of the Book of the Principles, on geometry, was a carpenter and was known as such.[3]

Historical sources support hierarchical levels of practicing geometry among geometers, architects, and masons. Bayhaqi (1100-69), a Persian historiographer and biographer, cited the astronomer and mathematician al-Isfizari (d.1123) who regarded the science of geometry as the foundation that 'architects and bricklayers had to follow.' Isifzari noted:

> Geometry is the basis for architecture; that is why the geometer with his science constitutes the foundation. He is followed by the master builder who in turn is followed by the wage labourer [bricklayer]. The geometer commands the second [i.e., master builder] and the master builder commands the wage labourer, while the wage labourer busies himself with water and clay.[4]

Another entry about the geometer al-Hakim Abu Muhammad al-'Adli al-Qajini establishes a hierarchy based on the differing levels of geometric knowledge required, from the designing architect and the mason executing his designs; the architect with his practical knowledge of geometry follows the theoretical geometrician and the bricklaying mason comes last. This shows three levels for the use of geometry: at the highest rank was theoretical geometry, whose role was to discover and verify absolute truths in the realm of ideas.

The second level, representing practical geometrical treatises, was for the architect-engineer whose major role was to apply, through approximation and 'tricks', the universal truths of arithmetic to the material world. The third level, which represents the practical level of site work and materials, was for artisans directly involved in construction. This triplicity of geometry also indicates the role of the architect in preparing architectural drawings – that is to say, conceiving architecture on paper, as well as the mediating role of the architect in negotiating the universal truths of geometry on site. This hierarchical understanding of geometry also corresponds to the Aristotelian hierarchy of theory, practice, and production.

Geometric mysticism: the fourteenth-century literary criticism movement

From the fourteenth to the sixteenth centuries, as the Islamic world was increasingly turning towards mysticism, the scriptoria of courts became the principal venue for storing knowledge and for defining the art of the court. Culminating in the seventeenth century, scriptoria had already been much influenced by literary criticism and the visual arts, a transformation which is well evident in miniatures paintings, architectural revetments, and the art of the book. This trend influenced the incorporation of the Holy text into ornaments, revetments and buildings. This process is mainly featured in two fundamentally distinct styles, one of which features calligraphy in buildings.
Prominent Muslim theosopher Ibn Arabi consistently used geometrical analogies to describe divine creation and the formation of the world. His imaginative description of God's manifestation in creating the world is informative. For him, the source of the creative mode was analogous to the Essence:

> Every line projecting from the centre to the circumference is equal to its companion and terminates at a point on the circumference. In itself the centre neither multiplies nor increases despite the multitude of lines that project from it to the circumference. The point of the centre relates to every point on the circumference by its same essence. For if it were to relate to one point on the circumference by other than that by which it relates to another, it would be divisible, and it would not be true that it is one, yet it is. So it relates to all the points, in spite of their multitude, by none other than its essence. … It is certain then that multiplicity manifests from the one Essence without this Essence being multiplied.[5]

The fundamental role of the centre of the circle, which was analogous to that of the Divine Essence, granted the circle a transcendental dimension.

The creative nature of the centre, then, with multiple possibilities of relating itself in infinite directions to the circumference, is analogous to that node of *girih* in the geometric mode. Muhammad b. Sulayman al-Rawanid's diagrams (*Rahat al-Sudur wa Ayat al-Surur*, 'Solace of Heart and Signal for Gladness', about 1204-1205?, National Library of Paris), developing proportional Arabic lettering based on the underlying geometric structure of the circle, is akin to this nodal mode. (Figure 1)

Ibn Arabi considered a triplicity of elements involved in the creative act: Essence (centre point), Will (radius, line), and Coming into Being (circumference, circle). This view of the circle's inherent order also accords with the Koranic concepts of creation. Here, the architect is more akin to that of 'world-maker' whose primary task it to follow the divine's creation in the material world.[6] Architecturally, the space of the dome was considered as the circle, and radii comprised sophisticated squinches making a transitional space from the lower square space to the upper circular space.

From this period when mystical interpretations in architectural space is commonly exercised, we can refer to a unique series of architectural drawings, namely the Topkapi Scroll, that feature an abundant use of geometric writing and inscription design drawings. The Topkapi Scroll drawings, attributed to the sixteenth-century Iran, feature the most complete set of

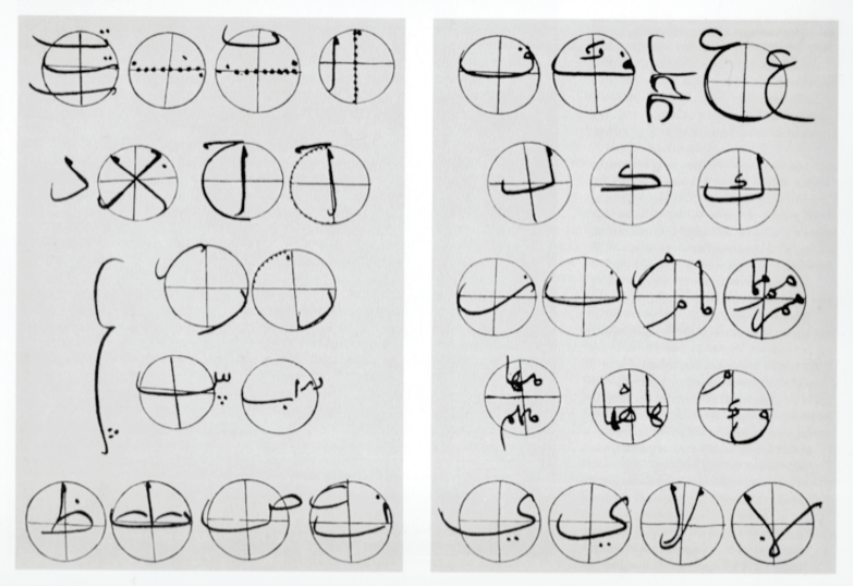

Figure 1. *Rahat al-Sudur wa Ayat al-Surur*, Solace of Heart and Signal for Gladness, Muhammad b. Sulayman al-Rawanid, about 1204-5. © Bibliothèque Nationale de France.

architectural drawings in the context of Islamic Architecture: 114 individual drawings bound altogether in a scroll. These drawings are not conventional drawings in the sense of offering plans, elevations, and sections. Rather, they are fragments of geometric drawings that can be applied to a variety of buildings and scales. These fragments are units of drawings that in repetition complete larger ornamental patterns. Additionally, a considerable number of these drawings are geometric inscriptions that are an integral part of a whole set of architectural drawings. This suggests that the use of geometric inscription has been central to the design thinking and conception of the space from early stages of design. (Figure 2)

Scripting in geometry

The sophisticated history of the arts and architecture of the Islamic world seasoned the architect's role with various flavours, as a geometer who acknowledged intelligible arts was yet committed to the practical field. The architect was also intermediary between geometricians and masons, and should demonstrate his knowledge through draughtsmanship. Finally, the mystic world interpreted the architect as one who construed-constructed the edifice, making a world for people to exercise their life in both spiritual and material fashions. As such, architectural revetments, domical spaces, and other architectural elements had always been subject to this duality:

Figure 2. Topkapi Scroll drawing. Geometric drawing representing a two-dimensional pattern of inscriptions. This type of pattern is used to ornate revetments with glazed bricks. ©Topkapi Palace Museum, Istanbul.

apragmatic dimension that also abided by the rules of engineering and science, and a spiritual aspect which expressed philosophical concepts and was embellished by ornaments and scripted notes through the geometric mode. The totality of the space is, then, defined as subtle and seamless union of both aspects.
Inscriptions became an integral part of the conception of space at the first stages of design. This is well demonstrated through the drawings of Akbar Mirza, the nineteenth century qjar architect. The space (as plan) is drawn within the space of inscriptions. With no scalar distinction, script and space are viewed as inseparable companions on edifices.

1 Oleg Grabar, *The Mediation of Ornament* (Princeton, NJ: Princeton University Press, 1992).
2 al-Buzjani, Abu al-Wafa Muhammad, and Alireza Jazbi, *Persian Geometry: Applied Geometry Abul- Wafa Al-Buzjani [Farsi Translations with Additions]* (Tehran: Sorroush Publications, 2005). Translation from Farsi by Hooman Koliji.
3 Ibn Khaldun et al., *The Muqaddimah, an Introduction to History* (Princeton, NJ: Princeton University Press, 1969).
4 Gülru Necipoglu and Mohammad Al-Asad, *The Topkapi Scroll: Geometry and Ornament in Islamic Architecture* (Santa Monica, CA: Getty Center for the History of Art and the Humanities, 1995), 177 (from al-Bayhaghi).
5 Ibn Arabi, *Al Futuhat*, quoted in Samer Akkach, *Cosmology and Architecture in Premodern Islam: An Architectural Reading of Mystical Ideas* (Albany: State University of New York Press, 2005), 69.
6 The prevalent use of Arabic term *Me'mar*, however, contextualized the architect's magical work with geographical and societal bounds, an act of conceiving built environments for people of arid lands. *Me'mar* shares a semantic root with *omran* meaning bringing life and water to a place. Ibn Khaldun (1332-1406) mentioned of *ilm al-omran* (lit. science of the society) and associated *omran* with understanding humanity and life. Both of these terms are derived from the root *a.m.r* indicating prolonging life, or to live a long life. *Me'mar*, an adjective, conveys a person who endeavors to bring a long life to a place.

1.4.4 Architects, Craftsmen and Marble Decoration in Eighteenth-Century Piedmont

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Abstract
In eighteenth-century Piedmont, marble played an important role in interior decoration thanks to its chromatic and ornamental values as much as its quality as a precious material. Following the example of Filippo Juvarra, architects explored and exploited these potentialities in interior design, while patrons both appreciated and demanded these materials. Widely employed in royal residences (such as the Galleria Beaumont by Benedetto Alfieri in Turin), marble decoration achieved its highest expression in ecclesiastical interiors, in the form of floors, balustrades and altars. This kind of decoration was either realized under the direction of an architect who provided the design and precise instructions, or was independently executed by a workshop of stonemasons (*marmorari*) by presenting to patrons their own models, and choosing and furnishing the marbles to be used. The meeting between these two work systems, that gave rise to very different products related to experiences, territories and local histories, is the focus of this paper: did architects and 'marmorari' influence each other? A comparison between the representational techniques used by Lombard craftsmen and by the *Studio regio* of architecture reveals how workmen, designers and patrons communicated their design ideas. While Lombard stonemasons carried on the workshop tradition, focusing on the decorative effect of marble polychromy, Juvarrian school architects tried to exploit this quality according to an architectural conception of space and form, sometimes collaborating with other decorators (painters or plasterers) able to reproduce the same aesthetic qualities of marble at a lower cost. This topic, relatively neglected by scholars, will be considered through individual case studies with a focus on the collaboration between the Lombard craftsmen and the architects of the Savoy court active in eighteenth-century Piedmont.

Keywords
Marble, decoration, architects, stonemasons, altars, Piedmont

In eighteenth-century Piedmont, marble was a very popular medium for interior decoration, being appreciated for its preciousness, durability and ornamental qualities. Used for chimneypieces, tables and floors in domestic residences, marble was also the principal material chosen to embellish the interiors of churches, and to build altars, balustrades, basins and fonts. This phenomenon, developed in tandem with the court building sites under the direction of architect Filippo Juvarra at the beginning of the century, is even more relevant because it involved the local initiative of churches in the towns and provinces, where nobles, confraternities and communities were willing to spend a lot of money to enrich the chapels and altars under their patronage. In this way patrons became acquainted with a variety of stones and their aesthetic qualities. In Piedmont, hundreds of marble altars were built during the eighteenth century, often as the focal point of a larger decorative programme that includes wall coverings, floors and balustrades.

The skills of the stonemasons, the direction of the architects, the demands of the patrons

If in certain cultural contexts craftsmen had been responsible for the design of the decorative work they were charged with making, after the arrival of Juvarra in Turin architects increasingly assumed this role, even down to the choice of materials. Architects were therefore obliged to deal with highly specialized teams of quarrymen and stonemasons from Lombardy and Ticino, including the Apriles, the Buzzis, the Casellas, the Giudices, the Marcheses, and the Pellagattas.[1]

This relationship has not been fully investigated in the literature on marble decoration which instead has focused on the responsibilities of architects, relegating craftsmen to the subordinate role of mere executors. But this underestimates the professional role of the stonemason. In fact, the relationship that developed between these two actors was often a collaborative process. Moreover, stonemasons, as well as plasterers or woodworkers, were carriers of a distinct language and able to work independently without the mediation of other professionals, creating all kinds of decorative stonework for which they provided their own designs and estimates.

Drawings made by craftsmen are useful for examining the relationship between architects and marble workers – even if we have to notice that, despite the number of commissions in which stonemasons were involved, their drawings are now widely dispersed: they rarely entered national institutions and have often been removed from the places in which they were originally deposited, like the archives of communities and parishes. Historically, craftsmen's drawings were not considered valuable in the same way as those of architects: their 'function' was often regarded as being exhausted after the execution of the work for which they were produced. Moreover, there is a problem of attribution, because stonemasons did not sign their own projects except when they were part of a contract with a patron.

Eighteenth century Lombard stonemasons' drawings often present only half of the altar elevation, using watercolour to connote, more or less approximately, the quality of the materials to be used. Unlike architects, there was no standard graphic convention resulting in different varieties of representation: for example, the design for the main altar of Quaranti in Monferrato (1770) combines the right half of the elevation with the left half of the plan, so containing in a symmetrical image on a single page all the information about the project, including the design of the balustrade, the scale, and the list of marbles 'marchati con numero.'[2] It is also possible that stonemasons made up for their lack of drawing skills with the help an artist or draughtsman. At least one case is documented: in 1734, for the balustrade of the high altar for the parish church at Ticineto, the stonemason Carlo Cesare Pellagatta presented a drawing prepared by his friend and collaborator Silvino, a *quadraturista*.[3] With this in mind, the exceptional design signed by the stonemasons Giacomo Pellagatta and Francesco Colombara for the altar of the Ursulines at Varallo (1766) may have been prepared by a different hand while still reflecting the practices of the workshop.[4]

Unlike stonemasons who made the work they designed, architects refined graphic techniques in order to control the execution of a project. This was particularly true of Filippo Juvarra, who introduced new practical methods of building control and site rationalization to Turin. In this way, the final design for the high altar of Superga (1729-30), traced through an elaborate sequence of sketches, adopts a precise normative standard to present, explain and verify the complex work of building marble altars: drawn in a strictly geometrical scale, in plan and elevation, the altar is half coloured to simulate the marbles, and half shaded in grey wash to suggest the volume of the structure, to indicate the sequence of plans, and to note the position of each element.[5] Juvarra combined orthographic projection with its emphasis on form and shadow, a technique perfected in Rome, with the traditional practice of colouring altar projects to study the ornamental effect and indicate the marbles to be worked. His purpose was to provide the maximum amount of information regarding form and materials on a single sheet, combining the presentation drawing with the working drawing.[6]

This technique was adopted by Juvarra's pupils, albeit not exclusively. In fact, many architects preferred to colour the entire elevation of the altar to create an effect strongly focused on the ornamental properties of the marble. Bernardo Vittone, for example, in his drawings for the chapel of S.

Anthony of Padua in the Franciscan church of Turin (about 1750)[7] and for the S. Valerico altar in the Consolata (1764)[8] used both techniques indiscriminately. However, the Juvarrian model remained the most influential: in 1792, when Filippo Castelli presented the project for one of the side altars of the new church at Livorno Ferraris (near Vercelli), although the style of the composition was neoclassical, the graphic presentation remained the same.[9]

Under the influence of Juvarra, the representation of polychrome marbles in architects' drawings reached levels of verisimilitude and aesthetic refinement far superior to those produced by stonemasons. A greater familiarity with watercolour techniques allowed architects to reproduce the ornamental properties of marble without having to resort to explanatory legends. The identification of different varieties was based on a set of norms codified in the Roman studio of the architect Carlo Fontana, which Juvarra introduced to Piedmont and adapted to local stone types. During the eighteenth century the discovery of new varieties of stone were immediately promoted for ornamental purposes: the *bardiglio* of Valdieri, for instance, extracted after 1738, shows up on project sheets identified by a cerulean hue, as in Francesco Martinez's drawing for the altar of the Superga crypt (about 1774).[10]

A useful historical source for identifying marbles is provided in an ambitious design of 1786 by Giuseppe Viana for the new civic tower at Turin: here the architect planned to cover the entire structure in marble and sums up each 'qualità de' marmi del Paese da impiegarsi nella costruzione' in a legend that takes the form of different marble tiles.[11] All the main varieties of local marble that had become part of the ornamental vocabulary of Piedmontese architects are recorded: alabaster of Busca, green of Susa, *persichino* of Garessio, *seravezza* of Limone (clear and dark), *seravezza* of Moiola, *bardiglio*, grey of Frabosa, and the white marble of Pont and Foresto.[12]

The degree of accuracy in these architect's drawings is not limited to the imitation of colours and grains, but is so precise as to suggest the laying of the panels *a macchia aperta*; that is, book-matched marble slabs creating symmetrical patterns, as illustrated by a collaborator of Juvarra in the shafts of the pilasters and the frames for the interior decoration of the SS. Trinità church in Turin.[13] Similar effects were in great demand and architects supplied precise instructions. Carlo Andrea Rana, for example, ordered that the *seravezza* of Limone for the base of the side altars of the new parish church at Strambino (near Ivrea) was to be put in place 'con la macchia obbliqua',[14] while the oculus in the middle of the urn under the Rosario altar in the same church was to be 'di diaspro di Sicilia segato e disposto in maniera che formi [una] mandorla con la cornice attorno giallo di Verona'.[15]

The care that some architects devoted to the proper execution of their work was equivalent to that of a demanding patron. The Rosario association of Strambino, for instance, invested a fortune in building a marble chapel for the new parish church.[16] Rana, who prepared the plan, submitted a variety of finished designs, noting in the margins the particular arrangement of marbles for the chapel's altar (Figure 1).[17] Rana was undoubtedly a scrupulous designer, attentive to detail: in this, he was in accord with the treasurer of the Rosario association, who followed its construction assiduously and queried the architect from time to time. Frequently, the solutions agreed are recorded on the drawings: a piece of paper pinned to the design for marbleizing the chapel's pedestals and pilasters includes instructions made by the architect in 1781.[18] These drawings, rich in notes and reminders, reveal the nature of the construction process but also, and more importantly, the traces of dialogue that existed between architect, craftsman and patron. Once signed by all three parties, drawings assumed a clear contractual purpose, as attested at the time of certifying the work. The expense of marble decoration motivated patrons to take precautions, requiring craftsmen to follow the detailed instructions written by architects, who in turn provided full size profiles to show how each part should be arranged.[19] The same patrons may also have ordered the execution of wooden scale models, painted in faux marbles: this made it possible to anticipate the finished result during the design phase.[20]

The relationship between architects and craftsmen

Architects and craftsmen necessarily discussed the material aspects and technical details of all building projects: the shape of a decoration, the profile of a frame, or the veneer of a column. In 1753, for instance, when a call for tenders for six marble mantelpieces in the Palace of Venaria was announced, the stonemasons raised technical concerns; as an official of the 'Azienda Fabbriche e Fortificazioni' recorded, they queried the use of two of the marbles specified (the *persichino* and the Busca alabaster), 'a motivo che secondo l'illustrazione non volendosi ammettere alcun benché minimo tassello, ciò resta assai difficile', and suggested instead Valdieri marble as it was easier to carve.[21]

Due to their professional experience, craftsmen were often involved in the formal aspects of a design commission: alternative solutions could emerge in discussion and modify an architect's original design. For example, Rana's extremely detailed instructions for the Rosario chapel in Strambino do not seem to leave any liberty for the craftsman charged with making it; nevertheless, in 1781, the stonemason Simone Catella came to an agreement with the architect for some adaptations. Technical and practical considera-

tions induced him to propose the insertion of 'qualche cosa o di bronzo, o di marmo, secondo che giudicherà Monsù Rana',[22] replacing the points of the marble stars designed by the architect for the chapel floor because they were too thin and fragile and might break – in the end they selected little roses in bronze.[23] In 1758, the stonecutter who created the new pilasters for the cathedral at Vercelli following the design of the royal architect Benedetto Alfieri, considered them too narrow compared with the columns. The architect Luigi Barberis, who supervised the construction on behalf of Alfieri, was willing to modify the design according to the craftsman's opinion: 'per la ragion addotta dal piccapietre che sarebbero troppo svelte, e la gussa dell'imno, e summo scapo di dette lezene sarebbe forzosa di troppo'.[24]

The professional lives of some stonemason families in the east of Piedmont in the mid-eighteenth century reveal how the relationship and mutual influence between craftsmen and architects was often crucial for commercial success. Until the early decades of the eighteenth century, the production of marble decoration in outlying areas (like the Monferrato) was dominated by the Lombard atelier of the Pellagattas, who established five workshops across Piedmont and Lombardy (in Milano, Casale Monferrato, Alessandria, Viggiù and Vercelli).

The Pellagattas produced their projects autonomously. Their altars are characterized by a taste for decorative effects: curled and sagging corbels, elaborate tablets, leaves and indented small festoons, soft volutes, long steps articulated by vegetal motifs, and geometrical decorations with a mixtilinear contour. On the other hand, for architects, the design of an altar was based on the language of architectural orders. Compared with the architectural style promoted by court architects, the designs of stonemasons, widely appreciated at the middle of the century in the Eastern Piedmont region, began to appear outmoded, even in those areas traditionally linked to Lombardy.

When the Pellagattas were obliged to follow an architect's guidelines, as in Desana (1764) or in Calliano (1765) after a design by Bernardo Vittone (Figure 2), in Moncalvo under the direction of Ottavio Magnocavalli (1758), or in St Ubaldo in Alessandria with Giuseppe Caselli (1760), they do not appear to have embraced the opportunity to update their decorative language. In fact, despite a growing demand for Turinese models, they continued to promote a formal repertoire loyal to their atelier's tradition. As a result, the business suffered, and a family fortune accumulated over years of commissions was lost.[25]

By way of contrast, another Lombard atelier, the Bottinellis, emerged as leaders in marble decoration simply because they understood and assimilated the decorative language of the architects they worked for (Benedetto Alfieri, Luigi Barberis, Giovanni Battista Ferroggio), and so satisfied the taste

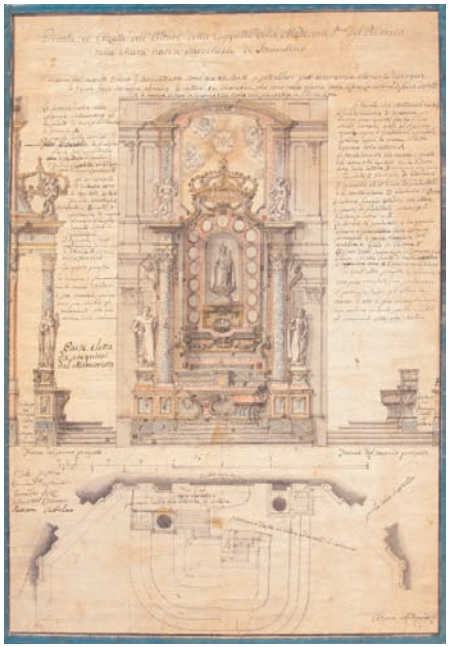

Figure 1. Carlo Andrea Rana, Project for the Rosario altar in Strambino, plan, front and side elevation, about 1774. *Source*: Strambino, Archivio parrocchiale.

of their patrons. Francesco Bottinelli learned the Turinese style from Barberis, a designer in Alfieri's studio since 1758. This collaboration probably began on the construction site of the cathedral at Vercelli before continuing at Casale Monferrato and in Turin.[26] Working with architects, the Bottinellis proved able to absorb the new style, moving cleverly – depending on the circumstances and tastes of their patrons – between the Lombard tradition, as in Borgo San Martino (1772), and the modern Turinese style, such as in their project for the high altar of the Confraternity of Jesus at Casale Monferrato (1791).[27]

A good example of this relates to the design for the Cuccaro church altar in Monferrato, in 1790: Canon De Conti, mediator for the priest from Casale, preferred the design supplied by the Bottinellis to that of the Pelagattas, finding it 'assai plausibile e di gusto' and better in terms of ' forma' and 'distribuzione dei marmi'.[28] This preference for Bottinelli's design, expressed by an educated man like De Conti, shows, at the end of the century, how models and taste in marble decoration had evolved.

These exchanges between architects and craftsmen also concerned the quality of materials. Lombard stonecutters traditionally promoted marbles extracted from their own region. In Turin, however, Juvarra introduced a new design tonality that stimulated the search for local stones that could replicate the variety available in Rome. In the 1770s, when the new Turin style was introduced, architects and patrons preferred 'quei marmi che sogliono usarsi nella città di Torino.'[29] As a consequence, except for certain materials like the red of France or the yellow of Verona, which have no equal in Piedmont, the Lombard varieties generally lost their appeal. Craftsmen such as the Bottinellis, who adapted to the new styles and materials, enjoyed a commercial monopoly on the new marble varieties being extracted and sold.

Figure 2. High altar of the parish church at Calliano (detail), 1765. Carving by Pellagatta, stonemason, after a design by Bernardo Vittone. *Source*: Elena Di Majo, 2010.

As such examples demonstrate, the study of marble decoration highlights different professional attitudes in the relationship between craftsmen and architects: some stonemasons proved to be unable (or maybe just not willing) to transform their working methods through collaborations with architects; others, learning from architects, assimilated their models, even their graphic techniques.

This was not a one-way exchange and architects themselves learned from the professionalism of their own projects' executors: Vittone's design for a chapel dedicated to the 'Addolorata' proposed a Lombard style balustrade as an alternative to a classical model.[30] The terms of this mutual exchange, especially when collaborations gave rise to long-term working relationships (like Vittone and the Giudices, or the Bottinellis and Barberis), requires further research – to determine, for example, how the stonemasons' expertise influenced the choice of marbles chosen by architects. Although court architects played an increasing role in the design of marble decoration, craftsmen must not be considered as mere executors, but as fully-fledged actors in a fully collaborative process.

1 See Vera Comoli Mandracci (ed.), *Luganensium Artistarum Universitas. L'archivio e i luoghi della Compagnia di Sant'Anna tra Lugano e Torino* (Lugano: Giampiero Casagrande, 1992); Giorgio Mollisi and Laura Facchin (eds.), *Svizzeri a Torino nella storia, nell'arte, nella cultura, nell'economia dal Quattrocento ad oggi* (Lugano: Edizioni Ticino Management, 2011).
2 'marked with numbers'. Fontanile, Archivio parrocchiale, San Giovanni, cart. 5. Cf. Elena Ragusa and Angelo Torre (eds.), *Tra Belbo e Bormida. Luoghi e itinerari di un patrimonio culturale*, exhibition catalogue (Asti: Provincia di Asti, 2003), 325.
3 Ticineto, Archivio parrocchiale, Ippolito Trabucchi, *Memoriale*, c. 101.
4 Varallo, Pinacoteca civica, Fondo Gilardi, n. 554. We wish to thank Giuseppe and Paolo Sitzia, who are preparing an article on this altar.
5 Turin, Biblioteca Nazionale (hereafter BNT), Ris. 59.2, no. 15.
6 See Giuseppe Dardanello, "Altari piemontesi: prima e dopo l'arrivo di Juvarra," in Andreina Griseri and Giovanni Romano (eds.), *Filippo Juvarra a Torino. Nuovi progetti per la città Torino* (Turin: CRT, 1989), 153-228; Id., "Disegno e colore negli altari di Filippo Juvarra," in Vera Comoli Mandracci, Andreina Griseri and Beatriz Blasco Esquivias (eds.), *Filippo Juvarra architetto delle capitali, 1714-1736*, exhibition catalogue (Milan: Fabbri, 1995), 256-67.
7 Turin, Museo Civico di Arte Antica - Palazzo Madama, inv. 4845/ds.
8 Turin, Archivio storico della città (henceforward ASCT), Carte sciolte, no. 815.
9 Turin, Archivio di Stato (hereafter AST), Corte, Archivi privati, Castelli-Berroni, Disegni e stampe, cart. 2, fasc. 33.
10 AST, Corte, Carte topografiche e disegni, Palazzi Reali e altre Fabbriche Regie, Superga, Regi Sepolcri, no. 19.
11 'quality of country marble to be used in the construction'. ASCT, Carte sciolte, no. 4332/F. Cf. Roberto Caterino, "Prototipi funzionali e fabbriche simboliche per l'architettura dello Stato e della città," in Giuseppe Dardanello and Rosa Tamborrino (eds.), *Guarini, Juvarra e Antonelli. Segni e simboli per Torino*, exhibition catalogue (Cinisello Balsamo: Silvana Editoriale, 2008), 163-5, fig. 8.11.
12 On Piedmontese marbles used in decoration see Maurizio Gomez Serito, "I marmi colorati piemontesi nella decorazione," *Atti e rassegna tecnica della società degli ingegneri e architetti in Torino*, LIII-1 (January 1999), 15-25; Elena Di Majo, "L''industria' dei marmi nel Piemonte del Settecento," in Giuseppe Dardanello (ed.), *Sculture nel Piemonte del Settecento. «Di differente e ben intesa bizzarria»* (Turin: Editris duemila, 2005), 119-30.
13 BNT, Ris. 59.2, no. 3.
14 'with the grains slanted'. Strambino, Archivio parrocchiale (henceforward APS), Costruzione, Fogli sciolti: *Instruzione per l'altare di marmo eletto per le cappelle laterali della nuova chiesa di Strambino*, about 1780.

15 'of Sicilian jasper cut and placed in order to make an almond and framed by yellow of Verona'. APS, Cartella Disegni: *Instruzioni per la formaz[ion]e dell'Altare, Balaustrata, e Lavatojo per la Capp[ell]a del Rosario*, 1774.
16 See Elisa Rossi Gribaudi, *La Chiesa di Strambino nel secondo centenario 1764-1964* (Ivrea: Tipografia E. Giglio Tos, 1964).
17 APS, Cartella Disegni: *Pianta ed alzata dell'altare della Cappella della Madonna SS.ma del Rosario nella Chiesa nova parochiale di Strambino*, about 1774. Reproduced by Ferdinando Viglieno Cossalino, *Carlo Andrea Rana architetto in Piemonte* (Ivrea: Fratelli Enrico editori, 1969), fig. 54.
18 Viglieno Cossalino, *Carlo Andrea Rana*, fig. 68.
19 See Elena Di Majo and Michela Goi, "Disegni e parole per comunicare in cantiere: le istruzioni," in Dardanello and Tamborrino, *Guarini, Juvarra e Antonelli*, 107-11.
20 These models were made in order to 'osservare ciò che dal disegno non può comparire, la figura, ed aspetto che danno non solo li marmi delle diverse qualità, e colori ad impiegarsi in detto altare, ma di più il complesso del medesimo tutto unito' (to observe what in the drawing cannot be displayed, the shape and the appearance, not only the marbles of different qualities and colours to be employed in that altar, but also the whole). Asti, Archivio diocesano, Confraternita di San Rocco, *Libro degli Ordinati 1756-1798*, c. 24 (May 29, 1763). On the practice of models, documented in Piedmont for marble altars since the end of the seventeenth century, see Giuseppe Dardanello, "Altari nel Piemonte meridionale," in Giovanni Romano and Gelsomina Spione (eds.), *Una gloriosa sfida. Opere d'arte a Fossano, Saluzzo e Savigliano*, exhibition catalogue (Cuneo: Marcovaldo, 2004), 324-69.
21 'because according to the illustration, that does not admit any dowel, it remains very difficult to do'. AST, Guerra, *Relazioni a Sua Maestà*, register no. 5, 1753, 255.
22 'something made in bronze or marble, Mr Rana will judge'.
23 APS, Costruzione: *Variaz[io]ne concordata col S.r Catella riguardo le opere da farsi per la Capp[ell]a*, August 29, 1781. Cf. the drawings published by Viglieno Cossalino, *Carlo Andrea Rana*, fig. 63-4.
24 'for the reason given by the stonemason that they would be too slim, and the cavetto of the lower and upper scape of these pilasters would be too forced'. Vercelli, Archivio Capitolare, Memorie della fabbrica della chiesa, scatola XIII: Letter to abbot Langosco, June 18, 1758.
25 Elena Di Majo, "I Pellagatta e i Bottinelli di Viggiù. Famiglie di scalpellini lombardi in Monferrato," *Polittico. Studi della Scuola di Specializzazione e del Dottorato di Ricerca in Storia delle Arti dell'Università di Pisa*, n. 6 (2012), 119-51.
26 Ibidem.
27 Elena Di Majo, "Un altare 'assai plausibile e di gusto'. Altari lapidei in Monferrato nel XVIII secolo," *Monferrato Arte e Storia*, n. 25 (2013), 5-22.
28 'Very plausible and refined, in terms of shape and selection of marbles'. Casale Monferrato, Archivio storico comunale, Fondo De Conti, faldone 27, fasc. 204, *Schizzo di lettere per affari domestici*, n. 201, November 28, 1790.
29 'those marbles they use to employ in Turin'. Desana, Archivio parrocchiale, vol. 3, *Manutenzione chiesa antica*, May 14, 1764.
30 ASCT, Simeom, D 1700. Cf. Nino Carboneri and Vittorio Viale (eds.), *Bernardo Vittone architetto*, exhibition catalogue (Turin: F.lli Pozzo-Salvati-Gros Monti, 1967), 32, cat. 72.

2. REPRESENTATION AND COMMUNICATION

2.1 Public Opinion, Censorship and Architecture in the Eighteenth Century

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Among the general transformations of the eighteenth century, there arose a new relationship between the press and architecture. For the first time, a space was born for the emergence of public opinion regarding architectural projects of varying scale and relevance. In those countries where the press was under direct censorship, public opinion found other outlets, such as pamphlets and anonymous letters; in all cases, though, there was evidence of a new and more critical response to changes in the built environment, replacing unrestrained praise. The aim of this session is to collect and discuss published, and unpublished, examples of the interaction between architecture and public opinion during the eighteenth century.
Increasingly, the periodical press becomes a commercial enterprise, with direct competition between different journals and newspapers. How far was architecture – as well as other transformations of the built environment – among the themes that formed part of this process?
A periodical press also develops in nations where censorship is in place. In these conditions, how exactly was architectural criticism/debate affected? And what do other sources tell us about positions that could not be expressed in the official press?
Patronage and new building types led to major transformations in architecture. For works commissioned by rulers, whether kings, princes or popes, what room for criticism/opinion was there in the eighteenth-century press? What were the restrictions of censorship, either of the state, or self-im-

posed? What role did official academies play in facilitating criticism? The Assembly Rooms in Great Britain, the seats of the Accademie scientifiche di dilettanti in Italy, and theatres in every nation were commissioned by collective bodies, such as the Società dei cavalieri, or similar groups of patrons. What kind of discussion developed through the projects for these buildings, and how far was that discussion open in character, involving wider public opinion?

And finally, with the growth of cities, the design of open spaces and of urban-scale projects, and the emergence of competitions, the European landscape changes. As new public buildings, city squares, bridges and port facilities started to appear, how were contrasting opinions on these transformations expressed? By what means, and where, did a public debate around these objects develop?

2.1.1. Public Opinion in Amsterdam: Building the Society Felix Meritis

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Abstract

'Among comparable foundations, the building of the society Felix Meritis can, even in the greatest and wealthiest cities of Europe, be called unique in its kind'. Thus the building on the Keizersgracht is described in Jan Wagenaar's *History of Amsterdam* (1802). With its majestic features it is the best known eighteenth-century building in Amsterdam. It was erected between 1787 and 1792 for the cultural society Felix Meritis – Latin for 'happy through merit', according to the designs of the Amsterdam architect Jacob Otten Husly, winner of the 1787 international competition for the new building, a rare phenomenon in the eighteenth-century Dutch Republic. Long forgotten archival documents and contemporary pamphlets reveal that the judging of the competition and the building process were surrounded by differences of opinion among the members of the society. Together with contemporary prints, these sources clarify much about the building, its architecture and what it should represent for the society. They provide a nuanced insight into eighteenth-century systems of patronage and the relationships between designer, users and the public. Even before the competition there had been discussion about the designer, and during the process of judging the competition entries, several members protested against the lack of transparency in the procedures. After the festive opening of the building, anonymous pamphlets appeared, accusing the building committee of corruption, arrogance and irresponsible behavior. Thus, the ambitious competition was followed by ugly internal disputes between the members. It became the subject of public mockery, unworthy of a cultural society that pursued noble Enlightenment ideals. Building the new Felix Meritis became an apple of discord within the society that would eventually lead to its demise.

Keywords

Sociability, classicism, eighteenth century, public opinion, Jacob Otten Husly, Cornelis Sebille Roos

'To continue to cultivate the honourable passion for the practice of the noble arts and sciences in our beloved Nation'.[1] With these words the cultural society of Felix Meritis, or 'Happy through Merit', founded in 1777 in Amsterdam, issued a competition program in 1786 for a new building. In less than a decade the society had grown to over 200 active members that could no longer be accommodated in available venues in the city. Four houses were taken down to provide the required space. Two years later the new building on the Keizersgracht designed by the first prize winner Jacob Otten Husly was officially opened on 30 October 1788. The building has survived in a somewhat decrepit form.[2] The monumental sandstone facade with its classicist forms still offers a huge contrast: like a fragment of a palace it raises majestically above the considerably lower, narrow brick facades of the canal houses (Figure 1). The building is monument to the society that built it and is considered a landmark of Dutch Enlightenment culture. In eighteenth century Amsterdam the building was noticed instantly. In 1788 it was celebrated in a new *History of Amsterdam* for its 'truly distinguished and beautiful appearance', in its kind unique in Europe.[3] It was illustrated in contemporary surveys and guidebooks and celebrated in commercial prints and special publications.[4] A substantial part of these were initiated by a founding member of the society, the publisher

Figure 1. Facade of Felix Meritis, Keizersgracht 324, Amsterdam. *Source:* Author's photograph.

Figure 2. Engraving by Reinier Vinkeles and Noach van der Meer after a drawing by Jacques Kuyper and Pieter Barbiers, 'Gehoor Zaal'. Auditorium of Felix Meritis, published by Cornelis Sebille Roos, 1794. *Source:* Amsterdam, Rijksmuseum (public domain)

and art collector Cornelis Sebille Roos. Roos issued series of engravings of the building and interior views, a 164-page book of the society's history, including a description of the building (Figure 2).[5] These publications depict a society completely in sync with its new building. Yet, other sources suggest that the building was a matter of great concern for the society in every step of its creation. Pamphlets published shortly after the official opening suggest a tumultuous process of manipulation and power play. Archival material supplies proof that the new building became an apple of discord within the society. In this paper, these documents serve to uncover the story of how architecture jeopardized the high aims of the society and the Enlightenment ideals it intended to promote.

Felix Meritis was a society of a kind that was spreading throughout Europe in the eighteenth century.[6] Spectators, magazines raising public opinion and general cultural journals had, since the early eighteenth century, been preach-

2. REPRESENTATION AND COMMUNICATION

ing the natural sociability of man, sharing 'the conviction that the civilian could only lay the basis for knowledge, virtue and happiness through the voluntary gathering with friends, in companies and societies'.[7] In the Dutch Republic these societies, often established by private persons without specific professional, political or religious ties, contributed to the creation of a 'culture of the educated classes'.[8] Their gatherings and agendas show a great cultural freedom and variety, addressing national economic, social, political and cultural issues of both local and national importance. The society started in 1777 when a group of tradesmen decided to leave the coffee house and start a society in the home of the Mennonite watchmaker Willem Writs. Despite the Latin name of the society, all communication proceeded in Dutch. Most knowledge was distilled from national and foreign magazines and reviews of important books. During its early years the society remained fairly private and focused on the benefit and entertainment of its members, a congenial club complementing the existing public cultural life.[9] Sometimes this would pressure harmony within the society. In 1786, this rather introvert club decided to commission a new headquarters that would manifest itself prominently in the cityscape and in the media. Apparently, the time was right to present the society to the public and promote its noble Enlightenment ideals of promoting the arts and sciences with the aid of architecture.

A building committee was installed. At first they drafted a list of possible architects and builders, including members of the society. At that point the society could have opted for a plural commission. But that is not what happened. After Writs had passed away the committee decided to organize a competition that was widely announced in the press. A detailed program was issued in 500 copies. The new building should house five departments, for drawing, letters, trade, physics and music, all with their own requirements and specifically shaped rooms. Strangely, the program does not specify anything about the desired architectural decoration of the facade and the interiors, thus giving the designer complete freedom, or so it appeared.

On 1 March 1787 only 16 entries had been received, which was probably due to the complexity of the assignment and the short time span to apply. In the meeting of 30 March 1787 where the winners of the competition would be elected anonymously, two committee members requested to read their comments on two preferred entries. But the other commissioners were not pleased and the duo's request was turned down. With six votes to four the design by the architect Jacob Otten Husly was awarded the first prize, the second prize went to Jan Willem le Normant, a member of the society. The results were published in several newspapers.[10] Husly was a successful architect who had won competitions before, among the one for a new town hall in Groningen. He was also a founding member of the Amsterdam drawing academy, a club for artists, *amateurs* and *virtuosi*. His entry shows a modest building, a variation of the regular double canal house with two entrances in a rusticated street level floor and two floors above, crowned by a heightened straight gable with doric frieze.[11] In his extensive description, Husly does not motivate his choice of ornaments and architectural decorations but simply stated:

> the ornaments are […] arbitrary, and can be chosen at will. I have organized these […] in accordance with the specific activities of each department and, considering the prominence of the praiseworthy society, have avoided excess and maintained all possible frugality with the necessary requirements and in particular have strived to combine the simple with the useful in the regular placement and distribution of halls, rooms and chambers in each department in particular and in the whole, in a way that corresponds to the society itself as divided into separate departments that have their various and special activities, but also form a grand unified distinguished body.[12]

Husly wanted to create a multifunctional building that provided everything the society desired. But the simplicity of this initial design was put aside when suddenly an option to enlarge the building presented itself. During the weeks that the competition entries were circulating within the committee, the society bought an adjacent house on the Keizersgracht which extended the terrain substantially and demanded a new design for the front building. But when Husly presented a new set of drawings of the new extended property on 2 April, there was still another hurdle to take. This time the two critics were allowed to read their earlier comments, comparing Husly's design with Le Normant's, whose brick faced design was simple, would cost 90,000 guilders and could in the worst case, be easily transformed into a normal house and sold. Husly's original design would cost 150,000 guilders, while the new design was much more elaborate and would not suit a different purpose. But the duo's critical reflections did not change a thing: the majority of the committee was prepared to pay the high price for a completely tailored building.

On 7 July 1787 president of the building committee Roos laid the first stone of the new building. On 31 October 1788 the building could be officially opened. Four departments could enter the new building already, the drawing department would follow the next spring. The ceremonies included guest lectures and concerts that were reviewed enthusiastically in the press. Roos took effort to celebrate the new building in print and in 1789 had Husly's definitive designs published.[13] But Roos' passion also had a downside, which caused a violent dispute within the society that soon came out into the open.

Shortly after the festivities it became clear that the building would cost much more than was suggested originally. During the building process the unrest among several members grew with every bill. On 14 April 1789 it was calculated that the building would cost about 380,000 to complete. A new issue of shares to a total of 400,000 was needed. From this meeting on, until the completing of the furnishing of the top floors in the spring of 1792, the minutes often show the displeasure about the financial situation of 'this building (that does not do the society honour, but certain disadvantage)'.[14] Not all members considered the building an asset.

The spark of unrest reached the public sphere. In the spring of 1789 various anonymous printed pamphlets were issued, probably written by dissident members. They brought a number of facts on the insolvent society and its prohibitive monumental building into the open. By a variety of insinuations persons are held responsible for the deplorable financial situation of the society. Proper names are hardly disguised and made it easy to identify the accused for a readership of the society's members and a wider audience of pamphlet readers, coffee house visitors and citizens with an interest in the areas in which Felix Meritis operated through its departments. In the pamphlet entitled *Felix Meritis, happy through merit, now becomes unhappy through bad direction*, the guilty are identified. It addresses the board and 'those members who have been able to penetrate through slyness and have abused the posts awarded them'.[15] The anonymous writer wonders who is the principal culprit. First Husly is summoned but excused, because:

> one can give a good testimony of that same person, that he is not only very energetic in the execution of the work, but by experience always attacking, just to go ahead [. And] one can also say [...] that he has credit for the society and asks no money for everything which is strictly conditioned.[16]

But others were judged, building committee members and Roos in particular, who is presented as a 'certain Flower, belonging to the class of stench rose, spreading his odour over everything and has, in earlier days been so pleasant and charming, that because of his Meritis, he was censured for a long time, but through turning and squeezing he now flaunts himself like a beautiful Rose at the table of commissioners'.[17] Roos could not be trusted with confidential information. 'He is so secretive and one can trust him with everything under the Rose, but I do not know which is closer, his hon. or a sieve'.[18] The pamphleteer accuses the complete board of being responsible for the high membership fee and the burden of the issue of shares. The equality so highly valued by the founders had been replaced by arrogance and lust for power, collective decision making by scheming. A new issue of shares could be organized via a competition, but this time it should be observed that the envelopes with the names and *motto*'s remained sealed until after the voting.[19] In other words, the building competition was fixed.

Several other pamphlets review the affair and its dear consequence that became public after the ceremonious opening on 30 October 1788: the money was gone but the building was not finished by a long shot, a situation caused by 'three gentlemen who, completely coincidental, possessed great skills but also great private fortunes – each one of them capable of building and paying such a building by himself'. These public accusations of mismanagement, nepotism, as well as malicious gossip, show that the building did not stimulate consensus inside the society. Its monumental gesture in the Amsterdam cityscape came at a high price.

On the other hand, choosing this gaudy building betwixt Amsterdam's typical domestic architecture, should not be dismissed as being merely decadent or whimsical. A palace with a giant corinthian temple front and a beehive in the pediment replaced the canal houses, and above the arched windows of the great auditorium five reliefs refer to the society's interest in drawing, letters, trade, physics and music. Husly's facade expresses a strict observance of classicist rules and ornamentation, inspired by French palace architecture with hints of English Palladianism rather than Dutch tradition, as if creating a touchstone of sociable culture and education in a demonstration of internationally approved architectural quality. This idea was continued in the distribution and decoration of the interior: from the ground floor with the central foyers and the central staircase with the two-level oval concert room of the music department behind it with its impressive acoustics and experimental 'air conditioning', to the great auditorium with its double row of columns on the first floor facing the canal (Figure 2), the centre of the departments of trade and literature. The department of physics with its laboratory was located above the concert room, while the drawing department was located on the front with special rooms for sculpture, casts and a drawing room lit from above. And there is more that can be said in support of the idea that *Felix Meritis* indeed was setting an example of good architecture in Amsterdam aided by the best architect available, to reinforce their aim to cultivate the arts and sciences of the Nation.

The variety of publications on the building issued by Roos from 1789 onwards can also be considered in this light. The images and texts celebrate the honourable activities employed there for the common good and draw away attention from the recent acidic pamphlets that had stained the society in the public eye. They attempt to disarm his anonymous opponents, glorify the expensive building and its architect and thus restore the society's to its original

noble position. These publications could help restore the somewhat tarnished reputation of the society and its Enlightened message to cultivate the arts and sciences. As a result the building was widely reviewed and discussed so that even those who had no access would have been able to get an idea of the many activities the society unfolded. These views were hailed in the press as fine specimen in the advancement of the art of the nation and could thus serve the purpose of promoting Felix Meritis and rehabilitate Roos in public after the negative press he had received in the pamphlets.[20] The first one, the concert room on the ground floor, set the tone. It shows how visitors that have come to attend a musical performance are overwhelmed by the room that could house 600 people. They are looking and pointing, while others meet, greet and make polite conversation. The variety in dress – especially of the ladies with a range of impressive hairdos and whimsical hats among less extravagant and fashionable hoods – underlines the importance of this event in the cultural life of the city.

The society offered a platform for amateurism of the highest order, in which the audience added much to the entertainment value of every meeting, performance or experiment. In the physics department that was located above the music room, one the favourite activities consisted of conducting spectacular experiments with electricity and chemicals.[21] The audience in the so-called rotunda was thrilled to see spectacular experiments that were conducted by professional scientists, and helped to unveil and understand nature's laws. Late in 1789 two members had conducted electrical experiments with a machine to analyze and synthesize water through electrical sparks, witnessed by a large, male audience, that became the subject of the drawing and print published by Roos.[22] What better way was there to show that science was attractive and worth the attention of an audience of burghers, gathering to promote the arts and sciences of the nation? The drawing department was shown in a similar vein, with members practising model drawing, viewing and discussing art and observing the 'famous masterpieces of sculpture of the great age of Greek art'.[23]

The majority of the members of Felix Meritis valued sociability and entertainment over fundamental or pioneering research, artistic or aesthetic innovations. The architecture of the building suited this cultural ideal perfectly. It offered the burghers a palace on the Amsterdam canal, devoted to the promotion of arts and sciences in a setting that suggested a republican answer to royal patronage. In the engraving Roos published in 1794 (Figure 2), the auditorium fronting the Keizersgracht serves as a space where visitors in families are introduced to the architectural splendour of the room and supports the idea that the room was an attraction and a place of social interaction in its own right, independent of its use as an auditorium for the society.

The architecture of sociability as applied to Felix Meritis demonstrates to the audience an idealized or at least preferred architectural language that stunned and entertained the viewer. Architecture was not explained to the members of the society in books or recited in boring formulas, but presented in 3D. Experiencing the facade with its classical ordinance, and the interior spaces with their appropriate decoration reads as an exceptional program, a demonstration that functioned as a basic course in good architecture. We can understand the amazement of the people depicted in the great auditorium: they inspect a room that is a fine specimen of architectural showmanship, reminiscent of the theatrical stage of a classic play, more lavish and classical, but not completely estranged from the protestant church interior. Here, however, worship and faith were replaced by knowledge and its exchange. The enlightened members of Felix Meritis could perform like great orators from the past or antiquity, watched over by the heads of Mercury and Apollo or be entertained and impressed in their own spectacular temple of sociability. The public was fascinated and came under the spell of architecture. In that respect, Roos succeeded aptly in providing with *Felix Meritis* a spectacle that gave pleasure to all its visitors and simultaneously educated them, while quickly erasing and masking its ugly but entertaining establishment.

1 'Om de loffelyke zucht ter beoefening der Edele Kunsten en Wetenschappen, meer en meer in het lieve Vaderland aantekweeken'. Municipal Archive Amsterdam, 59, n. 379: *Programma van de maatschappy der verdiensten, onder de zinspreuk: Felix Meritis, opgericht in Amsterdam*, Ao. 1777, Amsterdam 1786 (5 pages).

2 The result of a recent 'restauration'. Bob van den Boogert, "Kanttekeningen bij een minimalistische reconstructie," in Geurt Brinkgreve et al. (eds.), *Veldboeket met distels: 40 jaar Diogenes*, (Bussum: THOTH, 2000), 160-7, published previously in *Binnenstad. Uitgave van de Vereniging Vrienden van de Amsterdamse Binnenstad* 32 (1998), n. 172.

3 [Simon Stijl], *Amsterdam, in zyne geschiedenissen, voorregten, koophandel, gebouwen, kerkenstaat, schoolen, schutterye, gilden en regeeringe, beschreeven: Om te dienen ten vervolge op het werk van Jan Wagenaar*, deel 4: 'Derde deel. Gebouwen der stad Amsterdam. Vierde boek. Godshuizen en Godsdienstige Gestigten', 505 'van buiten, een alleszins deftig en pragtig aanzien, en mag, ten dien opzigte, onder alle soortgelyke Gestigten, zelf in de grootste en vermogendste Steden van Europa, *éénig* in zyne soort genaamd worden.' A comparable judgment in *Maandelyksche Nederlandsche Mercurius*, May (1790), 156-7.

4 *Le Guide d'Amsterdam ou description de ce qu'il y a de plus intéressant; Nouvelle Édition* (Amsterdam: C. Cóvens, 1802), 213-4. *Le guide d'Amsterdam, avec la description de tout ce qu'il y a de plus intéressant; Edition considérablement changée, accompagnée d'une carte topographique & d'un grand nombre de planches en taille douce*

(Amsterdam: chèz J. Cóvens & Fils, 1793), 318-9.

5 *Grondteekeningen van het gebouw der Maatschappije van verdiensten, ter spreuke voerende: Felix Meritis, opgericht te Amsterdam, volgens de plans van den bouwkunstenaar Jacob Otten Husley* (Amsterdam: Cornelis Sebille Roos, 1791); Cornelis Sebille Roos, *Bericht, wegens de uitvoering van een prentwerk, verbeeldende de vier zaalen, waarin de werkzaamheden der maatschappije: Felix Meritis geoefend worden, benevens eene omstandige historische beschrijving dezer maatschappije en van het prachtig gebouw waarin dezelve vergadert, met de noodige opheldernde architectuurprenten* (Amsterdam: Cornelis Sebille Roos, s.a.); *Historische beschrijving van het gebouw der Maatschappije van verdiensten, ten spreuke voerende: Felix Meritis* (Amsterdam: C.S. Roos, 1800). The authorship of this publication by the prolific writer and lecturer Arend Fokke Simonsz, is not substantiated. Frans Grijzenhout, "Een carrière in cultuur: Cornelis Sebille Roos (1754-1820)," *Holland. Historisch Tijdschrift* 32 (2000), 62 (n. 19).

6 On the institutionalisation of societies of dilettantes, see Wijnandt W. Mijnhardt, *Tot Heil van 't Menschdom. Culturele Genootschappen in Nederland 1750-1815* (Amsterdam: Rodopi, 1988), 97-8.

7 'De overtuiging dat de burger slechts in vrijwillige aaneensluiting in vriendenkring, gezelschap en genootschap de basis kon leggen voor kennis, deugd en geluk', Mijnhardt, *Tot Heil*, 94, 104. See also Henk Reitsma, "De beginjaren van Felix Meritis. 1777-1795," *Documentatieblad Werkgroep Achttiende Eeuw* 15 (1983), 101-39: 103. On Dutch *spectators*, see P.J. Buijnsters, *Spectatoriale geschriften* (Utrecht: HES, 1991); for general cultural magazines: Gert Jan Johannes, *De barometer van de smaak. Tijdschriften in Nederland 1770-1830* (Den Haag: Sdu, 1995).

8 Joost Kloek and Wijnand Mijnhardt with the collab. of Eveline Koolhaas-Grosfeld, *1800: blueprints for a national community*, transl. from the Dutch by Beverley Jackson (Assen/Basingstoke: Royal Van Gorcum/ Palgrave Macmillan, 2004), 82, who also discuss almanachs and various magazines (77-85).

9 Wijnand Mijnhardt, "op het tweede plan. Cultuur in de achttiende eeuw," in Willem Frijhoff and Maarten Prak (eds.), *Geschiedenis van Amsterdam. II-2. Zelfbewuste stadstaat, 1650-1813* (Amsterdam: Sun, 2005), 409; Paul Knolle, "Het departement der tekenkunde van Felix Meritis," *Documentatieblad Werkgroep Achttiende Eeuw* 15 (1983), 145; Reitsma, "beginjaren", 116.

10 *Vaderlandsche courant*, n. 41, maandag 2 april 1787; *Amsterdamsche Courant*, n. 44, donderdag 12 april 1787.

11 Municipal Archive Amsterdam, collection A.A. Kok, nr 44. Marijke Beek, *Drie Eeuwen Amsterdamse Bouwkunst. Catalogus van Architectuurtekeningen in de Verzameling A.A. Kok* (Amsterdam: Gemeentelijke Archiefdienst, 1984), 58-9.

12 'Wat eindelijk de cieraaden betreft, die zyn willekeurig, en kunnen meer of minder verkoozen worden. Ik heb dezelve zoodanig ingerigt als ik oordeelde dat ingevolge de verrigtingen van elk departement, het eigenaardigste waaren, en tot dezelve betrekking hadden, en behoudens de aanzienlijkheid der loffelijke maatschappij het overtollige gemyd, by de noodige vereischtens alle mogelyke menagement voor dezelve in agt genoomen en my byzonder bevlytigd het gemakkelyke met het nuttige te paaren, in de gereegelde schikking en verdeeling der zaalen, kamers en vertrekken, tot ieder departement byzonder, en tot alle te zaamen: zoodanig; dat even gelyk de maatschappij zelve in byzondere departementen onderschyden en verdeeld is, welke elk hare byzondere en onderschydene werkzaamheden en verrigtingen hebben, dezelve nogtans een groot geheel aanzienlyk lighaam uitmaakt'.

13 *Grondteekeningen*.

14 Municipal Archive Amsterdam, 59 (*Felix Meritis*), n. 11, 516 ff.; n. 13: 682.

15 'Dat zoort van leeden, welke zig door kustenaryen, hebben weeten in te dringen; en de aan hen vertrouwde posten hebben misbruikt'.

16 'Maar als men van den zelven Persoon een goed getuigenis kan geeven, dat hy in het uitvoeren der werkzaamheden, niet alleen is voordvarend, maar proef ondervindelyk altoos aanvallende is, om maar aan de gang te koomen? Als men verder van zyn Ed. kan zeggen, dat hy Crediet voor de *Maatschappy* heeft, en geen geld vraagt voor dat alles vast is geconditioneert?'. [Anonymous], *Felix Meritis, gelukkig door verdiensten, werd nu ongelukkig door kwade directie, waar by vraagende wyze in antwoorden, werd aangetoond, de oorzaak, waar uit de bron van deeze onheilen is ontsprongen, en de zeekerste middelen tot redres. Onder de zinspreuk: 't Verstand is altyd niet op 't snedigste gesleepen, De domheid blykt, hier is te dapper mis gegreepen* (s.l., s.d.).

17 Als 'zeekere *Bloem*, sorteerende onder de Classe van *Stinkroos*, deeze spreit zyn geur over alles, en is in vroeger tyd zo aangenaam en bevallig geweest, dat hy uit hoofde van zyn *Meritis*, een tyd lang is gecensureerd, maar door draaijen en wrongen zit deeze als een fraaije Roos te pronken, aan de tavel van Commissarissen'. [Anonymous], *Felix Meritis*.

18 'Hy is zo secreet, en men kan aan hem alles onder de *Roos* vertrouwen, want wie het dichtste is, zyn Ed. of een Seeff weet ik niet.' [Anonymous], Ibidem.

19 'Dat de Naambriefjes of Sinspreuk, welke daar toe relatief zyn, voor af niet bekend waaren, om onpartydig te kunnen oordeelen, want anders kan men voor het openen van de Biljetten weeten wie men de prys geeven wil, en dat is niet braaf gehandeld.' [Anonymous], Ibidem.

20 Grijzenhout, "carrière", 66; *Algemeene Konst-en Letterbode* 8 (1792), 62; *Nieuwe Algemeene Konst-en Letterbode* 1 (1794), 126.

21 H.A.M. Snelders, "Het departement natuurkunde van de Maatschappij van Verdiensten Felix Meritis in het eerste kwart van zijn bestaan," *Documentatieblad Werkgroep Achttiende Eeuw* 15 (1983), 197-214. For a general appraisal of these kinds of depictions, see: Sabine Krifta, "Schauexperiment – Wissenschaft als belehrendes Spektakel," in: *Erkenntnis, Erfindung, Konstruktion. Studien zur Bildgeschichte von Naturwissenschaften und Technik vom 16. bis zum 19. Jahrhundert*, ed. Hans Holländer (Berlin: Gebr. Mann Verlag, 2000), 774-88: 785-6.

22 *De verzameling van Eeghen. Amsterdamse tekeningen 1600-1950*, ed. Boudewijn Bakker et al. (Zwolle: Waanders, 1989), 322, no. 327.

23 'beroemdste meesterstukken van beeldhouwkunst der beste Grieksche Kunsteeuw'. *Historische beschrijving*, 149.

2.1.2 An Architect's Reputation: Libel and Public Opinion in Britain

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Abstract
In late eighteenth-century London, one's reputation was necessary to uphold but very difficult to protect. Newspapers, magazines, broadsheets, and pamphlets circulated rapidly, overflowing with comment, opinion, and critique. One of the few defenses that could be wielded effectively in this whirl of public opinion was the law of libel, which offered a means of censoring the publication of derogatory claims. Though today we regard aesthetic criticism – the public judgment of aesthetic objects – as an obvious corollary to the presentation of these objects to the public realm, in the realm of press and publicity in eighteenth-century Britain it was not yet clear whether aesthetic criticism distinguished between objects and their authors. This paper will reveal the facts of the case of Sir John Soane, who despite what now seems his manifest professional success, more than once angrily sued his critics for libel. Upon reading disparaging accounts of his architectural designs in London newspapers, Soane retaliated by arguing in court that such public ridicule was damaging to his reputation and should therefore be censored by the courts. In all of Soane's lawsuits, and in a few other pivotal legal decisions that the paper examines, the judges disagreed, and thereby crafted a legal consensus that an aesthetic object such as architecture was not an embodiment of its architect, and that a critique of the building need not be a critique of the man. With its historical interpretation of these events, the paper will argue that a new relationship between the press, public opinion, and architecture was calibrated through the mediating sphere of law, as an entirely new conception of aesthetic criticism emerged in the public realm as a precisely theorized legal exemption.

Keywords
Law, libel, Sir John Soane, reputation, opinion, embodiment

> Must it not appear then a monstrous Defect in our Laws, that there should be a certain Stile and Method of writing, which a malicious Man may use at his Pleasure, and to destroy his Neighbor's good name, without the least Inconvenience to himself?.[2]

Looking back from the vantage point of a global society in which ubiquitous media produce a pervasive hum of commentary, interpretation, and critique, this plaintive appeal for a legal remedy to control the most egregious examples of public disparagement seems almost contemporary. But the date of this particular complaint is 1730, its setting is London, and its context is a short treatise on the topic of libel law.

London in the eighteenth century possessed the keenest enthusiasm, and countless venues, for myriad manifestations of opinion – news, rumors, reports, stories, conversations, arguments. In addition to a profusion of newspapers, pamphlets, and journals, there were also streams of correspondence to circulate news and gossip, which then made their way into personal diaries; there were debates and lectures, staged in drawing rooms and coffee houses, academies and Parliament. Discourse in all these forms constituted public opinion, which in turn brought forth the medium of 'publicity', a word coined at the end of the eighteenth century to describe the condition of entering into the public sphere and being rendered an object of public attention.[3]

The Oxford English Dictionary records the first usage of the word 'publicity' in 1791, suggesting the perception arising by that moment of a new experience of 'public' observation and notice. The existence of public opinion was not only acknowledged, therefore, but was understood as a social presence to which one might be subject. Publicity in this sense was an experience that was undoubtedly related to the proliferation of print media. The first daily newspaper, the *Daily Courant*, appeared in London in 1702, in editions of perhaps 800 copies; by 1821 there were several daily newspapers, with the leading daily, *The Times*, reaching a circulation of 10,000 copies. Through the newly powerful instrument of the press emerged the novel arena of publicity – a publicity that might be praise or disparagement, esteem for good character or insult for low reputation.

Then, as now, these newspapers had political allegiances, but they were not only political instruments. The pages of London's daily newspapers, filled with advertisements, were also economic instruments, and with columns of reviews and notices and essays, they were certainly cultural instruments

as well. Not only political figures like the king and the members of Parliament drew the attention of newspapers, but also prominent figures including painters, writers, and architects. New artworks, new books, new architecture – all these were now fair subjects for the scrutiny of the press, and for its comments and criticisms as well. As the press engaged such figures, willing and unwilling, in the sphere of publicity, one legal dimension of publicity and public opinion was brought increasingly to the fore: the law of libel.

According to its legal definition at the end of the eighteenth century:

> A libel is a malicious defamation, expressed either in printing or writing, or by signs, pictures, &c, tending either to blacken the memory of one who is dead, with an intent to provoke the living, or the reputation of one who is alive, and thereby exposing him to public hatred, contempt, or ridicule.[4]

Over the course of the eighteenth century, instances of libel had been given ever greater prominence by the vast increase in published materials and by the intensity of partisan debate. Wider circulations and more readers meant, of course, that the potential damage of a libelous statement could be far-reaching. A century earlier, libel had applied almost exclusively to derogatory statements made about the king, the Parliament, or noblemen, which were considered to be sedition. But with the expansion of the public sphere of the press, legal standards for libel soon accommodated the entire range of public discourse from political dissent to critical reviews. Libel could be still charged as a crime, but also as a tort, a civil damage, and though greater attention often focused upon criminal prosecutions, the law courts heard now civil suits with considerable frequency.

British common law permitted an evolving conception of libel, without a fixed or statutory definition, based upon two constituent criteria: defamation and publicity. Defamation, literally a de-faming, was an injury to an individual's reputation, which was considered a legal right:

> The common law [protects] the good fame, as well as the life, liberty, and property of every man – It considers reputation, not only as one of our pure and absolute rights, but as an outwork which defends, and renders them all valuable.[5]

Since only a defamation conveyed to a third party could be claimed libelous, a plaintiff was also required to show that the statement had been published, made public in writing in some form. Within these two criteria of defamation and publicity, however, a broad range of nuance and interpretation remained. What was the motive of the libel? What was the evidence of an injury to reputation? What was the relation between the libel and the truth? Judges and jurors in a constellation of libel cases heard in the late eighteenth and early nineteenth centuries plumbed these questions, and in so doing, established the bases of modern libel law, and thereby established also the basis for understanding the public role of architecture, architects, and architectural criticism.

On 16 October 1796, the London newspaper *The Observer* published a short poem titled "The Modern Goth".[6] Its rhyming couplets sarcastically praised the well-known architect John Soane and his new designs for the Bank of England, pairing hyperbolic epithets with belittling comments on his diverse architectural practice – 'Glory to thee Great Artist Soul of Taste/For mending pigsties when a plank's misplaced' – and deriding the peculiarities of his developing architectural style – 'pilasters scor'd like loins of pork'. The poem ended with the advice: 'In silence build from models of Your own/And never imitate the Works of Sxxne'.[7]

Soane's designs for the bank, an institution of enormous civic and political importance, could hardly have avoided prompting public commentary, particularly in light of his designs disregard for prevailing conventions of architectural neo-classicism. Soane, concerned to defend his reputation and perhaps insistent also that the right of artistic innovation be championed, chose neither to ignore the satirical attack, nor to rebut the attack with a similarly satiric response. Nearly three years passed before he could act, but in 1799, Soane took recourse to the law and entered legal proceedings against a surveyor, Philip Norris, whom Soane named as the 'Publisher' of 'The Modern Goth'. With the encouragement of his legal counsel, Soane submitted to the Court of the King's Bench a brief that emphasized the 'scandalous, malicious, inflammatory' nature of the works and asserted that the defendant intended to 'prejudice, vilify and disgrace the said J.S. in his profession and to injure his fame, credit and reputation'.[8]

Under prevailing law, civil prosecution for libel could proceed against published statements about an individual that either had 'a tendency to injure him in his office, profession, calling, or trade', or that impaired his position in society by holding him up to public 'scorn and ridicule'.[9] Soane's brief aimed precisely at these two standards, claiming that the satirical poems were deliberately intended to damage Soane's professional reputation and to em-

barrass him publicly. The very nature of their publication demonstratively proved this motive, according to Soane's counsel:

> We may fairly assume that they [Soane's designs] could have been attacked in a more serious way than by an anonymous publication of an abusive poem.
> All public disquisitions on the subject ought to be fair manly candid criticism, and not be holding a man up as an object of scorn and ridicule, to hunt down in his profession and degrade him in Society.
> In the first stated libel the language is ransacked for terms of scorn and derision, and Mr. Soane is held out to the Public as a man who has disgraced his Country.[10]

During the trial, which was reported in daily newspapers such as *The Times* and the *Morning Chronicle*, the counsel for the defense, Edmund Law, argued that although Soane was indeed an 'Architect of great merit', the bank failed to exemplify his talents. Law proceeded to recite the poem in court, substantiating each of its stinging slights with a comment on Soane's design. The bank, he concluded, was a 'public performance' that, given its flaws, was a reasonable 'subject of criticism, and even ridicule, provided that it was done in a fair, and manly, way'.[11] Both parties emphasized the nature of the criticism – whether it was 'fair, manly, or candid' – rather than its content, because the motivation behind the defamatory statement could be evidence of libel, especially in a case where the truth of falsity of the statement itself could not be definitively asserted. The judge admitted in his instructions to the jury 'that architecture and all the other arts […] were the subjects of fair criticism', but he advised that the jury consider 'whether that might be done […] in a Poem, that was to hold up a man to ridicule all his life long'.[12] The jury returned a verdict of not guilty.

'The Modern Goth' episode was Soane's first of many encounters with defamatory publications. Critical letters, pamphlets, and reviews were attendants to his celebrity, and recourse to law became an instinctive response. On 20 May 1821, the first of three essays appeared in the *Guardian*, a new weekly journal. Identifying himself only with initials, the author referred to Soane and other architects by name in a promised indictment: 'We have arraigned the state of contemporaneous Architecture, and unfortunately we have ample evidence to make out our case'.[13] In a second installment, discussing the annual Royal Academy exhibition, he attacked Soane directly, deploring the 'vapid' and 'uninteresting' designs submitted by the architect. Since Soane's exhibits were 'the Atlas of the Architectural fame of the Academy', the author insisted, 'No exertions should be spared to check the adoption of his manner. It is the most pernicious and vitiated. Nature, common sense, propriety, simplicity, are all immolated to his idol, Novelty'.[14]

Attacked once again for the idiosyncrasy of his architectural language, Soane quickly attempted to discover the author and consulted with his acquaintances on whether it would be advisable to bring a libel suit against the *Guardian*. Two of Soane's close friends recommended that he ignore the scurrilous attacks in order to avoid drawing further attention to the articles. One advised that he was 'only paying the penalty, which all Public men are liable to, and which eminent, and successful men in particular, have always paid', while the other worried that the uncertainties of libel law would require Soane to prove the injury to his reputation by demonstrating that actual commissions had been lost, a burden of proof he could not meet. Obviously familiar with the legal criteria of libel, the friend advised Soane 'to treat it with contempt', for if Soane were to lose, the publicity would compound the original insult.[15]

Very likely, the courts would have considered the comments to fall under the category of criticism which could not be cause for a libel action, even if they did cause some damage reputation. But this principle had only very recently, in 1808, been put forward in a prominent libel case, *Sir John Carr v. Hood and Sharpe,* an author's claim against booksellers who published a pamphlet satirizing his works. The judge for the case (none other than Edmund Law, now ennobled as Lord Ellenborough and serving as Chief Justice) stated in his charge to the jury that all artistic works placed before the public were susceptible to

> fair and candid criticism, which every person has a right to publish, although the author may suffer a loss from it. It is a loss, indeed, to the author; but is what we call in law *Damnum absque injuria*; a loss which the law does not consider as an injury, because it is a loss which he ought to sustain. It is, in short, the loss of fame and profits, to which he was never entitled.[16]

The only restraint against such criticism, albeit one that Lord Ellenborough firmly asserted, was that criticism should not deride the personal character of the author, except insofar as he 'embodied' or portrayed himself in his work. The law, in short, distinguished between character and reputation, the former being the private moral composition of an individual and the latter his public representation, which was, in the case of an artist at least, subject to public judgment.

In his third installment of essay, the anonymous *Guardian* correspondent acknowledged without regret that his comments had 'given mortal offence' and denounced the censorship implied by threats to prosecute him for libel.

> To those who, in the pride of their reputation, or in the confidence of their wealth, boldly and unceremoniously talk of *disarming Criticism by indictment*, we hold a very different language… That anyone who has gone 'right onwards' to wealth and honor, doubtless with a large assistance from the panegyric of the press, should talk, not of argument, but of *prosecution* when criticism dares to be what it ought, to think for itself, and to speak boldly, whether its object be an R.A. or one unknown to Fame… this, indeed, is monstrous.[17]

No legal claim, he continues, may be made against honest criticism 'which abstains from *personal* insults, and forgets the *man* while it condemns the *Artist*' – a careful distinction that reveals the author's awareness of the newly relevant legal standard founded in *Sir John Carr v. Hood and Sharpe*. The critic would submit himself only to the tribunal of public opinion, not a court of law:

> If we are prejudiced, arrogant, unjust, and ignorant, the public will decide against us… We laugh at the threats about prosecution; and the public shall laugh too, when we discover a serious attempt to set up attorneys and special juries into *arbitri elegantiarum* in the last resort.[18]

Soane appears to have conceded this aspect of his critic's argument and instead of seeking legal remedy, turned to the medium of the press to put his case to the public. Two letters almost certainly written with Soane's assistance or consent, soon appeared in the *Sun*. The first condemned the *Guardian* critic for his ignorance of architecture and the inconsistency of his arguments, which were inexplicable and unconvincing in light of Soane's 'acknowledged eminence' and 'most intimate and extended knowledge of his art.'[19] The second reproached another journal (the *Magazine of Fine Arts*) for having approved the 'impudent and malevolent' *Guardian* essays as informed and impartial.[20] What Soane seemed tacitly to accept in demurring from legal action, the correspondents made explicit. Public opinion of architecture might be better adjudicated in terms of erudition and plausibility than in terms of injury and damages.

The publicity surrounding the *Guardian* essays subsided, but the episode was not Soane's last encounter with disparaging opinions and retaliatory suits for libel. On 12 June 1827, the Court of the King's Bench heard the case of *Soane v. Knight*. Soane had brought a charge against the publisher of *Knight's Quarterly Review* for printing three years earlier a lengthy satire of Soane, titled 'The Sixth, or Boetian Order of Architecture', another condemnation of Soane's willful architectural style. Following arguments and the judge's instructions, the jury 'immediately' found for the defendant. Given the legal standards established in previous cases, the verdict could not have come as a surprise. Soane's counsel (who apparently tried to dissuade Soane from legal action) attempted to portray the public ridicule of the satire as evidence of the critic's 'private pique and malice'.[21] But the counsel representing the defendant responded by citing Lord Ellenborough on the permissibility and importance of artistic criticism. In 1799 and in 1812, Lord Ellenborough had stressed the idea that criticism tended to the improvement of society by raising up works worthy of acclaim and exposing those deserving of ridicule. 'It was', argued the defense counsel, 'the undoubted right of the press to endeavour to correct the public taste, and to explode by argument or ridicule all false notions and erroneous works'. This regulatory function was all the more vital, he continued, in the case of an architect, 'whose works, like his materials, are lasting, and who covers a metropolis with them'.[22]

What aspect of this final case must Soane have found the most galling? The failure to win a legal defense of his reputation; the complete recitation of the libelous text for evidence and its consequence reproduction in newspaper accounts; or the opposing counsel's superfluous addition of his own opinion of Soane's design for the Law Courts, in which the trial was held – 'I assure you I was nearly killed in the passage in getting into the court, so ill-contrived, as I think, are the passages'.[23] This caustic remark manifested the particular space of critical public opinions that had been opened by the evolution of the law of libel in English common law, and exemplified the pertinence of that space to architecture. Architecture had, of course, previously been subject to scrutiny and to opinion, but now the contours of that scrutiny had been more specifically defined in a manner that substantively altered possible mechanisms of censorship. By sanctioning the critique of architecture as long as it did not employ the disparagement of the person of the architect, libel law affirmed the principle of a subtle separation of the architect from his architecture; with this separation the embodied imagination of architecture could be segregated from the moral stature of the architect. The relationship between the two, though, might still be examined, but only by a fair, manly, and candid criticism.

1 This paper is a draft version, prepared only for the Proceedings of the 2014 EAHN Third International Meeting. Please do not cite from or reference this paper without the express permission of the author.

2 *State Law or the Doctrine of Libel* (London: E. and R. Nutt, and R. Gosling, 1730), 135.

3 This discursive space is familiar as the public sphere theorized by Jürgen Habermas in *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, (Cambridge, Mass.: MIT Press, 1991). The present discussion does not emphasize the public sphere as a space of abstract reason, but rather the finer grain of the legal causes and effects of that discursive space. Habermas's account privileges the nature of the public sphere at what he sees as its late seventeenth century inception. By the later eighteenth century the public condition was markedly different, as the invention of the word 'publicity' demonstrates. For the London press at the start of Soane's career, see Lucyle Werkmeister, *The London Daily Press, 1772-1792* (Lincoln: University of Nebraska Press, 1963); Joad Raymond (ed.), *News, Newspapers, and Society in Early Modern Britain* (London: Frank Cass, 1999); Hannah Barker, *Newspapers, Politics, and Public Opinion in Late Eighteenth century England* (Oxford: Clarendon Press, 1998).

4 Francis Ludlow Holt, *The Law of Libel* (London: J. Butterworth, 1816), 73. Holt's *The Law of Libel* is an early nineteenth-century treatise on libel law and an overview of English libel law is given in Peter Carter-Ruck, *Libel and Slander* (Hamden, CT: Archon Books, 1973).

5 Holt, *Law of Libel*, 72.

6 *Observer*, October 16, 1796.

7 A slightly different but equally derisory version of the poem is reprinted in Arthur Bolton (ed.), *The Portrait of Sir John Soane, R.A.* (London: Sir John Soane's Museum, 1927), 62. I have offered a broader consideration of Sir John Soane's career and its formation in the cultural context of London's public sphere in my article "Some Evidence of Libel, Criticism, and Publicity in the Architectural Career of Sir John Soane," *Perspecta* 37 (2005), 144-63. The present paper recounts some events discussed in that article, but within an argument focused on the transactions of libel law in relation to the regulation of public opinion and censorship in debates over aesthetic production.

8 Bolton, *Portrait*, 76.

9 Holt, *Law of Libel*, 187-8. Satirical poems aimed at prominent figures were common currency in political and literary exchanges, and 'The Modern Goth' employed their typical devices: ironic classical allusion, mocking praise, and the judicious use of innuendo. This last was of crucial importance, for satire often met with the equally common response of a suit for libel, and innuendo could allow an author to evade the charge. Innuendo was the absence of any explicit referent, even if the imputation was obvious, as in the case of the elided 'Sxxne'. Only a statement that named or portrayed an individual in a manner that excluded any other identification could be libel. For a discussion of the principle of innuendo, and a thorough investigation of the relation between libel law and the mode of satire see, C.R. Kropf, "Libel and Satire in the Eighteenth Century," *Eighteenth century Studies* 8, n. 2, (1974-5), 153-68.

10 Bolton, *Portrait*, 76.

11 *Morning Chronicle*, May 18, 1799.

12 *The Times*, May 18, 1799.

13 The essays appeared in *Guardian* of 20 May, 27 May, and 3 June 1821. They are excerpted in Bolton, *Portrait*, 340-3.

14 Ibidem, 341-2.

15 Ibidem, 343-4. The criteria for 'Libels against a man in respect to his profession and calling', did in theory support action for an individual 'disgraced or injured in his profession' by a defamatory publication. See Holt, *Law of Libel*, 210.

16 *Liberty of the Press! Sir John Carr Against Hood and Sharpe. Report of the Above Case* (London: Vernor, Hood, and Sharp, 1808), 28.

17 Bolton, *Portrait*, 342-3.

18 Ibidem, 343.

19 *Sun*, June 5, 1821.

20 *Sun*, June 23, 1821.

21 *The Times*, June 13, 1827. In an anonymous piece published in the Champion in 1817, Soane's estranged son, George Soane, had ridiculed in scathing fashion the design of his father's house at Lincoln's Inn Fields. Perhaps because of the deeply personal nature of this betrayal, Soane did not pursue legal action in that instance.

22 Ibidem.

23 Ibidem.

2.1.3 Theater Acoustics in the Late Eighteenth-Century Press

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Abstract
This paper examines how architectural discourse was influenced by a neglected source: public judgments about the acoustics of Parisian theaters as debated in journals, books, and pamphlets in the 1770s and 1780s. Performance halls' transformation into urban monuments has been traced in the work of Claude-Nicolas Ledoux and others, revealing a project of rational social control through techniques of visibility. Yet the growing size of theaters and the changing character of audiences was making aurality a more crucial consideration, as French audiences evinced a new interest in sensitivity and relied more than ever on these halls' interior forms to help them pick up emotional nuances. Acoustics was not merely a technical challenge calling for professional amelioration but a means of confronting a basic social problem: how should a limited resource be distributed equitably among members of a public situated unequally? Some struggled to find words to describe sonic impressions, while others transferred their more general distaste for a particular building or performance onto the aural environment. In 1770, for example, the Théâtre de la Porte Saint-Martin, new home of the Académie Royale de Musique, was accused by an anonymous critic in the *Journal de musique* of having an infelicitous echo caused by box partitions in the galleries. This criticism made little scientific sense but reflected the writer's desire for a more acoustically unified audience: 'Tear down these partitions that turn the loge boxes into as many confessionals', he urged. Parallel debates ensued among theater critics, composers, scientists, and architects over the most aurally effective interior configuration for performance spaces. That these debates took place not in conventional architectural treatises but in a more disparate array of print media illustrates the evolving relationship between the sensory experience of architecture and the polity who debated its merits.

Keywords
Acoustics, theater, sensation, reverberation, Pierre Patte

In 1789, the radical newspaper *Révolutions de Paris* published a design for a 'speaking seat' or '*siège oral*', a wheeled dais incorporating an acoustic shell behind the speaker and a wooden vault beneath its floor surface. Far from being an innocent piece of technology, this device had a specific political function. After the breakdown of the Estates-General earlier that year, revolutionaries disagreed about what governmental structure they should aim to institute: could an elected legislature be considered legitimate, or must each act be voted on by the entire *populus*? Advocates of direct democracy acknowledged that it could be difficult for a massive crowd to engage in the kind of structured communication necessary to pass thoughtful laws. Some speculated that if democracy were not mediated politically, through a legislature, it would need to be mediated acoustically, so all individuals could hear and be heard by their fellow citizens. As the paper explained: 'The invention of the *siège oral* is a partial response to difficulties that the partisans of representative government blame on the inconvenience of large assemblies'.[1]
Had it been built, the *siège oral* would probably have met with limited success. It is unlikely that any amount of architectural reinforcement could have made a single voice audible at the massive outdoor rallies convened during this heady time. The French nation had to content itself with amphitheatrical legislative chambers, such as the shallow elliptical National Assembly hall designed in 1793 by Jacques-Pierre Gisors, a former student of Étienne-Louis Boullée, in the Tuileries Palace.[2]
The underlying geometrical form of this structure was already familiar from several decades of public debate about the acoustical properties of elliptical theaters. That these two building types in particular should be associated with the politics of acoustics is perhaps no surprise. The voice has long held symbolic importance in political theory; as Peter Sloterdijk observes, 'what would later be called politics was at first nothing more than an art of loud speaking.'[3] Vitruvius himself had considered acoustics in relation to two building types: the senate chamber and the theater. But the emergence of a public sphere in the eighteenth century was so dependent on the expansion of print media, as we know from scholars such as Jürgen Habermas and Robert Darnton, that the role of acoustics in this shift is not immediately evident. The question is only complicated by the fact that the relation between written and spoken language was itself a theme of Enlightenment philosophy, particularly for a thinker as concerned about theatricality as Rousseau.
What is clear is that after 1750, theater became both an object of heated discussion in books, journals, and anonymous pamphlets, as well as a site of debate in its own right. Theaters were not only among the most ideologically freighted but also the most costly and complex buildings in late eighteenth century France. The development of the performance hall from a site of

private amusement into a publicly significant monument was linked with the rise of an affluent bourgeois class, on whom theaters were increasingly dependent for revenue.[4] As they grew to accommodate audiences of thousands, acoustics emerged as the most critical design issue.

The historian James Johnson has shown how this new theatrical public increasingly tended to abstain from conversation during the performance and concentrate with rapt attention on the stage.[5] If the middle class could not always produce more visually impressive spectacles than the *ancien régime*, it could cultivate an ability to distinguish subtle or indeed invisible aspects of a production. Nuance became essential to good theater, and one could pick up the fine emotional gradations in an actor's voice only in an acoustically calibrated auditorium.[6] Moreover, the problem of acoustics expressed a basic social problem: How might a limited resource be distributed equitably among members of a public?

If the cultural stakes of acoustics were clear, the science was not. The study of sound as a physical phenomenon had been advanced in the seventeenth century by Marin Mersenne and his contemporaries, but they gave little consideration to its architectural applications. And while questions of the style and character of theater architecture were taken up in conventional academic venues, the problem of these structures' auditory environment was left to be debated more haphazardly by theater critics, composers, scientists, and amateurs. While their writings did not express overt political opinions, the fact that drama itself was subject to close scrutiny by censors undoubtedly increased the political sensitivity of the issue of acoustics, which determined whose voices could be heard and by whom. In what follows, I will briefly sketch the rise and fall of the ellipse in Enlightenment theater architecture, and will show how the debate over its acoustics, which largely took place in the press, illustrates the evolving relationship between the sensory experience of architecture and the polity who debated its merits.

The story begins here in Turin, where the old Teatro Regio had been completed by Benedetto Alfieri in 1740. Since the seventeenth century, elliptical forms had been reputed to possess favorable acoustic properties, elaborated in highly speculative studies by Athanasius Kircher and other Jesuit thinkers (Figure 1). Sounds produced at one focus of an ellipse should be reproduced with heightened audibility at the other focus, a discovery that was applied to imaginative designs for speaking tubes, vaulted rooms, and even a theater. While architects maintained some distance from these ideas, never applying them directly to built projects, Alfieri, who had been trained by Jesuits in Rome, was certainly aware of the acoustical connotations of the ellipse, a form which had also been adopted by Borromini on at least one occasion for a room where audibility was crucial.

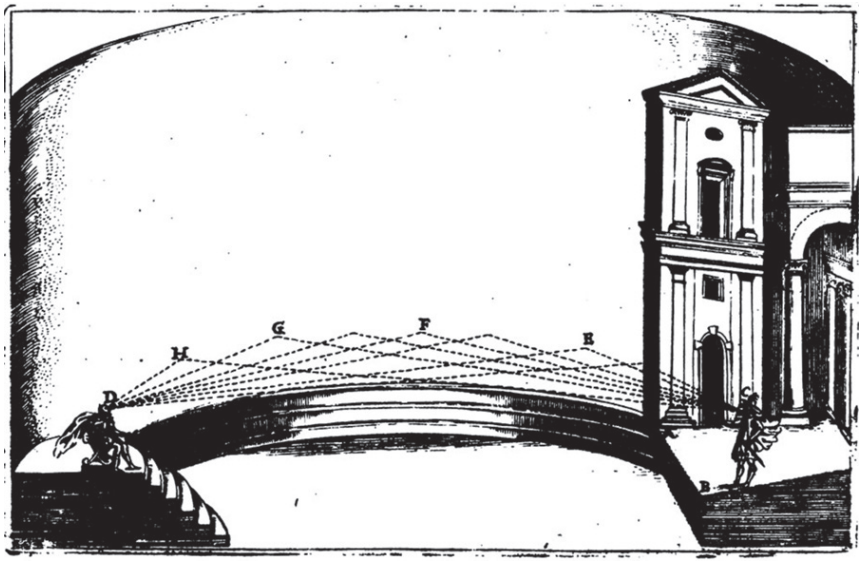

Figure 1. Mario Bettini, Acoustical diagram of an elliptical theater. *Source: Apiaria Universae Philosophiae Mathematicae* (Bononiae: Ferronii, 1642).

In 1750, the Teatro Regio was visited by a party of French travelers including Jacques-Germain Soufflot and Charles-Nicolas Cochin, an engraver and an important tastemaker in the French Enlightenment. While Cochin criticized its acoustics, Soufflot was impressed with the design and adapted its elliptical plan for his own theater in Lyon, competed six years later.[7] But the Lyon hall came in for even more acoustical criticism: the cultural newsletter *La Correspondance littéraire* complained of Soufflot that 'This "preeminent architect of Europe" has designed a hall in Lyon where nothing can be heard'.[8]

The status of acoustics *vis-à-vis* architectural discourse remained ambiguous: was it a functional issue? a question of planning, what the French Enlightenment called *distribution*? Should it be subsumed under the technologies of aesthetic sensation, soon to be explored by architects such as Nicolas Le Camus de Mézières? What sort of knowledge was needed to critique the acoustics of a theater – architectural? musical? physical? physiological? The end of the Seven Years' War in 1763 freed French national resources for a new wave of theater construction. The hall used by the Paris Opéra burned down that very year, and Pierre-Louis Moreau-Desproux was engaged to design its replacement; soon, discussion also began swirling around the idea of building a new home for the Comédie-Française, the nation's flagship theater company. This growing demand prompted three writers, of whom none was

a trained architect but all had visited the most innovative halls in Italy, to take up the subject of theater design and acoustics during the 1760s.

The first major book on the reform of French theater architecture was published in 1765 by Cochin, whose friendship with the Marquis de Marigny – director of the *Bâtiments du Roi*, responsible for government architecture in Paris – guaranteed widespread respect for his architectural opinions. Cochin advocated moving the audience as close as possible to the stage, accusing most existing halls of being 'too deep […] for people to be able to see and hear distinctly'[9] When actors must shout to be heard, he argued, their performance was 'forced and unnatural'.[10] The acoustical premise of his shallow elliptical design was based on the audience's uniform exposure to direct sound; he therefore sought to suppress echo and to minimize *retentissement* or reverberation.[11]

A similar concern for audibility was registered the following year in a book by the Chevalier de Chaumont, an amateur designer who kept his full identity secret.[12] Chaumont seems to have believed that sound was carried by moving air, and considers how a stage might be configured to project "air" out towards the audience. For him, this was a straightforward operation that could be perfected through technological progress: 'There is no question that one must be more a scientist than an architect to build the interior of an opera house', he wrote.[13] Finally, a few years later, an anonymous 'man of letters' published a third treatise on theater design, entitled *Exposition des Principes qu'on doit suivre dans l'Ordonnance des Théâtres modernes*.[14] Whereas Cochin had opposed all reflected sound, the *Exposition* insisted on the need for sound reflection, but warned that the auditorium must be carefully shaped so that sound reflections accentuate the verbal content of the production.[15]

Not only did these three books underscore the public's interest in theater acoustics; each supported a particular set of social and aesthetic values. Cochin's advocacy for direct sound and dismissal of reverberation was linked with a concept of 'immediacy' that favored both spatial proximity and dramatic realism, probably a reaction to theaters' increasing size and commercialism.[16] Chaumont's quest for an architectonic science of projecting and sustaining sound reflected a sensationalist belief that the mechanisms of human perception could be rationalized through geometry. The *Exposition* made clear that its goal of maximizing each sound's reflection and thus ostensibly increasing its total vibratory energy would keep listeners engaged by the entire performance, and not just a few bravura arias. The fact that the last of these texts was published anonymously indicates how socially freighted the questions at stake were.

The architectural establishment did not respond with a comprehensive theory of the spatial management of sound until 1782, when the rationalist designer Pierre Patte published his *Essai sur l'architecture théâtrale*. A student of Germain Boffrand, Patte conceived architecture as a massive acoustical transmission device, and shared Cochin's desire for acoustic clarity and his suspicion of *retentissement*.[17] But whereas Cochin sought to mitigate acoustical problems by minimizing reflected sound and keeping the audience close to the stage, Patte argued that such an approach would be too limiting to the a hall's overall volume. Instead, he reverted to the deep elliptical form preferred by Soufflot and Moreau, but married it to a geometrical theory of acoustics adapted from Athanasius Kircher.[18]

In Patte's design, sound produced at one focus of the ellipse, which is located at the front of the stage, is to be reflected off the curved walls and concentrated at the other focus, thereby strengthening the sound in the rear part of the auditorium, where acoustic reinforcement is most needed. This second focus does not actually correspond to any programmatically significant element of the building: in seventeenth-century models, this point had been occupied by the seat of the prince, but in practice this was not quite the right location for a royal box without substantially distorting the geometry of the ellipse. Moreover, such a layout would not have suited the ideology of the 1770s and 1780s, when the cultural authority of the monarchy was increasingly counterbalanced by that of noble and bourgeois cultural patrons. Patte nevertheless believed that by organizing the sound reflections through geometry, he could ensure the sound's uniformity throughout the hall.

Patte's model would not be tested for two decades. The neoclassical spirit of the 1780s and 1790s favored circular, rather than elliptical, plans, for their antique and egalitarian implications. In defending this form, Claude-Nicolas Ledoux cited the figure of a 'charlatan' squawking on a street corner, around whom pedestrians naturally gathered in a perfect circle.[19] But the elliptical theory of acoustics was finally implemented in Berlin's massive National Theater (Figure 2), commissioned by Friedrich Wilhelm III as a tool for political influence over the middle class and designed by Carl Gotthard Langhans.

During the two years that this theater was under construction, Berliners had begun to debate whether its acoustics would succeed. 'There is no greater subject of controversy in Berlin than the functionality and beauty of the plans for our new theater', wrote one anonymous magazine correspondent. 'Architectural taste in Berlin is divided into two schools' – a neoclassicists represented by Langhans, and "progressives" such as Friedrich Gilly and Hans Christian Genelli. The neoclassical model did not fare well in the public sphere. 'For the moment', the article concludes, 'we must grant the detractors that the elliptical form seems unsuitable from the standpoint of both beauty and acoustics'.[20] Genelli unsuccessfully petitioned the king to withdraw Langhans's commission and hold a competition to advance the

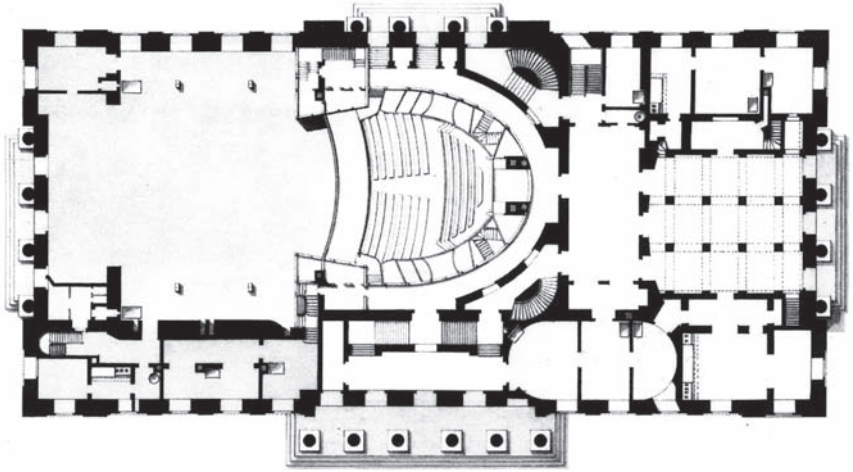

Figure 2. Carl Gotthard Langhans, Berlin National Theatre (1802), floor plan.

state of theater design discourse, as 'to my knowledge there has been no satisfying theory of the shape of a theater in consideration for full hearing and seeing'.[21] An anonymous writer criticized the design's massive proscenium, predicting that 'our actors, who already speak softly enough', would not be heard at all.[22]

Sure enough, when the National Theater opened in 1802, Berliners agreed that it was an acoustic failure, though their diagnoses of its problems varied. In reviewing a German-language performance of the French play *Rodogune* in 1802, the *Zeitung für die elegante Welt* charged that the unrhymed translation combined with 'the poor acoustic nature of the building' to make the production fall flat.[23] The Karlsruhe architect Friedrich Weinbrenner complained of an echo precipitated by

> the way Langhans constructed the form of his theater.[24] Physicist Ernst Chladni explained that in an elliptical hall, the sound from one focus is concentrated in the other focus […] Yet since the entire assembled public cannot all crowd into one of these points […] it follows that the elliptical form is among the most unsuitable.[25]

The most powerful critique came in 1810, when the architect's son, Carl Ferdinand Langhans, wrote a book on acoustics analyzing the failures of his father's building. His *On Theater* was a comprehensive new account of acoustics that moved away from the idealized rationalism of the Enlightenment. The younger Langhans showed in a parody diagram of an elliptical theater how, if the performer moves even slightly off-center from the ideal focus of the stage, the resulting reflections no longer focus neatly in a single point, but form irregular concentrations in unexpected places throughout the hall.[26] The result is a general confusion of sound. Langhans rejects the idea of focusing sound rays into privileged points and instead advocates scattering sound uniformly throughout the hall, producing an ambient reverberation. It was Langhans's book that definitively overthrew the elliptical type and, more generally, the premise that theater acoustics was a function of the geometry of the plan. This crucial step in European sonic modernity could not have been taken without the vigorous public contestation of acoustics, in a debate that involved a much wider cast of characters than the typical back-and-forth between architects and their patrons.

What can be concluded from the public debate surrounding the acoustics of elliptical theaters? From its beginnings in the 1760s, it appears that in order for one's opinions to be taken seriously, one did not have to be an architect, but did need to be able to claim some sort of expertise, even if only by having visited the great theaters of Italy. When the architectural establishment finally responded with a sophisticated theory of its own, it was retrogressive and eventually became the target of widespread public criticism. Yet as a result of this criticism – that is, through the interplay between public opinion and academic architectural discourse – a new theory of acoustics was eventually formulated.

Peter Sloterdijk argues that the notion of a public is always dependent on the mediation provided by a technological infrastructure: '"The masses", "the nation", or "the people" can only exist as a collective subject when the physical assemblage of the magnitudes is the object of an elaborate production… the orchestration of affect'.[27] Yet in Habermas's account of the rise of the public sphere, the so-called 'representative publicness' of the aristocracy – as might be expressed in the ceremonial protocols of court theater – gradually gave way to a new, more genuinely public realm of rational critical debate, largely through a network of print media. To reconcile these hypotheses, we might recall Richard Wittman's suggestion that as middle-class citizens came to think of themselves as members of a dispersed public constituted by the circulation of books and periodicals, architecture was increasingly called on to compensate by offering concrete representations of a collective bound together in space.[28] This explains why, more than architects themselves, the public believed it had a stake in the acoustic properties of theater.

As the economist Jacques Attali writes: 'Any organization of sounds is then a tool for the creation or consolidation of a community, of a totality. It is what links a power center to its subjects'.[29] The elliptical theater's problem was that by the end of the eighteenth century, the reconstitution of performance

sound at a single point was no longer socially acceptable; it was now expected to be propagated to a collective field of subjects. The younger Langhans's model of reverberant acoustics configured the relationship between performers and auditors very differently from the older elliptical or circular models. His new conception of sound diffused throughout the interior of the auditorium seemed to counter new tendencies toward social and spatial fragmentation by immersing the audience in its enveloping spatial presence. While the debate over the sound of elliptical theaters was now put to rest, the political questions associated with acoustics would soon take on a new form. Later in the nineteenth century, Langhans's model of immersive reverberant sound was applied by his protégé Otto Brückwald to a theater in rural Germany for one of Europe's most ambitious composers. Acoustics, now retheorized as a technology for moving a mass audience, would once again occasion public debate here, in the Festspielhaus of Richard Wagner at Bayreuth.

1 "Siège oral fixe, Pour augmenter la force relative de la voix dans les grandes assemblées," *Révolutions de Paris* 21 (Paris: L. Prudhomme, 1789), 20. The design for the *siège oral* immediately follows an editorial advocating direct popular referenda and offering operational procedures for them based on the model of Swiss cantons.

2 To fit the semicircular scheme into the palace's oblong *Salle des Machines*, Gisors had to flatten it into a shallow ellipse (the same form used by Palladio at the Teatro Olimpico). It is significant that in laying out the room, he did not adopt the most easily available legislative architectural model – the opposed benches of the British House of Commons – but instead opted for curved and stepped seating, with its connotations of equality and fraternity. See Philip Manow, *In the King's Shadow: The Political Anatomy of Democratic Representation* (Cambridge: Polity Press, 2010), 19.

3 Peter Sloterdijk, *Sphären III: Schäume* (Frankfurt am Main: Suhrkamp, 2004), 385-6.

4 'In the same way as literature, the theater obtained a public in the strict sense of the word only when the theaters attached to court and palace, so typical of Germany, became "public". Of course in Great Britain and France the populace – the *Pöbel* (people), as they were called in contemporary sources – had been admitted even as far back as the seventeenth century to the Globe Theater and the Comédie… But they were all still part of a different type of publicity in which the "ranks" (preserved still as a dysfunctional architectural relic in our theater buildings) paraded themselves, and the people applauded': Jürgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (Cambridge, Mass.: MIT Press, 1989), 38.

5 James H. Johnson, *Listening in Paris: A Cultural History* (Oakland: University of California Press, 1995).

6 See Denis Diderot, "Conversations on *The Natural Son*," in Id., *Selected Writings on Art and Literature* (London: Penguin, 1994), 21-2.

7 Allan Braham, *The Architecture of the French Enlightenment* (Berkeley: University of California Press, 1980), 29. Cochin discusses the acoustics of the Teatro Regio in Charles-Nicolas Cochin, *Voyage d'Italie*, vol. 1 (Paris: Jombert, 1758), 16. On the same trip, the future Marquis de Marigny met with Alfieri; see Jeanne Antoinette Poisson, Marquise de Pompadour, to Abel-François Poisson de Vandières, February 28, 1750, in M.A. Poulet-Malassis (ed.), *Correspondance de Mme. de Pompadour* (Paris: J. Bauer, 1878), 34.

8 Friedrich Melchior Grimm et al., *Correspondance littéraire, philosophique et critique*, ed. Maurice Tourneux, vol. 5 (Paris: Garnier frères, 1878), February 1764, 453.

9 Charles-Nicolas Cochin, *Project d'une salle de spectacle pour un théâtre de comédie* (Paris: Charles-Antoine Jombert, 1765), 4.

10 Ibidem, 13.

11 'It is unnecessary to make great efforts of imagination in an effort to augment the sound', he advises. One should simply 'place the spectators as close as possible' so that they can, 'without difficulty, be struck distinctly by the sound and the articulations of the voice.' Ibidem, 9-11.

12 Chaumont's identity is questioned in Friedrich Melchior Grimm et al., *Correspondance littéraire, philosophique et critique*, vol. 7 (Paris: Garnier Frères, 1879), December 15, 1766, 191. Louis Petit de Bachaumont suggests that he participated in the design of the Versailles opera in his *Mémoires secrets*, vol. 3 (London: John Adamsohn, 1777), June 17, 1768, 57.

13 (Alexandre) Chevalier de Chaumont, *Véritable construction d'un théâtre d'opéra* (Paris: Chez de Lormel, 1765), 8.

14 *Exposition des Principes qu'on doit suivre dans l'Ordonnance des Théâtres modernes* (Paris: Charles-Antoine Jombert, 1769), III-IV.

15 'Speech is […] far less comprehensible if it is not gathered [*recueillie*] by favorable physical surroundings. Its articulation dissolves, leaving only indistinct sounds less gracious than speech for listeners who are not partisans of the symphony [i.e., instrumental music] alone': *Exposition*, 84-5.

16 Downing A. Thomas, "Architectural Visions of Lyric Theater and Spectatorship in Late-Eighteenth century France," *Representations* 52 (Autumn 1995), 52-75.

17 Patte mentions *retentissement* only once, in a negative context: Pierre Patte, *Essai sur l'architecture théâtrale* (Paris: Chez Moutard, 1782), 56.

18 Improving the 'circulation' of sound had been affirmed as an imperative in theatre architecture since Vitruvius, but Patte's elaboration of this aim into a method of controlling the hall's interior atmosphere through the proper distribution of architectural surfaces was unique in its rationalistic ambition: Pierre Patte, *Description du Théâtre de la ville de Vicence en Italie* (Paris: Patte, Guellier, Quillau, 1780), 62. For general analysis of this objective in acoustic design, see Patrizio Barbieri, "The Acoustics of Italian Opera Houses and Auditoriums (ca. 1450-1900)," *Recercare* X (1998), 281-6.

19 Claude-Nicolas Ledoux, *L'architecture considérée sous le rapport de l'art, des mœurs et de la législation* (Paris: Harmann, 1997), 223.

20 "Preussen," *Allgemeine Zeitung* 182 (July 1, 1800), 772.

21 Hans Christian Genelli, Promemoria January 4, 1800, quoted in Jochen Meyer, *Theaterbautheorien zwischen Kunst und Wissenschaft* (Berlin: Gebrüder Mann, 1998), 40-1, fn. 97.

22 "Schöne Baukunst: Ueber das neue Gebäude des Nationaltheaters in Berlin," *Zeitung für die elegante Welt* February 23, 1801 (n. 26), 202.

23 "Berlinisches Theater: Wer zuerst kommt, mahlt zuerst; Rodogüne," *Zeitung für die elegante Welt* 128, (October, 16 1802), 1025.

24 Friedrich Weinbrenner, *Über Theater in architektonischer Hinsicht mit Beziehung auf Plan und Ausführung des neuen Hoftheaters zu Carlsruhe* (Tübigen: J. G. Cotta'schen Buchhandlung, 1809), 8-9. Also see Carl Ferdinand Langhans, *Ueber*

Theater; oder, Bemerkungen über *Katakustik in Beziehung auf Theater* (Berlin: Gottfried Hayn, 1810).
25 Ernst Florens Friedrich Chladni, *Die Akustik* (Leipzig: Breitkopf und Härtel, 1802), 253. On Chladni, see Dieter Ullmann, *Chladni und die Entwicklung der Akustik von 1750-1860* (Basel: Birkhäuser, 1996); chapter 2 of Myles W. Jackson, *Harmonious Triads: Physicists, Musicians, and Instrument Makers in Nineteenth-Century Germany* (Cambridge: MIT Press, 2006).
26 Langhans, *Ueber theater*, 27.
27 Sloterdijk, *Schäume*, 619-20, trans. Julie Di Filippo as "Foam City," *Log* 9 (Winter/Spring 2007), 72-3.
28 Richard Wittman, "Architecture, Space, and Abstraction in the Eighteenth century French Public Sphere," *Representations* 102, n. 1 (2008), 4.
29 Jacques Attali, *Noise: The Political Economy of Music* (Minneapolis: University of Minnesota Press, 1985), 6.

2.2 The Published Building in Word and Image

SESSION CHAIRS:
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CATALINA MEJIA MORENO
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What are the common grounds, or the points of divergence, between word and image in the dissemination of architecture? The study of word-image relations is one of the most innovative and cross-disciplinary fields to have emerged in the humanities over the last decades. Following on from what has been labelled the "visual turn" in the 1990s, it attracts scholars from disciplines as diverse as art history, linguistics, anthropology, philosophy, or literature. This session aims to open up this field to architectural history by exploring the effect of the coexistence of the graphic and the written in the dissemination of architecture. We invite papers that challenge the relationship between descriptions and illustrations of buildings in printed and publicly disseminated media such as newspapers, journals, pamphlets, books, or catalogues. While recent scholarship has increasingly turned to investigate 1960s and 1970s architectural journalism, we are particularly interested in the nineteenth and early twentieth century. This period – which saw the discovery of the daguerreotype, the eclipse of the engraving by the photograph, as well as the rise of the architectural magazine – has been largely overlooked by research on architectural publication.
We encourage papers on subjects within this time frame, but also welcome work on word-image relations in other periods. Particularly welcome will be papers that focus on a close analysis of specific publications, genres, or published events, as well as detailed analyses of particular aspects such as captions, layout, content, use of colour and literary devices. Questions discussed could include, but are not limited to: what roles do words and

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images, and the relationship between both, play in the dissemination of architecture? What does the image illustrate, what does the text describe? What is the effect of treating word as image, or image as text? How are hierarchies between text and graphics expressed, also in terms of content? What is the effect of new reproductive and illustrative technologies on the style of writing? How does a new medium, such as photography, change the form and content of the text? By probing the visual and the written at the same time, the session intends to expand current methods of architectural historiography. In the face of an ever-growing corpus of published representations of architecture, we see an urgency to explore the historical implications and the development of the relationship between word, image, and building.

2.2.1 Catalogues and Cablegrams

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Abstract

A genre that has received little scholarly attention within architectural print culture is the catalogues that in the last part of the nineteenth century offered monuments casted in plaster from prominent museums and private *formatore* firms all over Europe and the US. Constantly updated and wildly circulated these sales catalogues designated the backbone of the grand cast collections spanning from Moscow to Chicago, and the prolific, and eventually Trans-Atlantic market of casts. Parallel to the emergence of photography but far less studied, plaster casts became a principal architectural mass medium in the nineteenth century, and were highly influential in the dissemination of architecture at world fairs and in museums, representing a constant renegotiation of the canon through replicas. Full-scale architectural plaster casts might be understood as object-images in themselves. However, their presentation in text and photography in sales catalogues, some of them extremely beautiful and in subtle ways disseminating contemporary scholarship on antiquities, designates a peculiar configuration of word, image, and building.

This paper looks into the constellation of descriptions and illustrations of monuments as they appeared in museum inventories and sales catalogues, focusing on visual and taxonomical aspects of this understudied chapter of the publication and circulation of architecture. I will especially look into the Hall of Architecture at the Carnegie Museum in Pittsburgh; set up in a remarkable tempo through a hectic correspondence of cablegrams between major museums and innumerable *formatori* all over Europe. Inaugurated in 1907, at the very moment plaster casts were about to fall out of vogue, the Carnegie collection was almost exclusively reflecting the stock of monuments available through catalogues in a decreasing market of casts, thus mirroring in interesting ways the catalogue as a depot of architectural representation.

2.2.2 Illustrated Picturesquely and Architecturally in Photography – William Stillman and the Acropolis in Word and Image

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University College Dublin, Ireland
HUGH CAMPBELL
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Abstract
In 1870, the American William J. Stillman – diplomat, journalist, painter and photographer – published an album of autotypes entitled *The Acropolis of Athens: Illustrated Picturesquely and Architecturally in Photography*. For a newcomer to the medium, Stillman's images were remarkable for their poise and clarity. But where the photographs were "clear and lively", to borrow John Szarkowski's phrase, the brief text which accompanied each was, by comparison, laborious and lifeless. Facing each other across each double-spread, text and image seemed to speak in completely different registers, in a manner which presaged many subsequent uses of similar material, most famously in *Vers Une Architecture*. Part of a larger project into the depiction of architectural experience during this period, this paper will explore the relationship between word and image in Stillman's publication in terms of intentions, in terms of contemporary ideas on depicting architecture and in terms of the modes of publication which followed. Stillman was deeply involved in contemporary discussions of artistic depiction and its relationship to the truth of experience. In his critique of Ruskin's essay on Turner's Slave Ship, Stillman contended that Ruskin, in pressing his claims for the painting's objective validity, 'left out of all consideration the subjective transformation of natural truth which is the basis of art.' For Stillman, the vivid rendering of the experience of the world depended, ultimately, on artistic subjectivity. Conceding the power of Ruskin's 'word picture' (as he terms it), he was nonetheless uneasy with what he saw as its conflation of the stable, reliable viewpoint offered by words and the visceral, mutable view presented by images. Thus, although Stillman was primarily renowned for his vivid writing, in *The Acropolis of Athens*, he resorted to images to communicate experience, while the words stuck close to the facts.

2.2.3 Lost for Words: How the Architectural Image Became a Public Spectacle on Its Own

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Abstract
Although entirely neglected in the historiography of architecture, the world of the illustrated journals of general interest represents a rich source for the study of the dissemination and knowledge of architecture in the public realm. Most of all, studying these journals is crucial for an analysis of relations between word and image regarding the published building. This is even more true in the time period from around 1900 to WWI when photographic images increasingly replaced drawings as graphic descriptions of buildings in the printed media.
In this paper I propose to take a close look at the way the French weekly-illustrated journal *L'Illustration* used text and image in this period for the publication of New York buildings. It is a particularly good case in point since the architecture of that city changed rapidly at that time, as did, also at a fast pace, the word-image relations in the journal.
The obvious effect of the shift to the photograph was that buildings formerly published as (falsely) isolated objects were subsequently shown as buildings in a concrete and realistic physical context. Yet, I argue that this change led to a major shift in the word-image relation: first, due to the realistic and (usually) not manipulated and non-selective nature of the photograph, captions had to clarify what needed to be looked at; more importantly, due to the power of the photograph, the text (an article or a caption) shifted from being the main element illustrated by an image to merely being an enhancing element. My paper will demonstrate what it means when buildings in *L'Illustration* are increasingly seen in context, shown in large panoramic images, turning architecture into a public spectacle. This would entirely renew the relation between word and image, when it is no longer the text but the image that speaks for itself.

Keywords
New York, 1900, illustrated journals, cityscape, spectacle, word-image relation

Studying word-image relations for the writing of architectural history finds a very fertile ground in the usually disregarded illustrated general press. There, the body of articles on offer provides a new wealth of approaches for the publishing of buildings and gives a better understanding of how this shaped a collective imagination different from the professional one. Professional journals have traditionally published buildings through an explanatory text, often accompanied by plans or sections and possibly photographic or sketched views. I argue, however, that the ever evolving word-image relations developed by the editors of the illustrated general press produced over time a specific general public perception of 'buildings as spectacle' – in the sense of a 'visually striking performance or display'[1] – which relied more and more on strong visual and human experiences stimulating the reader's emotions. Ultimately, this would lead to the rift between the so-called 'high' and 'popular' cultures' ways of publishing buildings.

In order to make my point, I will make use of the articles the French weekly illustrated journal *L'Illustration* published on New York buildings in the period around 1900. Launched in 1843, it was the first illustrated journal in France and widely considered as the international stand-out periodical publication in terms of editorial, iconographic, and technical quality.[2] It published a big variety of news on national and international politics, the military, social movements, religion, science and technology, arts and letters, fashion, society life, and other miscellaneous news. Circulation was at 30,000 copies in 1880 and at 200,000 in 1914.

Regarding the publication of New York buildings, the time around the turn of the twentieth century is a particularly interesting period to analyze since the American metropolis changed dramatically and in a way that provoked a number of news articles to be published. From the ways New York buildings were published in *L'Illustration* I have constructed six main themes, organized here in the general chronological order in which they appear in the journal. The text-image relations evolve from one theme to the next, the image eventually completely overtaking the text whose role goes, generally, from providing the spectacle to only offering additional information to the visual spectacle unfolding.

Numbers

In the mid-1890s, the very first interest shown by *L'Illustration* in New York's architecture had been aroused by the unprecedented number of floors that were being piled up: First 10 or 12, then 15 and, by 1900, over 20. In a series of four short articles published in the space of 18 months, starting from late 1896, the journal mainly enumerates floors numbers, overall height, general weight and other types of measurable features.

This quantitative method was a way of approaching a new type of building that was impossible to comprehend in a conventional way. As such, architecture translated into numbers did clearly not need to be represented graphically. Another reason for the absence of the need for images was the fact that the journal was not yet focused on specific buildings whose role was limited to providing data. For example, in the very first of *L'Illustration*'s texts on high buildings in New York, one can read about many quantitative features of a building without however even getting to know its name or location. Thus it remained not only faceless but also anonymous even though the information given was still supposed to impress the reader and to paint in his mind a mental picture of a new type of building that otherwise would have been difficult to grasp.

Records

Nevertheless, once a sufficiently high, innovative, and recognizable building had come to clearly stand out of all the others, it did provoke specific interest by *L'Illustration* who then did abandon the non-specific news. That was the case with the Park Row Building which, just before 1900, was the first high building of New York to be clearly identified and followed by the journal, still mainly through numbers which, however, had by then turned into records. As the information became thus more concrete and visually spectacular, the need for images increased accordingly and in 1899 *L'Illustration* published a small drawing of the Park Row Building and juxtaposed it with monuments of Paris and the cathedral of Rouen. The text explained that, 'in order to give an idea of its height, we cannot think of a better way than to compare it.'[3] The method of comparing to a well-known entity resurfaced in 1904 in an article on the new Times Building whose 'basements […] go 18 meters underground, […] the height of our ordinary buildings [in Paris]', and whose 'steel frame, 115 meters high, is, after the Eiffel Tower, the highest in the world.'[4] Regarding the text on the Metropolitan Life Tower in 1909, it moved farther away from comparisons and offered a wealth of numbers and records, including that of the speed of the elevator; the image being simple proof of the building's existence.

Apart from being able to use it in comparison, showing the building as an isolated object was clearly linked to the logic of the record. The visual attention of the public had to be concentrated or even limited to one specific building. For that reason, the Park Row Building, due to its situation in the very dense district of lower Broadway, had to be drawn so that it could be shown at an angle that was not plausible in the actual context of the buildings' vicinity. The Times Building, however, and later in 1909 the Metropoli-

tan Life Tower,[5] both looking out onto a large public spaces, could easily be photographed as a whole and isolated in the center of the image.

Disasters

The period in which the records appeared was also the period in which New York building disasters attracted the attention of the French journal. This was not a coincidence. In fact, it was rather a way of telling its readers that the very interest of these buildings was being neutralized by the threat they posed to public health and safety. The article "Les 'gratte-ciel' de New-York" of 1899 clearly highlighted the deliberate character of this 'yes, but' approach since it featured not only the comparative image discussed earlier but also the image of the 17 stories high Home Life Insurance Company Building going up in flames during the night. Putting these two images on the same page was clearly meant to show that, while Paris may have been surpassed in height it was also safe from the new perils.

However, as this article and the later ones showed, the potential threat that the buildings might come down did enhance the thrill associated with the new heights and increased the very spectacle of it. This applied not only to the awestruck New York crowd attracted by the sublime event but surely also to the French readers.

Subsequently, *L'Illustration* reported (without images) on new threats like corrosion of which an American expert thought that it 'made the high buildings very dangerous as they might collapse all of a sudden',[6] preparing the readers for the worst. When this finally occurred in 1904, the journal did indeed publish a photograph showing a pile of what had been the Darlington Hotel's steel frame under construction.[7] The article mentioned the 'appalling roar' with which the building went down and the 'seismic tremor' provoked by the fall. And while it also reported the human tragedy of '50 workers brought down of which 17 had died and 20 were seriously injured', it did send shivers down the bourgeois reader's spine on explaining in detail how a millionaire's daughter and her friend having tea in the adjacent building were 'hit by a piece of the steel frame that had ripped open their roof'. As such, the text of the article was necessary to complete the image with certain aspects of the drama that could not be shown graphically.

Background

After these three various yet relatively straightforward ways – as subject and image of the article, that is – of publishing buildings as numbers, records, and disasters, the following three used in *L'Illustration* dramatically changed the relation of word and image insofar as buildings were either pictured in images without being the subject of the text or, the other way around, written about in the article but not shown in the images. Either way was a result of the increasingly diverse ways of using, perceiving, and representing buildings, with the promotion of the overall urban spectacle at stake.

The approach discussed in this fourth paragraph of my paper became visible when buildings were shown as an increasingly imposing background for urban public events in New York. Before the First World War, this was the case in the period of 1906 to 1909 only.

The first reason for a building (or a number of buildings) to be caught on image was that it formed the 'natural' environment of the particular event: The results of the election night were given by newspapers so the crowd gathered at the foot of the Times Building; the financial crisis happened in the Wall Street area; the celebratory parade for returning US Olympians in 1908 took place on Fifth Avenue where parades were usually organized; and the Hudson-Fulton Celebration necessarily unfolded on the Bay and the Hudson River.[8] Even though that was by no means a reason to include buildings in such a prominent way, the photographs reveal quite clearly that they were considered as an important part of the event. It seems that this method was used even more deliberately when the setting or the viewing angle could be chosen much more freely. In that case, the choice of setting and view contributed to the very interest of the event as can be seen on the photograph of the start of the New York-Paris car race at Times Square or of Wilbur Wright's airplane flight in front of Manhattan's skyline.[9]

Only two of the six articles on urban events did, however briefly – i.e. in one phrase – mention the background in the text: one in 1908, stating that the car race departed on Broadway, 'at the foot of one of those skyscrapers that best summarize the big thriving American cities', the other in 1909 on the Hudson-Fulton Celebration in which one could read that 'a truly interesting spectacle could be seen from the top of the skyscrapers located at the end of the island'.[10] The particularly new aspect of this way of publishing buildings was therefore a nascent autonomy of text and image. While the text entirely concentrated on the actual event, the image suggested that the real news could be found in the urban context. As event and building background complemented each other, the city's space shaped by its buildings grew into a new role of providing a spectacle.

Stage

The building published as a stage high in the air was something that a reader of *L'Illustration* could come across in four articles published from

1905 onwards and particularly from 1910 to 1912. On this 'stage' featured construction workers who created with their acrobatic and perilous acts a hitherto unknown kind of heroic man. Over the years, important evolutions took place in the way this story was told in image and text. While in 1905 the photograph showed in a conventional way one of the Park Row Building's domes and lanterns with a busy but unfazed worker – the caption read, laconically: 'How to repaint the pole at the top of a skyscraper'[11] – the later images changed not only the point of view and the role of the building but also increased the risk-taking by the workers, sometimes turned photographers. An article in 1910 for instance included unusual plunging views of the roof of the Singer Building. Here, the captions were just as factual but the main text had to explain what the highly unusual viewing angle offered to the untrained eye:

To the left and to the right, the eye plunges into the streets that have been transformed by the gigantic buildings into gorges and canyons. To the left, one makes out a grey strip: It's Broadway, New York's main street.[12]

At the latest stage of this development, however, the buildings that offered the stage had not only ceased to be visible – except for some steel girders – but were in a more general way bereft of any kind of importance if not for their height which alone guaranteed the seriousness of the risk taken. This was particularly obvious in the context of the 1910 image of a worker standing on big crane chains.[13] Nothing was said about the building except for its location on West Street. Just as was the case for the building disasters, the text tried to push the reader's imagination beyond the image itself:

> The wind amplifies the oscillation of the chain. One has constantly to rediscover the jeopardized balance. The suspended man [is] at the mercy of a failure of his nerves or of his muscles which, in both cases, would throw him to the ground, smashed.[14]

Interestingly, this text was included in the caption of the photograph while the article's main text, five pages farther, focused solely on workers and working conditions. As such, this was yet the most striking example of the increasing shift of the image – supported by its caption – away from the article's text and into the center of attention.

Cityscape

A sort of final stage in the publishing of New York buildings was reached when they became again the main subject of articles while drawing on the word-image approaches seen with 'background' and 'stage'. In the present case, however, the spectacle lied solely in what the cityscape itself had to offer as new and dramatic.

In *L'Illustration*, the evolution towards this look on things started in 1904 with the publication of two night-time views, offering 'new aspects for European eyes' and a 'curious, almost fantastic effect'.[15] The year 1907 marked the very beginning of possibly the most spectacular images of (and from) buildings: plunging views down from skyscrapers, in this case from the Singer Building.[16] These views were at the time unheard of, also in the United States.[17] The text of the article, published some pages later, did reveal the (invisible) building as the central subject and used excessive words to add to the spectacle of what the full-page photograph depicted: 'The city seems to have been taken from a balloon, the buildings crushed, the highest domes almost reduced to the size of warts, fumes floating as light clouds at the top of the buildings'.[18] This story was clearly not about the building anymore but only about what it could offer to the viewer.

While the photograph taken from the Singer Building had been published eight pages ahead of the explanatory text which, while trying to emphasize the visual experience, was fundamentally not necessary anymore, the 1912 photograph taken from the also invisible Woolworth Building, accompanied by a short caption only, showed even more so that it could just as well tell its own story.[19] With the image getting as big as it possibly could over two pages and, for the first time, no additional text to search after in the following pages, it was clear that the urban spectacle had swallowed up all the other previous different approaches in order to form one as breathtaking as possible. In an attempt to bring everything together, the caption included numbers and records, but also an explanation of how these formerly 'monstrous objects, […] now that we got used to them, possess their beauty and, with their countless windows through which the light passes as if it was lace, […] even their elegance and style'.

Building spectacle

L'Illustration's contribution to publishing buildings was of great value. Besides the impressive quickness with which it embraced at that time technological progress, the journal published buildings not as a product of architectural design or through the artist's lens but as news that people could relate to. The key for this was the emotional experience that the journal tried to transmit to its readers: Among other characteristics, buildings could astonish, make shiver, offer exciting views, or even kill.

The text, when not reduced to giving technical details or written entirely on

another subject or event, played a specific role in this. It either painted a mental image of what could not be seen in the graphic image, or it explained the image and what had to be looked at in it.

The developments presented in this paper did not take longer than sixteen years. They went from non-illustrated general information on a building type, on to specific building related information, and finally to the increasing disappearance of buildings in favor of the spectacle offered by the cityscape and represented in large spectacular photographs. Chronologically, these different approaches in naming – or not – and showing – or not – buildings did partly overlap to form, over time, a dynamic and more and more complex view. All this was done without publishing a single plan or section, and without citing an architect's name. Only the information mentioned on building records came possibly close to what architectural magazines typically published at the same moment. Equally, the photographs were published without their authors' names. They were taken and published as pure news products.

It was by offering the public this particular quality of spectacle that *L'Illustration* built up a genuinely modern perception of building and city: A perception based on strong sensations, rather than on academic beauty, that was similar – yet ahead in time – to the famous French cubist artists' 'discovery' of the ultra-modern aspects of the American metropolis some years later.

1 'The Oxford English Dictionary,' http://www.oxforddictionaries.com.

2 *L'Illustration: un siècle de vie française*. Paris: Musée Carnavalet, 1987, 7-26; Jules Guéry, *Visages de la presse. La présentation des journaux des origines à nos jours* (Paris: Editions du Centre de formation et de perfectionnement des journalistes, 1997), 86-7.

3 M.N., "Les 'gratte-ciel' de New-York," *L'Illustration*, January 14, 1899, 394.

4 "Un nouveau gratte-ciel," *L'Illustration*, October 22, 1904, 283.

5 "Le roi des sky-scrapers," *L'Illustration*, July 3, 1909, 14-5.

6 "Le danger des constructions élevées," *L'Illustration*, August 23, 1902, 155.

7 "L'effondrement d'un skyscraper," *L'Illustration*, March 26, 1904, 206.

8 "Une élection à New-York," *L'Illustration*, November 24, 1906, 331; "La crise financière à New-York," *L'Illustration*, November 9, 1907, 303; "Lendemain de victoire," *L'Illustration*, September 19, 1908, 199; V. Forbin, "Les fêtes de New York," *L'Illustration*, October 9, 1909, 255.

9 F. H., "De New York à Paris en automobile," *L'Illustration*, February 29, 1908, 150; "Une belle promenade aérienne de Wilbur Wright," *L'Illustration*, October 16, 1909, 281.

10 F.H., "De New York à Paris en automobile," *L'Illustration*, February 29, 1908, 150.

11 "Un faite vertigineux," *L'Illustration*, September 30, 1905, 222.

12 "Un photographe qui n'a pas le vertige," *L'Illustration*, November 26, 1910, 367.

13 "Les chantiers aériens de New-York," *L'Illustration*, December 31, 1910, 506-7, 512.

14 "Les chantiers aériens de New-York," Ibidem, 507.

15 "Effet de nuit à New-York," *L'Illustration*, May 21, 1904, 350.

16 "La ville des «gratte-ciel»," *L'Illustration*, September 21, 1907, 191, 199.

17 It was only in 1912 that the famous New York photographer Alvin Coburn took his famous plunging views of New York, namely *The Octopus*, *The House of a Thousand Windows*, and *Trinity Church*. On Coburn, see for instance Helmut and Alison Gernsheim (eds.), *Alvin Langdon Coburn, Photographer* (New York: Dover Publications, 1978).

18 "La ville des 'gratte-ciel'," *L'Illustration*, September 21, 1907, 191, 199.

19 "Le quartier des immeubles géants de New York vu des échafaudages de celui qui les surpassera tous," *L'Illustration*, August 3, 1912, 80-1.

2.2.4 *In Wort und Bild*: Sigfried Giedion, Walter Gropius and the Fagus Factory

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Abstract
In Walter Gropius: Work and Teamwork, Swiss art historian Sigfried Giedion proclaims Walter Gropius' seminal Fagus Factory of 1911 as a 'spontaneous' and 'unexpected' departure from Peter Behrens' AEG Turbine Hall of a few years earlier. Nevertheless, Gropius' revolutionary use of walls – no longer load bearing but rather 'mere screens' – had been rendered neutral by the project's documentation shortly after its completion. In Giedion's view, these images shot by Edmund Lill prior to World War I rendered the project 'barely recognizable', and in the context of the 1950's, these representations of the building had outlived both their descriptive and connotative use value. New images were needed to argue Gideon's point more effectively, namely that the factory was 'one of the building types in which glass and steel are married together'.
This paper examines Gropius' postwar editorial collaborations with Giedion through the lens of the Fagus project. The dissemination of this building in words and images illustrates the degree to which their editorial re-framing shaped the building's historical legacy. Photographs of and texts about the building from the period after its completion will be analyzed alongside Albert Renger Patzsch's later *Neue Sachlichkeit* images, which, I argue, more effectively reinforced Giedion's rhetorical claims, and those of most subsequent scholarship on the project. By reading these early and later citations of the Fagus factory in tandem, the influence of post-Bauhaus attitudes toward photographic media in re-visioning the arguments surrounding Wilhelmine architectural production becomes evident. Finally, I argue that Gropius, Giedion and subsequent historians transformed the Fagus project into a canon of modern architecture in spite of its heterogeneous provenance, and because of its singular rendering in modernist discourse, whereby all previous anxieties of an emergent style were effectively suppressed.

Keywords
Muthesius, Gropius, Giedion, photography, Ranger-Patzsch, Fagus

In his preface to a large format collotype album and text of 1900 entitled *Die englische Baukunst der Gegenwart* (The English Building Art of Today), German architect Hermann Muthesius expresses his aims for the publication: That through the 'correct' interaction of 'word and image', it offer the most complete picture possible, and thus function more than merely 'an architectural picture book.'[1]
With his insistence on the simultaneous working of photography and text in order to foster a more engaged reading, Muthesius was charging his readers with an activist agenda; rather than viewing the photographs as an autonomous entity, Muthesius wanted his readers to address the aesthetic and formal merits of the buildings by reading them in the text and not just in the images.
The development of Walter Gropius' media awareness *vis-à-vis* photography began with his involvement with Muthesius and other founders at the German *Werkbund*, and as such owes a debt of gratitude in content and form to the former's early remarks on the subject. This paper examines Walter Gropius' post-war editorial collaborations with Swiss art historian Sigfried Giedion through the specific lens of Gropius' main office building designs for the Fagus factory of 1911-14. The dissemination of this building illustrates the degree to which its editorial re-framing in words and images shapes the building's historical legacy. Photographs of and texts about the building from the period after its completion by Edmund Lill (begun in 1912), as well as a second series shot by him in 1922, are analysed alongside Albert Renger-Patzsch's later *Neue Sachlichkeit* images of 1928. These latter photographs - specifically image number 16 from his series - more effectively serve Giedion's and Gropius' rhetorical claims, and thereby stand in as the project's *ur*-images for all subsequent historiography.[2]
In *Walter Gropius: Work and Teamwork* (published simultaneously in English and German in 1954), Giedion proclaims Walter Gropius' seminal Fagus Werk as evidence of a 'trend towards transparency and absence of weight… a spontaneous (and) unexpected' departure from Peter Behrens' AEG Turbine Hall of a few years earlier.'[3] Nevertheless, as Giedion quotes Gropius himself, the architect's revolutionary use of walls -no longer load bearing but rather 'mere screens'- had been rendered neutral by the project's documentation before World War One.[4] In Giedion's view, early images of the factory rendered the project 'barely recognizable', and in the context of the 1950s, these representations of the building had outlived both their descriptive and connotative use value.[5] Rather than being front and centre, 'The glass walls', he notes, were 'thrust into the far distance.' Furthermore, earlier 'views' of the project (no doubt meant to be more inclusive as documents) made the work appear as if it was 'dominated by walls of masonry.'[6]

2. REPRESENTATION AND COMMUNICATION

New images were needed to argue Giedion's point more effectively, namely that the factory was 'one of the building types in which glass and steel are married together,' where the tensions between architecture and technology had finally been resolved.[7]

The images to which Giedion is referring were those shot by photographer Edmund Lill prior to World War I (most likely in 1912), and which circulated throughout German architectural and engineering discourse.[8] Their first published versions appear simultaneously in 1913 - in the engineering journal *Der Industriebau*, with an article written by Emil Beutinger,[9] in exhibitions that travelled throughout Germany and the United States, and in the German *Werkbund's* annual yearbook. Numbering five in total (three exterior and two interior views), these images in the latter publication were presented in an appendix alongside built examples from their more established German contemporaries including Peter Behrens and Hans Poelzig.[10] The photographs in this configuration were meant to further the stated agenda on the part of the Yearbook editors, namely to promote the development of *Kunst in Industrie*, or 'Art in Industry'. While certain projects were chosen over others (Peter Behren's work dominated), the aim nonetheless was to celebrate the depth and breadth of recent German architecture. This relatively democratic use of photography reflects its main functional priority in the pre-war years, that is, to provide a visual survey. This still new medium was used exclusively over more traditional types of illustration (lithography, drawing, etching) as a way of unifying an otherwise eclectic survey of buildings. Interestingly enough, while they appeared in the same issue of the yearbook as Gropius' seminal essay on developments in industrial building, a direct connection between the images and that text was not made. Rather, the emphasis in Gropius' essay was on foreign examples of factories, namely in North America.[11]

In contrast, the post-war visual dissemination of this project, arguably more than any other of the *Wilhelmine* period, illustrates the degree to which Gropius' editorial decisions in concert with the art historian Sigfried Giedion helped shape the building's historical legacy. Whereas Lill's photographs were used extensively before the war in the Yearbooks, trade journals and in advertising material, as well as in traveling exhibitions, and in Gropius' publications before 1928, Albert Renger-Patzsch's *Neue Sachlichkeit* images from that year were privileged in most subsequent scholarship. In Renger-Patzsch's images, the masonry indeed appears to have 'disappeared', and thereby fulfilled Giedion's later rhetorical claims.

The first view chosen of the main building through the entrance gate offers a convenient framing device to obscure the less compelling (read: less 'new') part of the complex.[12] The graphically dense image of lines and surfaces is followed by two images that privilege the use of glass curtain walls, and culminate in the last and most closely cropped image of the southwest corner, also attributable to Renger-Patzsch.[13] This latter image – number 16 in the original sequence shot by the photographer – is also used by Gropius as a frontispiece for his 1935 *The New Architecture and the Bauhaus*, and not surprisingly, since it conveyed more effectively the 'Breach' (now in Gropius' words) that had been made with the past.[14]

This editorial logic is consistent with Giedion's earlier remarks on history in *Space Time and Architecture* (1941). As in the Gropius monograph, Giedion uses the same two Renger-Patzsch images in his chapter entitled 'The German Development'. His forward to the first edition of this study casts a wider net by asserting the role of history to uncover an otherwise 'secret synthesis' that would help society navigate its way through the chaos of unfolding events. Continuing in literally photographic language, Giedion argues for a history defined not as a 'compilation of facts' and 'obtained by the exclusive use of the panoramic or bird's eye view.' Rather, the historian's responsibility was to offer 'insight into a moving process of life,' by 'isolating and examining certain specific events… in the manner of the close-up.'[15]

This interpretive model, I would argue, is analogous to both men's attitude towards images, that, in the case of the Fagus project and many other buildings, had undergone a similar telescoping, which enabled, *ex post facto*, a visually uninterrupted line from 1911 to 1954.

With the benefit of several decades of hindsight and subsequent operative historicization, Gropius and Giedion retroactively crafted – indeed cropped, reframed and eliminated – examples from the former's pre-war career in order to serve as a more fitting precursor to his interwar production while at the Bauhaus as well as his later work in the US. By reading these early and later citations of the Fagus factory in tandem, the influence of post-Bauhaus attitudes toward photographic media in re-visioning Wilhelmine architectural discourse becomes evident. This early factory project is re-positioned and thus transformed literally before our eyes as a de-problematized predecessor to the Dessau campus designs. As such, the Fagus has become a canon of modern architecture in spite of its rather messy and heterogeneous provenance.

Indeed, as with many examples from the pre-war period, the project can be thought of as a kind of architectural palimpsest: Its material reality has been erased and eclipsed by its photographic re-framing – its story like others of the time has been written and re-written through text and images. Along the way, the ideological forces behind the codification of photographic illustration in the Werkbund era are replaced by the self-fulfilling rhetoric of

the so-called 'new' movement, which necessitated a hegemonic message in *Wort und Bild*. In so doing, this singular rendering in modernist discourse effectively suppressed all previous anxieties of a proto-modern moment – captured, then erased. Much in the spirit of a phrase attributed to Mies van der Rohe, but which originates in the nineteenth century: 'Less is more'.

1 Hermann Muthesius, *Die Englische Baukunst der Gegenwart. Beispiele neuer englischer Profanbauten* (Leipzig/Berlin, 1900) forward, IV.
2 While there has been extensive scholarship on Walter Gropius' early career, no analysis to my knowledge has been made between the earlier and later images within the framework of their textual manifestations in subsequent historiography. See for example Annemarie Jaeggi, *Fagus: Industrial Culture From the Werkbund to the Bauhaus* (Princeton and New York: Princeton Architectural Press, 2000); Karen Wilhelm, *Walter Gropius – Industriearchitekt* (Braunschweig/Wiesbaden: Verweg und Sohn Verlag, 1983), and Hartmut Probst and Christian Schaedlich, *Walter Gropius*, vols. 3 (Berlin, 1986-1988).
3 Sigfried Giedion, *Walter Gropius: Work and Teamwork* (New York: Reinhold, 1954), 23-4.
4 Ibidem, 23.
5 Ibidem, 24.
6 Ibidem.
7 Ibidem.
8 In a 1911 lecture entitled "*Monumentale Kunst und Industriebau*," a talk delivered at the Folkwang Museum in Hagen, construction had not been completed at the factory, and Lill's series documenting the first phase completion of the office building had not occurred until 1912. Therefore no photograph appears in the manuscript. A drawing of the design was most likely put in its place. Walter Gropius, "Monumentale Kunst und Industriebau," lecture delivered to the Folkwang Museum in Hagen (April 10, 1911). Original manuscript with collaged photos housed in the Bauhaus archive in Berlin (File number 5, Gropius manuscripts).
9 Emil Beutinger, "Die Faguswerke in Alfeld a. L.," *Der Industriebau* 4, n. 1 (1915).
10 Walter Gropius, "Die Entwicklung moderner Industriebaukunst," in *Jahrbuch des Deutschen Werkbundes* 3 (1913).
11 Ibidem, 17-22.
12 Giedion, *Walter Gropius: Work and Teamwork*, 91.
13 Ibidem, 98.
14 Walter Gropius, *The New Architecture and the Bauhaus* (Cambridge: MIT Press, 1965),18. Originally published in 1935 by Faber and Faber.
15 Sigfried Giedion, *Space, Time and Architecture* (Cambridge: Harvard University Press, 1941), VI.

2.2.5 Juxtapositions and Semantic Collisions of Text and Image in Architectural Magazines of the 1920s and 1930s

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Abstract
This paper deals with 'spatial' relationships of words and image – as proximity or separation of texts and photographs, photographs and captions – in some professional architecture magazines from the mid-1920s to the 1930s.
In this period, professional magazines offered a wide range of visual forms and strategies. Despite typographic experiments of the avant-gardes in the 1920s, most architectural magazines (not only doctrinally 'traditional', but also modernist ones as the Italian rationalist *Quadrante*) continued to be structured by rather classical layout, characterized by columns, symmetry, etc. They tended to perpetuate the relationship of word and image as established by periodicals in the 1880s. Moreover, in the 1920s *L'Architecte*, *L'Architecture vivante* and *Quadrante* systematically used separate plates for drawings and photographs, increasing effects of separation of the image of the building from its description. However, unexpected effects of this 'physical' distance gave rise to some semantic collisions, visual metaphors or ellipsis as in *Quadrante*. This paper will analyse such semantic collisions.
On the contrary, some magazines like *Das neue Frankfurt* or *Casabella* integrated the use of New Typography, of functional typography (for which they showed a constant interest) without being a "laboratory" for avant-garde experiment. Yet they hosted some innovative associations of words and fragments of images, sometimes included in a geometric grid. In *Casabella* this led in some sequences of articles ("Città 32") to the quasi disappearing of the text, unless captions or single words, associated with photographs – views of shops of Milano – constructing metaphors of the "modern life" of the metropolis.
In both these cases, this paper will analyse semantic associations generated by these juxtapositions, collisions or effects of distance between word and image. It will thus contribute to study interactions of photographs and words in the physical space of the magazine.

Keywords
Periodicals, perception, layout, rhetoric, photography, *Quadrante*

The dominant assumption in architectural historiography is that the widespread introduction of photography fundamentally transformed architectural publication in the 1920s. Furthermore, highlighting the alliance between photography and the 'new' architecture, several historians have considered the German language architectural books of this decade as spaces of exploration not only of visual forms, but also of a new logic of perception. Those books would be in accord with the slogan *Nicht Mehr Lesen! Sehen!*[1] launched in 1928 by Johannes Molzahn, painter, graphic designer, typographer and photographer. Architectural historians tend to accept the hypothesis, first put forward by the protagonists of New Typography, László Moholy-Nagy, Herbert Bayer, Jan Tschichold, and Johannes Molzahn, that there was a convergence between book design and the 'new' architecture. As well as the increasing primacy of image over text[2], new modes of perception were made possible by the simultaneity of texts and images: new *Buchgestalter* stated that the structure of the page, previously frontal and passive, becomes active and 'spatio-temporal'.[3] They supported the idea that reading had become a dynamic movement across the double page, which formed the new visual and perceptive unit of the book. More than typography or photography *per se*, a further mode of relating word and image is worth mentioning: the notion of *book space*, a term coined by El Lissitzky in the early 1920s.[4] This concept takes into account the mobility of the eye not only within a double page, but through the book considered as a whole. Beyond German and Central Europe avant-garde experiments, innovations were disseminated by 'functional typography' in a much broader commercial sphere. Thus, the history of graphic design and the history of the book assert that from the late 1920s, readers started to become familiar with advertising, and with popular illustrated and photo-magazines and that these visual innovations generated new apprehensions of printed material.[5]

Nevertheless it cannot be assumed that those experiments and visual innovations were transposed into architectural magazines – whether professional or avant-garde. In the 1920s and 1930s, architectural magazines offered a wide range of visual forms and strategies. A few, the more avant-garde ones,[6] like the Dutch *i10*, *Das neue Frankfurt*, *ABC*, used graphic and photographic aesthetics stemming from 'New Vision', 'objective photography' and functional typography. *Casabella* has often been analysed as a 'model' of coherence between critical content and visual form, stemming from German photography and typography:[7] but even this magazine did not fully take advantage of the new possibilities for the perception of the printed document.[8]

On the basis that photography transformed the aesthetic perception of the book, and modes of reading, several architectural historians have emphasized the visual strategies of architects' or critics' books. They have analysed the similarities with cinematographic montage in the assembling of fragments in Le Corbusier's *Oeuvre complète*[9]. They have also pointed out that in Giedion's *Bauen in Frankreich* (whose layout was by László Moholy-Nagy) there is a 'visual discourse' (photographs and long captions) running in parallel to the written discourse and intended for the 'hurried reader' (Giedion). We can partially invert this proposition to ask what are the effects of publication on the image? It seems that the relationship of photograph to editorial content involves, as the historian of the photography Olivier Lugon writes, 'the relationship text/image, the succession of pages, the very action of going through a volume.'[10] With this hypothesis – of the effects of the publication on image, rather than vice versa – I would like to examine several examples of the text/image relationship in the whole space of the magazine and to question the illustrative function of the image. Aware that they were published in different political and architectural contexts, I have selected two French professional magazines (*L'Architecture vivante*, *L'Architecte*) and the political and cultural review *Quadrante* (1933-36), a leading magazine of architectural debate in fascist Italy. My point is to demonstrate that in architectural periodicals, a 'traditional' layout paradoxically may present unexpected combinatory effects of word and image. These are clearly not due to graphic experiment. Nevertheless, we may consider the effects brought about by the new perception of the page or even of the book as a whole.

Professional magazines: the permanence of traditional form

Although architectural history has put into perspective the role of magazines like *L'Architecture d'aujourd'hui* in promoting the Modern Movement in the 1930s, their graphic design has hardly been analysed. A commonplace is that they take on a 'modern (or modernized) form' on account of the widespread introduction of photography[11] in ways that corresponded with the 'modern' nature of the editorial content. Graphic design in architectural publication has been studied *per se:*[12] nevertheless, it is only relevant for architectural history when considered in relation to the ideological, aesthetic and architectural statements of these magazines. Yet, we should not overestimate deliberate aesthetic intentionality in these layouts. As the case of *Casabella*[13] reveals, the intentions are for the most part uncertain. Despite typographic experiments of the avant-gardes in the 1920s, most architectural magazines remained structured by a rather classical layout,

characterized by columns, symmetry, and respect for the 'traditional' proportion of the margins. Most of the French architectural periodicals, even those founded in the 1920s and1930s, did not take advantage of innovations brought about by the functional typography. Moreover, in the anti-German ideological context of the interwar period, numerous protagonists of French graphic art openly took a stand against functional typography experiments, which were seen as emanating from German culture.[14] A more classical layout may also be the expression of a clear *retour à l'ordre* as it is in *L'Esprit nouveau* and in *L'Architecture vivante*. Secondly, the magazines perpetuate relationships of word and image within the frame of the printed page, as established by the long-lasting model of the 1880s architectural periodicals. Due to the halftone process invented and disseminated in the 1880s, photographs of a satisfactory quality could be printed on the same page as columns of text. Nevertheless, in the two last decades of the nineteenth century architectural magazines continued to use separate printed plates: they thus created, or perpetuated, a physical distance between the textual description of the building and its illustration by drawings or photographs.

The tradition of separate plates dominated architectural publishing till the end of the nineteenth century: the images functioned in a relative autonomy from the printed text. The cause was not only technical, it was also to do with the way readers used magazines. In *L'Architecte*, founded in 1906 and organ of the Société des Architectes Diplômés par le Gouvernement, editor-in-chief Jean-Louis Pascal[15] deplored that fact that 'In all periods, artists go through publications just like do children, looking at the images, and often this summary reading is enough for them'.[16] In his view, this kind of 'fast-reading' was responsible for the poor critical quality of texts – lower, he believed, in France than in other countries. In France, some nineteenth century magazines consisted of articles without relation with plates, and of plates printed separately from the related article.[17] In certain nineteenth century magazines such as *Revue Générale de l'Architecture*, plates were not used to illustrate the often long discursive articles but were often not bound with the journal so they could be detached to supply models for architectural details and copied in the *ateliers* of the Paris École des Beaux-Arts. Such a structure for a journal (one – or more – long texts, commentaries of the plates, *in-testo* drawings or photographs, separated plates) seems to remain standard till the 1920s: it is noticeable that in France, this was the case not only for magazines supporting traditional architecture like the conservative *L'Architecture* (1888-1940) but even for more moderate ones like *L'Architecte* (1906-14; 1924-35) or those supporting 'new' architecture like *L'Architecture vivante* (1923-33).

Such a structure also echoes technical and commercial choices. Technical, because *L'Architecture vivante* reproduced engraved plates by means of an expensive process, the *héliotypie*. Although anachronistic by the 1920s, the decision to continue using *héliotypie* was taken by the publisher, Albert Morancé: the plates of *L'Architecture vivante* were recycled in monograph volumes, sold separately, and from 1927 in *L'Encyclopédie de l'architecture* (1927-39): in the latter, which was more a collection of plates than a magazine, there was no longer any text, only plates. Morancé paid great attention to the graphic and documentary quality of the images: although their graphic quality made them real 'documents' (as stated by Le Corbusier when the magazine closed in 1933), most of them have no link to any particular part of a text, and often they represent buildings not even mentioned in the texts. Long texts – Platonic dialogues written by the architect-critic Jean Badovici – are interrupted by line-illustrations in the text; these illustrations echo the separate plates, but do not systematically relate to textual descriptions of buildings.[18] One can find similar gaps between text and image in *L'Architecte*. This professional magazine remained very distant, almost opposed to all the tendencies supported by *L'Architecture vivante* – De Stijl, Russian Constructivism, Le Corbusier. *L'Architecte* saw these as expressions of formal radicalism and fought against them, championing instead a 'modernised' rather than 'modern' architecture stemming from French rationalist tradition, as practised by Auguste Perret.

Most probably, in *L'Architecte* effects of juxtaposition and of distance were engendered by technical constraints. Indeed, in 1931, on the eve of a substantial transformation of layout and typography, *L'Architecte* announced that from now on, '(…) The layout of the text will be modernized and modified so as to allow juxtaposition of figures and their comments and to increase their number (…)'.[19] Yet, in numerous cases, texts with particular stances echoing *L'Architecte's* moderate position in the French debate are opposed to images that form a counterpoint to the opinions expressed in the articles. Titles strengthen such oppositions: for example, Perret's *École normale de musique* (Paris, 1928-29) illustrates a long theoretical article entitled 'Uniform Architecture'. *L'Architecte's* critic Jean Porcher and his technical adviser, the architect Michel Roux-Spitz, frequently used this expression to describe the architecture of 'avant-gardes', in which they included a wide range of modern radical architecture, and which they both rejected. 'Town planning, a traditional art', illustrated in 1929 by images of the *Werkbund* Exhibition in Breslau is a such a case of counterpoint between content and image. (Figure 1). Recurrent examples suggest that the choice of images was not completely fortuitous.

L'URBANISME, ART TRADITIONNEL

Figure 1. An example of opposition between contents and title of the text: first page of the article 'L'urbanisme, art traditionnel', in *L'Architecte* September 1929, 69.

Much more than layout, typography or even photographic innovations, the technically and spatially constrained frame of the printed magazine gave rise to two or even three parallel discourses. The structure created gaps between photos and texts, often physically distant. It is worth noticing that in *L'Architecte*, *L'Architecture vivante* and *Quadrante* there is an increasing autonomy of the three discourses. Whether fortuitously or deliberately, between the three distinct discourses of text, illustrations in the text, photographs and plates, there is the possibility for semantic collisions to occur.

Quadrante: evoking the corporatist city by image-text associations

Quadrante was founded in 1933 as the Italian debate on the fascist city intensified. In *Quadrante*, discussions of planning methods, on the structure and form of the so-called 'corporatist' city dominated the urban debate. Emerging in 1926 as a political theme for a new organization of the State and the society,[20] from 1929 to 1934 corporatism becomes part of the construction of the totalitarian State and of the 'reactionary mass regime'.[21] At the time of the creation of *Quadrante* in 1933, there were no concrete examples to point to, and although the idea of 'plan' was part of corporatism, the corporatist project for global economic and territorial planning remained a dead letter until the very end of the fascist regime.[22] From 1922 till 1943, the only major actions were the construction of new towns in the area of land reclamation on the *Agro Pontino*. From 1933 to 1935, the view that town planning should reflect on a territorial and spatial level the organization of the corporatist State was growing in political circles:[23] urban or regional scale master plans (*piani regolatori*) should become the 'unit cell of the regulating plan of the nation'.[24] *Quadrante* dedicated a substantial amount of editorial space to this political doctrine.

Figure 2. Aerial view as a vehicle for rhetoric expressing the order of the rational and corporatist city: 'ordine-gerarchia • disordine-caos: sintesi urbanistica: la città deve rispecchiare lo spirito del popolo' (Order-hierarchy • disorder-chaos: the city must reflect the people's spirit)
Quadrante n. 16-17 (1934), 41.

Yet, though the very rhetoric of the fascism constructs an analogy between fascist and corporatist city, the place and role of the CIAM functional city (supported in Italy by the *Quadrante* group of architects, Luigi Figini and Gino Pollini, BBPR) in the trilogy 'fascist city – corporatist city – functional city' remains rather indistinct. The link between corporatism – amply commented on by the magazine at the political level – and the rational city was never made directly explicit in *Quadrante*: that may be due either to the indistinctness of the corporatist idea at the political and social level, or to the difficulty of combining this idea with the CIAM rational city.

My hypothesis is that the visual organization of the magazine[25] plays an essential role in the representation and more, the concretization of the project of the combined modern *and* fascist city. Visual arrangements contribute to connect this project with the new political organization championed by *Quadrante*. The very point of this magazine is to demonstrate the equivalence, essential to the doctrine of *Quadrante*, between the CIAM rational city on the one hand, and corporatist fascist city on the other.[26] The visual discourse and its relationship to the text provides a powerful instrument of persuasion for this equivalence.

In spite of its traditional layout, divided into columns, the order of pages and plates plays a key role. The plates interrupt a continuous text, which apparently runs autonomously from the images. One can question the status of these images as 'illustrations'. Long articles expounding the corporatist political doctrine are juxtaposed with reproductions of projects – in particular the master plan for Pavia (Banfi, Belgioioso, Peressutti, et al. 1934[27]) and the plan of the new town of Sabaudia – suggesting that these are to be interpreted as consecrated examples of the corporatist city.

Moreover, *Quadrante* used only a limited number of professional town planning representations – maps, plans on urban or territorial scale – with the exception of the master plans of Pavia and of Milan,[28] or particularly for the new town of Aprilia.[29] Although its discourse on urban planning essentially concentrates on the relation between the rational city and corporatism, the magazine reproduces mostly images of *buildings* and numerous photographs of *models* of unimplemented projects. The aerial view is more a vehicle for rhetoric than an instrument of territorial analysis, as the photos of Lybian villages confirm: according to the architect Luigi Figini their 'simple, solar, geometrical, essential, tense, rectilinear profiles' reveal 'unexpected aspects of classicism'.[30] In aerial views they embody Mediterranean civilization – and '*mediterraneità*' is the very character of Italian rationalist architecture in the view the *Quadrante* group (Figure 2). These photographs and the accompanying comments stress the order and hierarchy of the urban form of these cities and villages: metaphors of the order of the rational city. Texts repeating the definition of the corporatist city (in its processes of planning more than in its spatial configuration) are recurrently put face to face with such aerial photos. These are included in series of all kinds of urban representations: high angle-shot photographs of orderly or chaotic crowds, are associated for example with aerial views of regular cities, or opposed to dense medieval urban fabric. Their organization on the page brings out the contrasts within these series. The confrontations of images and captions – which like slogans are mainly formed of word juxtapositions – echo the keywords of the fascist propaganda, i.e. opposition between chaos and hierarchy, between individualism and collective spirit.

The construction of the *Agro Pontinio* new towns offered *Quadrante* a further opportunity to strengthen the equivalence between the fascist modern city, the rational city and the corporatist city. Once again, the visual discourse is essential to formulating this concordance, which is not present in the texts.

The article on the new town of Sabaudia, "L'urbanismo di Mussolini" – one of the most significant texts on the *Agro Pontinio* land reclamation – is accompanied by photos illustrating agricultural scenes and, among these, a cliché high angle-shot of 'Duce celebrating the first harvest in Latina'. Here, one of the most advanced experiments of Italian rational city planning is illustrated by images of rural themes. The absence of specifically urban representations is striking. Nevertheless the theme of agriculture does not contradict the main issue: on a political level, the metaphor expresses the will of the fascist regime to emphasize the rural values of traditional Italy. Besides, the series of the images extolling these first harvests could confirm the interdependence between rational town planning and rural planning as contained in corporatist doctrine and disseminated by *Quadrante*.

The juxtaposition and sequences of images build a representation of the rational city, which in Italy, at the beginning of 1930s, existed only in very few projects, most of them unimplemented, either competitions launched in the first half of the 1930s of for new towns. Thanks to these rhetorical figures created by the visual arrangement, the magazine associated *Quadrante*'s own conception of the rational city - largely indebted to the CIAM discussions – with the evocation of the so-called corporatist city, which 'naturally' (as the text put it) stems from the corporatist political doctrine. The role of the images here was vital, since it was theoretically difficult to make the urban projects into demonstrations of corporatist principles. Thanks to semantic collisions generated by sequences and montages, it was the task of representations to express the equivalence between rational city, fascist city and corporatist city.

Conclusion

Relationships between texts and images draw mainly upon two rhetorical devices: opposition or counterpoint on one hand, and ellipsis on the other hand. Associations of images act as a substitute for the concrete realisation of the modern corporatist city. This modern city is in fact unrepresentable both because it does not exist, and because of the theoretical problems at stake in *Quadrante*, in making an equivalence between a political doctrine and functional city project. In the case of *Quadrante* the visual discourse is not indebted to the relations of typography and photography and the consequences of their conjuction on the page, but to the general structure of the magazine and in the semantic collisions it produces.

1 Johannes Molzahn, "*Nicht mehr lesen! Sehen*!," *Das Kunstblatt*, 12 (1928), 78-82, quoted by Matthias Noëll, "*Nicht mehr lesen! Sehen!* Le livre d'architecture de langue allemande dans les années vingt," in Béatrice Bouvier and Jean-Michel Leniaud (eds.), *Le livre d'architecture XVe-XXe siècle* (Paris: École des Chartes, 2002), 146.

2 *Das neue Frankfurt* (1926-30) had understood primacy of image on text: this journal had created the *Bilderberichte* (image-narratives), a kind of report formed only of images and captions on metropolitan, architectural and cultural actuality: art events, new buildings, photograms, pictures of exhibition, all this material was chosen par its correspondents, namely Roger Ginsburger in Paris and Adolf Behne in Berlin.

3 'The book is to be read, from left to right and from top to bottom. But at the same time it is to be seen, the whole page at a glance. Due to this simultaneous process (acoustic – optical), the modern book has been enriched by a new 'plastic' dimension. The old phrase structure was passive and frontal, while the new phrase structure is active and spatio-temporal'. (*Das Buch wird gelesen, und zwar von links nach rechts und von oben nach unten. Aber gleichzeitig wird es gesehen, die ganze Seite auf einmal. Durch diese gleichzeitige Vorgang (akustisch – optisch) hat sich das moderne Buch auf eine neue 'plastische' Dimension bereichert. Der alte Satzaufbau war passiv und frontal, während der moderne Satzaufbau aktiv und raumzeitlich ist.*). Theo van Doesburg, "Das Buch und seine Gestaltung," *Die Form, Zeitschrift für gestaltende Arbeit*, 21 (1929), 569.

4 This concept 'collapses the distances between the literary artefact and the documentary form of textuality whose home is the modern bureaucratic archive.' The word is coined for the first time in: El Lissitzky, "Typographie der Typographie," *Merz* (1923) (reprint in Sophie Lissitzky-Küppers, *El Lissitzky*, 1967). On this concept see Frederic J. Schwartz, "Book Space: Walter Benjamin, the Kunstwerk-*Aufsatz* and the Avant-Garde," *Kritische Berichte*, vol. 28, 3 'Die Medialiesierung in der Architektur' (2000), 21-43.

5 Philip B. Meggs, *A History of Graphic Design* (New York: Van Nostrand Rheinhold, 1992).

6 Some of them like the Dutch *i10*, *ABC* or *Das neue Frankfurt*, still close to avant-gardes are spaces of layout experiments. They express their faith in the concordance of the visual form of the printed objet and architecture. In *i10* and *Das neue Frankfurt*, reports on New Vision (the *i10* director Arthur Müller Lehning invites in 1927 László Moholy-Nagy to be 'film and photography editor') and on New Typography (*Die neue Typographie* de Jan Tschichold is reviewed en 1929).

7 In "Casabella e cinquant'anni di architettura 1928-1978" (*Casabella* 440/441, 1978), Gae Aulenti stated that *Casabella* layout represented an attempt to 'express the original of the [published] architecture: a real transformation process that consists in its own characteristics', due to 'a continuous effort to identify the signification of architecture'. Among these analyses, Antonio d'Auria, "Edoardo Persico architetto e grafico," in Cesare De Seta (ed.), *Edoardo Persico* (Napoli: Electa, 1987), 130-44; C. De Seta, *La cultura architettonica in Italia tra le due guerre* (Bari: Laterza, 1989); more recently Chiara Baglione, *Casabella 1928-2008* (Milan: Electa, 2008).

8 Hélène Jannière, *Politiques éditoriales et architecture moderne: l'émergence de nouvelles revues en France et en Italie, 1923-1939* (Paris: Arguments, 2002), ch. 6. More recently on *Casabella*: Rossano Astarita, *Casabella Annitrenta: una cucina per il moderno* (Milan: Jaca Books, 2010) and for a general survey of 80 years of the magazine as well as a collection of significant texts: Chiara Baglione, *Casabella*.

9 Jean-Louis Cohen, "L'Œuvre complète de Le Corbusier et Pierre Jeanneret, entre document et fiction," in Jean-Philippe Garric, Estelle Thibault, Emilie d'Orgeix (eds.), *Le livre et l'architecte* (Wavre: Mardaga, 2011), 78-81; Gérard Monnier, "Le Corbusier: l'image et le texte dans L'Œuvre complète," in Alain Montandon (ed.), *Iconotexte* (Clermont-Ferrand: CRCD-Ophrys, 1990), 205-15.

10 Olivier Lugon, "La photographie des typographes," *Études photographiques*, 20 (2007), 100-19.

11 The typographer Jacques Nathan elaborates the layout of *L'Architecture d'aujourd'hui*, the 'spiral magazine' according to the principles and dominating taste of the Union des Artistes Modernes (UAM, founded 1929) typography, that was mainly disseminated from the 1932 UAM exhibition. See Michel Wlassikoff, *Histoire du graphisme en France* (Paris: Les Arts décoratifs - Editions Carré, 2005).

12 See Catherine De Smet, *Vers une architecture du livre. Le Corbusier, édition et mise en page* (Bade: Lars Müller, 2007). See Sonia De Puineuf's writings, namely "Le livre comme édifice en papier: Zdenek Rossmann, un architecte typographe des années 1920 1930," in Garric, Thibault, d'Orgeix (eds.), *Le livre et l'architecte*, 231-40.

13 The critic Edoardo Persico and Guido Modiano, typographer and printer, had collaborated for new layouts.

14 In the 1920s, main protagonists of French typography (Charles Peignot, Maximilien Vox, Cassandre) champion a typography which would perpetuate French tradition of the book. See Roxane Jubert, "The Bauhaus Context: Typography and Graphic Design in France," *Design Issues*, vol. 22, 4 (2006), 66-80.

15 Jean-Louis Pascal has built the Periodicals reading room of the Bibliothèque nationale (1906-32). He was 'patron d'atelier' (professor) at the Paris École des Beaux-Arts.

16 Jean-Louis Pascal, "Au lecteur," *L'Architecte*, January 15, 1 (1906), 1-2.

17 Marc Saboya, "Le travail sur l'image dans la presse," in Béatrice Bouvier and Jean-Michel Leniaud (eds.), *Les périodiques d'architecture XVIIIe-XXe siècle. Recherche d'une méthode critique d'analyse* (Paris: École des Chartes, 2001), 73.

18 This structure lasts until 1927: at this turning point, *L'Architecture vivante* reproduces an increasing quantity of Le Corbusier's projects and articles.

19 *L'Architecte*, 12 (1931), 101.

20 That was the Giuseppe Bottai's response to the crisis of the liberal State; Bottai (1895-1959), a journalist and essayist, founded *Critica fascista* in 1923. Originally politically situated at the 'left wing' of the Fascist party, he was appointed on November 6, 1926, under-secretary then in 1929 minister of Corporations.

21 E. Ragioneri, "Storia politica e sociale," in *Storia d'Italia*, vol. 4, 3 (Turin: Einaudi, 1976), 2199.

22 Ibidem.

23 Guido Zucconi, *La città contesa. Dagli ingegneri sanitari agli urbanisti, 1885-1942* (Milan: Jaca Book, 1989), 175-6.

24 Gaetano Ciocca, "La città corporativa," in *Quadrante* 11, March (1934).

25 Juxtaposition of images, photomontages

2. REPRESENTATION AND COMMUNICATION

signed by one of *Quadrante* main critics and main protagonists of the relations between the architects and the fascist State, Pier Maria Bardi. Fascist visual rhetorics have been studied, namely concerning, significant exhibitions as *Mostra della Rivoluzione Fascista* (1932), vehicle of a propaganda and of aesthetic form. See Marla Stone, "The state as Patron: Making Official Culture in Fascist Italy," in Matthew Affron and Mark Antliff (eds.), *Fascist Visions. Art and Ideology in France and Italy* (Princeton: Princeton University Press, 1997), 205-38.

26 See David Rifkind, *The Battle for Modernism. Quadrante and the Politicization of Architectural Discourse in Italy* (Venice: Marsilio, 2012). For a further analysis of *Quadrante*'s cultural aspects, see Franco Biscossa, "'Quadrante': il dibattito e la polemica," in Giulio Ernesti (ed.), *La costruzione dell'utopia, architetti e urbanisti nell'Italia fascista* (Rome: Edizioni Lavoro, 1988), 67-89, and for its politics of image, Hélène Jannière, "Images d'une ville moderne pour l'Italie fasciste. La photographie publiée, Quadrante 1933-1936," in Frédéric Pousin (ed.), *Figures de la ville et construction des savoirs* (Paris: CNRS Éditions, 2005), 117-27.

27 Architects: E. Aleati, G. L. Banfi, L. B. di Belgioioso, G. Ciocca, M. Mazzocchi, E. Peressutti. See *Quadrante* 11 (1934), plate 11.

28 "Sul piano di Milano," *Quadrante* 14-15 (1934-XII), 46-7.

29 "Inchiesta su Aprilia," *Quadrante* 33 (1935-XIV), 1-13.

30 Luigi Figini, "Case di Libia (aerofotografie)," *Quadrante* 16-17 (1934), 43.

2.3 Layers of Meanings: Narratives and Imageries of Architecture Open Session

OPEN SESSION CHAIR:
CÂNÂ BILSEL
Mersin Üniversitesi, Mimarlık Fakültesi, Turkey

2. REPRESENTATION AND COMMUNICATION

2.3.1 The Plan as *Eidos*: Bramante's Half-Drawing and Durand's *marche*

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Abstract
This paper discusses the role that the plan has played in the formation of an architectural discourse on the modern city, a discourse that has enabled a particular articulation between the individual and the collective. By confronting Bramante's plan for S. Peters Basilica (1503) with Durand's Method of Composition summarized in his *Marche* plate (1802) a modern conceptualisation of the plan unfolds, which can be explained through the philosophical notion of *eidos*. Beyond the plan's role as 'representation' these drawings set a function as 'communication', and furthermore, as 'organisation'. A descriptive (ekphrastic) and diagrammatic nature is behind the Bramante's half-plan drawing, what Durand systematized under his method of composition. The plan gradually becomes the site for abstraction where the essential (and typical) form of an idea ought to emerge.
The Greek term *eidos* meant 'idea', 'form' and also 'type'. As *eidos* the plan exposes as a metonymic process that makes visible the essential and fundamental organizing principles of its form, which emerge from the operations undertaken within the plan itself, as opposed to external or metaphorical references. From Bramante to Durand the plan reveals its diagrammatic and typological nature. This allows the plan to escalate from the scale of architecture to that of the city. These ways of discussing the plan enable us to frame its potential in mediating the world of architectural objects and the larger scale of the city and the territory. This narrative not only constructs certain archaeology of the plan, but also questions the relationship between drawing and particular modes of thinking and production of the discipline.

Keywords
***Eidos*, abstraction, type, diagram, syntax, Foucault**

Bramante's half-plan: abstraction and diagrams
Abstraction is at stake in the drawing of Bramante's plan for S. Peters Basilica in the beginning of the sixteenth century. It is not a drawing, but being half of it, in many respects can be taken as a sort of ground zero of the idea of the Plan. It is an exaggeration of the plan's logic: it first abstracts each element to its minimal expression eliminating everything accessory to the point of leaving just walls, columns and steps, lines and shadows. This sense of genericity and synthesis is emphasised by an underlying grid of nine equivalent squares, each subdivided into four more, equal and minor squares, enclosures without specific attributes or hierarchy with the exception of the central space (the dome) to which all other refer. There is no identifiable access with the exception of four potential entries with steps that enter to an equivalent inside.
A descriptive and diagrammatic nature is behind Bramante's half-plan drawing. The plan for the Basilica materialises the idea of economy, but also the search for essentials and generic attributes. Its composition follows the rules of efficiency; it is horizontally, vertically and even diagonally symmetrical – emphasised by the fact that in the original drawing by Bramante, only half of the Plan was drawn with the other half indicated, similar to the mode that Beaux-Arts 'indications' will develop later in the nineteenth century.[1] Only a piece of the project is drawn, given that the others can be inferred from the one deployed. In fact, in Bramante's drawing, only an octave of the plan could have been drawn for accomplishing the same effect. This anticipates the potential of the Plan to act as a radical act of description, an ekphrastic operation that not only confirms the departure from analogies and similitude (based on metaphors) into the syntactic (and metonymic) nature of the Plan, but also anticipates a diagrammatic relation in which the whole can be inferred from the part.
The idea of economy of means, the abstraction of coding systems, and the notion of transmission of knowledge and communicability are already main concerns of Bramante's drawing. Ultimately, Bramante's plan operates as an autonomous device with a function in the realm of paper independent of its existence as building reality (since his proposal was never constructed or realised). As influential as the plan was on paper, it was never really put into practice as drawn. It is Raphael[2], commissioned by Pope Leo X, who later puts forward an alternative of what Bramante devised – a drawing that functions in itself within the realm of paper.

Natural sciences: from the visible to the invisible
In the seventeenth and eighteenth centuries - amid Bramante and Durand - the man gradually became the subject of scientific knowledge, following Michel Foucault,[3] the man became subjected to the norms of *mathesis*

(universal science of measurement and order), *taxinomia* (classifications) and *genesis* (origins), and furthermore the consciousness of a linguistic basis of representation. The changes in the natural sciences run in parallel to transformations in other disciplines including architecture. A reorganized mode of thinking implied profound effects on the modes of production and dissemination of knowledge in which graphical means and visuality became central devices within a process of spatialisation of knowledge, the drawing of the Plan turning into a mode of knowledge production: a graphic device for registering, framing and organising knowledge.
It is important to note that the nineteenth century bore witness a process of change in which buildings and territories were shaped no longer by purely visual criteria, but rather by forces, which no longer responded to the realm of the visible. A tension between visibility and invisibility lies at the core of such change – one that is inextricably linked to transformations in the realm of the natural sciences.

An intensive collection and further classification of data took place in many different disciplines during the eighteenth century when the project of taxonomies of living beings propagated that to classify, implies to 'name', and only by classifying and naming can something eventually be 'seen'. Carl Linnaeus' *Species Plantarum* (1753) and Buffon's[4] *Histoire Naturelle* (1749) are the best-known classificatory examples. In both studies, drawings of plants and animals appear organised in comparative tables according to predefined visual criteria. Knowledge is produced by means of visual and spatial modes.
It is no coincidence that species and visibility are etymologically interwoven. The word species comes from the Latin *'specio',* which means 'to look or to behold'. It carries the implication of a seeing, a sight, but also of form, shape, and appearance, the set of visible features, which ultimately defines taxonomic groups. Such features cannot be removed from a thing without losing its essence. To identify a species means making its formal and material features into essences; the visible becomes a describable, orderable entity.
Cuvier by the end of the century breaks with this tradition. For him the form of the organisms is not important, but the logic governing naming was placed on internal and invisible organs. Cuvier's displays for the Museum of Natural History in Paris, where he was professor of zoology, evidence a museum practice that is, from start to finish, based around the production of graphic means, mainly pictorial images.[5] The 'gallery of comparative anatomy' opened in 1806 under Cuvier's direction and sought to explode nature in order to reveal the inner principles of its 'organisation' beyond the concerns of external form. An emphasis on 'organs', 'systems' and the arrangement of skeletons in classes provided 'the hidden basis for their external resemblances',[6] the key to Cuvier's taxonomic groups. As his biographer has described, Cuvier's galleries at the museum 'were full of objects to be looked not at, but *into*.'[7]
The term 'genre' is of a different nature, representing the criteria employed by later figures such as Cuvier. The word comes from the Latin 'genera' and 'genus', means 'birth, race and stock'. While both 'species' and 'genres' refer to a 'class of things' with common characteristics that can be divided into subordinate kinds, the former establishes an inseparable link with what is visible to the eye, the latter by definition is more ambiguous and abstract – it is what determines whether an entity is included within a group or not. While 'species' relates to the visible form of organisms as the criteria for classification, when paired with the word 'genre' the criteria changes, registering a transition that architecture will not be exempt. Function governs taxonomical logic.
The possibility of classification now arises from the elements most hidden from view, 'life' in the case of living beings; 'utility' in the case of buildings. The abstraction of such criteria is precisely what anticipates the disappearance of the project of a natural *taxinomia*, opening new paths of development. For Cuvier, as will be for Durand, the visible forms, real magnitudes or exact numbers that the animals (or buildings) and their organs (or elements) have in common are not important, but the criteria to choose and put the cases together is based on more intangible features.

Durand's comparative plates: the construction of a type

The invisibility of functions plays the governing and determining role in Durand. Utility turns in Durand's drawings into the criteria of classification as well as the criteria of evaluation. When a building is considered in relation to its programme a non-mimetic resemblance predominates where there is no identical element of relation: the resemblance is constituted by the transition of the function into evident invisibility. And the Plan conveys the revelation of invisible 'deeper causes', as discussed by Foucault:

> To classify, therefore, will no longer mean to refer the visible back to itself…[but] to relate the visible, *to the invisible, to its deeper cause,* as it were, then to rise upwards once more obvious signs displayed on the surfaces of bodies.[8]

Plates that compare plans of buildings of the same kind became the visual basis for Durand teaching at the École des Beaux-Arts in the early nine-

teenth century. This graphic form of comparison does more than merely illustrate or represent. It becomes a means to collect, classify, produce, and ultimately disseminate knowledge. Durand collects elements of buildings which are put together under the same category: vestibules, porches, staircases, cores, and so on, cataloguing what he defines as the essential *parties* of a building. Different sizes, shapes and forms all fall under the same category. Their use is what brings them together. In the case of 'vestibules' the condition to belong to the group could be all those parts of buildings that qualify as antechambers, halls, or lobbies next to the outer door of a building. There is no unique formal answer to the requirement, but this is a kind of resemblance based on the variability of a single theme – one that is at the same time absent from all the possible describable cases, yet present in the whole genre in its entirety. Distant in time and place buildings are composed in single plates, brought together by the invisibility of their functions. The acts of drawing (and redrawing), sizing, scaling, editing and transcribing play a central role.

Durand compared not only buildings, but also autonomous building elements, extracted from their original context. Porches, stairs, doors, vestibules in which not only time and place are eliminated but also the building they belong to. Building parts are 'extracted' and 'abstracted', removed from their original surroundings and furthermore reduced to their minimal expression. It is through abstraction, understood as 'the process through which man seeks to define generic frameworks rather than specific solutions',[9] that Durand's elements start to exist as a condition, as an idea or typology, rather than in their physical or concrete existence. Abstracted from their external reality, each case is deprived of its autonomous existence and therefore begins operating only in relation to a collective idea of what a core, a stair or vestibule is. Abstraction explains the radical instrumentality of the Plan, and its attempt to reach universality.

In order to arrive to these final diagrams Durand not only 'corrects' original drawings, but also manipulates building forms into abstract schemes in order to prove his point. In these terms, redrawing can also be seen as the planning of a specific set of arguments, ideologically tendentious, an operative action. The Plan, other from editing, naming and classifying, it enables prescribing. In architecture these procedures convey a process of intervention through abstraction that makes each project a process of production of a norm, and furthermore, of typological production. In the same way that Durand modified the drawings of the buildings in order to universalise the knowledge he wanted to transmit, such operations were common in dictionaries and encyclopaedias at the time. The focus of concern was transversally placed in the tracing back in time of one category (in the case of language and the encyclopaedia), of a genre of living being (in the natural sciences), of a type of building (in architecture).

As a distinct category from 'species' and 'genres', 'type', while also referring to a category of things having common characteristics, inasmuch as 'imprint' and 'impression' more emphatically points to the identity and character of such group: what makes it different from others. In these terms there is a reciprocal relationship between the notions of type and character identified in their etymologies. In the original Greek, 'type' not only meant 'model, matrix, mould', but also 'imprint, impression' (*typos),* which closely relates to the meaning of character insomuch as 'marking, engraving, as the distinctive sign of something'. Furthermore the idea of 'character' is also connected with Quatremere's definition of the plan as imprint. In the *Encyclopédie Méthodique* he traces the meaning of the word plan to the *ichnographia,* where '*ichne*' means the impression of a footprint.[10] In turn, in the entry '*ichne*' of the *Encyclopédie* of Diderot and Alembert the term is related to 'trace' and 'vestige'. *'Ichnographie'* signifies the plan or track formed as a ground for the base of a corpus supported. From *'ichne'* and *'scribo',* to 'describe', then *'ichonographie'* refers to the description of the imprint (either drawing or writing) of the trace of a work, that is, a plan: *La ichnographie est la même chose que ce que nous appelons 'plan géométral', ou simplement 'plan'.*[11]

Durand's *marche* and *mécanisme*

From Bramante to Durand, the Plan gradually becomes the site to abstract the essential and typical form of an idea. In a similar vein as anatomy in Durand's method buildings were dissected, opened and decomposed in their many parts, treated as forensic[12] evidence in which each part was the object of exhaustive analysis. From the scale of the machine to that of the factory and the industry, the same sequential process of assemblage of simple parts into complex configurations applies.

The mode of conceiving a Plan opened up by figures such as Bramante - metonymic as opposed to metaphoric – is reified by JNL Durand's method. One based on comparison, coding and syntax, as the grammar of a language. Knowledge and language become interwoven, objects and buildings are decomposed into fundamental units, or phonemes, and thought in a logical space or framework: a linguistic matrix. Language becomes a central category to the production of knowledge in which the vocabulary proper of each discipline is to be composed and recomposed in the mode of a tracing paper, like the graph paper that became the site of Durand's planning method.

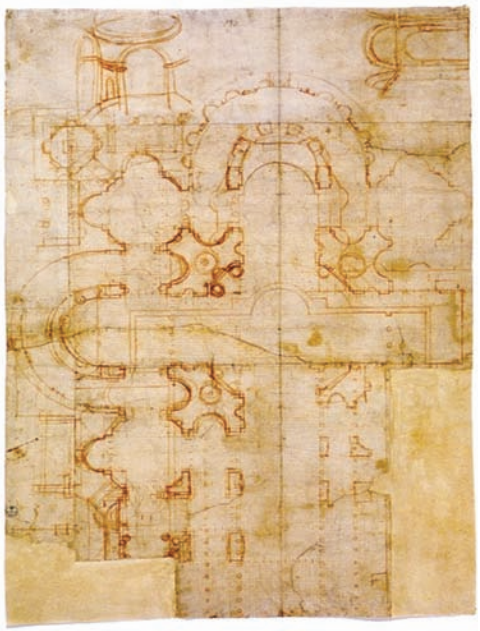

Figure 1. Ground Zero of the Idea of the Plan. Bramante's half-plan for S. Peter Basilica, 1502. In: Franco Borsi, *Bramante* (Milan: Electa, 1989), 75.

The drawing of plans witnessed the departure from the Renaissance episteme based on 'similitude, analogies and affinities', in which resemblance used to play a central role. In that mode of knowledge everything named had its own real, mirrored, counterpart. The classical orders were likewise conceptualised, each order having an analogical counterpart: the virgin, the matron and the strong man. That mode is radically reorganised along the eighteenth and nineteenth when, as Foucault discusses, 'the form and the content of what we know became dissociated' and therefore 'words ceased to intersect with representation, and representation ceased to provide an immediate grid for the knowledge of things.'[13] Instead of the similitude behind the drawings resembling the human body or nature, the critical instrumentality gradually becomes representation itself, and thus 'to say things and to name them, the crucial is to put them in order; comparison becoming thus the new function of order.'[14] This implies a transformation of how knowledge is produced but also transmitted. The above introduces the act of drawing a plan as analytical tool endowed with an epistemological function. By means of such repetition, buildings can be compared and named, classified and typified. It opens the act of redrawing as the process through which the Plan reveals its eidetic nature.

The economy of means behind the drawing of a plan, from Bramante to Durand, uncovers its diagrammatic potential and its generative function in the production of types. The term *eidos* (plural of *eide*) of Greek origin meaning 'form, type and idea' contains a nexus of important philosophical concepts. In brief terms it means 'something that is seen', which is derived from the verb *eido,* meaning 'to see'. That which is seen is often the 'form' or 'shape'. It refers to 'species' and 'types', the essence of things and the world of universals; and in this sense, as the relation between the particular and the general. *Eidos* is also used as the 'identity and organising principle of a process'. With Durand the Plan turns into the site of *eidos*, the place for seeing and for categorising the essential form of things. In order to do so, composition requires the act of manipulation, of writing and rewriting. In the plan things are to be classified, redrawn and retraced, and herein lies the potential of the Plan for abstraction and diagramming.

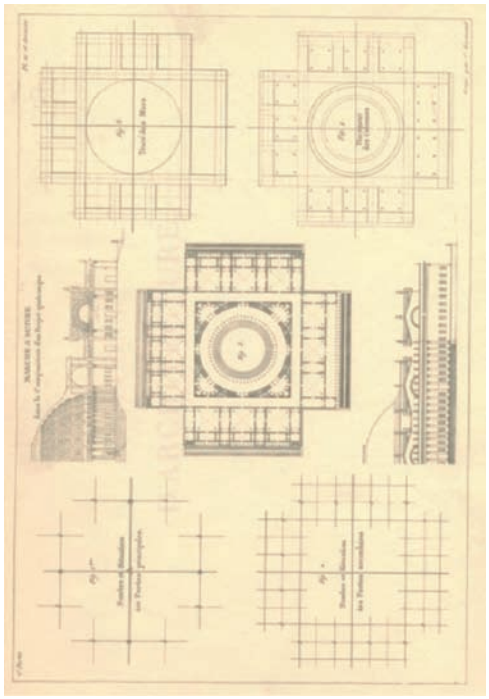

Figure 2: *Marche à suivre dans la composition d'un projet quelconque*. JNL Durand, *Précis of the Lectures on Architecture: With, Graphic Portion of the Lectures on Architecture*, edited by Antoine Picon (Los Angeles: Getty Research Institute, 2000).

When in a single plate Durand collects past drawings to construct an evolutionary history of a building as a typology, the drawing of the Plan not only represents but analyses, scales, measures, orders and selects the relevant from the obsolescent. Redrawing buildings (and their parts) at the same scale and under the same form of visualisation enables proper comparison, therefore making this very act the precondition of typologies – the core of the notion of type and the eidetic nature of the Plan. Durand not only 'corrects' original drawings, but also manipulates building forms into abstract diagrams. Redrawing thus can also be seen as the planning of a specific set of arguments, ideologically tendentious, an operative action. This is precisely its most radical potential. The drawing of a Plan conveys a process of typological production which by ignoring certain aspects of building form, and reducing others to their minimal expression, is able to edit (by redrawing), to name (by classifying) and eventually prescribe (by composing) a certain kind of knowledge.

Durand's plate exposes the drawing of the plan as a metonymic process that makes visible the essential and fundamental organizing principles of its form. This emerges from the internal operations undertaken within the Plan itself, as opposed to external or metaphorical references.

The diagrammatic potential of Bramante's plan on the other hand enables to transmit and convey information in a condensed and synthetic form, enables while drawing the plan of a building to be thinking and considering matters beyond the limits of the plan itself. The capacity of Bramante's plan to refer to a whole by depicting a part only (to be unfold), and the conceptualisation of the plan as the place for composing and tailoring strategies of organisation in the case of Durand, are two sides of a common development that eventually will locate the plan of the single building unit as the central device of the technologies of government of the urban. This is the mode of relationship between architecture and the city which dominates in the first decades of the twentieth century.

Such capacities of the Plan to describe the essence of a building led to a typological approach to the discipline.[15] From Bramante to Durand the Plan reveals its diagrammatic and typological nature which allows escalating from the scale of architecture to that of the city. These ways of discussing the Plan enable to frame its potential in mediating the world of architectural objects and the larger scale of the city and the territory.

The manipulation of the architectural plan becomes the site to be thinking and producing the city, while designing the scale of architecture. Bramante and Durand's drawings set the grounds in which the plan developed, beyond representation, as an instrument to visualize principles of organisation and administration. Through the composition of architecture's fundamental units (meant to be repeated) the potential typological management of a territory is enabled. If in Bramante's drawing the whole could be inferred from a part, without defining all the stages between those poles, Durand's proposed an understanding of architecture based on the assemblage of fundamental units. This is a mode of relation in which the architectural element, translated in the form of typical unit is transferred into an urban element: a diagram of organisation of the whole.

1 'Indications' was a technique in Beaux-Arts in which a quick sketch, or a part of the drawing was to indicate how the drawing should be finalized. Beaux-Arts' indications can be understood as the plan's communication system – a language of drawing for communicating a scientific, rational, and above all, universal knowledge. On the one hand an indication is an abstraction – a simplified version of the final piece; on the other hand it exaggerates and highlights in an ekphrastic and vivid manner the essence of a plan. John Harbeson, *The Study of Architectural Design: With Special Reference to the Program of the Beaux-Arts Institute of Design* (New York: Pencil Points Press, 1926).

2 The origins of orthogonal projections have been located in Brunelleschi's drawings for the Dome of Florence (1420-36); other authors point to Alberti in terms of synthesis and diffusion of the method (1443-52); and some identify the origins in a 1519 letter presumably written by Raphael Sanzio, Baldassarre Castiglione and Donato Bramante to Pope Leo X (the letter's authorship is still in dispute), which narrates the condition of the Roman monuments and ruins at the time and introduces Raphael's measured drawings of an inventory of the ancient ruins of Rome. As requested by the Pope, the letter describes the systematised graphic documentation of the Roman remains. The letter extends and completes Brunelleschi's work and Alberti's theory of rendering the standard representations of a building – that is, plan and elevation, including the section.

3 Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Pantheon Books, 1966).

4 Georges-Louis Leclerc Comte de Buffon.

5 Martin Rudwick, "George Cuvier's paper museum of fossil bones," *Archives of Natural History. The Society of Natural History* 27 (2000), 51-68, 64.

6 Dorinda Outram, *Georges Cuvier: Vocation, Science and Authority in Post-Revolutionary France* (Manchester: Manchester University press, 1984), 176.

7 Ibidem, 176.

8 Michel Foucault, *The Order of Things*, 249.

9 Definitions given by Pier Vittorio Aureli in the seminar 'A Brief History of Abstraction in Architecture: Design and the Administration of Life', Session 1, 16 October 2013, at the Architectural Association, London.

10 Antoine-Chrysostome Quatremère de Quincy, *Encyclopédie Méthodique. Architecture Ou Par Ordre De Matières; Par Une Société De Gens De Lettres Se Savans Et D'artistes. Vol. Tome Premier* (Paris: Panckoucke, 1788), 141.

11 Denis Diderot and Jean Le Rond D'Alembert, *Encyclopédie. Dictionnaire raisonné des sciences, des arts et des métiers*, vol. 2 (Geneve: Chez Pellet, 1779), 481.

12 Etymologically, 'forensic' means 'pertaining or suitable to courts of law', from its Latin source *forensis*, 'of a forum, place of as-

sembly', and in practical terms thus refers to the skills of presenting evidence before a gathering of citizens in a forum such as a court. Through the notion of the forensic, architecture intersects with history, with scientific techniques to dissect anatomies, and with the strategies and tactics of laws. The idea of the forensic also involves the act of reconstructing a scene; principles of forensics assume the archaeological recomposition of a set of spatial relations. Under these circumstances, objects become registers and active material witnesses to be interrogated. Initially undertaken in a piecemeal fashion, it is through this historical reconstitution that pieces commence, making sense with each other and with the whole scene.

13 Michel Foucault, *The Order of Things*, 60.

14 Ibidem.

15 The Greek term for description, ekphrasis, was the rhetorical term used to refer to a verbal evocation depending on the synthetic power of words. Ekphrasis literally means expression (to speak out, tell, and fully describe), from ek ('out, ex-') and phrazō (explain, point out). It is the rhetorical device in which one medium of art tries to relate to another medium by defining and describing its 'essence and form', and in these terms, the rhetorical ekphrasis shares the meaning with that of the philosophical eidos. Due to its synthetic nature the rhetorical figure of ekphrasis explains a central aspect of the rhetorics underlying planning. Today ekphrasis is used to mean the literary description of a work of art, and in these terms mediates the relationship between words and images. Ekphrastic representations attempt to reconcile the tension between image and text, that is, between objects and discourse.

2.3.2 'What do Pictures Really Want'? Photography, Blight and Renewal in Chicago

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Abstract

Between 1954 and 1962, the Women's Council for City Renewal of Chicago presented the slide program 'This is My City' in schools, churches and various community centres. The slide show consisting out of 68 slides with matching commentary projected what kind of a city Chicago was and how the activities of citizen groups contributed to better housing. If the Women's Council did not utilize these photographs in slide shows, they published them in books and governmental publications or hung them on exhibition panels in libraries. Photography's impact on the debates and policies of urban renewal, however, is not accurately reflected in academic research. What we can observe instead is a split between photography, architecture and urban renewal, caused by the classification of photographs into a photographic archive, disconnected from its original conditions of production. In this presentation I want to demonstrate that photography did play a fundamental role in renewal, by exposing how a discourse around renewal was developed and how it earned public support or refusal.

As a proof of the role of photography in this revitalization process, I will present the photographic collection of the Women's Council. How the Women's Council created a discourse around photographs will be discussed through the works of the neglected Chicago photographer Mildred Mead. Mead volunteered for the Women's Council from 1947 until 1960. This exposition will follow the three layers of investigation proposed by W.J.T. Mitchell – image, object and medium – to answer the vital question 'what was this collection of pictures meant for?'. Mitchell states that visual culture is not only about the relation between visual and textual images, but also about the material support on which the images appear. It's this assemblage of visual, textual, material and symbolic elements that will be discussed here to show how the media, citywide organizations and local government constructed a case for renewal, using photographs as their star witness.

2.3.3 Content, Form and Class Nature of Architecture in 1950s-China

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Abstract

A retrospect of the history of architecture in twentieth-century China indicates that the 1950s, in between the two peaks of 1930s and 1980s, is a significant transition in the historical process. Nevertheless, in most historical narratives, the relation between political ideology and architecture during that period has been over-simplified. Moreover, since the drastic change of ideology in the 1980s, most of the discussion on architecture in the 1950s has been buried in oblivion.

A typical example is the *Anthology of the Journal of Architecture (Chinese): 1954-2003* (2004), in which the articles most influenced and dominated by politics of the 1950 and 1960s were omitted intentionally, and instead, the articles that look more 'academic" were selected. Such a situation also happened in some scholars' individual anthologies. While reshaping the form of history and reconstructing a new genealogy of Chinese modern architecture, this kind of selectivity has wiped out the architectural discourse in 1950s and caused confusion about the intention of articles of the 1980s, as well as their certain characteristics. Furthermore, the absence of critical description on the development of the discipline of architecture in the 1950s and the analysis of its effect might have a hidden impact on contemporary architectural discourses.

This paper selects three groups of articles concentrating on the important topics of controversies in the *Journal of Architecture* in 1955-59. Through close reading of these articles in the historical context, the paper attempts to open new perspectives of discussions under three topics, content/form, class nature of architecture, and beyond that, the general discursive mode. It argues that though unnoticed, the architectural discourse of the 1950s is still having an impact on contemporary discourses.

Keywords

Architectural discourse, class nature, content, form, 1950s

A retrospective look of the history of architectural discipline may show that the relation between theory and practice was sometimes close, sometimes distant. What happened in the 1950s China offered an example of such extreme separation of theory and practice to the extent that the connection between architectural discourse and practice could hardly be discerned.[1] Thus, it is because of this that this period has been widely ignored by contemporary researchers. Intentionally or not, scholars have always been inclined to seek 'positive' aspects and ignore the profoundly ideologized discourse of architecture that was, as a matter of fact, prevailing in the 1950s.

The typical evidence is *The Anthology of the Journal of Architecture: 1954-2003*[2] published in 2004. As the only professional journal in Mainland China between the 1940s and 1980s, *The Journal of Architecture*[3] is crucial for understanding the architectural discourse in the 1950s. In the anthology, the articles most influenced and dominated by the ideology of the 1950s and 1960s were omitted consciously, and instead, the articles that looked more 'academic' were selected.[4] Similar situations also happened in some scholars' post-1980s published oeuvres.[5] By reshaping the history and reconstructing a new genealogy of Chinese modern architecture, this kind of selectivity has wiped off the architectural discourse of the 1950s, and thus caused confusion about the intention of articles of the 1980s. Furthermore, without a critical reflection on the legacy of the 1950s, its impact on contemporary architectural discourse could not be properly identified.

Nevertheless, having re-examined the history of the formation of architectural discipline in twentieth-century China, we definitely find that the 1950s, in between the two peaks of the 1930s and 1980s,[6] is a significant period in the historical process. Not only is it essential for understanding the transition between the two periods, but also the abundant connotation and implication might have crucial effect (though not so positive) on the later development of architectural discipline in the twentieth century, more than expected.

In this research, three groups of representative articles are chosen from the principal controversies in *The Journal of Architecture* from 1955 to 1959. By closely examining them in the historical context, this paper attempts to open new discussions under three topics, namely 'class nature' (*jiejixing*) of architecture, 'content' and 'form' (*neirong, xingshi*), and beyond that, the general discursive mode. It argues that, in 1950s campaigns, a specific mode was developed in architectural discourse, the influence of which could still be discerned in certain contemporary circumstance.

Class nature and people's route

Looking back to architectural discourse in the twentieth century, one may easily find that the discussion in the 1950s took on a totally different look from that in the 1930s, for the key concepts had changed.[7] Some of them were gradually abandoned, replaced by a group of newly emerged concepts, such as 'class nature', 'people's route' (*qunzhong luxian*)[8] and dialectics (*bianzhengfa*). Obviously, these should be understood as the consequence and sign of the radical change in the social and institutional environment.

In the 1920s, the Chinese communists began to establish a new discourse system with the help of the Soviet Communist Party. Around 1935, deriving from the initial imitation and translation, the so-called 'Sinicized Marxist' (*Makesi zhuyi zhongguohua*) discourse system of revolution took shape.[9] Using slogans, such as 'class nature' and 'people's route', was a principal means for the Chinese Communist Party to win the support of lower classes. The discourse of class nature was created under such circumstance.[10]

In the fields of architecture, art and literature, the most profound and long-lasting influence is from the predominating discourse system stimulated by *Talks at the Yan'an Forum on Literature and Art* given by Mao Zedong (1893-1976) after the Yan'an Rectification Movement in 1942.[11] Undoubtedly, after the foundation of the People's Republic of China (1949), the new wave of discussion was thoroughly affected by Sinicized Marxist discourse.[12] Since the 1950s, as a non-architectural concept, 'class nature' came into the core of discussion on architecture and kept holding an essential position.[13] In the 1920s-1930s, there was still a possibility for Lu Xun (1881-1936) and Liang Shiqiu (1903-87) to debate whether class nature existed in humanity and literature,[14] whereas, in the 1950s, the discourse on class nature established superiority over other discourses, permeating into every aspect of the society.

Like the architects in the Enlightenment era in France, with the ideal of setting up a wonderful new world, Chinese architects employed themselves into the rebuilding of architecture passionately. Hence, quite a few articles focused on the debates of 'essence of architecture'. Since the distinct character of the new society was the leadership of the working class (workers and farmers), it seemed that, undoubtedly, class nature became a significant factor of essence of architecture (opposed to the old). For instance, in a controversial and famous article 'On Architectural Art, Beauty and National Form' published in 1955, the author Zhai Lilin (1915-2003) thought that the essential character of architecture is 'utility (function) and beauty'.[15] 'When architecture serves people with its function, it treats all classes equally without discrimination; but when architecture serves people with its beauty, the case is reverse.'16 For him, function had no class nature, but beauty had.

In the article published subsequently in refutation to Zhai's opinion, the authors Chen Zhihua (1929-) and Ying Ruocong (1931-) pointed out, 'when analysing the function of architecture, the impact of class nature should be considered. We cannot say that it 'treats all classes without discrimination.'[17] They thought that 'the radical mistake made by Mr Zhai lies in his deviation from the real social condition that architecture relies on.'[18] 'This essential character should absolutely not to be sought within architecture. That is to say, it is impossible to pursue a constantly essential character divorced from the social and economic condition, as well as the served group.'[19]

Chen and Ying's discussion tried to extend the influence of class nature into the meaning of function and to make it a precondition of function, utility and beauty. This dispute seems to be inexplicable for contemporary scholars because it is so abstract and detailed, but in the context of the 1950s, it was commonly believed that 'practice should be guided by theory', as was pointed out by Mao Zedong in his treatise 'On Practice' (1937). As a consequence, the pursuit of theoretical rightness was practically crucial. The communist theorists, possibly influenced by the Soviet Union, were always expecting 'a universal solution'. This inclination could be exemplified in the criticism of Hu Shi (1891-1962)'s famous 'Problems and Doctrines' (*wenti yu zhuyi*) by Li Dazhao (1889-1927).[20]

Hence, after a series of political campaigns of criticism towards architects in 1950s[21], the aim of The Symposium on Architectural Art in Shanghai (1959), chaired by Liu Xiufeng (1909-71), the Minister of Department of Architecture and Engineering, was explained:

> [It is] to make clear the basic concepts, furthermore, to differentiate the right and wrong, as well as what is permitted and what is forbidden. Political leaders participated in the discussion and came to an agreement with architects, so that it was possible for architects to throw away their worries and be bold in design.[22]

Therefore, the question would be, 'how did the discourse of class nature changed the architects' understanding of architecture at that time?' In the concluding speech for the symposium, given by Liu Xiufeng, there is an account of architectural art:

> Architectural art is a kind of art expressed by the buildings per se. Its artistic character is manifested in the proper function, the reasonable structure, as well as the beauty of form. The process from design to construction is not only a process of production, but also that of

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> artistic creation. The building will be lived in and utilized, besides, enjoyed and appreciated. The art and the utility of buildings should not be separated, at the same time, function and structure should not be abandoned and give the way to beauty. If so, it will be easy either to fall into trap of formalism, or to mystify architectural art to make it unpredictable.[23]

By reclaiming 'architectural art', its meaning was materialized as 'the proper function, the reasonable structure and the beauty of form', and artistry was not any more an independent aspect of architecture. This is typical in architectural discourse in the 1950s China. The matter of discussion moved gradually from the internal factors (style, technique, design, etc.) to external factors (class nature, sociality, nationality, etc.), and furthermore, the dialectic discussion on these external factors was more and more simplified, abstracted and ideologized. 'Content' and 'form', the couple of concepts discussed most frequently at that period, may be analysed as a representative example.

The controversy of content and form[24]

For a professional Chinese reader in the 1930s, these new concepts, such as 'content' and 'form', might hardly be relevant to architecture. Our analysis will start with a quotation dated back to 1934. The article "Architecture and Style: On the Decisive Factors of Architectural Style" pointed out:

> What are actually the decisive factors for architectural style? By examining the creation of style, we will get two kinds of factors: the natural and the social. Natural factors include geography, climate and material. Social factors are divided into two parts: the internal and the external. Internal factors include custom, habit, politics, economics, religion, philosophy and science; internal factors include trade, transportation and wars with foreign countries.[25]

In the 1930s, people began to talk about these decisive factors for style, which included not only cultural aspects, such as religion and philosophy, but also natural aspects, such as geography, climate and material, whereas, in the 1950s, this kind of discussion was mostly replaced by the discourse of 'form'. Thus, what was the meaning of 'content' and 'form' in architecture? In his article mentioned above, Zhai Lilin defined form as follows, 'the meaning of architectural form is relatively evident. Layout, composition, style of façade and all these expression of appearance should belong to the category of form.'[26]

As 'form' emphasized the appearance, other relevant aspects were categorized as 'content':

> Function, technique and idea are either three contents or three parts of content united in an architectural form. … Function and technique belong to substantial rationality, so these are substantial contents; whereas, idea belongs to spiritual aspect, so it is spiritual content. … Generally speaking, function and technology are principal and basic, while idea is subordinate and derivative.[27]

In Chen and Ying's article, one of the main points is to attack the relationship between function, technique and idea:

> Above all, buildings should meet the requirement of utility, in addition, it should look well and express a kind of emotion. There are requirements for buildings, while material and technique are approaches to realize and serve for these demands.
> The influence of technique and material on architectural form can only function together with social demands of buildings. … The fundamental determinant is not technique, but the social demands.
> It is not right to take the utility and function into account without the consideration of economic condition. … Architecture, as 'the art enriching the spiritual life', is subordinated to its materialist function, but also to the economics of the country.
> Mr Zhai did not analyse the relation between idea and function. According to his opinion, it seems that the idea in a building will be as absolutely artist as that in an oil painting. It is connected with Mr Zhai's wrong opinion, as mentioned above, that the utility of architecture will be treated equally for all classes. We insist that the social idea not only is expressed in architectural form and style, but also will influence its function.[28]

Chen and Ying made an argument that technique and material were determined by social function of architecture and that function was affected by social idea. In this way, opposed to Zhai's principles of functionalism and materiality, they re-valued architectural idea as the determinant in architecture. From then on, in a series of debates, the determinative factors for architecture was always the bone of contention. During this process, a moving boundary between the categories of content and form can be recognized. In the Shanghai symposium mentioned above, Ha Xiongwen (1907-81) reclassified 'shape' (*zaoxing*), which belonged to 'form' before, as content.[29] Yet in

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the concluding speech, Liu Xiufeng clarified the categories of content and form again:

> What is the content of architecture? It is the purposiveness demanded by the nature of architecture. What is the form of architecture? It is the shape achieved by certain materials and technical means. … The material and technical condition is an element of architecture, as well as an approach to express the content, but not the content itself.[30]

Liu removed technique from the category of content, regarding it as a method to express the content, but emphasized material and technique in the category of form. The several quotations above show that the concerned factors on architecture are almost the same, while the only differentiation is the categorization of these factors in the dichotomy of content and form. Why did such kind of discussion, looking so trivial nowadays, attract so much attention in the 1950s?

'Content dictates form' was one of the dominant doctrines for 'Socialist Realist' literature and art after Mao's speech at Yan'an Forum.[31] Therefore, architectural factors were also hierarchized. From 'function, technique and idea as three aspects of content' to 'the purposiveness demanded by the nature of architecture', function and technique were gradually excluded from the decisive 'content', meanwhile, the spiritual and abstract factors were more and more dominant. Consequently, the 'theoretical' discussion increasingly concentrated on the non-material aspect, going far away from the practice. In spite of the slogan of 'practice is guided by theory', the theory and the practice were separated with a big gap. What the diverse theory concerned about was not how to practice is guided by theory solve problems in practice, but rather how to find a universal criterion for judging it.

Therefore, it is obvious that, compared with the materialist discussion in the 1930s, the ideological aspect of architecture gradually occupied the leading position in the 1950s. On the other hand, under the circumstance of high unification of ideology, all debates were destined to be ideological and political, which actually opened a door for the political criticism of Liu Xiufeng later.

Mode of discussion

During the Cultural Revolution (1966-76), Liu's article 'To Create the New Chinese Socialist Style' (1959) was attacked as 'a program against the Communist Party and Socialism in the field of architecture', and Liu himself was accused of being 'the representative of Capitalist Class', 'assaulting Mao Zedong's Thought', 'advocating the disappearance of class conflict', 'carrying out Nikita Khrushchev's (1894-1971) Revisionism' and 'paving the way for Capitalism'.[32] At the beginning of the 1980s, Liu was rehabilitated politically[33], and then his article was published again by the newly founded journal *Architects* together with a series of articles in memory of him, in which his article was given high valuation. From these and other articles in *The Journal of Architecture* around 1980, one may find that the theoretical discussion still did not go beyond the logical framework of Liu's article, until western theory and design were imported into China in mid-1980s. The following two paragraphs could be taken as an example:

> Above all, buildings should satisfy people's need for their physical life (including the need for living, producing and culture), as well as for the appreciation of beauty. They are either a physical production or an artist creation, either the unity of function and beauty or the unity of scientific technique and artistic skills. In one word, they have dual roles.[34]
>
> The three aspects mentioned above are the basic elements of architecture. The first is function, which is the aim of architecture; the second is technique condition, such as material and structure, which is the approach to the aim; the third is the appearance of architecture. They are united dialectically, inseparably and hierarchically. Function is dominant to structure and form, and different functions require different structures and forms. On the contrary, function is restricted by material and structure.[35]

This could be regarded as a kind of 'legacy' of architectural theoretical discourse of the 1950s: abstraction, emphasising the external relation and absolute factors, ignoring the specific and operational knowledge, and disputing on tedious concepts. Obviously, under the exceptional political and social context of the 1950s, what was hidden behind the controversy was the scramble for discursive power and social status. During the period of highly unitary ideology, especially after several thought reform campaigns, anything different from the dominant ideology would be attacked at any time. Conversely, anything consistent with the dominant ideology could stabilize political position and social identity, although it had to adjust its position constantly.

Hence, examined through the whole twentieth century, the new-born independence of architectural knowledge and discourse was replaced by debates on a unitary doctrine and ideology, and finally turned into the utterly ideological 'great criticism'. In the architectural literature after the Culture Revolution (1966-76), the discussion on the concepts of content and form faded away in the 1980s. Nevertheless, the mode of discussion, taken on in the debates, was still kept in the architectural discourse since the 1980s.

Conclusion

By analysing discussions under these three topics, 'class nature' of architecture, 'content' and 'form' and the general discursive mode, the paper reveals a kind of unique politicalization of architectural discourse in China. It does not mean that the discourse is bound up with politics, but rather means that the discourse is permeated with political power, expressing the dichotomy of right and wrong, the undeniable tough tone and the undoubted evaluation. Formerly, the Chinese architectural discourse was thought to be politicalized during the period of 1950s-1970s. This paper points out that the mechanism of this politicalization in the 1950s is not particular. Since the 1980s, although these keywords were not used so frequently any more, the influence of the discursive mode still could be sensed under certain official or non-official circumstances.

1 After the foundation of the People's Republic of China, the 1950s was a special decade for the reinforcement of the new government. Besides the socialist reform of ownership, Mao Zedong adopted a series of thought reform campaigns to unite the ideology. In the wave of continuous thought reform campaigns, as what happened in other fields, architectural discourse was inevitably dominated by ideology and away from architectural practice.

2 Zhou Chang, *Jianzhu xuebao wushinian jingxuan: 1954-2003* (The Anthology of the Journal of Architecture: 1954-2003) (Beijing: zhongguo jihua chubanshe, 2004).

3 *The Journal of Architecture* (*Jianzhu xuebao*) was launched by Architectural Society of China in 1954.

4 For example, in *The Journal of Architecture* of 1955, there were a group of articles to criticize Liang Sicheng's Revivalism, including Liu Dunzhen's "The Critique of Mr Liang Sicheng's Idealistic Architectural Though," Chen Gan and Gao Han's "Liang Sicheng's Basic Understanding of Architecture in Our Country," Niu Ming's "How Does Mr Liang Distort Architectural Art and National Form?" and so on. However, only a more moderate one of these articles, Lu Sheng's "The Critiques of Formalism and Revivalism in Architectural Theory," was selected in the anthology.

5 See, for example, Liang Sicheng, *Liang Sicheng quanji, vols. I-IX* (The Oeuvres of Liang Sicheng I-IX) (Beijing: Zhongguo jianzhu gongye chubanshe, 1984-2001); Liu Dunzhen, *Liu Dunzhen quanji, vols. I-X* (The Oeuvres of Liu Dunzhen I-X) (Beijing: Zhongguo jianzhu gongye chubanshe, 2007).

6 Contributed by the first generation of architects educated in Japan and America, the discipline of architecture was founded and developed in China during the 1920s. In the 1930s, the professional journals *The Monthly Journal of Architecture* (*Jianzhu yuekan*) and *Chinese Architecture* (*Zhongguo jianzhu*) were launched. The discussions on the identity of architects, architecture as science and art, nationality and modernism sprang up. All these were interrupted by the Second Sino-Japanese War (1937-45). Thereafter China experienced the civil war and the continuous political campaigns until the end of the Cultural Revolution (1976). Since China began to open the door to the West in 1978, architectural thoughts flourished by introducing the prevailing theory. Meanwhile, the enthusiastic discussions on 'tradition and modern' and 'China and the West' were stimulated by the Cultural Craze.

7 In 1930s, the discussion concerned style, nationality, artistry, modernism, etc. Whereas, in 1950s, it more focused on national form, the content and form of architecture, architectural art, the new style of China, etc.

8 'People's route' was proposed by the Chinese Communist Party for the first time in 1928 and later was developed during the Second Sino-Japanese War. Mao Zedong's summary of the manner is to collect people's opinions, theorize and systematize them, propagandize them among the people, convert them to the people's own opinions, make the people accept them and act according to them, and test their rightness. See Mao Zedong, 'Several Issues on the Methods of Leading' (*Guanyu lingdao fangfa de ruogan wenti*), 1943.

9 During the period of Chinese Soviet Republic in Ruijin (1931-4), Bo Gu had preliminarily built up a Russian Soviet socialist discourse system following Soviet Union's experience. However, because of the worsening situation of Red Army and its shortcoming, the Russian Soviet socialist discourse encountered trouble. After Zunyi Conference (1935), Mao Zedong made determination to sinicize Marxism, and did change the discourse system in Central Revolutionary Base Area in the next seven years. He created a new revolutionary discourse system, which combined nationalism, patriotism and communism. See Gao Hua, *Geming niandai* (The Revolutionary Age) (Guangzhou: Guangdong renmin chubanshe, 2012), 207-9.

10 See Gao, *Geming niandai*, 209-10.

11 The Yan'an Rectification Movement was the first ideological movement initiated by the Chinese Communist Party at the city of Yan'an in Communist-controlled China in 1942-4. Through the movement, Mao consolidated his role as the Communist Party's paramount leader. At the meantime, through criticism, self-criticism, struggle and confession, the thought was highly united. Marxist-Leninism and Mao Zedong Thought were endorsed as guiding ideologies. The Yan'an Forum on Literature and Art was a significant forum held in the Yan'an Rectification Movement. Mao gave his notable talks at the forum, which pointed that all art should reflect the life of the working class and consider them as an audience, and that art should serve politics, and specifically the advancement of socialism.

12 The revolutionary discourse of Mao Zedong became prevailing, and later became authoritative discourse of the new country after the victory of the Chinese Communist Party in 1949. It had a strong power of explanation and persuasion as a totally new systematic narration at that age. See Gao, *Geming niandai*, 215.

13 See Wolfgang Lippert, *Hanyu zhong de makesi zhuyi shuyu de qiyuan yu zuoyong* (The Emergence of Chinese Marxist Terms and its Impact (Beijing): Zhongguo shehui kexue chubanshe, 2003), 170-4.

14 See Shao Jian, *Hu Shi yu Lu Xun: ershi shiji de liangge zhishifenzi* (Hu Shi and Lu Xun: Two Intellectuals in Twentieth Century) (Taibei: xiuwei zixun, 2008), 270-5.

15 Based on Vitruvius's *utilitas, firmitas* and *venustas*, in the 1950s, the Chinese government proposed the principle of 'Utility, Economy, as well as Beauty if Condition Permits' under the help of Soviet professionals to meet the special economic and culture condition. The official explanation was given by Li Fuchun in 1955. There were a larger number of relevant discussions either influenced by the Vitruvian virtues or by this Chinese principle.

16 Zhai Lilin, "Lun jianzhu yishu yu mei ji minzu xingshi" (On Architectural Art, Beauty and National Form), *Jianzhu xuebao* 1 (1955), 50.

17 Chen Zhihua and Ying Ruocong, "Ping Zhai Lilin's 'Lun jianzhu yishu yu mei ji minzu xingshi'" (The Criticism of 'On Architectural Art, Beauty and National Form'), *Jianzhu xuebao* 3 (1956), 3.
18 Ibidem, 2-3.
19 Ibidem, 11.
20 Hu Shi argued that one should pay attention to specific problems and try to find solutions, rather than talks about the novelty of doctrines. The harm of doctrines is to make people pursue the general solution, giving up making efforts to solve specific problems. See Hu Shi, "Duo yanjiu xie wenti, shao tan xie 'zhuyi'" (More Study on Problems, Less talk on 'Doctrines'), *Meizhou pinglun* 31 (1919). Li Dazhao insisted that solving a social problem relies on the efforts of the majority of the people, so it is necessary to make the majority have same ideals and doctrines as the judgement for their own life. Then their common discontentment in life could possibly become social problems and be solved. See Li Dazhao, "Zailun wenti yu zhuyi" (On 'Problems and Doctrines' Again), *Meizhou pinglun* 35 (1919).
21 These campaigns happened during 1953-9, including Criticising Structuralism, Criticising Cosmopolitanism, Anti-Waste Campaign, Criticising Revivalism and Formalism, Hundred Flowers Campaign and Anti-Rightist Movement.
22 Wang Jiqi, "Huiyi Shanghai yishu zuotanhui" (In Memory of 'The Symposium on Architectural Art'), *Jianzhu xuebao* 4 (1980), 2.
23 Liu Xiufeng, "Chuangzao shehui zhuyi xinfengge" (To Create the New Chinese Socialist Style), *Jianzhu xuebao* 9-10 (1959), 6.
24 The discussion on content and form came from Marx's literary criticism. Marx believed 'that artistic form is no mere quirk on the part of the individual artist. Forms are historically determined by the kind of "content" they have to embody; they are changed, transformed, broken down and revolutionized as that content itself changes. "Content" is in this sense prior to "form".' See Terry Eagleton, *Marxism and Literary Criticism* (London: Methuen & Co Ltd, 1976), 22. After the importation through the Soviet Union, these concepts were Sinicized by Mao Zedong.
25 Wen Yin, "Jianzhu yu yangshi: guanyu jueding jianzhu zhu zhuyin de kaocha" (Architecture and Style: On the Decisive Factors of Architecture Style), *Shenbao*, January 23, 1934.
26 Zhai, "Lun jianzhu yishu yu mei ji minzu xingshi", 53.
27 Ibidem, 53.
28 Chen and Ying, "Ping Zhai Lilin's 'Lun jianzhu yishu yu mei ji minzu xingshi'," 7.
29 See Ha Xiongwen, "Dui jianzhu chuangzuo de jidian kanfa" (My Opinions on Architectural Creation), *Jianzhu xuebao* 6 (1959), 7.
30 Liu, "Chuangzao shehui zhuyi xinfengge," 9.
31 In his talks, Mao Zedong proposed, 'we demand the unity of politics and art, the unity of content and form, the unity of the revolutionary politician content and the perfect artist form.' See Mao Zedong, *Talks at the Yan'an Forum on Literature and Art*, 1942.
32 Wang, "Huiyi Shanghai yishu zuotanhui," 4.
33 The rehabilitation was a policy promoted and carried out by Hu Yaobang, the Head of CCP at the moment, in which a large number of intellectuals or officials were rehabilitated from the unjust accusation in the Cultural Revolution.
34 Liu, "Chuangzao shehui zhuyi xinfengge," 4.
35 Ibidem, 5.

2.4 Architecture, Art, and Design in Italian Modernism: Strategies of Synthesis 1925-60

SESSION CHAIR:
DANIEL SHERER
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Whether one is considering Gio Ponti's insertion of a miniature architectural scene on a Richard Ginori vase in the early 1920s, Fausto Melotti's imposing ceramic caryatids for the luxury liner Conte Grande designed by Ponti in 1949, or Lucio Fontana's construction of total 'spatialist' environments – such as the one presented in the Milanese gallery Il Naviglio in 1949 featuring a large sculpture suspended from the ceiling illuminated by black light – it is clear that Italian architecture was inextricably associated with a dense network of interactions with art and design in the inter-war and post-war periods. The session will examine this phenomenon as a 'red thread' running through Italian architectural culture and as a fertile terrain of exchange with wider currents of international modernism.
As far as the post-war period is concerned, the integration of craft traditions with industrial production recalls the social and economic premises of the argument Tafuri put forward in the article "Design and Technological Utopia" (1972), regarding Italy's disjunctive transition from an agrarian society to an industrialized one. The session will examine the links between distinct stylistic codes in light of Tafuri's hypothesis. Although these links operate in multiple ways, they become most effective at the level of the articulation of strategies relating architecture to the other arts, while bestowing on it the status of primus inter pares. From this viewpoint the history of Italian modern architecture becomes a history of the ways that companion arts enter into its orbit and become part of its spatial, formal and material logic. The session will explore different modes of synthesis associated with a wide spectrum of architect/designers and artists who contributed to architectural and design ensembles. By pursuing their own paths, these protagonists ensured the specificity of the Italian contribution to European Modernism.

Far from reflecting any unified set of artistic choices or rigid theoretical assumptions, the Italian experiments with aesthetic synthesis describe a field of competing valorizations. These experiments will be situated historically and critically by examining the various strategies – formal, structural, symbolic, and spatial – through which the intra-aesthetic dialogue was continually reinvented. Finally, the session will explore the possibility that this dialogue paved the way for theses of architecture's relative autonomy formulated from the late 1960s to the early 1980s by Rossi and Tafuri, insofar as architecture's links to the other arts could dialectically reveal the limits of its disciplinary foundations and its role within the wider aesthetic sphere.

2.4.1 'Fantasia degli Italiani' as Participatory Utopia: Costantino Nivola's Way to the Synthesis of the Arts

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Abstract
The work of the sculptor, Costantino Nivola (1911-88) reflects the twofold nature of the 1950s Italian approach to the relationship between art and architecture in which the interest for applied decoration coexisted with the search for environmental expansion. Gio Ponti referred to both attitudes as equally acceptable manifestations of the 'fantasia degli Italiani', a somewhat innate capacity for creative freedom which he associated with the decorative projects of Piero Fornasetti as well as with Fontana's spatialist experiments. Nivola's work – seen by Ponti as another example of this disposition – encompasses the two aspects of the "Italians' fantasy". Best known nowadays for his participation in the BBPR project of the Olivetti showroom in New York (1954), a widely acclaimed case of integration of architecture, art and design, Nivola came to international recognition in the 1950s as a "sculptor for architecture"; but at the same time he developed a more original version of the synthesis of the arts, one that, looking beyond the collaboration of architecture, painting and sculpture, centered on the environmental and social dimensions. Considering some largely forgotten projects, such as the garden of the artist's house in Springs, designed with Bernard Rudofsky (1949-50), and the unrealized project for his hometown in Sardinia, Orani (1953), the paper analyzes Nivola's utopian tendency to the aestheticization of the built environment. This approach – which might remind a contemporary observer of the recent trend of relational and participation art – coexisted with a more traditional, modernist vision influenced by the artist's mentor and friend, Le Corbusier. The two perspectives seem to overlap in the 1958 exhibition organized in the streets of Orani with the involvement of the residents and, in a more indirect way, in Nivola's collaboration with Eero Saarinen in the Morse and Stiles colleges at Yale University (1959-62).

Keywords
Sculpture, architecture, participation

Post-war Italy has been described by Romy Golan as the country where the totalizing mandate of the synthesis of the arts was more radically critiqued. Reacting to the use of the concept by the Fascist regime, Italian artists adopted an aesthetic of disappearance, mirrored by the use of light forms of decoration, such as painted velaria and concrete bas reliefs which tended to dissolve into the architecture.[1] One example presented by Golan is Costantino Nivola's sand-cast frieze covering an entire long wall in the Olivetti showroom in New York designed in 1954 by BBPR studio. Modelled in sand and cast in Paris of plaster, the huge relief unfolded before the spectator's eyes as a gently undulated surface with minimal plastic projections.[2] It might be noted that, in spite of the work's lack of assertiveness, contemporary critics consistently commented on it as the most striking feature of the BBPR's interior. [3] Indeed, Lewis Mumford, America's most respected critic, accused it of stealing the scene from architecture.[4] Looking at Nivola's case, I would like to build on Golan's notion of 'disappearance', to pursue the disappearance of both art and architecture into the spatial and social environment.

In September 1951 Gio Ponti's magazine *Domus* introduced its readers to the work of Nivola, 'a young Italian painter and sculptor, living in New York.'[5] Although recently Nivola's name has been cropping up more frequently in the literature on the synthesis of the arts, his work and life are still relatively unknown to the general public.[6] A former pupil of Giuseppe Pagano, Edoardo Persico and Marino Marini at the ISIA in Monza, Nivola worked as art-director at the Olivetti company in Milan, before his anti-fascist commitment forced him to leave Italy for New York in 1939. In 1946, an eye-opening encounter with Le Corbusier, who became his mentor and friend, marked his conversion to Modernism, prompting him to undertake a new path of formal research. He was further stimulated by the discovery of sand-casting techniques[7] while playing with his children on the beach, of which the works published by *Domus* were early examples. The magazine featured three primitivist sculptures and one geometrical, post-cubist mural painting. Rather than appear against the familiar backdrop of the studio or gallery, his works were photographed outdoors, in the Nivola garden in Springs, East Hampton, in the midst of what looked like a construction site, at least judging by the cement tank visible in one of the photos' foreground. Intrigued by the unusual location of the works, the writer of the article (probably Ponti himself) noted: 'The exalting effect of this unroofed environment is the magic of the displaced objects in the open air, already discovered by Surrealism. Now fully realized by spatialist abstraction.'[8] The estrangement created by de-contextualization – sculpture parks and gardens were still to come – was in the early 1950s uncommon enough to muster attention, and *Domus* rightly pointed out its historical matrix, the Surrealist juxtaposition of incongruous objects.[9]

In addition, the article related Nivola's sculptures to Spatialism, the handiest category then available in Italy to deal with works that took on an environmental dimension. A few months earlier, Lucio Fontana had suspended his grand neon arabesque over the Milan Triennale's staircase, enthusiastically greeted by Ponti as an epitome of Italian genius.[10] Already in 1949, when Fontana installed in the Milanese Galleria del Naviglio his *Ambiente Spaziale a luce nera,* Lisa Ponti hailed him as the initiator of a new kind of fusion of the arts.[11] Two years later, confronted with the Triennale's structure, her father elected Fontana as the flag bearer of a 'fantasia degli Italiani' opposing the foreigners' severity, technical mastery, 'civilized discipline of thought'.[12] The expression 'Fantasia degli Italiani' recalled the title of a book by Raffaele Carrieri published in 1939 by the *Domus* editions, an anthology of fantastic and surreal art, spanning from Paolo Uccello to the twentieth century.[13] According to Ponti, Italian *fantasia* was a shorthand for the qualities of freedom, independence, and improvisation, which he saw as inborn to the Italian people; qualities which were complementary, but also – he seemed to imply – somewhat superior to the order, simplicity and morality of Italy's European and American competitors.

'Fantasia degli italiani' was also the heading under which Ponti introduced Nivola's works, next to the architects Mario Tedeschi and Giulio Minoletti. The magazine reproduced a ceiling painted by Tedeschi in his flat in Milan and a swimming pool designed by Minoletti for the Tagliabue house in Monza.[14] In Ponti's view, the common denominator between the three examples was the synthesis of the arts; however, since Nivola's works were autonomous from an architectural context (even the mural was painted on an independent wall), in his case this element wasn't so obvious. The *Domus* article wrote that Nivola seemed to be saying 'I don't make my house in order to fill it with art pieces, I make it of art pieces.' The author continued: 'he solves the architecture-painting relationship in a direct way, by building his house as the homeless do, with billboards and shop signs. Or in the same way as Robinson Crusoe made his own tools to live and dwell.'[15]

For Ponti, what Nivola did was to 'take Spatialism literally'; though, one wonders what his sculptures had to do with Fontana's research. Nivola's works, as with those of Tedeschi and Minoletti, were far from Fontana's tendency to dematerialize and blur technical boundaries.

The notion of Italians *fantasia*, it must be said, was flexible enough to include both spatialist experiments and more traditional works. In Ponti's eyes, it encompassed Fontana's environmental projects as well as the exuberant decorative expansion of the artist-designer Piero Fornasetti. A keen collector of

geographical maps, illustrated albums, catalogues and other ephemera, Fornasetti drew inspiration from these materials and from higher sources, such as Metaphysical painting and the Renaissance, to compose a captivating repertory of ornaments to be applied to any available surface.[16] Ponti met Fornasetti in 1933, and during the following decade started a collaboration with him.

With reference to Fornasetti, and already in the pre-War years, the architect had begun to think about Italians fantasia. In 1940 he published in *Domus,* under the title 'Mobili di fantasia', a glass cupboard designed by himself for Fontana Arte and painted by Fornasetti, vaunting its 'freshness, brightness, vivacity, invention, personality'.[17] In his opinion these were virtues of Italian art, since, he wrote, 'if we want to grapple with patient execution, we'll easily find someone who can do it better than us.' Ponti and Fornasetti's furniture were presented as fantasy furniture, and the Lucano apartment in via Washington in Milan as a 'casa di fantasia'.[18] Ponti furnished it in 1952 in collaboration with Fornasetti and the painter, Edina Altara. Designer and artists gave themselves to an outright orgy of decoration, covering walls, doors and shelves with printed and painted motives, alternated to the fancy grain of the wooden surfaces. Through the proliferation of ornaments, which altered the perception of the space and made structures and objects appear weightless, architecture and art co-operated on the construction of a total environment.

In short, the category of Italian *fantasia* could accommodate episodes of collaboration between artists and architects as well as research aimed at erasing technical specificity, decorative density as well as dematerialisation. Through it, Ponti outlined an ambivalent concept of a synthesis of the arts, in keeping with the post-war Italian situation, anchored in the past and while projecting toward the future. Nivola's work reflected both sides of this twofold orientation, although this was difficult to understand from the pieces documented in *Domus.* Indeed, the magazine didn't disclose the context from which Nivola's sculptures emerged: that of the garden, conceived as a situation in progress, where individual works lost importance to the whole environment, and the environment to its users' life.[19]

In 1948 Nivola acquired a dilapidated farmhouse in Springs, then a still affordable destination for artists. The son of a mason, he had learned as a child his father's trade, which allowed him to take in his own hands the restoration of the building. In 1950, together with the Austrian émigré architect, Bernard Rudofsky (an acquaintance from his years in Milan), he started working on the garden. Structured as a series of open-air rooms connected by pergolas, it included a fireplace, independent walls, benches, and a solarium, with many sculpted and painted interventions (Figure 1).[20]

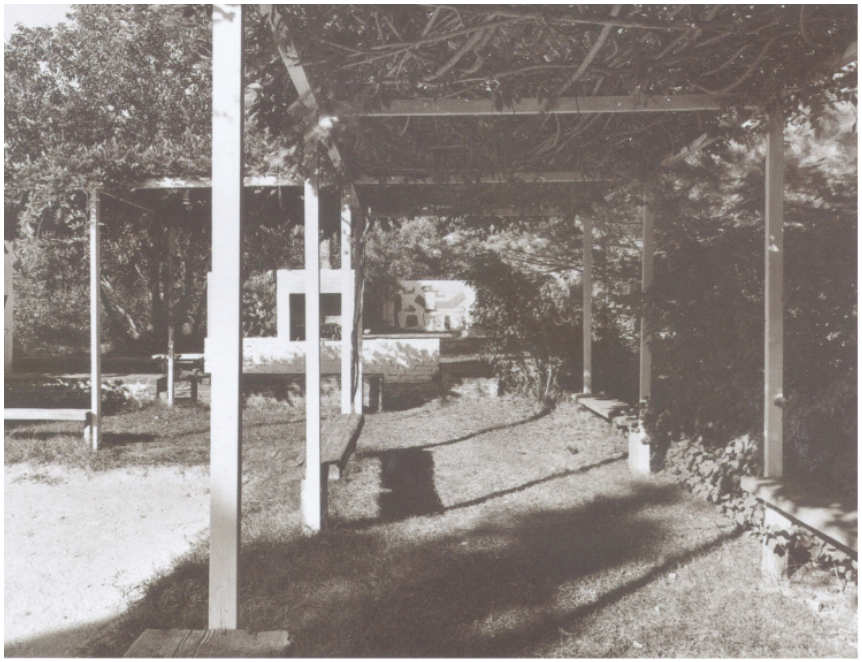

Figure 1. Costantino Nivola in collaboration with Bernard Rudofsky, Garden in the Nivola house, Springs, East Hampton, 1949-50. *Source*: Fondazione Nivola.

The design focused on two key points: the union of architecture and nature, and the idea of a space capable of enhancing life. Both aspects were crucial in the thought of Rudofsky. An eccentric figure in the mid-century architectural scene, he was more important for his vision of architecture as part of what he called the 'art of living' than for the works he managed to realize. Rudofsky – who had spent the years 1932-8 in Italy, where on occasion he collaborated with Ponti – believed in architecture as a means to achieve an authentic, simple and harmonious existence, whose models he found in the Mediterranean tradition. His search for the continuity of indoor and outdoor spaces, most apparent in the themes of the patio and the pergola, also derived from Mediterranean vernacular architecture. Rudofsky has been seen as a maverick modernist, for whom the shape of the construction counted less than the experiences of the individuals who inhabited it; over time, his positions were to appear to be in tune with the criticisms launched against the formalism of the International Style, as it had been codified in the US since the 1930s.[21]

Although some sketches of the garden's lay-out remain in the Rudofsky archive, and in spite of the fact that in 1952 the architect was to claim for him-

self the paternity of the design, it would be wrong to see Nivola's intervention as limited to decoration. Indeed, the very ideas which inspired Rudofsky – a view of architecture as a life-enhancing tool, the search for a dimension of harmony in all aspects of daily existence – were also paramount to Nivola. Born in a small village in rural Sardinia, he had been raised in a traditional culture, where an order at the same time moral and aesthetic governed the smallest details of collective life, giving form to a sort of vernacular *Gesamtkunstwerk.* This background had shaped his personal attitude to the home: finding existentialist mess and bohemian chaos depressing, he needed a congenial environment around himself. Even when living in very poor lodgings, he was able to organize the space aesthetically by elementary means; starting by cleaning the floor, whitewashing the walls, and painting the ceiling blue, he succeeded in creating what Richard Ingersoll aptly called 'a wonderful sense of frugal luxury'.[22]

Nivola's interest for 'the art of living' and for simple and natural conditions of dwelling was not solely conditioned by his peasant roots. Equally important was his experience in Milan during the 1930s, in contact with the same Italian milieus which had influenced Rudofsky. In particular, his closeness to Pagano (with whom he collaborated in the *Mostra dell'architettura rurale* at the VI Triennale)[23] had helped to reinforce Nivola's vision of the value of the peasant domestic environment, to be set against modernist formalism.[24]

If the utopian fascination of Pagano and his colleagues with the vernacular tradition left its imprint on him, the same holds true for their concern with the integration of art and architecture, to which the aesthetics of spectacle promoted by the regime bore eloquent witness. Nivola's involvement in the realization of several fascist propaganda exhibitions and commercial displays, before and after his time at Olivetti, led him to an open approach to space and an attitude of mixing different media.[25]

The garden reflected such interests, which had been strengthened by Nivola's friendship with Le Corbusier. Although by 1952 the main features of its lay-out were established, Nivola didn't stop making changes to the spaces, building a traditional Sardinian oven and a modernist fountain, annually re-painting murals, and adding or modifying sculptures. This activity sprang from a conception of art as integral to daily existence. In contrast to the idea of the studio as a separate environment for individual creativity, so prevailant among his friends of the New York school, and in opposition to the modernist refusal of domesticity, [26] Nivola designed a space where no gap divided art-making from living and socializing. Visiting friends sometimes joined in working in and at the garden, from Corbu, who famously tried his hand at sand-casting, to Bruno Munari, who in 1954 re-painted a wall with one of his 'negative-positive' compositions.[27] The garden was to remain at the centre of Nivola's creative life; indeed, he continued to work at it almost until his death in 1988.

The private utopia of a space fusing art and life was to influence another Nivola project, his 'pergola-village', published in 1952 by *Interiors*.[28] Orani, Nivola's birthplace, was a poor settlement of around 4000 people in inner Sardinia; the artist imagined connecting its houses to each other by means of vine-covered pergolas, transforming the streets in intimate spaces for the collective existence of the inhabitants.

Only the piazza would remain uncovered, becoming the site for a great sculpture as its focal point.

The pergola-village, described as 'a lesson in the integration of civic setting, art and landscape,' [29] reflected ideas long cherished by Nivola. Shortly after his arrival in New York, when discussing with antifascist leader Emilio Lussu and other Italian refugees what to do in Sardinia after the war, the artist had proposed whitewashing all the houses, and connecting them to each other by a blue baseboard.[30] Both blue baseboard and green pergolas were designed to highlight and thereby strengthen the social link between individuals, giving aesthetic form to the ideal of a cohesive community. Spurred by nostalgia for his homeland and for an inclusive – if poor – archaic society, Nivola anticipated artistic possibilities in advance of his time. In a period in which public art was understood as the integration of painting and sculpture into architecture, he envisaged a type of intervention which, putting aside distinctions of technique, already hinted at a post-media dimension: it wasn't sculpture, it wasn't painting, nor properly architecture; it dealt with interpersonal relations in daily life.

The 'pergola-village' was never realized, nor were other similar projects by Nivola. In a 1956 interview, he spoke of his intention of making a series of 'monuments for enhancing life' as tall as buildings.[31] Besides the pergola-village, they included a huge outdoor fireplace with several fires, and a labyrinth with multiple visual surprises (probably related to the artist's failed participation in the BBPR's *Labirinto dei ragazzi* for the 1954 Triennale)[32].

These projects combined the 'art of living' with the sculptural research developed by Nivola following his successful collaboration in the Olivetti showroom: an antimodernist emphasis on use and on communal life co-existed with the formal interests typical of modernist sculpture.

He did succeed in partially realizing his dream of improving Orani, however, during a visit in 1958, which involved a three-day open-air show of his works in the streets of the village. Announced by the town crier and advertised by a self-produced leaflet in Sardinian dialect, the show featured a series of sculptures set on metal poles, which the villagers received with a mixture of mirth and curiosity (Figure 2). Nivola involved the entire community, not

Figure 2. Costantino Nivola, open-air exhibition at Orani, Sardinia, 1958. Photo Carlo Bavagnoli. *Source*: Fondazione Nivola

just because he had enlisted his brothers (trained as stonecutters, like him) and a team of local workers to help in the production of the pieces, but also because the event – breaking the daily routine of the village – became an occasion for a feast.

Today, the Orani project might seem an uncanny anticipation of relational art.[33] The care that Nivola took in ensuring extensive photographic coverage of the residents' reaction indicates that in his eyes their participation was far from being unimportant.[34] Still, at the core of the project were the material appearance of the artworks and the visual relationship between sculpture and architecture, not the relations between people. Later on, Nivola was to describe the project as an experiment in setting sculpture against 'the accidentality of peasant architecture', connecting it with a large commission realized in 1960-62 for Eero Saarinen, the decoration of the Morse and Ezra Stiles colleges at Yale University.[35] Among the tower-like buildings inspired by the medieval towns of central Italy, the artist disseminated 43 sculptures, freestanding pieces, reliefs and fountains.[36] Made of concrete, the same material used for the colleges, and in the same color, the pieces were perfectly integrated with the buildings.

Saarinen had not wanted a series of sculptures but 'a whole atmosphere created by sculpture and bas-relief in relation to architecture';[37] a view which Nivola, who aimed at providing a backdrop for social life, could hardly disagree with. However, Saarinen's idea succeeded so thoroughly that the artist was later to complain of his own contribution having been totally overlooked by the critics. As the staging of a disappearance in Golan's sense, then, the Yale project seems to have worked better than the Olivetti showroom.

Despite his slight disappointment, Nivola remained convinced of the necessity for sculpture to renounce its aggressiveness and become a discreet companion to architecture. This attitude cannot be explained with the refusal of the aesthetic of fascism: indeed, as we have seen, Nivola had been influenced by some aspects of that aesthetic, which was more complex than mere monumentalist bombast. The artist's training in fascist Milan had increased his interest for communal life born out of a personal experience with peasant society; it also had made him sensitive to the blurring of technical boundaries, encouraging him to experiment with the fusion of the arts. More urgently than an opposition to the rhetoric of fascist public art, Nivola during the post-war years shared an aversion to the assertiveness of modernist public sculpture and its indifference to the social dimension of artistic experience. His case contributes to a theory of a post-war Italian design attitude, in which while reaction to the past played a role in the development of a search for a synthesis of the arts, projection toward the future also had a part in it.

1 Romy Golan, "Chronicle of a disappearance foretold," in Flavia Marcello and Anthony White (eds), *Interspaces: Art + Architectural Exchanges from East to West* (Melbourne, Vic.: The University of Melbourne, School of Culture and Communion, 2012), http://artinstitute.unimelb.edu.au/__data/assets/pdf_file/0009/541899/2.1_GOLAN,_Chronicle_of_a_disappearance_foretold.pdf

2 On the Olivetti showroom: Daniel Sherer, "BBPR on Fifth Avenue: The Olivetti Showroom in New York City," in Chiara Baglione (ed.), *The Experience of Architecture. Ernesto Nathan Rogers 1909-1969* (Milan: Franco Angeli, 2012), 255-60.

3 Nivola's relief, 'the most successful and significant element of the design' according to Ada Louise Huxtable in "Olivetti's Lavish Shop," *Art Digest* (July 1954), 15, was given pride of place in the reviews: see "Typewriter palazzo in New York," *Architectural Forum* (August 1954), 98-103; G. P. (Gio Ponti), "Italia a New York," *Domus* 298 (1954), 3-10; "Olivetti New York," *Interiors* (November 1954), 124-31; "Nouveau magasin Olivetti à New York," *L'Architecture d'aujourd'hui* (1958), 58-9.

4 Lewis Mumford, "Charivari and confetti," *The New Yorker* December 18, 1954, 114-9.

5 "Fantasia degli italiani. Tino Nivola, Mario Tedeschi," *Domus* 262 (1951), 46-7 (This writer's translation, here and elesewhere).

6 On Nivola, Fred Licht, Antonello Satta

and Richard Ingersoll, *Nivola. Sculture* (Milano: Jaca Book, 1992); Luciano Caramel and Carlo Pirovano (eds), *Costantino Nivola. Sculture dipinti disegni* (Milano; Electa, 1999); Micaela Martegani (ed.), *Costantino Nivola in Springs* (Southampton, N.Y. – Nuoro: The Parrish Museum-Ilisso, 2003); Carlo Pirovano (ed.), *Nivola. L'investigazione dello spazio* (Nuoro: Ilisso, 2010); Giuliana Altea (ed.), *Seguo la traccia nera e sottile. I disegni di Costantino Nivola* (Sassari: Agave, 2011); Renato Miracco (ed.), *Costantino Nivola. 100 years of creativity* (Milan: Charta, 2012). More centered on Nivola's relationship with architecture are Alessandra Como, *Riflessioni sull'abitare. La casa-giardino a Long Island (1949-50) di Tino Nivola e Bernard Rudofsky* (Rome: Aracne, 2011); Maddalena Mameli, *Le Corbusier e Costantino Nivola. New York 1946-1953* (Milan: Franco Angeli, 2012); Letizia Tedeschi, "Modanature e sand-casting. L'incontro newyorkese di Le Corbusier e Nivola," in Marida Talamona (ed.). L'Italia di Le Corbusier (Milan: Electa, 2012), 313-29.

7 Cement casting from modelled sand.

8 "Fantasia degli italiani. Tino Nivola", 47.

9 The display of artworks outdoor wasn't a complete novelty in 1951: the 1948 exhibition of open air sculpture at Battersea Park, London, had been the first of a series of similar initiatives (a second edition was to follow in 1951, during the Festival of Britain) at Anversa, Harnem, Glasgow, Hamburg, Sydney, and Varese, Italy (with the show organized in the Villa Mirabello Park during the Città di Varese Prize). Anyway, the practice was far from enjoying the popularity it reached later.

10 In closing his first article on the 1951 Triennale, Ponti assigned to Fontana the role of ideal representative of Italian creativity: 'We call one of our men, Lucio Fontana, to wave this flag, he who bent a lightning in the Triennale's sky, and promised to us all a great fable for the doors of the Cathedral of Milan.' Gio Ponti, "Insegnamento altrui e fantasia degli italiani," *Domus* 259 (1951), 12.

11 L. P. (Lisa Ponti), "Primo graffito dell'età atomica," *Domus* 233 (1949), 44.

12 Gio Ponti, "Insegnamento altrui e fantasia degli italiani," 10-13.

13 Raffaele Carrieri, *Fantasia degli italiani* (Milan: Editoriale Domus, 1939).

14 G.P. (Gio Ponti), "Fantasia degli Italiani. Piscina o lago?," *Domus* 262 (1951), 40-5. Minoletti's swimming pool was also reproduced on the magazine's cover.

15 "Fantasia degli italiani. Tino Nivola", 47.

16 On Fornasetti there is a growing, mostly non-scholarly literature, including Patrick Mauriès, *Fornasetti. Designer of Dreams* (London-New York: Thames & Hudson, 1998); Mariuccia Casadio, *Fornasetti*, edited by Barnaba Fornasetti and with a text by A. Branzi (Milan: Electa, 2009); Barnaba Fornasetti, *Piero Fornasetti. Cento anni di follia pratica* (Milan: Corraini, 2013).

17 "Due mobili di fantasia con elementi naturali ed elementi decorativi," *Domus* 151 (1940), 44-5.

18 "Casa di fantasia," *Domus* 270 (1952), 28-38.

19 On the garden, see Giuliana Altea, "La stanza verde. Bernard Rudofsky e il giardino di Nivola," in Pirovano (ed.), *Nivola. L'investigazione dello spazio,* 24-37; Alessandra Como, *Riflessioni sull'abitare* (the latter largely based on an interview with Nivola's widow, Ruth Guggenheim).

20 See Costantino Nivola, unpublished interview with Paolo Baggiani and Carlo Pinna Parpaglia, 1980, Ilisso Archives, Nuoro. A photographic documentation of the house in Springs, realized after the artist's death, can be found in Michael Gotkin, *Artists' Handmade Houses* (New York: Abrams, 2011), 168-85. House and garden underwent significant changes due to restoration in 2012.

21 Andrea Bocco Guarnieri, "Bernard Rudofsky and the sublimation of the vernacular," in Jean-François Lejeune and Michelangelo Sabatino (eds.), *Modern Architecture and the Mediterranean. Vernacular Dialogues and Contested Identities* (New York: Routledge, 2010), 235.

22 Richard Ingersoll, "Tino the Giant. Reflections On What Made Costantino Nivola Great," in Renato Miracco (ed.), *Costantino Nivola. 100 Years of Creativity*, 47.

23 In the *Mostra dell'architettura rurale,* a series of rural landscapes by Nivola provided a pictorial backdrop to Pagano's photographs.

24 Michelangelo Sabatino, *Pride in Modesty. Modernist Architecture and the Vernacular Tradition in Italy* (Toronto-Buffalo-London: The University of Toronto Press, 2010).

25 On Nivola's role in the preparation of a series of propaganda exhibitions during the 1930s, Roberto Cassanelli, "'Grande décoration', muralismo, antimuralismo," in Roberto Cassanelli, Ugo Collu, and Ornella Selvafolta (eds.), *Nivola Fancello Pintori. Percorsi del moderno* (Milan: Jaca Book, 2003), 173-91.

26 On the artist's studio in the post-war American context, see Caroline Jones, *Machine in the studio: constructing the Post-War American artist* (Chicago and London: Chicago University Press, 1996); on modernist attitudes to domesticity, see Christopher Reed (ed.), *Not at Home. The Suppression of Domesticity in Modern Art and Architecture* (London: Thames & Hudson, 1996).

27 On Le Corbusier's sand-castings, realized in 1951, see Le Corbusier, *Oeuvre complète 1946-52*, Willy Boesiger (ed.) (Zurich: Gisberger, 1953), 231-2. Munari's mural was painted in 1954; see Bruno Munari, "Antichissima storia dei negativi-positivi," *Domus* 310 (1955), 44.

28 O. G. (Olga Guelft), "The pergola-village, vined Orani," *Interiors* 6 (1953), 80-5.

29 Ibidem, 85.

30 Costantino Nivola, unpublished interview with Paolo Baggiani and Carlo Pinna Parpaglia, 212.

31 Dore Ashton, "Sand sculpture by Costantino Nivola," *Architectural Record* (October 1956), 204.

32 See Luigi Spinelli, "BBPR, Huber, Steinberg, Nivola o 'la sintesi delle arti'," *Domus* 935 (2010), 97-106.

33 The obvious reference is to Nicolas Bourriaud, *Esthéthique relationnelle* (Dijon: Les presses du réel, 1998).

34 Photographer Carlo Bavagnoli was commissioned a full report of the event. See Marisa Volpi, Maria Luisa Frongia, Rita Ladogana, *Carlo Bavagnoli, Costantino Nivola. Ritorno a Itaca* (Nuoro: Ilisso, 2010).

35 Costantino Nivola, *Simposium of sculptor* [sic] *New Orleans 1977*, typewritten notes for a speech given at the 9th International Sculpture Conference and Symposium, New Orleans, 1977, unpaginated; *Constantino Nivola Papers*, Archives of American Art, Smithsonian Institution.

36 On the Yale project, see Micaela Martegani, "Costantino Nivola in Springs," in Martegani (ed.), *Costantino Nivola in Springs*, 30; Altea, "Seguo la traccia nera e sottile," 74-88.

37 Eero Saarinen to Costantino Nivola, November 2, 1959; *Constantino Nivola Papers*, Archives of American Art, Smithsonian Institution.

2. REPRESENTATION AND COMMUNICATION

2.4.2 Carlo Mollino's Enchanted Rooms: Face-to-Face with Art in a Company Town, 1930-60

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Abstract
Carlo Mollino supported the cause of 'the unity of the arts' (*Per una critica dell'architettura*, 1946), a fact that shows how close his position was to Gio Ponti, despite his individuality as an architect.
Painters Italo Cremona, Mino Maccari, Piero Martina, Carol Rama, sculptors Carmelina Piccolis and Umberto Mastroianni, the art historian Aldo Bertini, the critics Albino Galvano, Ramon Gomez de la Serna, and Ludovico Ragghianti accompanied the architect Mollino in the elaboration of his own aesthetic dimension from the 1930s through the 1940s and 1950s.
In my paper I show that in Turin, a city of Taylorism and of the advent of mass consumption, some of the above-mentioned artists (Cremona, Martina and Mastroianni) participated in the creation of a new concept of collaborative work with the architect. All of them represented the position of Mollino very well as compared to the universe of industrial production, and all contributed to the creation of the concept of *ambientazione* discussed by the architect in the essay *Dalla funzionalità all'utopia nell'ambientazione* (1949) and visible throughout his architecture. Ambientazione is a kind of environment in which architecture, art and design flow together, and is marked by a set of highly specific aesthetic qualities (e.g. transfiguration and artistic synesthesia) addressed by Mollino in the texts published between 1947 and 1949.
In my intervention I will analyze houses, décor and monuments, and a project for the exhibition of the artists Spazzapan and Mastroianni at the gallery "La Bussola" of Turin in 1948 – works originating in the collaboration with this group of independent artists. These works were characterized by a search for heterogeneous symbolism with which Mollino tried to avoid abstraction and "purism". In this context photography contributed to the role of aesthetic meditation and sublimation insofar as Mollino used the camera to investigate and create spaces from the 1930s on (e.g. Miller House).
Mollino used photography especially in his dialogue with the aforementioned artists. This dialogue was almost Neoplatonic in its linkage of the idea to the senses and was of paramount importance for his artistic trajectory.

Keywords
Serialization, impressionism, human-figure, body, dematerialization

Impressionists

In 1930s and 1940s, Turin, the capital of industrialized Italy, was the city where customs were being modernized as a way for people to stake out their claims for more individual freedom. These changes were also transforming the scope of domestic space. It was being transformed, turned into an aesthetic object and transfigured, drawing on allusions to the presence of the human figure and the body.
If you have ever seen Billy Wilder's *The Apartment* (1960), you may remember its setting in Jack Lemmon's bachelor apartment, which he lent out to his womanizing co-workers. Likewise, in the Turin of thirty years before, owning a so-called *garçonnière* provided its rare owners and frequenters with an extraordinary sense of risk and anti-conformism. In the 1920s and 1930s the northern Italian industrial city of Turin was already studded both with chimneys and 'closed houses'[1] of prostitution. Its customs and mores were likewise still closed within its Savoy-influenced mind set. Nevertheless, the city began to become less provincial as it simultaneously went through mass movements in the public sphere and, in the private sphere, the exaltation of the personality cultivated by art and eroticism among a restricted number of the elite. For this elite, emancipation also meant being able to dematerialize, as it were, in a succession of visions inside an apartment:

> the chrome yellow of a modern architect, where the unbreakable crystal mobiles seemed suspended against the velvet of the curtains… between the scarlet rug floor and the ceiling carved by the very sinuous "S" of a steel groove in which, at the push of an electric button, an upside-down grouping of lamps traveled like an express train from one end to the other of the salon… All of it was very attractive. Supremely modern and sparkling… velvety and soft and extremely polished down there."[2]

It was all modern and aristocratic at the same time.
The 'modern architect' whose work was being evoked was Carlo Mollino. He had set up his own model of a *garçonnière,* which he repeated for several of his customers with some called-for variants that made them unique and original every time. Turin was an apt setting for such an activity. It was the city of film and fashion. It was exactly where there was a need to collect and own rarities, which were crafted *ad hoc*. Thus niches were formed here, sheltered from the mass consumption that was to develop in Italy from this very city through the automobile industry.
This manner of producing rarities exploiting the concept of serialization makes up the basis of a dialectic that would mark the post-war reconstruc-

tion of Turin. Much earlier than Andy Warhol, Mollino mystified his series. Just as Warhol exploited his Polaroid snapshots, Mollino simultaneously exploited photography, fashion, architectural and decorative elements in order to modify his models and produce new varieties through various reflections and points of view.

The long decline of Fascism brought certain people together – anti-conformist men and women who were open to ideas and tendencies with a European resonance. They were bound to each other in that they accepted commissions for work from sources other than the Fascist regime. Hence they unfortunately might have appeared to be affected by "ugly *dannunzianesimo*" from the point of view of Fascist cadres in the university. They formed a group for about ten years, but began to drift apart after 8 September 1943 surrender to the Allies. Their separation became definitive after the 'confused period of reconstruction,' when 'Marxist and clerical tendencies was not able at all to put up with their "bourgeois" cultural deviation.' [3] Earlier, however, between 1938 and 1943 Mollino was able to frequent two artists like Italo Cremona and the sculptor Umberto Mastroianni at the same time. In 1943 Cremona was to sympathize with the Fascist Republic of Salò while Mastroianni joined the Resistance, convinced that 'Fascism, Nazism, and military aggression were merely an aspect of a much vaster repressive process… along with increasingly heavy and invasive economic-technological and, definitely, political hegemony of capitalism,' in the words of Giulio Carlo Argan.[4] After 1945 Mollino broke with Cremona. Meanwhile, he had been working with Mastroianni. There were several joint projects between 1942 and 1944, such as the setting up an exhibition space and the project for a house in Aci Trezza, Sicily. They then entered their most productive period together with a series of monuments and the mounting of an exhibit at the La Bussola art gallery in 1948.[5]

Mollino worked more intensively with Mastroianni especially when he was also working side by side with the Communist mathematician Franco Vadacchino, as illustrated in their joint authorship of *Architettura arte e tecnica*[6] (Architecture, Art and Technology). In this case too, the paths that their lives took remained rather separate, especially in their rather dialectical positions on the relationship of technology and mass production. Nevertheless, they still managed to create several pieces of furniture for a 1946 exposition.[7] All of these were artists who were heterodox and receivers of exceptional commissions. They had distanced themselves from the more 'official' tourist image of the city, the image that recently had been consolidated with the renovation of Via Roma, which they associated with a certain kind of 'neo-classical arcade tackiness' and with 'Turin quicksand'.[8]

They looked at the paradoxes and ironies of their city, keeping their distance from the conservatives and the few Rationalist architects. We can see this distance emerge clearly in mystery writer Ezio D'Errico's 1936 *Guida per oziosi e vagabondi* (Guide for the Idle and Vagabond), a little book useful 'to disorient yourselves in Turin,' as he wrote. In his introduction, D'Errico offers an ironic view of average tourists:

> If you are an Italian, I will to go and visit my cousin, a Fiat employee, eat lunch at the *trattoria* where you had your first love affair when you a student at the *Politecnico* and take a look at the new Via Roma. If you are a barbarian, I will go up to the top of the *Mole Antonelliana*, look at Superga mountain through the viewfinder of a Leica and give birdseed to the pigeons in Piazza S. Carlo.

The symbols of industrial, eclectic and Baroque Turin - Fiat, the Politecnico, Via Roma, the Mole Antonelliana, Superga, and Piazza San Carlo – are entirely missing from the list of the most improbable spots that D'Errico recommends.

There were other places that he preferred – those important for the lives of a small group of sculptors, writers and critics who had it in common that they friendly with the architect Carlo Mollino.[9] Outstanding among these places was Piazza Statuto, near where the painter Carol Rama and the poet and critic Edoardo Sanguineti grew up, figures who were to give life to a merging of painting and poetry, one that originated in the 1930s. D'Errico's Piazza Statuto is a

> piazza bazaar, a street fair of arcades and little gardens, stores and stands, movie theaters, garages, train stations and hovels…. [its buildings had and still have] windows that are inexorably closed, where… on a moonlit night, in that immense rectangle, you can breathe the stupefaction of certain paintings of De Chirico.

Secondly, he points out the dike on the Po that was clearly visible from the 'parapet of Via Napione', the street where the present-day Mollino museum is located. Thirdly,

> The Vittorio Emanuele I Bridge divides two aquatic worlds and unites two terrestrial ones. On the one hand, there is the closed order of a city that stays within its ranks and, on the other hand, the sprawling order of a city that has broken ranks and is climbing steeply towards the hill… between the temple of the *Gran Madre di Dio* and the ex-Capuchin convent.[10]

This guide and its illustrations harked back to Impressionism. Carlo Ragghianti wrote about Impressionism in a book dedicated to Aldo Bertini, a Turin art critic, contemporary of Mollino's, and friend of the painter Italo Cremona. Ragghianti's book was published in 1944. Before it was, a draft had been sent to Mollino either by the Ragghianti himself or the publisher, the same one who was to publish Mollino's book on aesthetics and photography in 1947.[11] Ragghianti warned his readers against interpretations that reduced Impressionism to a pattern and a screen – i.e. a technical-visual pattern that tended to turn every painting into 'a sensual adventure concerning a nature that was bright and colorful.'[12] He definitely called on Mollino and his artistic circle to focus on certain of their affinities. He presented Symbolism in parallel to Impressionism. Symbolism was said to derive from psychologism, which was produced by the culture of positivism. These were tendencies that Mollino himself could not put up with and that he would allude to in an attempt to reject a certain kind of culture of 'pure visibility' that was widespread during the 20 years of Fascism.[13] As opposed to Impressionism, various phenomena were read by Ragghianti as forms of provincial intellectualism. These included Symbolism, Boccioni's type of Futurism, Picasso's poetics and Expressionist doctrines, all of which were 'substantially unable to make common cause with the art of Impressionist painters in an intrinsic sense.' Neither could they gather in these painters' enthusiasm for 'free and personal creation.'[14]

Italy provided a cultural context where impressionism was virtually missing, as Ragghianti emphasized in 1944. In such a context, the painters in Mollino's circle kept close company with each other yet saw themselves as hovering between Impressionism and Symbolism, with Albino Galvano, Mino Maccari, and Piero Martina leaning towards Impressionism and Carol Rama and Italo Cremona towards symbolism. Mollino drew elements from both movements for his *garçonnières*. These included the surrender of an ambiance to the dematerialization of objects by means of crisscrossing reflections and colors as well as the play of continual artistic quotations. This was termed 'mental Impressionism' by Galvano, painter, art critic, and close schoolmate of Giulio Carlo Argan. Galvano was a scholar of Egyptian and Oriental art as well as a Proust enthusiast. [15]

D'Errico's *La guida per oziosi e vagabondi* showed traces of some nuances of the *Strapaese* movement, a movement evoking rural domestic life that nevertheless had nothing in common with 'rural Fascism'. The *Strapaese* movement opposed foreign-loving internationalism and denounced the corruption and 'vices of an epoch that was mortified by Fascism,' as Ragghianti wrote in 1955 in reference to the journal, *Selvaggio,*[16] one that was often read as a kind of 'leftist Fascism'.

Its editor Mino Maccari arrived in Turin in 1931 when he was asked to work for the newspaper *La Stampa* by its editor Curzio Malaparte. An anti-conformist who was risking being sent into exile, Maccari headed the *Selvaggio* from 1927 to 1943, where he fought for the renewal of Italian mores, literature, and more broadly, popular culture . It was in *Selvaggio*, characterized by its free and biting satire, that Carlo Mollino published his second serial novel in 1936. Mollino's fame as a writer of serial novels as well as his friendship with Italo Cremona and literary figures opened him up to very interesting clients, such as Mino Maccari himself. In fact, *L'ora del té*, an exhibition that he curated with Cremona in 1935 seemed to be less dedicated to Futurism than to Cremona's wife, a scholar of English literature. She was probably the person who introduced Henry Miller's writings to Mollino.

Mollino leapt from the *strapaesana* culture to the literary phenomenon that challenged American cultural and moral values in the 1930s, but his leap was only apparently acrobatic. He and Cremona developed a line of thought on 'abstract decoration'[17] that turned out not to be very distant from the aesthetic reflections of Albino Galvano. We can see examples of this "abstract decoration" in the evanescence of a 1935 exhibit, evanescence in his interpretation of the drapery folds and the design of the (ironically nicknamed) *libèrti* whirls for Cremona's coat hanger. Another example consists in the designs of the seats for the exhibit planned for Mastroianni. In his aesthetics, Galvano, to whom we owe the only description of the Devalle house, distinguished sharply between the concepts of form and image. Form cannot be separated from the idea of art as representation and objectification. Image is the overcoming of the object-subject duality typical of representation; it is a semantic immediacy.[18]

These were the years 1933-6. Mollino was also working on the five installments of his novel *Amante del Duca* (The Duke's Mistress) in close contact with his editor Maccari. Their conversation turned to a project for a house for Maccari in Forte dei Marmi, Tuscany.[19] Initially, it was a question of adding a floor to a one-family villa (about 3000 sqm) on the road towards Montignoso, illustrated by several drawings by Maccari, aimed to emphasize the villa's rustic features. Then, in spite of this, Mollino decided to transform the villa completely. He carved out a courtyard, disassembling and re-assembling the villa's rustic features in light his provokingly classicist take on things. For example, the main entrance with its portico was associated with that of a Roman *aquarium*. Classicism was a recurrent trait of Mollino's in those years.

Mollino made his way in cultural circles. Cremona was the person who introduced Mollino to Maccari. Maccari then introduced him to Leo Longanesi, who egged him on to write what he felt about Marcello Piacentini, the official

regime architect, in an article for the journal, *Omnibus*; to members of the editorial board of *L'Italia letteraria* already co-edited by Curzio Malaparte; and to the writer Ezio D'Errico. However, Giorgio Devalle did not need an introduction.

Devalle was a member of the wealthy Turin bourgeoisie. He came from wealthy families that had been involved in the textile industry since the eighteenth century. On his mother's side, the family, of Jewish origin, hailed from Sordevolo in the Biella area. On his father's side, the family was specialized in the importation of silk from Lyon and in textile dying, with a factory on the bank of the Po in the center of Turin.[20] In 1930 Devalle inherited his father's collection of sixteenth-century Piedmontese art and continued working on it. Beginning with the late 1930s, he kept in contact with Resistance militants. He was arrested in November 1943 and then deported to Mauthausen along with 50 other political deportees on June 13 1944 on a train convoy (later catalogued as *Trasporto18/Tibaldi*). He was then transferred to Melk, because he had financed and aided partisan bands on the eve of General Badoglio's signing of the armistice.

Devalle and Mollino, both the same age, attended the same Catholic boarding school together from primary school on to classical secondary school. Devalle graduated in the university in law, taking two exams along with Italo Cremona on the same dates – a constitutional law exam and the general oral exam for the *laurea* degree. It was his friendship with Mollino that convinced him to proceed with a project that was rather distant than the aesthetics mandated by the regime. Mollino took on the renovation of two of Devalle's apartments, both at Via delle Alpi 3 in Turin. The furnishings were 'conceived for an initial resolution, but after a few months, were almost entirely transferred, adapted, and integrated into a wider space.'[21]

There is no information about the fate of the furnishings in Via Alpi after his deportation. What is left consists in only two seats and a small table from the dining room in a private collection. Contemporary publications confuse the two apartments, treating them as if they were only one, almost to demonstrate that they were dealing with a little series, a kind of limited-edition *garconnière*. The matrix, the Miller house, was derived from the idea of setting up ambiences beginning with a unique open space, articulated only by glass dividers. The ambiances were carved out with drapery hanging from transparent walls. There were two of them: the office and the cave (the bedroom), both introduced by a vestibule.

These areas were arranged differently from case to case, while maintaining the same order. The vestibule is at the entrance, perpendicular the apartment's axis of symmetry. The bedroom, composed of a bed area and an adjacent bathroom, is across from the entrance. On the right, the office/studio could follow, with or without a kitchen. These ambiences were at times able to penetrate into each other through transparent walls and reflecting surfaces, generally doors. The vestibule almost entirely penetrates the studio/office-living room and hence form a kind of long introduction. The studio-bedroom penetrates the cavern-bed only in the upper areas of the wall between them.

There is a sense that there are two variants in the Devalle apartments. Here Mollino reinterpreted the entrance-vestibule element by adding a gallery and the office/studio was extended until it became a living room. Devalle, businessman and manager, was also a collector of ancient art, as can be gathered from the series of *semi-serious* photographs that Mollino took of the little sculptures preserved in a precious glass case in the shape of a temple that he designed for Via Alpi. This *tempietto* design with sliding doors would be repeated in other apartments in several versions, which were perhaps based on research that covered three types of 'houses' - *casa pompeiana*, *casa cariatide* and *casa prospettica,* (Pompeii, Caryatid, and Perspective Houses). These designs, his project for the *casa per l'ultimo dei Moicani* (House for the Last of the Mohicans), - another literary reference he got from the Cremonas - and his novel fragment, *Agonia degli Apollidi*, (Agony of the Stateless) are the elements that make up the chapter that characterized his 1934-4 decade.[22]

Objects, subjects: series inside of series

Between 1928 and the mid-1930s, domestic space began to be considered as something to be transfigured by the most refined amateurs, who were being influenced by the avant-garde movements encountered at the photographic salons of Turin. For example, the photographs of the engineer Italo Bergoglio reveal a sense of 'domesticity' that was vanishing. His photocompositions did not consist of 'common objects' but of ceramics, Murano glass, crystals, and dolls crafted by the Lenci factory in Turin. What was happening here was that people influenced by the second wave of Torinese Futurism sought to dramatize objects – objects that interacted in a space thick with scenic allusions. They did this through artificial lighting, multiple and clashing sources of light, the spacing of corners, the production of shadows, and close-up points of view.[23]

Mollino's photographs of architecture and portraits that he took in *garçonnières* present a vast repertory of different series, in which the main subject is, in reality, the human figure. Of these photographs, we can tally an almost equal number of negatives and prints of the Devalle and the Miller houses, while photographs are the only things that are left of the D'Errico house. Mollino photographed a series of plaster casts he had installed in the Miller

house on Via Talucchi. He photographed so much that a series could be dedicated to each of them, held next to models or in their hands. These were produced by plaster artisans with the very traditional techniques commonly used in the fine arts academies. There were also other plaster casts that Mollino planned and modeled with Cremona, such as a shelf-capital with its acanthus leaves that end in fingernails, an allusion to another classical decorative *topos* – the hands.

Every snapshot of a series of plaster casts potentially became part, in turn, of another series dedicated to the single models – for example, the *Lina* series and the *Cremona* series. Each plaster cast stopped being something that bore a meaning. The models and the objects came together almost to turn into 'abstract decoration'. They were things that Mollino enjoyed mulling over, photographing them from many points of view at the same time, using mirrors and reflecting surfaces. The apartments were projected basically as if they were machines. They were ambiances that were completely artificial and perfectly calculated to be enjoyed through one sense only – the sight. People were completely free to decide what to look at and how to look at it. The apartments were to be looked at only in the way that people decided to look at them. This need for freedom and autonomy was expressed very intensively, but necessarily remained enclosed within interiors that did not communicate visually with the outside world in any way.

The human figure

Mollino changed the objects but not the subjects of his various series of photographs that he took in the Miller house (about 1938-42) and dedicated to quotations, including a series of plaster casts. The subjects stayed the same because, for him and those of his circle, the process of emancipation happened when they frequented each other in his apartment. Emancipation was completed especially through the celebration of the human figure and the body. This is perhaps the reason for Mollino's interest in sculpture and its *topoi*. For example, he reinterpreted the Venus of Milo in the Miller house. He denied it its volume, flattening it as a two-dimensional slab hung in mid-air between the rug and the ceiling. It became a space that mirrored and potentially produced virtual space rather than taking up space with its volume. The Venus was to appear again in his project for the Maccari house. There was a practically life-sized photograph of one of Michelangelo's sculptures of *prigioni* (also termed 'captives') lying horizontally and visible from above. It was sandwiched between two slabs of *securit* in Mollino's worktable at the Miller house. Along with two colleagues, Mollino projected a pavilion in 1940 mainly featuring a cast of the same 'captive', another of Michelangelo's 'captives', and an original fifteenth-century Flemish copper sculpture.[24]

This period (1934-44) was marked by an obsession with the human figure, classicism and sculpture that was shared by Mollino and the artists he frequented intensely. All of them had studied sculpture with Michele Guerrisi, who came to Turin in 1922 from the Carrara Fine Arts Academy in order to teach art history. Guerrisi considered sculpture the Italian art *par excellence*. In 1930 he published *I discorsi sulla scultura* [discourses on sculpture] and in 1941 he was commissioned to create the state of philosophy for the Palace of Civilizations at the EUR in Rome.

In the post-war period, most famously, Mollino worked with Mastroianni and Adriano Alloati on the monuments for those fallen in the liberation of Italy at Turin (1945-7), referred to by Kidder Smith,[25] and at Fossano (1956-63) as well as on the uncompleted project for a monument for Adriano Olivetti (1956-63). In the private sphere, we should recall Mollino's long and intense bond with the sculptress Carmelina Piccolis. Mollino was sentimentally bound to her from the early 1930s to the mid.1950s until she moved to Brazil, where he tried desperately to spend some time with her in 1953. The human figure was something that stood out not completely defined in the works of 'Mastroj' (Mastroianni) and Alloati, with whom Mollino worked by providing them with structures and placing them in the settings. The human figure became the figure of women by Piero Martina (1940). Eventually, the artistic work of Carmelina Piccolis turned the human figure into a fragment, taken from one body or from two bodies together. This is a phenomenon that has been written about not only by Mollino but also by Gio Ponti, the architect Mario Roggero, Galvano, Carlo Levi, Ada Gobetti, music critic Massimo Mila and art critic Luigi Carluccio.[26] In the work of the painter Carol Rama the human figure again became a body, surrounded by obsessions, vices, taints, and shame, treated not as an obstacle but again as a resource. Her art was balanced between existentialism and *art brut* and her studio renewed the sociality of the *garçonnières* in the post-war years without depriving them of their spirit.

The male artists drifted away from each other according to with the political choices they had made. Instead, Piccolis and Rama were virtually two muses for Mollino. He had never collaborated artistically with either of them, but they were omnipresent in the way his anti-conformism took shape. Piccolis accompanied him in his breaking off from the paternal culture and its suffocating affection. Rama accompanied him as he bid farewell to his city, his public, and the world, down to the inauguration of the new opera house *Teatro Regio.*

1 Massimo Centini, *Bordelli torinesi* (Turin: Editrice Il Punto, 2013).
2 E. Doleatto, "Tina Menneyey Prampolini," in *Torino rassegna mensile municipale* November 1936, 32.
3 Roberto Gabetti, in *Odissea musicale* (Turin: Allemandi, 1994), 35.
4 Carlo Giulio Argan and Cesare Brandi, *Umberto Mastroianni: la simbologia delle forme* (Bari: Dedalo, 1980).
5 Giorgio Auneddu, "Carlo Mollino: il rapporto con gli artisti," in Mirella Bandini, Giuseppe Mantovani and Francesco Poli (eds.) *Arte a Torino 1947-1953* (Turin: Turingraf, 1983), 97.
6 Michela Comba, "De humana sproportione," in Id. (ed.), *Carlo Mollino. Architettura di parole* (Turin: Bollati Boringhieri, 2007), LVI-LIX.
7 *Mostra dell'Ambientazione*, Pro Cultura Femminile di Torino, 1946 (P.8 E.61, Area Bibliotecaria e Museale, Archivi della Biblioteca Centrale di Architettura, fondo Carlo Mollino, hereafter ACM).
8 Ezio D'Errico, *Torino Guida per gli oziosi e i vagabondi* (Turin: Rattero, 1936); "Architettura di Torino. Le sabbie mobili," in Comba, *Carlo Mollino*, 89-102.
9 On the influence of Mollino's art studies on his design production, see, Federica Rovati, "La camera incantata. Carlo Mollino e la cultura artistica torinese," in Sergio Pace (ed.), *Carlo Mollino architetto* (Milan: Electa, 2006), 64-77.
10 Ibidem, 48.
11 ACM individual pages.
12 Carlo Ludovico Ragghianti, *Impressionismo* (Turin: Chiantore, 1944), 9.
13 "Vedere l'architettura," in Comba, *Carlo Mollino*, 283-306.
14 Ibidem.
15 A. Galvano, "Un arredamento di Carlo Mollino," in *Stile* 5-6 (1941), 33-45; on Galvano, see Michela Comba, "Carlo Mollino. Letture e glossario di un architetto tra il 1933 e il 1947," in *Annali di critica d'arte*, vol. 8, (2012), 97.
16 Carlo Ludovico Ragghianti, *Il Selvaggio* (Neri Pozza, 1955).
17 See Italo Cremona's much later text, *Il tempo dell'Art Nouveau: Modern Style, Sezession, Jugendstil, Arts and Crafts, Floreale, Liberty* (Florence: Vallecchi, 1964).
18 "Carlo Levi" in *Carol Rama, Albino Galvano opere storiche* (Turin: Over Studio, 1993).
19 See "L'amante del duca," in Comba, *Carlo Mollino*, 42-88; Casa Offidani per Maccari a Forte dei Marmi (ACM, P.11C.150).
20 Gabriella Pernechele & the students participating in "Progetto Memoria" (eds.), *«Le monde est bon». Storia di un antifascista (Torino 1905 – Mauthausen 1945)* (Turin: SEB, 2011).
21 Ibidem, 35.
22 See the design project for doctor Tullio Deaglio's house in Via Barolo 3 in Turin (ACM, P.18C.421); Caryatid, Perspective and Pompeii House (ACM, P.13D.319); Fragment of the "Agonia degli Apollidi," in Comba, *Carlo Mollino*,179-81.
23 Lucia Miodini in *Italo Bertoglio* (Turin: FIAF, 2009), 16.
24 Carlo Mollino with Carlo Celeghin and Emilio Pifferi, *Padiglione estivo per il signor Luigi Foglia,* 1940 (ACM, P.11D.156). Together with Pifferi, his coursemate at the Faculty of Architecture in Turin, Mollino wrote three articles for *Domus* in 1935. See "Mille case," in Comba, *Carlo Mollino*, 98.
25 Kidder Smith and George Everard, *L'Italia costruisce: sua architettura moderna e sua eredità indigena* (Milan: Comunità, 1955).
26 There are many letters that Carluccio wrote to Mollino. An admirer of Luigi Spazzapan, he had been responsible for some exhibitions organized at the Gallery of Modern Art of Turin in the late 1960s. *Le muse inquietanti. Maestri del surrealismo*, edited by Luigi Carluccio. Torino: Associazione Amici Torinesi dell'Arte Contemporanea, 1967. Exhibit catalogue.

2.4.3 The Logics of *arredamento*: Art and Civilization 1928-36

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Abstract
The discourse of *arredamento* constituted a privileged realm for artistic synthesis in the central decades of the twentieth-century in Italy. Such was the nature of the concept, which refers both to the piece of furniture and the ensemble of elements furnishing a livable space – an architectural interior.
The emphasis on *arredamento* was different both from the association between interior and interiority of the German tradition and the insistence on social control of French modern practices of the interior. Italian discourse distinctly encapsulated an interest in the material elements that construct an environment and paved the way for its regard as an artistic medium. This material emphasis additionally transformed the interior from a unified and enclosed realm into an ordered arrangement of elements that moved beyond stable boundaries. In fact, the discourse of *arredamento* not only concerned the arrangement of elements within a room, but also the movement of goods and meanings throughout the territory, as curated interior ensembles were key in the circulation of architecture both in the media and the market.
The tension between the constitution of the interior as an artistic medium and its transformed effects when submitted to modern forms of circulaltion, was of particular concern to the writings of Edoardo Persico and Gio Ponti in the early 1930s. While the former regarded the interior as 'a work of art' (*l'arredamento come opera d'arte*), Ponti maintained that it was 'not only a problem of art' but more so 'a question of civilization', (*un problema di civiltà*). It is the tension underlying this dual repurposing of the interior that concerns this paper. I will explore how it was precisely as an artistic medium that the architectural interior was introduced to different circulatory processes and partook in the regulation of social relations to which Ponti referred as 'civilization'.

2.4.4 The Synthesis of the Arts as a Critical Instrument for Modern Architecture. The Role of Ernesto Nathan Rogers: 1944-49

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Abstract
In a letter written in the mid Forties Ernesto Nathan Rogers, member of the BBPR and former director of *Domus*, declared that 'every good, modern architecture should be done in strong collaboration with the work of a modern artist'.
In the period between 1944 and 1949. the reflections on the 'synthesis of the arts' played a relevant role in the theoretical experiences of Rogers mainly expressed by *Domus*, which he directed between 1945 and 1947, and by his relationship with Sigfried Giedion and Max Bill.
My paper will be focusing on this defined historical phase trying to consider the discussion around the 'synthesis of the arts', on one side, as an ambiguous consequence of the critique of the *architecture fonctionnelle*, and, on the other, as a relevant field of discussion between designers and artists in post-war Europe.
I will concentrate on the role of Ernesto Rogers who played a significant cultural and political position in this historical phase as member of the Council of CIAM and as the director of one of the most influential architectural magazines.
I will consider four main situations related to the discussion around the 'synthesis of the arts' and its influence on the design process:
- the collaboration and discussion with Giedion, and its consequences in CIAM's Congresses of Bridgwater and Bergamo;
- the cultural definition of *Domus*. *La casa dell'uomo*, between 1945 and 1947;
- the relationship with Max Bill between 1943 and 1949 around the role of *art concrète*, through exhibitions held in Zurich, Buenos Aires (*Nuevas Realidades*, 1948), Milan, and the related conferences and essays of Rogers;
- the relationship between Lucio Fontana, Saul Steinberg and the BBPR.

Keyword
Ernesto Nathan Rogers, Ciam, synthesis of the arts, Giedion, architecture and politics

On the last day of the sixth CIAM Congress in Bridgwater in 1947, Sigfried Giedion, secretary-general of the association, launched the theme 'Synthesis of the Arts' as one of the key subjects to address at the next meeting to be held in Prague two years later.
The proposal would have sounded odd at the end of the Congress that had been dominated by the hefty burden of post-war reconstruction, the need to bring the Athens Charter up to date as a tool for tackling this huge task, and the urgency to radically rethink CIAM congresses in light of new geopolitical perspectives.
Josep Lluìs Sert's appointment as chairman clearly reflected the progressive shift in cultural and political balances from Europe to the United States, and the need to update the actual concept of CIAM, from the romantic La Sarraz's 'home of artists' into an organisation with global scope.
After the congress, the Swiss historian's proposal was greeted with a cold reception, except by two different stakeholders: the Mars group and Ernesto Nathan Rogers.
Support from the Italian architect – an emerging member of the CIAM Council and director of the publication Domus since the previous year – stemmed from a cultural and ideological consonance shared with Giedion since the late 1930s, that brought them into frequent contact by personal correspondence throughout the decade.
In particular, in the period when Rogers lived as a refugee in Switzerland after September 1943, the two started a dialogue on the problem of reconstruction and on Giedion's studies in the United States. But their ties became particularly strong in 1945 leading to Rogers' nomination to the Council, and recognition of his 'political' centrality within modernist Italian culture due to his appointment as director of *Domus*, and the perception abroad of the cultural relevance the BBPR architectural firm was acquiring in Milan and in Italy.[1]
Rogers' war experience in Switzerland under the protective political wing of his friends from CIAM, that grew from frequent exchanges and the constant dialogue with Giedion, Alfred Roth and Max Bill, had enormous influence in this historic phase [2] and is significantly reflected in an entire series of his public speeches in Milan in the two years immediately following the war.
Bill and Roth were the only two foreign architects invited to the first National Congress for Reconstruction held in Milan in September 1945[3]. Rogers brought the pair to conference at the new *Casa delle Cultura* and in *Triennale*. Bill exhibited some of his work in Milan: examples of Concrete Art he made during the war. Their works and their theoretical and artistic contributions were widely published in the new *Domus*[4] which also contained a preview of Giedion's new book *Mechanization takes Command*[5].
But I believe it is necessary to ask why a topic such as the Synthesis of the

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Arts became such an important theme for reflection for Rogers in this historic period. Firstly we should underline a number of elements making up a faceted and ambiguous picture. Such elements are intertwined, on the one hand, with a characteristic condition of Milan's rationalist design culture and, on the other, with issues of more instrumental and ideological nature, that were conditioned by the international political situation of the time.

The issue of the Synthesis of the Arts – as it was approached differently by Le Corbusier and in the experience of Bauhaus – became popular in particular in Italy in the Thirties thanks to the magazine *Casabella* and the directorship of Giuseppe Pagano. Namely, the interdisciplinary work of Bauhaus and the strong influence of De Stjil influenced the relationships starting to build between emerging rationalist architecture in Milan and Como and some of the promoters of Abstract Art like Lucio Fontana, Luigi Veronesi and Bruno Munari.

Exhibitions at the *Il Milione* Gallery held by the Ghiringhelli brothers, and some of the architecture and fixtures designed for the *Triennale* in 1933 and in 1936 demonstrated the desire to explore a dimension apart from the merely decorative contribution of artists tending towards alternative and radical spatial unity.

An advertising fixture by Edoardo Persico and Marcello Nizzoli in scaffolding in the Vittorio Emanuele Gallery in 1936, projects by Franco Albini for *Pinacoteca* in Brera, some interiors at the *Triennale* and the design of the BBPR school in Legnano, the tower in Piazza del Duomo or the Tuberculosis Dispensary in Alessandria by Ignazio Gardella, the Olivetti offices in Ivrea by Figini and Pollini, the *Casa del Fascio* in Como by Giuseppe Terragni or the debut works by Cesare Cattaneo, clearly demonstrate how an obsession with the grid was the place for the rationalist culture to experiment and start a dialogue with abstract art, in strong antagonism to the 'Italian' way promoted by Gio Ponti, Piero Portaluppi and representatives of the Novecento Italiano movement where the 'Synthesis of the Arts' was seen as a revision of national artisanship as part of a domestic project on modernity.[6]

In this context, the magazine *Domus*, founded by Ponti in 1928, became the most effective ideological and public propaganda tool in strong opposition to rationalist internationalism of Pagano's *Casabella* that promoted the Bauhaus experience and De Stjil aesthetics as being central to modern European culture.

While in this stage the neo-plastic interpretation of Le Corbusier does not appear to have a strong influence compared to the impact circulation of his writings and his visions on urban planning had.[7]

With the end of the Second World War and the temporary political isolation of 'collaborationists' Ponti and Portaluppi, Rogers, the BBPR and the Milan CIAM group started a number of design and cultural projects to maintain continuity with the rationalist experience of 1930s, strengthening the visual and symbolic bond with Abstract Art and every form of non-figurative art.

The AR Plan for reconstructing Milan in 1944 – 'AR' standing for 'Architetti Riuniti', Architects United – shared the ideology of the Athens Charter but, most importantly, the Monument to the Victims of Concentration Camps designed by the BBPR in 1946 for the Cimitero Monumentale[8] in Milan is a strong political and cultural statement about what happened in Northern Italy during the Thirties, and the European abstract art culture of Vantergloo, Kandinskji, Hans Arp and Max Bill.

Rogers personally saw the exhibition that Max Bill was preparing in Zurich in 1945 to launch his vision of Concrete Art, and without doubt this closeness is reflected in the BBPR first work after World War II.

The square 3D grid incorporating a pattern made up of a series of marble surfaces and the transparent glass, sand and barbed wire urn, defines a harmonic balance between the spatial dimension of the monument and its surroundings, creating a direct relationship with the experiences of Abstract Art and transforming it into an interesting attempt at harmony between different visual experiences.

The wish of Edgard Kaufmann Jr, director of Moma's design department, to purchase a copy of the monument after visiting Milan in 1948 with Peressuti demonstrated the ambiguity of scale and genre of this work.

But it was in the two previous years, during Rogers' time at *Domus*, that the idea of a possible Synthesis of the Arts was explored in greater depth as antagonist to Ponti's vision, and closer to the reflections that Giedion was developing in this period. The architect from Trieste took up on Pagano's lesson and proposed not so much a style and formal approach to the topic as the idea of synthesis of modern art forms as the only way to build a consistent contemporary spatiality that was based on open and heterodox comparison of different disciplines.

The magazine as a whole strongly set out the idea of a collaboration between Modern Arts thanks to the involvement of artists who could provide a specific and disciplinary point of view that broadened the primary objective of its director, which was the construction of the new 'home for men'.

Riccardo Malipiero for music, Gillo Dorfles, Lionello Venturi and Mario De Michelis for art, Nelo Risi for literature, but also Elio Vittorini, Carlo Ragghianti, Jean Starobinsky, Herbert Read, Max Bill, and Siegfried Giedion, expanded on the idea of a Synthesis of Arts as an open laboratory for modern disciplines to work together in an attempt at modern reconstruction of reality, where 'functionality' and 'beauty' can find a temporary, necessary, harmony.

What appeared to greatly concern the director of *Domus* in this stage was the reconstruction of humanity in modern architecture, in part through the rediscovery of traditions and artisanship, viewed as the ability to express the decorative force that exists in every man. Rogers' neo-humanist vision, clearly contrasting with Le Corbusier's machine aesthetic ideal, led him to a problematic and anti-dogmatic exploration of the anti-decorative taboo of a section of the avant-garde, to define a much more transversal architectural vision open to the humanity populating it.

Together, the experiences of Concrete Art by Max Bill became one of the possible answers to these questions in regard to Modern Art, transforming Rogers into a passionate promoter.

Not only did *Domus* publish a series of essays Bill wrote on the subject, but when, in 1948, Rogers moved to Argentina for almost a year, coming into contact with the modernist circles of Buenos Aires, Bill was invited to participate in the exhibition Nuevas Realidades the first major post-war Abstract Art event in South America, at which BBPR also participated with its Monument to the Victims of War seen as a work that perfectly underscored the 'social potential of concrete art.'[9]

But in this stage there is also another, more ambiguous way of interpreting the theme of Synthesis of the Arts, partly explaining Giedion's proposal to the Bridgwater Congress.

Between 1947 and 1949, the CIAM were inevitably entangled in growing political opposition between the West and the Soviet blocs.

Initially, the proposal of the next location for the 1949 Congress favoured Prague at the insistence of CIAM's influential Vice-Chairman Helena Syrkus, but that ran the strong risk of the event being boycotted by a section of members from the West.

The alternative choice of Bergamo, proposed by Enrico Peressutti at a CIAM meeting in Paris,[10] was seized upon, and the themes chosen – such as the reforming of teaching architecture and synthesis of the arts – were considered as topics, which avoided ideological and trans-national valence.[11]

As we know, the final decision was Bergamo and the diplomatic role of Rogers and Giedion appeared to be decisive.

Nonetheless, despite the haste, on the second day of the CIAM congress, questions became piercing. In the session moderated by Giedion about the Synthesis of the Arts, Syrkus joined the general discussion with very harsh criticism of some of the CIAM founders, raising the lack of true 'attention for people', and the need for a clear link between art and politics.

Quoting Le Corbusier's motto on show at the entrance to the Esprit Noveau hall, *Comprendre, Juger, Revendiquer*, Syrkus alleged that:

people didn't understand a thing. And this is why we understood in the USSR that we had fallen into formalism. Formalism is the attitude created by capitalism between art and reality. Artists have distanced themselves from life and have begun to make 'art for art'. The true artistic revolutions today are, on the other hand, related to social revolutions. Goya changed his painting technique and colours to demonstrate the disasters of war. Socialist realism was designed to elevate man, the critical realism of Goya. The work of Picasso is realist in the sense that he developed the tools to narrate the poverty of capitalist society. For this reason his work is considered useful for popular democracies, and it is what remains of western democracies. In the East, where the population is experiencing a new positive stage of development, the work of Picasso is useless because it has already been defended. The formalism of CIAM was important in its day because it was a form of rebellion. They used analytical methods that were socialist methods. Formalism identified many positive elements. But the content deteriorated steadily. The book on the notions of Existenz Minumum accepted some mistaken notions of capitalism, and the results are today very disappointing. There is a very sad difference today between what we want and proclaim on the one hand and what we do on the other. The public remembers the defects more easily and the echoes that succeeded. Despite everything, this is what happened a while ago with the rebuke of Le Corbusier's motto of the 'machine à habiter'. Construction is not a skeleton. That might interest an anatomist. But others welcome the fact that it is covered by muscles and a nice skin. We have nothing else to offer from the days when CIAM came into being and then we transformed the structure into a fetish. Eastern countries have come to the conclusion that the heritage from our past needs to be respected and deserves greater consideration. This does not mean using the forms of the past eclectically, but that we need to have respect for its spirit. The USSR does not impose the culture of Great Russia on the rest of the country, but it encourages culture in each region. This is the difference between the USSR and Hitler's vision for the *Herrenvolk* which destroyed important archaeological traces in Poland cancelling every form of autochthonous trace. Polish CIAM fights against any form of formalism, but also against any academic force that uses eclectic forms. The new Warsaw shall preserv the link with the past. We, as CIAM, must revise our vision. Bauhaus is as outdated as Scamozzi. It is time to take the Athens Charter from words to blows.[12]

Syrkus's speech clearly represented the issue of ideological opposition conditioned by a radical change in politic perspectives in post-war Europe and brought the level of discussion at CIAM to unprecedented heights. The promotion of socialist realism, as antagonist to any form of capitalist formalism, embodies the Soviet political recommendations in terms of languages and cultural approach to design.

But this criticism, shared by other communist members of CIAM like Mucchi and Bottoni, was immediately followed by the 'cultural' responses of Rogers and Giedion who tried, once again, to shift the scope of the discussion from political differences to a vision of Art as a 'pure' and absolute phenomenon. The attempt at mediation appeared fragile and the outcome of an impossible settlement between reality and ideological visions that were far away from history and the political clashes that were dividing the world.

When, in autumn 1949, the Association for the Synthesis of Plastic Arts was created, and Henri Matisse was appointed Chairman with Le Corbusier and André Bloc as Vice Chairmen, attracting some leading modern architects and artists such as Picasso, Arp, Giedion and Rogers, it appeared to mark the end of a romantic dream that all the avant-garde had experienced in different ways. Le Corbusier's design for a hall for the Association did not take concrete form,[13] while the supporters of the Synthesis of the Arts as an element of harmony between modern disciplines shifted rapidly to some of the themes that marked the definitive crisis of Modernity.

1 Between 1945 and 1949, the architectural firm BBPR was the foot in the door in Milan and Italy for most of the leading names in international modern culture such as Alvar Aaalto, Edgard Kaufmann jr, Max Bill, Alfred Roth, and Tomàs Maldonado.

2 Luca Molinari, "Continuità. A response to identity crises. Ernesto Nathan Rogers and the Italian architectural culture after 1945" (Lecture given at the TU Delft, 2008), 115-9.

3 *Rassegna del Primo Convegno Nazionale per la Ricostruzione edilizia a Milano* (Milan: Grafica Marinoni, 1945).

4 Max Bill, "Pittura Concreta," *Domus* 206 (1946) and "La costruzione concreta e il dominio dello spazio," *Domus* 210 (1946).

5 Sigfried Giedion, "L'era della meccanizzazione totale," *Domus* 216 (1947).

6 Luca Molinari and Cecilia Rostagni. (eds.), *Gio Ponti e il Corriere della Sera. 1930-63* (Milan: Fondazione Corriere della Sera, 2011).

7 Marida Talamona (ed.), *Le Corbusier e l'Italia,* (Rome: Electa-MAXXI, 2012).

8 Various Authors, *Il segno della memoria. BBPR Monumento ai Caduti nei campi nazisti* (Milan: Electa, 1994).

9 Edgar Bayley, "Nuevas realidades," *Ciclo: arte, literatura, pensamiento modernos* November-December (1948), 88-90; Ernesto Nathan Rogers, "Situazione dell'arte concreta," in Luca Molinari (ed.), *Esperienza dell'architettura* (Milan: Skira, 1996), 103-14.

10 Enrico Peressutti's letter to Sigfried Giedion, 30 October, 1947, BBPR Archives, Milan.

11 Peressuti's letter to E. N. Rogers, 1 February 1949, BBPR Archives, Milan.

12 IIème Commission, Compte-Rendu de la Séance Plenarie, 29 Juillet, Bergamo, CIAM Archives; ETHZ-CH.

13 Arnoldo Rivkin, "Sintesi delle Arti. Un doppio paradosso," in *Le Corbusier. Enciclopedia* (Milan: Electa, 1988), 439-43.

2.4.5 Gio Ponti's *Stile*

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Abstract
Gio Ponti's work is of particular interest when analyzing the relationships with the visual arts that characterizes the Italian architectural panorama in the years before and after World War II. Architect, painter and designer himself, as well as an organizer and promoter of Italian taste abroad, since the early days of his career, Ponti aims to overcome the traditional boundaries between different artistic disciplines. During his long and varied activity he is in constant pursuit of a blend among the different creative spheres: from decoration of ceramics to furniture and everyday objects' design; from conception of residential homes to skyscrapers and large-scale buildings construction; from exhibitions to the design of sets and costumes.
But it is not just in his design activity that he pursues the synthesis of the arts. The research of the possible relationship between architecture, painting, furniture and applied arts, cinema, literature, music and theatre, is the core of *Stile* magazine, which he created and directed between 1941 and 1947. Amplifying the action and the original spirit of *Domus*, the magazine is intended to show the high level of the Italian 'stile', by which he meant not a specific form, but the result of a common expression, of a collective feeling and taste.
Stile is therefore a central episode, although little studied, within Ponti's reflection and work. At the same time, it highlights the liveliness of the Italian artistic and architectural debate of the 1940s, on which historiography has rarely focused.
The paper aims to reconstruct, through the published writings and the unpublished documents, the synthetic strategies put in place by Ponti in *Stile*, in the light of the Italian debate of the time, as well as of his project activities.

Keywords
Ponti, Stile, Domus, magazine, architecture, linea

'Under the sign of a highly challenging word, "Stile", we will seek to present works of architecture and furniture, as well as of drawings, paintings and sculpture'. So wrote Gio Ponti in January 1941 when introducing the first issue of *Stile*[1], the journal he created for the publisher Garzanti after leaving the editorship of *Domus*[2].
Lo Stile nella casa e nell'arredamento, the journal's full title[3], was published monthly throughout the entire duration of the war[4], and continued until 1947, when, after more than 70 issues, Ponti resumed negotiations with Gianni Mazzocchi to return to the editorship of *Domus*[5]. In these six years, *Stile* was Ponti's magazine, his creation: he was its creator and general editor[6], but also subeditor, layout designer and its most prolific author, signing the more than 400 articles that appeared in it with his own name or with one of his many pseudonyms[7].
Accompanying him on this new publishing venture were a number of his colleagues from *Domus*: Carlo Pagani[8], hired as managing editor, Piero Gadda Conti, editor of the literary page, Gian Galeazzo Severi, who reported on newly released recordings, Carlo Enrico Rava and Alberto Lattuada, who specialized in articles on cinema and stage design, Sandra Zelaschi Guy and Emilia Kuster Rosselli, in charge respectively of flowers and gardens and embroidery. Others, almost all writers, critics and journalists prominent nationally, were working with Ponti for the first time on this occasion: Pier Maria Bardi, editor of the Roman section of the magazine, Irene Brin, author of short stories and articles on popular culture, Augusto Donaudy and Rubino Rubini, book and poetry critics, Giuseppe Gorgerino, who reviewed the major art exhibitions, and his daughter Lisa, who was in charge of the *Corriere di Stile*, as well as the architects Adalberto Libera, Carlo Mollino, Armando Melis and Giovanni Michelucci. In each issue, moreover, being unable to arrange regular monthly contributions, Ponti sought to publish at least one testimony – 'a challenging text, a special article, impassioned and elevated written for ideal readers'[9] – by the artists and intellectuals he 'most esteemed', and whose ideas he wanted *Stile* to express, such as Massimo Bontempelli, Giuseppe Bottai, Raffaele Carrieri, Fabrizio Clerici, Filippo De Pisis, Beniamino Dal Fabbro, Ada Negri, Alessandro Pavolini, Alberto Savinio and Leonardo Sinisgalli. (Figure 1)
With regular features, essays and articles covering the most varied aspects of the country's intellectual and artistic output, as well as trichrome prints and reproductions, pages in colour and painted covers, the review sought to document contemporary Italian style and make it better known. Ponti saw the definition of 'style' not as referring 'to the formal rigour of buildings, soft and hard furnishings or products', but rather 'a broad range of feeling, taste, interrelationships, noble and harmonious exchanges among the many things that

Figure 1 Cover of Stile 13, January 1942 (Epistolario Gio Ponti, EGP)

are the expressions, ornaments or instruments of our lives'.[10] The vision of style that was presented in the magazine's pages was not intended, therefore, to suggest a 'manner', a formal vocabulary, but a 'way of life', an 'atmosphere', an 'attitude of the spirit', of the kind that characterised the new Scaglia store in Milan, a house by Asnago and Vender or the ceramics of Mario Morelli; the quality that is instantly visible in the glassware and lamps produced by Fontana Arte, the frescoes of Massimo Campigli or a poem by Leonardo Sinisgalli; or again the approach that marks a sculpture by Arturo Martini, enamels by Paolo de Poli, a radio designed by Livio Castiglioni or the architecture of Adalberto Libera.[11]

While constituting an experience of limited duration and largely conditioned by the wartime climate, the new review dealt with a theme always at the centre of Ponti's thought and work: style. Since the early thirties, in addition to personally engaging in various creative fields, as if seeking to verify their shared stylistic elements in the field,[12] he had explored the significance of the term 'style' and described it as that 'common and widespread character that makes the works and objects of a given country in a given period recognizable', interpreting its spiritual impulses, technical methods and customs.[13] He subsequently applied the title 'Stile e Civiltà' to the fifth Milan Triennale of 1933, the first to be hosted in the new premises built by Giovanni Muzio in Milan.[14] "Lo stile nell'architettura e nell'arredamento" was also the title of a regular feature introduced by Ponti in October 1934 in the pages of *Domus*, where the word 'style' was understood as the 'discipline' capable of transforming modern art from an isolated gesture to a collective work, meaning its 'total stylistic affirmation'.[15] Unsurprisingly, the next instalment of this new column in *Domus* proposed, as a contribution 'to the formation of a taste of modern architecture', Edoardo Persico's famous *'Punto ed a capo per l'architettura',* his most thoroughgoing indictment of Italian Rationalism, which, one should take note, appeared in Ponti's journal rather than in the pages of *Casabella.*[16] Persico himself, militating for a similarly non-ideological vision of modernity, had repeatedly explored the question of 'style' in his writings, and some months earlier, in a portrait devoted to Ponti in *Italia Letteraria*, he recognized in his work the character of a 'concretely modern style' or an 'aspiration to modern art through a problem of culture'.[17] Even before Ponti, Persico had defined 'style' as the product not of 'a solitary endeavour' but of a 'living collaboration of a whole age', its way of being, aiming to show this theme – more specifically through the analogies and convergences between works of art and architecture and utilitarian creations from the same period – in May 1930 he had inaugurated the column *'Stile. Un modo di essere'* in the pages of *La Casabella.*[18]

Hence *Stile*, though addressing topics for a refined and cultivated readership, maintained continuity with the principles and objectives of *Domus*. Moreover the very idea of the home, from which the latter had started in 1928, seen not 'only as a problem of art' but as 'a problem of civilization', already subtended a moral conception of style. Over the years *Domus*, while preserving its fundamental character as a popular organ of modern taste, had been changing, following the changing inspirations and inclinations of its editor-publisher. Then from 1938 on, in conjunction with the experiments in the 'synthesis of the arts' developed by Ponti in the projects in Padua for the university buildings of 'Bo' and Liviano,[19] and with the launch of his collaboration with Daria Guarnati's review *Aria d'Italia*,[20] *Domus* began to devote increasing amounts of space to literature, cinema, exhibitions, theatre and fashion, in addition to architecture and furnishings, and all the most recent expressions of culture.[21] But though in the same year Ponti was confirmed president and managing director of the Società Editoriale Domus, securing his absolute control over the company and the journal in technical, financial and cultural terms,[22] something must have intervened to thwart his new editorial policy,[23] since in March 1940 he resigned and his place was taken by Giovanni Mazzocchi, previously the general manager of the company with administrative duties alone.[24] This was confirmed the following November, when Ponti definitively abandoned his first publishing venture to create a new one, 'like Domus, but with class',[25] centred on the home 'as an expression of taste and as up to date in technology, construction and furnishing', on the arts 'as the supreme Italian spiritual expression', and on artistic products 'as an expression of the creation of the work of thousands and thousands of Italians'.[26]

The opportunity was offered to Ponti by Aldo Garzanti, who first became a publisher only in 1939, and in the same year, with the acquisition of *Architettura* and of *Illustrazione Italiana*, began to devote himself to art publications.[27] Although he was not, therefore, a specialist publisher – or perhaps

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for this very reason – Garzanti allowed the editor of *Stile* a completely free and independent line. A draft contract dated 15 November 1940, shows that Ponti was 'responsible for the technical, artistic and literary policy of the text of the journal'; 'editorial control and aesthetic decision-making across the range of all the publications (art books) that arise as a corollary of the magazine, as well as the special Christmas issues and those dealing with any particular building or exhibition or event'; 'full jurisdiction over the aesthetic' of the advertising pages; and finally the ownership of the drawings, photographs, original writings and other materials used. The Società Garzanti further undertook to advertise and launch the review in the ways accepted by Ponti, including 'the writing and layout').[28] It was thanks to the complete confidence Garzanti reposed in Ponti that, despite the difficulties of the historical period and the misunderstandings and technical issues that often arose, in the same years he managed to pursue other major publishing initiatives in the arts, with aims analogous and complementary to those of *Stile.* (Figure 2)

First of all, he imagined a second magazine, this time 'in the style of *Harper's*', meaning *Harper's Bazaar*, devoted to high fashion and Italian life, to be called *Linea*. Like *Stile* it was aimed at coverage of the arts and major tendencies and events in Italian culture, with chronicles of the theatre and cinema, articles by celebrated writers, and trichrome reproductions of paintings and sculptures, in order to display that taste and climate of which, according to Ponti, fashion is an emanation. For the publication of *Linea* Ponti and Garzanti set up a dedicated company in October 1940.[29] But even before the first issue came out in January 1941, it was taken over by EMSA (Edizione Moda Società Anonima di Torino) and *Linea* was absorbed into the magazine *Bellezza*, leaving Ponti as no more than a member of the editorial board, together with Cipriano Efisio Oppo, Lucio Ridenti and Alberto

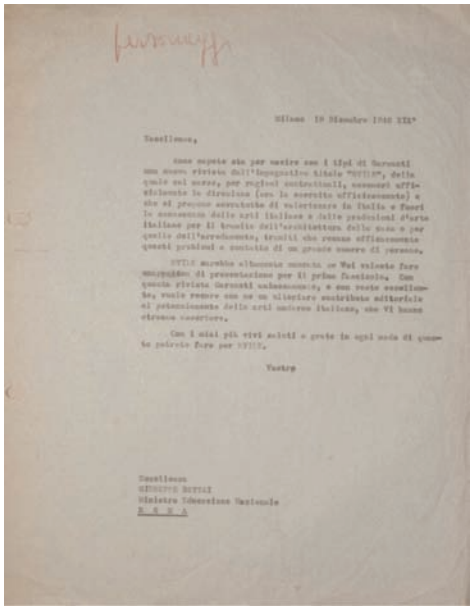

Figure 2 Letter from Gio Ponti to Giuseppe Bottai, 18 December 1940, soliciting an article for Stile (EGP)

Francini, rather than as general editor.[30] Nevertheless, Ponti was actively interested and involved in *Bellezza*; he wrote a number of articles[31] and sought important contributions, including those by Massimo Bontempelli, Curzio Malaparte, Irene Brin and Edina Altara.[32] But two years later, in May, 1943, he was forced to resign, being unable to approve the policy of 'cultural disengagement' adopted by the review, sharply focused by Oppo's decision, on fashion and clothing, rather than on what Ponti saw as its true mission: a 'civilizing mission through the promotion of ways of life (*costumi*)'.[33]

In 1941, moreover, Ponti launched a new collection of monographs with Garzanti, to make up for the absence in Italy of an adequate artistic bibliography, capable of documenting the 'expressions of the culture, spirit and customs of Italian work' that were not, as he believed, as well known as they deserved to be.[34] These were to be the *Monografie d'arte di 'Stile'*, a limited edition volume in large format, with 50 reproductions in colour and black and white and introductions by prominent scholars, dealing with the work of leading contemporary artists, including Carlo Carrà, Massimo Campigli, Giorgio De Chirico and Filippo De Pisis.[35]

Again for Garzanti, in 1943 Ponti created the collection of the *Idearii*, cheap booklets, mostly devoted to architectural matters, but also conceived as 'an editorial development' of *Stile*, whose slogan was: 'We do not sell paper, book covers, book jackets, wrappers, cellophane, endpapers, frontispieces, margins, colours, etc. We sell ideas'.[36]

It is within this broad and varied picture that the adventure of *Stile* should be seen: a picture made up of both the vibrancy of Italian culture and the artistic and architectural debate in the late thirties and early forties – an issue not yet fully investigated by the historiography – and Ponti's urgency to ensure that the work of artists would become an integral part of the national life and activities, which constituted for him the measure of the civilization of a country. The review therefore served as a showcase of the Italian arts, which Ponti regarded as unparalleled in Europe, and thus finally capable of producing a modern 'style'.

To achieve this, meaning a truly shared 'style', Ponti saw it as necessary to begin by recognizing the 'style' of individual artists, in order to be able to draw from their work the canons to be developed and disseminated. This gave rise to the articles entitled *Stile di…* the review's true core, largely written by Ponti and devoted to artists ("Stile di Carrà", "Stile di Morelli", "Stile di Ciuti", "Stile di Sironi", "Stile nell'antica pittura", "Stile nei nuovi artisti"), to the productions of art ("Stile di Fontana", "Stile di Scaglia", "Stile nella manifattura Richard Ginori di Doccia", "Stile nel ricamo"), furnishings ("Stile negli ambienti per il pubblico", "Stile di Azzoni", "Stile di Tempestini", "Stile sulle pareti di faesite"), film ("Stile negli interni di film"), and achievements in other

countries ("Stile d'oggi nelle riviste"). Starting in May 1942, a long series of these articles was devoted to young Italian architects, whose architectural and professional development was reinterpreted by Ponti to present their characteristic features. The first of these portraits, devoted to Adalberto Libera, began by saying that 'reviewing Libera's work is rather like reviewing the recent history of Italian architecture'. However Ponti also observed that his work involves 'a clearly identifiable personal character, which in turn enables one to see and identify his personality': this he termed 'stile di Libera', or his 'example', his 'lesson', his 'school'.[37] After Libera, Ponti turned to the lesson of Mario and Giulio Pediconi, BBPR, Melchiorre Bega, Mario Ridolfi, Luigi Carlo Daneri, Giuseppe Vaccaro, Giuseppe Pagano, Asnago and Vender, and Franco Albini,[38] in addition to his own.[39] Despite the differences between their individual temperaments, Ponti pointed out that the ambiences created by these designers, beyond all formal discussion, were adapted and adhered to the spiritual, practical requirements of the lives of each, being capable of finally becoming – as an expression – the modern 'style'.

The need to remain faithful to this ideal of 'style' and beauty that illuminated Italian civilization led Ponti to continue to believe in the review through the war years, despite the destruction that damaged his office and the premises of Garzanti during air raids on Milan in the summer of 1943. And even though by this time *Stile* was beginning to develop a more technical focus on the themes of 'exact' housing, of unification of the elements and industrialization (in February 1944 it even changed its masthead and became *Stile – Rivista per la ricostruzione*, the meaning of the term 'ricostruzione' (reconstruction) was not limited to building but extended to all human activities, in particular the arts understood as the supreme expression of civilization.

Ponti did not see it as a contradiction 'to be at war and speak of art', because 'the word that shapes the verse, the veil of colour on canvas or wall that is painting, the form of stone or of folds of bronze are, by the power of Beauty, the most durable',[40] and because, as he wrote on the cover of the July 1943 issue ('this miracle that emerged from the rubble', as Emilio Villa termed it[41]) 'before the material and moral devastation' striking Italy, 'it has only its civilization to save its civilization'.[42]

1 Gio Ponti, "Presentazione," Stile 1 (1941), 11.

2 Also beginning in January 1941, the general editors of *Domus* were Massimo Bontempelli, Giuseppe Pagano and Melchiorre Bega, with Giancarlo Palanti as managing editor. The editors remained in office until 1943, when Bega was made sole editor of the review.

3 The subtitles changed over time, *lo Stile nella casa e nell'arredamento* (1941-2); lo Stile – architettura, arti, lettere, arredamento, casa (1943-4); *Stile – rivista per la ricostruzione* (1944); *Stile – architettura, arti, arredamento – rivista per la ricostruzione e per la casa di domani* (1944-5); *Stile* (1945-7).

4 *Stile* was one of the few reviews that was published continuously throughout the war.

5 *Domus* was issued again, under Ponti's editorship, in January 1948.

6 Ponti officially became the editor from n. 5-6 in May-June 1941, while for contractual reasons the first issues were edited by Aldo Garzanti. The review's price was 10 Lire.

7 Massimo Martignoni has counted 24, including Archias, Artifex, Catholicus, Mitus, Serangelo and Tipus. See Massimo Martignoni, *Gio Ponti. Gli anni di Stile* (Milan: Abitare Segesta, 2002), 101.

8 Carlo Pagani was on the editorial staff until n. 30 in 1943, while Francesco Ravaioli was general editor.

9 See for example the letter from Gio Ponti to Massimo Bontempelli, 6 November 1942, in Epistolario Gio Ponti, Milano (hereafter EGP), CAT GP 001.

10 Ponti, *Presentazione*.

11 These are neither historiographical nor critical interpretations, based on an accurate methodological approach, but the ideas of a 'communicator' who felt the urge to externalize, stimulate, provoke and educate readers. In this regard see also Luca Molinari and Cecilia Rostagni (eds), *Gio Ponti e il Corriere della Sera 1930-1963* (Milan: RCS-Fondazione Corriere della Sera, 2011).

12 Ponti's frequent incursions into the other arts (scenography, industrial design, graphic arts, painting), in an attempt to attain an ideal expressive totality, have been interpreted by Annalisa Avon as an early translation of his idea of 'style'. See Annalisa Avon, "Uno stile per l'abitare. Attività e architetture di Gio Ponti fra gli anni Venti e gli anni Trenta," *Casabella* 523 (1986), 44-53.

13 See Gio Ponti, "Gli indirizzi dello stile," *Realtà* (1930), and Id., "Arte e industria," *Domus* 54 (1932), 323-4.

14 Gio Ponti, "I fascicolo dedicato alla Triennale," *Domus* 65 (1933), 223, and Id., "Stile e Civiltà," *Domus* 45 (1931), 23.

15 Gio Ponti (ed.), "Lo stile nell'architettura e nell'arredamento. Verso funzioni nuove," *Domus* 82 (1934), 3.

16 Edoardo Persico, "Punto e da capo per l'architettura," *Domus* 83 (1934), 1-9, introduction by Ponti.

17 Edoardo Persico, "L'architetto Gio Pon-

ti," *L'Italia letteraria*, 29 April 1934; republished in Giulia Veronesi (ed.), *Edoardo Persico. Scritti d'architettura (1927/1935)* (Florence: Vallecchi, 1968), 137-8. Persico polemicized with Ugo Ojetti, who the year before had spoken of Ponti as a creator of a style of luxury art. See Ugo Ojetti, "Lettera a Giovanni Ponti sul lusso necessario," *Pegaso* January 1933, 97-9. Ponti, who on many occasions recognized his debt to Persico, replied on May 1, 1934, writing to him: 'Your way of seeing things, which places my work under the scrutiny of an artistic ethic and an aesthetic as a result of what might be called "the adventure of my success", confronts me with a responsibility. That you are close to me might be another piece of good luck: let's hope I deserve it' (quoted in Giulia Veronesi (ed.), *Edoardo Persico*. On relations between Ponti and Persico see Fulvio Irace, *Gio Ponti. La casa all'italiana* (Milan: Electa, 1988), 18-25, and Giorgio Ciucci, "Gli architetti e la guerra," in Giorgio Ciucci and Giorgio Muratore (eds.), *Storia dell'architettura italiana. Il primo Novecento* (Milan: Electa, 2004), 476-501.

18 See Edoardo Persico, "Stile," *La Casabella* May 1930, 47.

19 In the case of the new building for the Faculty of Letters by Liviano, Ponti asked for a contribution from Massimo Campigli, who painted the large fresco at the entrance in 1938-9; he himself, in the same years, painted the murals in the building of 'Bo'.

20 *Aria d'Italia*, edited by Daria Guarnati and published by the Edizioni Guarnati, came out in seven instalments, between 1939 and 1941. An eighth instalment, titled 'Espressione di Gio Ponti', wholly devoted to the architect's work, was published in 1954. It sought to promote the Italian heritage and was undoubtedly an example for *Stile*. In it Ponti published "Introduzione della vita degli angeli" (December 1939,); "Tutto al mare deve essere coloratissimo" (Summer 1940); "Sirene" (Summer 1940); "Pinacoteca" (Autumn 1940); "Affreschi nell'Università di Padova: studi e particolari" (Autumn 1940); he also designed the covers of n. 1, 3, 5. See Silvia Bignami (ed.), *'Aria d'Italia' di Daria Guarnati. L'arte della rivista intorno al 1940* (Milan: Skira, 2008).

21 See the programme for "Domus 1938", published in *Domus* 120 (1937). On *Domus* see Charlotte&Peter Fiell (eds.), *Domus*, 12 vols (Köln: Taschen, 2006).

22 See Società Editoriale Domus, *Verbale della riunione del Consiglio di amministrazione della società*, 16 July 1938, in Archivio Camera di Commercio di Milano, Registro Ditte, n. 161022.

23 On this date, moreover, *Domus* was already starting to feel the first pressure from the financial crisis, due to the 'sharp increase in costs together with the inability to increase the price of the reviews and subscriptions, the fall in advertising revenue and the restricted development of publications as a result of the overall situation'. See Società Editoriale Domus, *Verbale dell'Assemblea generale ordinaria e straordinaria*, 31 March 1941, ibidem.

24 See Società 'Editoriale Domus', *Verbale dell'Assemblea generale ordinaria del 30/3/1940*, and *Verbale della riunione consigliare del 18/4/1940*, Ibidem. See also *R. Tribunale Civile e Penale di Milano. Causa Editoriale Domus contro arch. Gio Ponti, January 1942*, preserved in Fondo Marcello Piacentini, Firenze. Further documentation of the break between Ponti and Mazzocchi was unfortunately lost in the air raids that damaged both the premises of 'Editoriale Domus' and Ponti's office.

25 So Ponti characterized *Stile* in a letter of November 21 1940 to his former contributor and friend Tomaso Buzzi. See Enrico Fenzi (ed.), *Tomaso Buzzi. Lettere pensieri appunti 1937-1979* (Cinisello Balsamo: Silvana Editoriale, 2000), 41.

26 ARCH., "Due nostri nuovi grandi argomenti", *Stile* 3 (1941), 1. At the same time it appeared that *Domus*, to deal with the 'company competition that particular positions, even internal, have increased', was forced to 'improve the edition', to secure 'new and more costly contributions' and to 'burden the management with unexpected expenses that are not recoverable'. See Società Editoriale Domus, *Verbale dell'Assemblea generale ordinaria e straordinaria*.

27 The Garzanti publishing house was set up in 1938, following the acquisition of the Treves publishing house by Aldo Garzanti. The official transfer of ownership was made in April 1939. On this date Garzanti took over the review *Architettura*, which was edited by Piacentini and an organ of the National Union of Fascist architects; since 1941, *Architettura* also absorbed the Milanese *Rassegna di Architettura* and was edited by a committee that included Ponti. In 1943 the Garzanti printing works and warehouse were destroyed in the air raids that bombed Milan. See Patrizia Caccia (ed.), *Editori a Milano (1900-1945). Repertorio* (Milan: Franco Angeli, 2013), 149-50.

28 See the draft of the contract between S.A. 'Aldo Garzanti Editore' (formerly Fratelli Treves) and Gio Ponti, 15 November 1940, in EGP GP 019. The contract also stipulated the layout of the review, which was printed in-house by Garzanti but in the Tipografia Alfieri & Lacroix: 'covers in offset weight 250, size 200, advertising in gloss 130, basic text in gloss 130, with interlayers of rough paper, 100 coloured or not, Gualino paper, offset paper 140, special rough paper'; also 'a minimum of two pages in colour; a maximum of four (excluding advertising pages in page and full plate); covers in colour with paintings or watercolours in three-colour printing or offset'.

29 The CEIM (Centro Edizioni Italiane Moda) was set up on 30 October 1940: the partners were Gio Ponti, Sante Astaldi, Pier Luigi Gomez and Aldo Garzanti. See *R. Tribunale Civile e Penale di Milano*.

30 The first issue, in January 1941, was titled *Bellezza Linea*. By the second issue the world *Linea* had been eliminated.

31 *Oroscopi della moda* (n. 1, January 1941, 32), *La casa vivente* (n. 10, ottobre 1941, 5), *Limitazioni e vera eleganza* (n. 11, November 1941, 7).

32 See correspondence and documentation of the review in EGP, CAT GP 005.

33 See letters from Ponti to Oppo on 13 February and 19 May 1943 in EGP, CAT GP 005.

34 Dir., "L'attrezzatura bibliografica delle arti," *Stile* 19-20 (1942), 24.

35 The volumes published by Garzanti in the series of the *Monografie d'arte di 'Stile'* were: Piero Torriano, *Carlo Carrà* (1942); Giovanni Scheiwiller, *Arturo Tosi* (1942); Raffaele Carrieri, *Giorgio De Chirico* (1942); G.iuseppe Raimondi, *Filippo De Pisis* (1942); Guido Piovene, *L'arte di Lea D'Avanzo* (1943).

36 The volumes published were: Archias, *Politica dell'architettura* (1944), and Armando Melis, *Profezia urbanistica della macchina* (1944). The correspondence, preserved in EGP, GP 019, shows that in this case Ponti had the full confidence of Garzanti, from the start gaining complete responsibility for production of the review.

37 Gio Ponti, "Stile di Libera," *Stile* 17 (1942), 10-19.

38 Dir., "Stile di Paniconi e Pediconi," 18 (1942), 4-10; Pier Maria Bardi, "Stile di Pier Luigi Nervi," 19-20 (1942, July-August), 9; Gio Ponti, "Stile di BBPR," 22 October 1942, 11-18; Id., "Stile di Bega," 23 November 1942, 14-22; Id., "Stile di Ridolfi," 25 (1943), 2-15; Id., "Stile di Daneri," 26 (1943), 10-20; Id., "Stile di Vaccaro," 27 (1943), 1-9; G.P., "Stile di Pagano," 32-4 (1943), 21-31; g.p., "Stile di domani. Su alcune architetture di Asnago e Vender," 35 (1943), 9-22; Gio Ponti, "Stile di Albini," 38 (1944), 7-23.

39 Gio Ponti, "Invenzione di una architettura composta. Dai 'cuboni' alla composizione d'una architettura," *Stile* 39 (March 1944), 1-16.

40 "Siamo in guerra e parliamo d'arte", *Stile* 13 (1942), 6. The words were repeated in subsequent numbers, to reiterate the purpose of the magazine.

41 See letter from Emilio Villa to Ponti on 9 November 1943, in EGP, CAT GP 001. The July issue, which was destroyed in the air raids, was reprinted complete and distributed in September.

42 See cover of nn. 32-33-34, August, September and October 1943.

2.5 The Medium is the Message: The Role of Exhibitions and Periodicals in Critically Shaping Postmodern Architecture

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As recent scholarship has pointed out "the history of the architectural media is much more than a footnote to the history of architecture" (Colomina 1988). Ever since the late eighteenth century, architectural exhibitions and periodicals have played an essential role in the dissemination of architectural culture. Emphasizing the work of certain architects and belittling that of others, they introduced movements and constructed new tendencies while theoretically and critically shaping urban and architectural discourse. While a number of scholars have recently reconsidered the role of these media in the modern era, their significance for the postmodern decades has only recently opened up as an important field of research.
Relying heavily on the circulation of images and on so-called "paper architecture", postmodernism has always been intertwined with the media. In their critique of the Modern Movement and exploration of a new spatial and visual culture, architectural exhibitions and periodicals played an essential role as sites of production. The examples are telling: from the 1976 Idea as Model exhibition, the 1978 Roma Interrotta project and the 1980 Strada Novissima, to periodicals such as *Architecture Mouvement Continuité*, *Controspazio* and *Oppositions*. As hypothetical spaces these media contributed to the development of new architectural approaches, providing an alternative to the built project. As discursive platforms they enhanced cultural transfers, transatlantic or paneuropean encounters. As critical practices they extended the role of the architect beyond its traditional boundaries, functioning as vehicles for research based design. In short, exhibitions and periodicals acted as critical projects that shaped postmodern architecture and urban design.
In this session we will bring together presentations that focus specifically on the role of postmodern architectural exhibitions and periodicals as sites of critical production. We are particularly interested in papers that discuss thematically or through case studies one or more of the following questions. What was the role of the postmodern media in proposing a new spatial and visual culture? To what extent are these projects a response to the end of the "grand narrative"? How did the exhibition design or the editorial apparatus enable an unorthodox approach to the built project? What was the influence of paper projects as they were elaborated for these media? And how did exhibitions and periodicals function as laboratories for alternative architectural practice?

2. REPRESENTATION AND COMMUNICATION

2.5.1 Charles Moore's *Perspecta*: Essays and Postmodern Eclecticism

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Abstract

In the 1960s, *Perspecta*, the journal of the Yale School of Architecture, was a crucial venue for promulgating nascent postmodern ideologies. Student-run and the antithesis of commercial media, *Perspecta* published excerpts from Robert Venturi's *Complexity and Contradiction* and essays by Charles Moore, Philip Johnson, James Stirling, Vincent Scully and others that proved seminal to the emergence of postmodern architecture. In this period, Charles Moore wrote three essays for *Perspecta* that formed a prolegomena to postmodern eclecticism, with documentation of potential pop culture inspirations and manifestos for a new architecture based on commercial, historical, and high culture referents. Beginning with "Hadrian's Villa" in *Perspecta* 6 (1960), continuing with the famous "You have to pay for the public life" in *Perspecta* 9-10 (1965), and concluding in *Perspecta* 11 with "Plus it in Ramses and See if it Lights Up, Because we aren't to Keep it Unless it Works" (1967), Moore laid out a program for an architecture and urbanism that abandoned the pretense of a grand narrative in favor of an architecture and urbanism of juxtaposed fragments and fantasy.

This paper reads Moore's three *Perspecta* essays in conjunction with Jean-François Lyotard's *The Postmodern Condition*, specifically his notion of the postmodern as 'that which denies itself the solace of good forms, the consensus of a taste which would make it possible to share collectively the nostalgia for the unattainable'. According to Moore, Disneyland and California freeways could provide models for public space and 'a kind of rocketing monumentality'. Anticipating Lyotard's assertion that 'eclecticism is the degree zero of contemporary culture' Moore developed an architecture where 'there is everything instead of nothing […] a kind of immediate involvement […] with the vitality and the vulgarity of real commerce [that] quivers at a pitch of excitement which presages […] an architecture for an electric present'.

2.5.2 Between Language and Form: Exhibitions by Reima Pietilä, 1961-74

EEVA-LIISA PELKONEN
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Abstract

My paper will discuss series of exhibitions and related publications by the Finnish architect Reima Pietilä (1922-92): who can be credited for introducing postmodernism, almost single-handedly into Finnish architecture culture through his buildings, teaching activity, editorial work, theoretical writings and exhibitions. His could be considered a unique kind of national postmodernism, which distinguished itself from the contemporaneous international trends by focusing on the relationship between architecture and landscape, the synergy between verbal and visual communication, and the uniqueness of Finnish nature, culture and language.

I will trace the origins of his unique brand of postmodernism through four of his exhibitions, namely "Morphology-Urbanism" (1960), "The Zone" (1968), and "Space Garden" (1971), and "Notion Image Idea" (1974), which took place in Helsinki respectively at an art gallery, the Museum of Finnish Architecture, and at his home-office. I will show how his later interest in semiotics and various symbolic systems, which he explored in the exhibitions Space Garden and Notion-Image-Idea, evolved out of his early interest in morphology he explored in his first exhibition Morphology-Urbanism, as well as on the pages of the magazine *Le Carré Bleu*, of which he was a founding editor. The exhibition Zone from occupied an in-between position in this transition: in it Pietilä put forward an idea of a 'zone' between language and form, between verbal and visual communication.

The paper pays particular attention to the chosen exhibition display techniques and use of periodicals like *Le Carré Bleu* and The Finnish *Architectural Review*, en lieu of gallery and museum catalogs, to elaborate the theoretical ideas behind the shows.

2.5.3 *Bau* Magazine and the Architecture of Media

EVA BRANSCOME
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Abstract

'Read (if you know where to find a copy) that slim, sophisticated Viennese magazine *Bau* edited by Hans Hollein, Oswald Oberhuber and Gustav Peichl, and you will enter a world of architectural fun, fantasy and wit. Nothing is rigid, nothing is fixed in their vision of what constitutes architecture or arouses architectural interest'. *Bau* magazine surprises with its professional A4 format complete with product placement in stark contrast to the avant-garde content. Unlike *Archigram* or other little magazines from the 1960s-1970s, this was not a handmade production. *Bau* looked like a conventional specialist publication. *Bau* was hybrid – it looked like one thing but was doing something else. *Bau* developed out of the publication of the Zentralvereinigung der Architekten Österreichs – the Austrian professional representation for architects. It is not out of place to imagine the impact of the *RIBA* or *AIA journal* changing their conservative content like that of the new *Bau*.

The 24 issues of *Bau* that exploded onto the scene of architectural publications from 1965-70 remain curiously under-researched. They illustrate the struggle of Austria's post-war generation of architects for new definitions in architecture beyond function. It was an experimental platform from the beginning; fusing intellectually challenging content and international exhibition reviews with art, advertisement and sex. The format was a testing ground for new ideas. It was simultaneously overloaded with fun and criticism. Its disjuncture of content and form can be considered a unique fusion between architectural establishment and radical counterculture. My paper will argue that if Post modernism was about bringing communication back to architecture, then *Bau* magazine must be understood as a Postmodern phenomenon by adopting the media of conventional architectural communication and promoting subversive content.

2.5.4 Entertaining the Masses: IAUS's Economy of Cultural Production

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Abstract

In the 1970s, when postmodernism as a discursive formation and a cultural phenomenon took shape and started to affect architectural thought and practice in both Europe and the United States, the New York based Institute for Architecture and Urban Studies (1967-85) under the long time direction of Peter Eisenman entered centre stage as a new kind of educational and cultural facility, competing with both the museum and academia. As a collective actor, the IAUS can be argued to have had a huge impact on architectural education and debate. This paper critically discusses the interest and strategies of the IAUS, understood both as a highly networked group and as individual fellows, since it was able to establish itself as an authority for the consecration and diffusion of new architectural knowledge. Objects are, in spite of or rather due to their ephemeral nature, the public programs, both the evening lectures and the exhibitions program, since these were the formats that generated a new economy of attention and fostered the commodification of architectural models and drawings, exploiting the synergy effects of all other projects, programs and products. Not only did the IAUS produce and disseminate a narrative about a postmodern approach to architecture, be it the self-legitimizing opposition of styles, i.e. the 'Whites' and the 'Greys', or the circularity of the debate on autonomy. Due to the artistic credo of creativity, the IAUS as an epistemic and cultural space not only shaped an intellectual habit based flexibility and performance but also new modes of production and circulation that came to be seen as immaterial labor. Eventually, the Institute as functional elite not only launched many careers, but also, according to the cultural logic of postmodernism, coined a celebrity culture and the current star system in architecture.

2.5.5 Image, Medium, Artifact: Heinrich Klotz and Postmodernism

DANIELA FABRICIUS
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Abstract
This paper will look at the representation of postmodern architecture through media forms in the work of the curator and historian Heinrich Klotz (1935-99). I will focus on two aspects of Klotz's framing of postmodernism. The first is the ideological and curatorial construction of the 1984 exhibition, "Die Revision der Moderne. Postmoderne Architektur 1960-1980", organized by Heinrich Klotz at the Deutsches Architekturmuseum (designed by Oswald Mathias Ungers). "Revision der Moderne" was the first major exhibition on postmodernism in Germany, and one of the first anywhere to historicize postmodernism. This exhibition, based largely on artifacts collected and archived by the institution, emphasized original drawings, plans, and models as opposed to photographs and reproductions. I will also discuss Klotz's use of slide photography to document postmodern architecture, which began during his travels to the US in the 1960s. These color slides reflect Klotz's interest in representing architecture in a subjective, contextual, and 'unmonumental' way, and were key to developing his narrative of postmodernism. I will look at these images – which were used as private archive, didactic lecture material, and published illustrations – and their relationship to Klotz's emphasis on material artifacts in the exhibition, as a way to discuss the relationship between the auratic object and the reproduced image in Klotz's work. How did these materials serve as evidence for Klotz's narrative of postmodernism? How can Klotz's contextual and material concept of medium be understood in relation to postmodern architecture, and more generally, within postmodern discussions around reproduction, simulation, and the loss of origins?

3. QUESTIONS OF METHODOLOGY

3.1 Producing Non-Simultaneity: Construction Sites as Places of Progressiveness and Continuity

SESSION CHAIRS:
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Ever since Ernst Bloch coined the term *Ungleichzeitigkeit* – non-simultaneity – the concept has been widely accepted, particularly in German-speaking historiography. A place where progress and tradition markedly co-exist is the construction site. Especially since the Industrial Age, new technologies and the ever larger scale of sites and numbers of workers on one hand were accompanied by continuity and custom on the other. However, Ungleichzeitigkeit is a relatively new theme in the study of construction sites. The grand narrative of construction history for the nineteenth century customarily focuses on the technological innovations of buildings such as London's Crystal Palace, while social history has concentrated mainly on the craft character of the building sector. And architectural history for the first part of the twentieth century repeatedly ignored the ambiguity of construction sites and interpreted them as mere symbols of modernity. Only recently has research started to engage with the complexity of construction sites more fully. On construction sites, progressiveness and tradition do not simply co-exist, they are places that represent non-simultaneity. These spaces offer the symbolic resources to demonstrate and stage both progressiveness and, at the same time, continuity and custom.

The session invites discussion of the nineteenth and twentieth century construction site as places of production within this broad perspective, as locations of progressive and traditional practices as well as sites representative of an ambivalent modernity. Papers are invited from all academic fields concerned with construction, including the history of architecture, the history of technology, and the history of knowledge or social history. Papers that address the issue either conceptually or through case studies will be considered equally.

3.1.1 Mixing Time: Ancient-Modern Intersections along the Western Anatolian Railways

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Abstract
Since the 1860s, the first railroads in Ottoman Anatolia (today's Turkey) have united the prominent port of Izmir with the fertile valleys of the Gediz and Menderes rivers. The richness of these inland areas derives not only from their mineral and agricultural products, but also from their ancient histories recorded by Herodotus, Strabo, and the New Testament. This powerful legacy attracted an influx of foreign tourists who could now comfortably and quickly visit archaeological sites such as the cities of the Biblical Seven Churches. Yet, with the laying of each additional mile of track, the railroad itself changed this landscape, directly altering the touristic experience. The construction sites of bridges, massive hillside cuts, embankments, and the rails themselves, embodied an unprecedented and jarring juxtaposition with the ancient landscapes of Anatolia. The writings of tourists such as Mark Twain reflect a general dissonance between imagined expectations of the Ottoman Empire and observed realities. Conditioned by orientalist stereotypes, the touristic experiences often failed to mediate the signifiers of modernity with the ancient sites and the contemporary inhabitants of the landscape, who fit into neither an ancient nor a modern category within the touristic gaze. The loci of this disparity were often the construction sites themselves. As one traveling preacher noted: 'In digging, too, the foundations for the [train] station, the workmen came on an old Christian cemetery, […] many of the monuments were broken by the workmen, and not a few slabs of white marble bearing elegant sculpture have been built irregularly into the wall of the road' (Somerville 1885). With the simultaneous existence of modern railroads, ancient sites and the tourist gaze, the construction sites of Anatolian railroads were places where multiple perceptions were often deeply entangled.

Keywords
Railway construction, Ottoman Empire, Western Anatolia, foreign perceptions, Orientalism, ancient sites

Introduction
The earliest railways in Ottoman Anatolia provide us with an extended spectrum for understanding perceptions of non-simultaneity at construction sites within a non-European context. Since the 1860s, two railroads have united the prominent port of İzmir (Smyrna) with the fertile valleys of the Gediz and Menderes rivers in what is now western Turkey. (Map 1) The construction and subsequent use of these rail lines by foreigners enabled these visitors to constantly interact with local people and the landscape. Historical sources capture an extensive record of how foreigners perceived and conceptualized their surroundings. A prominent aspect of their perceptions at these construction sites was the compartmentalization of western Anatolia into three distinct categories: ancient, oriental and modern. These categories were culturally conditioned in the minds of nineteenth-century Europeans and Americans before they even arrived in Anatolia. First, they knew the landscape as described by ancient sources such as Herodotus and the New Testament. As a consequence, they understood this region as the birthplace of the Classical foundations of the western civilization that they had inherited and were

Map 1. Western Anatolian Railways (Red: İzmir-Aydın line and its extensions. Black: İzmir-Kasaba ıne and its extensions.) Source: Başbakanlık Osmanlı Arşivleri, İstanbul, Turkey.

perpetuating and progressing. Next, the prevalent orientialism of the time conditioned them to expect a timeless, unchanging and exoticized orient of the Ottoman present, symbolized by camels, indolence and harems. Finally, once in Anatolia, they conceived of the train as a sign of modern progress endowed to the region by the West. Through their writings, the foreigners convey a tangible sense of the dissonance they perceived in the immediate spatial juxtaposition of these three constructed categories.

Moving from a western European context to a nineteenth-century example from the Ottoman Empire provides the opportunity to illuminate from a new angle the flexible scope of non-simultaneity as a concept. Through this perspective, I aim to shift the focus to a study of how perceptions of non-simultaneity have developed in a particular context and how the local characteristics of place affected the conceptualization of categories into something more nuanced and blurry than the dichotomy of progress and tradition.

The impetus for railway construction in western Anatolia was the intersection of Ottoman modernization impulses and British economic expansionism. Following the rapprochement of the British and Ottoman Empires during the Crimean War, the Ottoman state granted the earliest railway concession in Anatolia in 1856 to a group of British entrepreneurs led by Sir Joseph Paxton and the well-known railway engineer Macdonald Stephenson. This railway began in İzmir on the Aegean coast in 1857, and after nine years of southward construction, it reached the provincial Ottoman city of Aydın (Aidin) in 1866. An extension of the railroad further inland to Denizli was completed in 1889. In 1863, a second line from İzmir, the Kasaba route, was awarded to another British subject, Edward Price. [1] The initial construction phase of this route went faster and reached Kasaba through Manisa in 1866 after only two years of construction, but would not reach Alaşehir further to the East until 1875. Not until the very end of the nineteenth century did either line reach the Central Anatolian Plateau.

During their construction and use, these two railroads served as the physical locus of the encounters between the foreigners, the Ottoman populations and the landscape. The imposition of railways on western Anatolia caused unprecedented changes to the physical character of the landscape. Bridges, tunnels, massive hillside cuts, embankments, station buildings and the rails themselves were built over the course of several decades in what can be conceived of as one massive, long-term construction site. This site presented a continual locus of interface through bodily practice, from the building phase through to the use of each completed section. Foreigners and local inhabitants alike experienced new sights and sounds from the railroads that permeated their interactions with each other. Within the context of this construction site, foreigners made the observations that reflect their perception of this division into the three categories.

Perceptions of the ancient as activated through archaeological site-railroad intersections

Foreign engineers perceived significant differences in the working conditions between the Ottoman Empire and their original European context. William Davis Haskoll, one of the resident engineers of the İzmir-Aydın railway line, wrote a practical guide based on his experiences on this line that describes the important considerations of building railways in the 'East'. These include the need to train local laborers in European methods of construction, and the reliance on pack animals such as camels and donkeys for procuring materials. At the same time, he acknowledges the importance of local practices and knowledge to the process. He says: 'We can scarcely listen to too much, from the fear of missing perhaps only one portion of valuable information.' [2] Similarly, Haskoll values 'men whose skill and experience brought from Europe had been ripened into greater value by knowledge of the language, of the habits and capabilities of the men they had to lead, and by many local technical advantages'. Thus, Haskoll comes to define the ideal modus operandi for railway construction in the 'East' as one that takes as much advantage of local knowledge and customs as possible, but still prioritizes the methods of organization and operation originating from European construction expertise.

Several of the European experts that were brought to Anatolia to lead the operations of railway projects according to European know-how found themselves drawn to the ancient heritage of the area. They ventured forth to explore and connect with a rich landscape consisting of Greek and Roman antiquity, as well as sites of Biblical importance that were part of the western historical self-consciousness. This ideology set the framework for one of the three aspects of the foreigners' perceptions of Anatolia. John Turtle Wood embodies the essence of the engineer-scholar, having come to the Ottoman Empire as an architect on the Aydın Railway line, he soon also initiated excavations at Ephesus with funding and encouragement from the British Museum. He was drawn to this site both by the Temple of Artemis, considered one of the Seven Wonders of the Ancient World, and by the Biblical narrative of the Seven Churches. Thus, a perceived connection with the ancient world motivated the expenditure of imperial resources at archaeological sites in parallel with railroad development.

The archaeological site was a type of construction site, employing the methods of the railway construction, where people performed similar roles with a division between educated foreign supervisors and the local labor force. Wood hired the first workmen for the Ephesus excavation from among former Turkish railway employees and while they did the physical excavation work, he occupied himself with the more 'scientific' aspects of excavation such as drawing.[3] When it was necessary to complete skilled tasks, Wood turned to the British. As he describes the intricate task of lifting a delicate mosaic pavement, he writes: 'This, the most difficult part of the work, was done with great skill, by an English carpenter named "Long Wilson," who had worked under my directions at the stations of the Smyrna and Aidin Railway.'[4]

The perceived connection to the ancient world would continue to motivate archaeological exploration by foreigners in western Anatolia throughout the decades of railroad construction. Another important late example of railroad engineers applying their skills to excavating ancient sites was Paul Gaudin. In 1904, while he was the director of the İzmir-Kasaba railway, he commenced archaeological research at the Classical site of Aphrodisias.[5]

Archaeological sites also became intertwined with the construction of the railroad through the practice of spolia, as worked stones removed from ancient sites were used as material for the railroad and its stations, thereby physically encoding a non-simultaneity between ancient and modern that was often recognized by foreigners. A main driver for this reutilization practice was pragmatic- the easy availability of resources. During a visit to the ancient site of Sardis, located on the Kasaba line, the archaeologist Francis Bacon observed that 'The railway company has dug at the scena for building stone, and there lie about a mass of pieces of inscriptions, marble blocks etc. – mostly of Roman workmanship.'[6] In some instances, however, there were likely also symbolic motivations. Some believe that the station at the İzmir terminus of the Aydın line was partially decorated with marble revetments from Ephesus.[7] This type of reuse fits well within a foreign perception of the continuation of ancient civilization through a plan of modernization and progress.

Alexander Somerville, a traveling preacher on a quest to visit the Seven Churches, makes an observation about material reuse at a construction site that encapsulates not only perceptions of ancient and modern, but also contrasts the Ottoman present. He reports that the railway station in Philadelphia (modern Alaşehir) had been constructed with stones 'quarried from its ancient ruins'[8] The local workmen and their labor were a central aspect of Somerville's observation as he writes: 'In digging, too, the foundations for the [train] station, the workmen came on an old Christian cemetery, […] many of the monuments were broken by the workmen, and not a few slabs of white marble bearing elegant sculpture have been built irregularly into the wall of the road'.[9] The differentiation in Somerville's perceptions are palpable as the 'monuments' are 'broken' and the 'elegant' morphs into the 'irregular'.

Thine own self in Difference: the Orientalist perception of Anatolian lifeways
While foreigners hoped for continuity with the ancient world, they distanced themselves from contemporary Ottoman society. In his influential book *Orientalism*, Edward Said theorized that orientalism as a condition was/ is caused by an imbalance of power emerging out of imperialist and colonial politics. Within that framework, the dichotomy of the 'East' and 'West' originates from the need to find an 'other' to the European and American notions of 'self'.[10] The implications of such cartesian thinking created a host of stereotyped dichotomies. Most relevant to our discussion is the idea that for many in the nineteenth century, 'self' or the 'West' were associated with 'progress', while the 'other' or the 'East' was equated with 'backwardness' or 'timelessness', indicating lack of change.

The compartmentalization of western Anatolia by foreigners is perhaps best articulated through the words of Mark Twain. In the popular travelogue of his voyage through the Holy Land, he describes his reaction to what he saw in western Anatolian, saying:

> A railway here in Asia - in the dreamy realm of the Orient - in the fabled land of the Arabian Nights - is a strange thing to think of. And yet they have one already, and are building another […]. The idea of a locomotive tearing through such a place as this, and waking the phantoms of its old days of romance out of their dreams of dead and gone centuries, is curious enough.[11]

In Twain's words, the railway construction and the exoticized Orient, which is described with nineteenth-century clichés such as the 'land of Arabian Nights', are in direct contrast, creating the othering that was necessary for the self-identification of western society. In addition, Twain perceives of the ancient landscape as something that is 'sleeping', i.e. in hiatus, and may be woken up by the construction of the railways – establishing a link between the ancient and the modern. Twain's words are the epitome of the non-simultaneity that is observed time and again by foreigners due to the juxtaposition of compartmentalized phenomena.

3. QUESTIONS OF METHODOLOGY

A discussion of perceptions of the railroad construction through an orientalist perspective must eventually necessarily touch on camels. In their dual role as both the direct competitor in the economics of transportation and as a signifier of the exoticized orient, camels occupy a prominent position in the perception of non-simultaneity in western Anatolia. Twain had the opportunity to observe this traditional form of land transportation first hand in İzmir right before he boarded the train for the now easily accessible ancient sites. He noted that 'to see a camel train laden with the spices of Arabia and the rare fabrics of Persia come marching through the narrow alleys of the bazaar […] is a genuine revelation of the Orient.'[12]

The perception of the 'curious contrast' and 'disparate association' between the traditional camel and the progressive train was most poignantly articulated by Vicount Vogüé based on what he saw at the first constructed site leading out of İzmir. This dichotomy is even captured within this station's name, since the 'Caravan Bridge' now bore iron rails:

> I think that this British administration is a monstrous thing under the Ionian skies, and yet it gives rise to curious contrasts. The first station is the Caravan Bridge. Hundreds of camels clog the lane and the surrounding area. Nothing can express the disorder thrown into the mind by this disparate association: the camels loaded with cotton and figs kneeling or slowly putting their wide feet between the rails, the rail cars, and the steaming and threatening locomotives.[13]

Thoughts of modernity: the railroad in the foreign imagination

The competition between camel and train was fruitful territory for foreigners' perception and articulation of the advantages of modern over orient. The foreigners' inherent confidence in the modern progressive railway's superiority to the traditional technology of the camel is reflected in Macdonald Stephenson's observations in a report prepared for railway investors. At the end of a detailed discussion of camel transport, he concludes that 'Bad as it is, it is the best mode that a country, unskilled in mechanical contrivances, could devise.'[14] He goes on to state that it takes at least 10,000 camels to accommodate the existing trade between Aydın and İzmir, implying the direct replaceability of these by the train. Furthermore, he notes that there are at least 20,000 additional camels 'employed on various routes in conveying produce from the interior to the sea. When this Railway is completed to Aidin, the traffic conveyed by at least 10,000 of these 20,000 Camels will come to the line.'[15]

This perception belied a more nuanced reality that came to exist of a symbiotic relationship between the camels and the train. This is first experienced on the construction site of the railway when progress was impeded by an imposing mountain range near Ephesus. The managers of the Aydın railway, frustrated by the difficulties of crossing the Cuma Dağı mountain range, decided to commence simultaneous construction on both sides of the mountain while the construction of the tunnel was progressing. Tunneling would require upwards of five hundred men and the sinking of three shafts into the mountain to accommodate the construction from several points simultaneously.[16] In order to keep traffic flowing between the two lines prior to completion of the tunnel, the company hired caravans of camels to carry goods between the two stations across the difficult pass over the mountain. As the British Consul Charles Blunt noted in his correspondence with London, this helped in 'convincing the Camel drivers (who have the whole traffic of the interior in their own hands) that their interests will not, as they have been led to suppose, be injured by the introduction of this Railway.'[17]

This dependence of the modern railway on the camels actually continued well into the twentieth century, and would take on various forms of interconnection. For example, in 1868, the chief engineer of the İzmir-Kasaba line, Charles Austin, noted that their line 'had a revenue of £35 per mile per week from local traffic during certain seasons of the year; but not at the present season, because the camel traffic was suspended from the mountain passes being flooded.'[18]

Although camels were one of the most salient symbols of the orient perceived by foreigners, the practices of the local populations are also often noted in the context of the modern railway. Local customs were an integral part of the construction process, with perceived non-simultaneities evident from the beginning at the ceremony commemorating the start of construction. (Image 1) Blunt reports that:

> the Ceremony then commenced by the Mufti, who with a loud voice prayed for the success of the enterprise, the prayer concluded, the Chief Engineer with an appropriate speech presented the Silver Spade to His Excellency the Pasha, requesting him to turn the first clod of Earth, on the Pasha's receiving the spade he expressed all the satisfaction he felt in being requested to assist at the commencement of an enterprise which would, when terminated, be so advantageous to the Country, […] upon the Pasha's filling the wheel barrow a salute of seventy one guns was fired from the field pieces brought to the locality

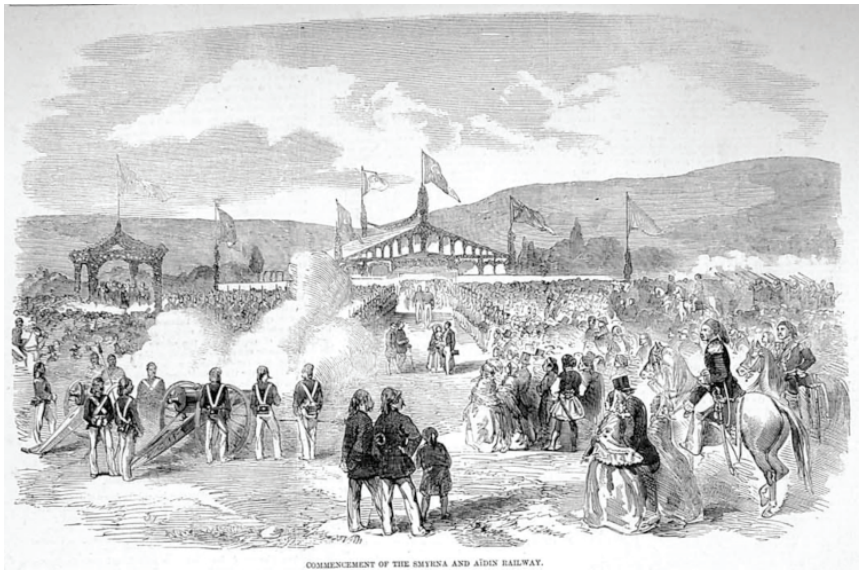

Image 1: Commencement ceremony of the İzmir-Aydın Railway. Source: *Illustrated London News*, October 31, 1857.

> for the occasion. Several sheep were then taken along the projected line and immolated on the spot where the Earth had been thrown from the barrow.[19]

Foreign perceptions were informed by varied sensory inputs. A soundscape of railway construction on the Aydın line was described by Stephenson on the occasion of the laying of the corner stone for the Aydın railway's terminus in İzmir. During the day-long ceremony, dignitaries took a tour along the construction of the railway line and were not only greeted by a newly established industrial landscape, but with its aural expressions as well. Stephenson comments that there was 'Not a cutting or embankment that did not swarm with labourers. Nor were the hum of the voices of those busy men, the creaking of carts and barrow wheels, and the roar of the blasting of the rocks sounds less welcome to his ears, for they gave assurance that a great work was being carried on with a zeal and energy that must bring it to a successful conclusion.'[20]

While the extremities of dynamite blasting through the landscape had ended with the completion of each segment of the railway, new daily practices emerged resulting in changes to established land use patterns in order to accommodate the operations of the railway. For example, the first Turkish language newspaper published in İzmir, Hizmet, mentions the killing of several cows by the train. In this article, with the title of *ihbar-ı mühim* (important warning), [21] local populations are told to keep their animals away from the path of the railway and people who do not abide by this would be penalized, resulting in a shift in pastoral patterns.[22]

Triple intersections: concluding remarks

As a traditional symbol of progress, railroads are the poster-child for nineteenth-century modernity. The unprecedented scale of the construction of two rail lines in western Anatolia drew the immediate attention of foreigners. Their letters, books and journals record their observations and reflect the manner in which they perceived this region. This was a place where foreigners recognized modern progress in the train, felt connections to a romanticised ancient past, and separated themselves from the 'other' of the contemporary orient. We end with a quote from Karl Bernhard Stark where his observations encapsulate all three of the distinctions salient in the perceptions of foreigners. When commenting on the train station at Ephesus, he says:

> A wonderful impression of the mixture of the modern and the past world! A European railway hall with a few office rooms and European cleanliness. Inside camels, from which bags full of figs are demounted, next to it heaps of marble stones with inscriptions, even fragments of sculptures, awaiting transportation, to be sent further to build the railway.[23]

3. QUESTIONS OF METHODOLOGY

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9 Ibidem, 44.
10 Edward Said, *Orientalism* (New York: Vintage Books, 1979).
11 Mark Twain, *Innocents Abroad* (Hartford, CT: American, 1869), 417.
12 Ibidem, 411.
13 Marie Eugène Melchior De Vogüé, *Syrie, Palestine, Mont Athos. Voyage Aux Pays Du Passé* (Paris: Plon, 1887), 8. Original text: 'Je laisse à penser si cette administration britannique paraît monstrueuse sous le ciel d'Ionie: et cependant elle donne lieu à de curieux contrastes. La première station est au Pont-des-Caravanes: des centaines de chameaux encombrent la voie et les abords. Rien ne saurait exprimer le trouble jeté dans l'esprit par cette association disparate: les chameaux, chargés de coton et de figues, agenouillés ou posant lentement leurs larges pieds entre les rails, les wagons, les locomotives fumantes et menaçantes.'
14 Rowland Macdonald Stephenson, *Railways in Turkey. Remarks upon the Practicability and Advantage of Railway Communication in European and Asiatic Turkey*, (London, 1859), 37.
15 Ibidem, 6.
16 Ibidem, 39.
17 Correspondence with Consul Charles Blunt. 1857. The National Archives of the UK. General Correspondence of the Foreign Office with the Ottoman Empire. FO 78/1307, 237.
18 "Discussion," *Journal of the Society of Arts, Institutions in Union*, London, 29 February 1868, Vol. 36.
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20 Rowland Macdonald Stephenson, *Railways in Turkey. Remarks upon the Practicability and Advantage of Railway Communication in European and Asiatic Turkey* (London, 1859), 45.
21 "İhbar-ı Mühim," *Hizmet*, 20 November 1886.
22 Eugen Weber, *Peasants into Frenchmen: The Modernization of Rural France, 1870-1914* (Stanford, CA: Stanford UP, 1976).
23 Karl B.Stark, *Nach Dem Griechischen Orient: Reise-Studien*, (Heidelberg: Winter, 1874,) 206. Original text: 'Ein wunderbarer Eindruck von Mischung moderner und vergangener Welt! Eine europäische Eisenbahnhalle mit ein paar Bureauzimmern und europäischer Reinlichkeit. Darin Kameele, denen die Säcke voll Feigen abgenommen werden, daneben Steinhaufen von Marmorblöcken mit Inschriften und selbst Sculptur fragmenten, des Transportes harrend, um zum Eisenbahnbau weiter verwandt zu werden.'

3.1.2 Steel as Medium. Constructing WGC, a Tallish Building in Postwar Sweden

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Abstract
Between 1959 and 1962 the Wenner-Gren Center in Stockholm was built to promote international cooperation in scientific research. It includes a 25-story tall building, which reintroduced the steel frame as a construction method to the Swedish building context that was abandoned since before the First World War. Iron was the back-bone of Sweden's economic structure. However, the universality of reinforced concrete dominated the building industry at the time. Therefore technical advancements were captured in public newspapers, described in trade magazines and mediated through a 15 minute long documentary. This placed focus on how material conditioned architecture beyond traditional building methods. My paper argues that the building site in the media was a symbol that reaffirmed the myth of modernity, meaning that modernization was perceived as a participatory production through political enactment.
The steel lattice truss was in principle the same kind of system used in Ménier's chocolate factory of the 1870s. However, the inclination towards the top together with the rhombic footprint challenged designers and contractors. A new project process enforced precision, statical calculations and prefabrication that also had to cope with the lack of norms as well as inexperienced workers. Wenner-Gren Center signifies a modern trend toward highly skilled experts who had to deal with new materials and processes. This addresses the non-simultaneous aspect of the construction site where traditional craftsmanship such as welding was moved off-site but persisted alongside the modernization of construction technologies.
This building complex dedicated to peace, research and international collaboration safeguarded modernization in terms of new methods of construction. Yet, steel did not become established as a conventional building material until the 1980s. How do we understand the role of material within the frame of non-simultaneity?

Keywords
Steel, methods of assembly, non-simultaneity, building sites

> Wenner-Gren Center's primary mission is to promote international cooperation in scientific research, but already under construction it has been of great significance for the Swedish building industry by re-introducing steel as a competitive framing material enforcing new technical solutions, which are now available to others.
> *Byggnadsvärlden* n. 45, 1961

Introduction

The Wenner-Gren Center for Scientific Research built in 1959-62 in Sweden originated out of a donation by the wealthy businessman Axel Wenner-Gren (1881-61) – the founder of Electrolux. At the age of 74 he was looking for an opportunity to direct some of his fortune into an architectural monument. Four million Swedish kronor was a significant sum, but hardly measured up to Rockefeller or Ford. The Prime Minister Tage Erlander (1901-85) agreed to provide a property free of charge.[1]
The State located Wenner-Gren center strategically according to the wishes of the wealthy tycoon, close to all of the main research laboratories: Karolinska Institute, Stockholm University, KTH Royal Institute of Technology and the Nobel Institute. There it was visible from central Stockholm, looking north along one of the main streets (*Sveavägen*), so affirming Sweden as an international hub for science, which was also in the interest of the Social Democratic Party. However, most significant about this project is the way it reintroduced steel into building. (Figure 1)

In the context of this session, this paper examines how steel was a medium in the production of architecture. Making use of a 'new' material altered the way in which the project was thought of, managed and produced. New methods of assembly were enforced without any norms for steel construction in place. But, the producers also relied on existing know-how in bridge building and applied it to building a tall structure. My paper argues that material caused architecture to be understood as a construction site at several locations. These sites of production can be discussed as having different degrees of progressiveness and of continuity. With this perspective, the Wenner-Gren Center produced non-simultaneity in the way a 'new' material was coupled with both progressive methods of assemblage and with more established methods of production.

A tallish building

The scheme for the Wenner-Gren Center was the winning proposal in an architectural competition. The architects Sune Lindström and Alf Bydén of

Figure 1. Construction of Wenner-Gren Center. *Source:* Oscar Bladh and Stadsmuseet

Vattenbyggnadsbyrån were commissioned to realize a composition of three geometrical forms placed sequentially and in play with the ground treatment so that it implies a shell or a spiral. Entitled *The Symbolic Form for Evolution*, the half-circular shaped volume, which is a four storey apartment building, surrounds a 25-storey rhomboid structure containing the office space. Next to the office volume is a cube, which holds facilities for conferences and public events as well as some public services. In the middle of this complex, the landscape terraces down towards a circular reflecting pool. Effectively, progress was embedded in the tall building's rapid construction time: 25 floors in 25 weeks. The media extended the site of production by legitimizing 'newness' – new material, new tallness, new research center.

Already at the stage of the competition, the form of the office-structure was identified as a very costly building design.[2] The 77° skewed footprint created problems for the production of the construction drawings: the architects were asked if it made sense to apply regularity, i.e. using an orthogonal system of grid lines overlaying the oblique building shape. The architects concluded that there was no economic advatnage in using these disparate sets of geometry and the project proceeded by following the outline of the building shell.[3] Beyond issues of footprint, the presence of tall buildings concurrently under constrution also had an impact.

By modern standards, 25 floors is not very high, and does not make it a skyscraper. The architects wanted the building to be experienced as tall as possible. At the time, no less than six other high-rise structures were un-

derway in the city. Most noteworthy was the redevelopment taking place in central Stockholm where the five 16-floor office buildings *Hötorgsskraporna* were approaching completion. These had been designed to make up a natural culmination to the inner city, which was therefore to be capped by the Wenner-Gren Center.[4] Slightly inclining the gable walls inwards would make the office-building seem higher – or, at least this is what the architects thought as they shaved off some mass from the top, shrinking the ground level footprint area of 450 sqm to only 400 sqm on the top floor. Tallness, as it happened, is what made material a central issue.[5]

The use of structural steel or reinforced concrete in high buildings became a heated debate in the 1959 September-issue of the Swedish Architecture Journal (*Byggmästaren*). A couple of engineers with steel-building experience from the US advocated using steel rather than reinforced concrete.[6] A recent dramatic drop in steel prices made it a more viable alternative in a market dominated by reinforced concrete for over twenty years previously. Even though Sweden is a steel producing nation – of the highest quality – ever since the early 1940s reinforced concrete, sustained by education, research and funding, had taken precedence over other possible alternatives.[7] The high-rise at Wenner-Gren Center had been specified to be built in reinforced concrete.[8] But, adding to the many uncertainties around this building, the engineer selected for the project, Dr. Arne Johnson, who had a PhD in statics, 'proved' that steel would be the cheaper material.[9] By allowing for revenues from leasing out office and residential space once the Wenner-Gren Center was completed, the calculations indicated steel to be a cheaper material than reinforced concrete because it would take less time to complete the building. In this matrix, the site for the building was no longer the only construction site, for construction began much earlier off-site at the workshop of the steel manufacturer.

Assemblage

The steel manufacturing company Bröderna Hedlund AB was the obvious choice for cutting and delivering the steel to the Wenner-Gren Center. The company had a long tradition of steel building in the Stockholm area since the early twentieth century. In the 1920s, the company had established a strong reputation for steel building as result of a particular productive era when large parts of the inner city had been rebuilt. During the years of raw material shortage, during the world wars, the company turned to other areas, namely bridge building as well as sluices for most of the water-power plants in the country.[10]

3. QUESTIONS OF METHODOLOGY

On account of the halt in the development of steel-construction for buildings in Sweden, the manner in which the steel parts for Wenner-Gren Center were produced was more related to the tradition of bridge building than anything else. The 1935 north-south traffic connection – *Västerbron* – is an indication of how bridge construction informed the way in which Wenner-Gren Center was put together.[11] At the time this bridge was built, welding was the most advanced method of assembly and was introduced as a new way of fabricating this bridge, cutting the cost primarily by using less material.[12] The double steel arched bridge, with a sail free elevation span of 26 meters above the water line, was welded together in segments, which were transported on the water to the location. Only the arches with wind bracings and cross members were riveted together on site.

Knowledge of welded construction technology had been retained during the decades prior to the building of the Wenner-Gren Center, where several methods of assemblage were used. The exterior frame was largely welded together at the steel manufacturer's workshop. The sections spanned across four floors, which were transported to the building site and put in place by the centrally located crane. The core of the building, i.e. the service package with six elevators and escape stairs were also produced off-site in segments of two floors and transported in the same manner. Welding cut the cost of steel.[13] But, steel building had advanced considerably since the building of the Stockholm bridges, by for example the introduction of electrical welding, advanced processing devices and automata in the workshop, and the use of cranes.[14] For the Wenner-Gren Center, a pre-stressed high-strength bolt was introduced, a new system to assemble the joints of the wind stiffening dressings across the two- or four- floor modules. This system, tightening the friction joint with bolts instead of rivets was done using an air compression wrench that automated the process of assemblage. Tightening the steel elements accurately was crucial to avoid friction. The air compression wrench was a Swedish invention, developed originally for mine drilling. The slanting walls made it necessary to tension the bolts accurately, and to adjust each floor according to the specified drawings. Precision was crucial. (Figure 2)

Because of its geometry, this 50,000 cubic meters of office space needed more precise and accurate drawings than had been necessary previously. This meant that each of the 7000 parts was specified in a total of 190 drawings. Dr. Arne Johnson estimated that 75% of the time in his engineering office was spent on drawings. One might think of this as a precursor of the current practice of prefabricating individual pieces, though without

Figure 2. Scaffolding. *Source:* Harry Dittmer and Nordic Photos

the tools we have today, CNC-milling machines and laser-cutters. Rather, this project was drawn by hand, with 1:1 specifications of all the steel junctions, from which the components were fabricated in the workshop. The quantity of drawings reduced the need for adjustments to be made on the floor of the workshop, thereby moving the project management to the hands of the engineers rather than the fabricators.[15] A strong project management and 'well thought out construction organization' was essential in order for steel to be a comparative material with reinforced concrete.[16]

At the Wenner-Gren Center, the steel skeleton was of the same kind of system as used in Ménier's Chocolate factory in Noisiel sur Marne in the 1870s.[17] The differences were in the dimensions of the individual parts and in the system of joints between the individual members. Over the previous decades there had been a shortage of labour in the workforce and steel prices had been ten times higher than in the early 20th century. The production of the Wenner-Gren Center took place at several building sites, welding the modules together off-site and bolting the modules and the stabilizing frame together using air-pressure wrenches. This reduced the number of workers needed, as well as the amount of steel. Ultimately this produced an architecture which relied on multiple construction sites. The sequence of work on the building sites was adapted to the progress and work-flow of steel building. New methods of assembly were tested at the location of the building, while established methods of assembly were carried out at the workshop. Both were dependent on precise drawings, which was of course a traditional method, yet the whole process of doing this moved the production to the expertise of the engineer rather than that of the worker on the floor, adjusting each member within a specified tolerance. What did this mean in terms of progress in construction?

Swedish architectural historian Elias Cornell states in his canonical book on building technology, *Byggnadstekniken*: 'Among the most important of tools to simplify [assembly] has obviously been the replacement of bolts and rivets by welding.'[18] Speculating on what this might signify he also proposes that 'maybe manufacturing technology has played a greater role than the actual construction technology.' This is worth a thought. The type of box-shaped construction used for the 1935 steel bridge was considered to be the most advanced construction technology at the time and it was a widely held view during the 1940s that complex steel structures, meaning lattice structures, were of the past.[19] Nonetheless, Buckminster Fuller had seemed to advance the terrain by his dome structures. Yet, these too had relied on the same principles as Francois Joseph Bélanger and F. Brunet had used for the first iron dome – *Halle au Blé* in Paris, 1811 – only with more sophisticated geometry.

Conclusion

The Wenner-Gren Center was already a monument when it was no more than a steel scaffolding. Numerous articles were published on the steel construction of the office building, aimed at both laymen and professionals. 'The steel structure was put up in record time, with the help of the most modern construction methods ever used up to that time in this country', stated the public relations agent for the Wenner-Gren Center. Sweden's most prominent engineering journal, *Teknisk Tidskrift,* dedicated a whole issue to steel building, mostly on new innovations for assemblage, development of steel qualities and solutions for fire proofing. The construction of the Wenner-Gren Center appears in every article. Yet, the emphasis on engineering innovation is only half the truth. The construction happened as much in the steel fabricators' workshops, where they used established techniques to weld the components of the construction, as it did at the location of the building. The architecture was a matter of assemblage, in which the parts were carefully planned in relation to the whole at several building sites, measured, cut and welded at one, and assembled, in 25 weeks, at another. When the engineering journal *Byggnadsvärlden* published an overview of the Wenner-Gren Center, it was introduced as an impressive achievement not the least on account of the time constraints and the fact that it was the first-ever construction of its type. This, according to the reviewer 'testifies to an extremely high technical standard of Swedish designers and contractors. For many of the project's detailed solutions there were previously no Swedish standards – design work has in many respects been innovative.'[20] The architecture, both in form and in layout was indeed impressive. The Wenner-Gren Center is a case where the material demanded precision in assembly; rather than competence in pouring concrete, it was through the

process of assembly that the non-simultaneity was produced. It was not acknowledged at the time that the knowledge of how to build in steel was already in existence, and it was this that was used on the Wenner-Gren Center. Media interest in the novelty of this project overlooked such matters. Several actors in the steel industry had pushed for steel as a competitive material to reinforced concrete in building. In this matrix of social forces the site towards the end of *Sveavägen* extended the building site by the media into a symbol that reaffirmed the myth of modernity.

1 In the fall of 1955, Tage Erlander together with Minister of Finance Per Edvin Sköld, the Minister of Education Ragnar Edenstam and the Minister of Transport met with the delegates that had been chosen by Axel Wenner-Gren to develop guidelines for the foundation; Professor Ragnar Nilson, Professor Manne Siegbahn and Professor Hugo Theorell. See Jan Wallander, *Wenner-Gren Stiftelserna 1955-2000* (Stockholm: Bokförlaget Atlantis, 2002), 32; Minutes 10 September 1954.
2 Prize Committee statement about scheme, 'Anonym,' November 1956.
3 Minutes Working Committee, 4 April 1959.
4 Wallander, *Wenner-Gren Stiftelserna 1955-2000*, 45.
5 Minutes Prize Committee statement, 20 May 1957.
6 Frida Rosenberg, "What Is A Steel Construction? Professionalizing Steel Building in Postwar Sweden," in Paulo J.S. Cruz (ed.), *Structures and Architecture, Concepts, Applications and Challenges* (London: Taylor and Francis Group, 2013), 583-4.
7 The very successful organization of the Swedish Cement and Concrete Research Institute (CBI) which was responsible for research, extended education and knowledge distribution, was founded in 1942.
8 Description of the competition scheme, 'Anonym', 15 April 1957.
9 Report to Working Committee n. 7, 18 March 1959; Minutes Working Committee, 25 April 1959; Technical Description, Arne Johnson Ingengörsbyrå, 30 January 1959.
10 Åke Boström, *Vi har arbetat med stål i 40 år Aktiebolaget Bröderna Hedlund 1911-1951* (Stockholm: AB Bröderna Hedlund, 1951), 41-3.
11 A connecting bridge to *Västerbron* spanning across a small channel – *Pålsundsbron* – built at the same time was the first all-welded construction in Sweden.
12 Ragnar Ahlström, "Västerbron. Beskrivning av Arbetets utförande" *Teknisk Tidskrift*, Häfte 11, November, 1935, 123-4.
13 Bengt Nilsson (ed)., "Stålbyggarens syn på konstruktionerna," *Teknisk Tidskrift* 17 (1961), 465-8.
14 Herbert Lindqvist, "Husbyggnad i stål," *Teknisk Tidskrift* 17 (1961), 464.
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16 Lindqvist, "Husbyggnad i stål," 435.
17 Ibidem, 279.
18 Elias Cornell, *Byggnadstekniken: metoder och idéer genom tiderna* (Stockholm: Byggförlaget, 1971), 278.
19 Ibidem, 281.
20 Wenner-Gren Center, "Konsekvent och moget bygge," *Byggnadsvärlden* 45 (1961), 1071.

3.1.3 Between Technological Effectiveness and Artisanal Inventiveness: Concreting Torres Blancas (1964-69)

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Abstract
In the 1960s, a new era in reinforced concrete construction began and the elaborate traditional timber beam formworks were progressively replaced by standardised systems with plywood boards, metal props and beams. These convenient engineered formwork systems allowed new levels of precision and smoothness while significantly increasing the speed of construction and lowering the number of craftsmen. But handcraft and bricolage never left the construction site; they can be found at the most advanced building sites until today. The concrete works of the residential tower Torres Blancas by Francisco Javier Saénz de Oíza in Madrid (1964-69) are a good example of this. The client for Torres Blancas was the prosperous patron Juan Huarte Beaumont, who also owned the most advanced construction company at this time in Spain. No expenses were therefore spared to make his dream of a modern residential tower in Madrid come true. Coated plywood panels, table form systems and the newest climbing formwork were used in a construction site that the whole country – and for the first time for a long time also the rest of Europe – were looking at. But soon after the construction started it became clear that the complexity of the geometry could only be tackled by traditional methods. Torres Blancas would have become a much different building if it had been built only within the constraints of the formwork system.
After the successful completion of the building both the architect and the constructor agreed that, despite its spearheading technology, the accomplishment of Torres Blancas wouldn't have been possible without the ingeniousness of experienced formwork carpenters, steel fixers and concrete finishers. With the help of this example I will illustrate why this interplay between technological effectiveness and artisanal inventiveness is inherent to the nature of reinforced concrete.

Keywords
Concrete, formwork, standardisation, handcraft, Torres Blancas, Sáenz de Oiza

Introduction

Jump form systems – also known as climbing forms – were invented and patented in the 1940s. With these systems, the formwork supports itself on the concrete cast earlier and does not rely on support or access from other parts of the building. Originally developed for bridge pillars and water towers, its use did not spread for the construction of concrete core walls in high-rise structures until the 1960s. By this time, elaborate traditional timber beam formworks were progressively replaced by standardised systems with plywood boards and metal props and beams, allowing multiple uses of the same board and new levels of precision. The cost effectiveness of jump form systems relies on the significant increase of construction speed and in the decreased dependence of craftsmen – both of their skills and number.

In the 1960s Spain, construction time and labour were still very cheap, so there were no real incentives for the implementation of such industrial formwork systems. The construction sector was in fact developing rapidly due to the recently approved *Planes de Desarrollo*[1] (Plans of Development) and the subsequent opening of the country to tourism, but the massive drift from the land brought more labour force to the urban areas as to be trained[2] and employed. Jump form systems were therefore mostly used in big scale civil engineering projects and not considered profitable for residential purposes until the 1970s.[3]

Profitability was not the main issue when the prosperous entrepreneur Juan Huarte commissioned in 1960 the architect Francisco J. Sáenz de Oiza with a feasibility study of a residential tower in Madrid. As owner of the estate agency HISA (Huarte Immobiliaria SA) and the most advanced construction company of his time in Spain (HUARTE y Cía), he was looking for a prestigious, showcase project. Choosing the most innovative building techniques – in this case a brand new jump form system – was the natural consequence. But that was not the only reason he was willing to pay as much as needed to make his dream of a modern[4] residential tower in Madrid come true. As a passionate patron of the arts,[5] he wanted to contribute with this experiment to the development of both the city and the society. As Daniel Fullaondo[6] put it 'more than a building, [Torres Blancas] is a collection of hopeful ideas about the human behaviour.'[7]

Designing Torres Blancas

Having worked for Huarte before,[8] Sáenz de Oiza knew the chances and challenges this commission implied. Although graduated in 1946, he hadn't built much yet[9] but was already renowned at the School of Architecture in Madrid for his talent and innovative thinking[10] as a teacher. In this sense, the commission of a high-rise residential building was a very different task than anything he had planned before and the severe rationalism of his social housing projects could give way to a more expressive, playful approach. Clear references for this project are the Le Corbusier's[11] 'machine for living' and 'garden city',[12] Louis Kahn's rotated spatial structures, such as in the Richards Medical Research Laboratories (1960) and Frank Lloyd Wright's organic and tower architecture, particularly the S. Mark (1929) and Price (1956) towers.[13] The floor plans are similarly L-shaped and organized around a central core but Wright's towers follow the untold rule of dissolving towards the sky while Sáenz de Oiza's broaden on the top, changing the vertical core system in order to create bigger open spaces for the social functions.

Figure 1. View of Torres Blancas from the Avenida de América. *Source*: Photograph by the author, 2011

> I thought of the tower as a tree […]. In the lower part – the roots – the parking lot and the canalisation will extend into the city; and on the higher part – the branches – the social functions will occupy the space: shops, a pool, a gym, etc. This way, in the lift you cannot think in terms of going up or down because both the top and the bottom will be equally attractive.[14] (Figure 1)

The construction works started in 1964, four years after the commission, but the design wasn't actually ever completed. During these years Sáenz de Oiza developed numerous variations of the tower. Rafael Moneo (collaborator from 1956 to 1961) recalls:

> [Sáenz de] Oiza used to draw every solution his fertile mind came through. He spread all these drawings over the table and struggled for days or even weeks in order to choose the best. […] He longed for perfection and could give everything up after months of work and start from scratch again if he had the impression that the way he was following was misleading.[15]

Torres Blancas[16] was first published in a Spanish magazine[17] in 1963, months before even the earthmoving works started. The interest of architects and the broad public was already big enough for such a publication. Torres Blancas was actually the most published Spanish project of the 1960s in foreign magazines[18], something new after decades of economic, social and cultural isolation of the country. In non-specialised magazines, the focus was laid in the so-called living concept of the future: a mixture of cosmopolitan flair[19], futuristic interiors and a back-to-nature-experience through the abundance of terraces[20]. The interest of specialised magazines was laid mostly on the experimental character of its construction. In the commercial advertisements, the messages were often contradictory, praising the flats as both luxurious and affordable[21]. Common to all three kinds of publications is the emphasis on the exceptionality of the project.
Despite of its ground-breaking technology, it took seven years (1964-71) to build the tower. One reason was Sáenz de Oiza's thoroughness and struggling method. He confronted Huarte constantly with radically new versions of the project, even during the building process[22]. The other reason why the building time was so dilated is the difficulties found in the implementation of the project as it was indeed exceptional.

Concreting Torres Blancas

Two structural engineers, Carlos Fernández Casado and Javier Manterola played a key role in the development of Torres Blancas. Fernández Casado, an experienced engineer and collaborator of Huarte since 1929, was the one who suggested the use of vertical slabs instead of pillars and beams but was not further involved in the project. Manterola had just finished his studies by the time he was put in charge of this project and soon started a complex but fertile creative relationship with Sáenz de Oiza. The result was a structural system based on 46 vertical and partly curved concrete slabs that is also responsible for the spatial organisation of the plans and sections. This is one of the main achievements of Torres Blancas: merging the spatial and the structural requirements into a system that gives the best possible answer to both and becomes the essence of the project.

To calculate such a complex building in the pre-computer era was indeed challenging. The organic geometry required a different approach as standardised rectangular structures so that many calculations had to be based on theoretical suppositions more than on empirical facts. In order to verify if these assumptions concurred with the reality, 1:20 cement models were made and tested in Huarte's own laboratories.[23] The structure, as was seen decades later through computer simulation, is actually over dimensioned and exceedingly hyperstatic.[24]

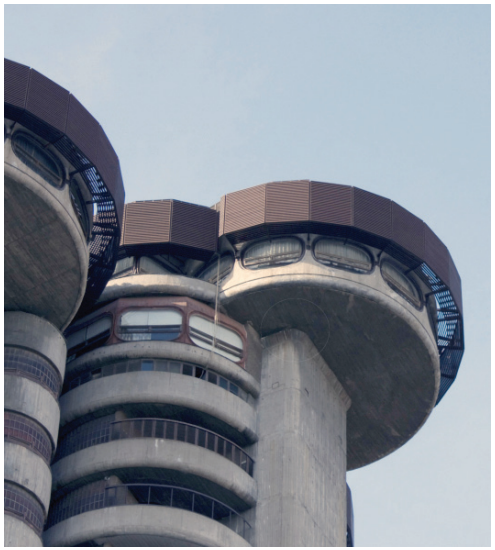

Figure 2: Detail of the visual transition element between the outer vertical slabs and the discs of the social core. *Source*: Photograph by the author, 2011

The organic geometry also posed problems for the formwork. The curved surfaces made it not possible to come back to standardised plywood boards, so they were done traditionally, on-site, with timber. The use of a jump form system was possible and reasonable because the section of the vertical slabs stays constant during the first 21 storeys. This system did improve the quality of execution[25] and the security conditions at the site. In this part of the building only the encountering with the horizontal slabs at the points of maximum reinforcement had to be solved by traditional means.

In the upper three floors on the contrary, the use of a jump form system complicated the construction. One detail that led to numerous discussions between Sáenz de Oiza and Manterola was the encounter of the outer vertical slabs with the discs of the social core on the twentysecond floor. Saénz de Oiza wanted to have a visual transition element – an 'apophyge', as he called it – but this made no structural sense, Manterola interjected, because both elements had a very different rigidity. For Manterola, the point of contact should be therefore as small as possible and articulated. The final solution was found after many hours of discussion and working out possibilities: the contact point was to be articulated as Manterola pleaded but surrounded by a conical concrete element visually suggesting a clamped connection. Due to this dual character, moulding this added element had to be carefully defined and done on-site.[26] (Figure 2)

For these and similar tasks both Sáenz de Oiza and Manterola had full confidence in the construction manager of Huarte y Cía., Antonio Pallol. It was not usual for construction managers to get mentioned yet quoted in special-

ised publications in the 1960s or 1970s but he does get a lot of credit[27] for his key role in the materialization of Torres Blancas, as the project was often defined on the go. Due to the constant changes by Sáenz de Oiza the structure plans and the architectural plans did not always coincide. To make both meet was one of his tasks. Confronting the architect and the engineer with the limits of the construction techniques was another one.

Manterola and his team did once an exhaustive work in order to define the optimal thickness of every slab at every single point. The result looked very much like a topographic map with isolines. He then took the plan they had been working on for months to the building site: 'They were beautiful but impossible to execute. It took a minute for the building manager [Antonio Pallol] to turn them down, rightly. They might have made structural sense and been formally attractive but they actually didn't make any constructive sense.' [28]

Asked years later about the building process, Pallol said that 'building Torres Blancas hasn't really been a prime example of technological progress but rather of artisanal challenge.'[29]

Learning from Torres Blancas

The particular case of Torres Blancas illustrates the dependence of new technologies in concrete construction on the craftsmanship and ingeniousness of experienced formwork carpenters, steel fixers and concrete finishers. In the following paragraphs, I will argue the reasons why this interplay between technological effectiveness and artisanal inventiveness is inherent to the nature of concrete.
The plasticity of concrete makes this material unique insofar as its form is not predefined by the natural element it is taken from (wood), the production method (steel) or as a result of the accumulation of smaller units (brickwork). This has two main implications.

First, the somehow paradoxical fact that every concrete element has to be built twice: first with other materials as a negative form (the formwork) and only afterwards with concrete (by filling out that form). This has many interesting formal implications, as the three-dimensional imprint of the formwork skin will coin the surface of concrete – in a semantic or syntactic way. The semantic[30] approach focuses on the concrete surface as such, not taking into account the building as a whole. The syntactic approach, on the contrary, uses the traces of the technical means to organise and articulate the whole. Torres Blancas fits into the second category as it would have lost expressivity, sense of scale and proportion without the rough timber imprint of its formwork. This tight link between formwork and concrete is also the reason why designing an exposed concrete building demands such a stringent conceptual discipline from the designer:[31] the form must be conceived twice. If the architect considers only the second, the relation between the two becomes disaggregated. This becomes especially visible in the case of organic and free forms.

Second, the fact that the final form of the concrete element will be determined by the properties and construction techniques of the formwork[32]. The concrete element and the construction of its formwork follow different laws. Not only they are made of different materials, they are also made to bear different types of load,[33] so it is indeed difficult to match both requirements equally. The vertical slabs in Torres Blancas get actually very near to this ideal situation (giving the observer an unconscious feeling of perfection and completeness), while the horizontal slabs illustrate the dichotomy between formwork technique and the internal flow of forces.[34]

Another distinctive aspect of concrete is the role the human factor plays in its construction. Concrete is not delivered to the building site; it comes into being at the building site. The fact is, no matter how standardised and technologically advanced concrete has become in recent years: the human hand will always coin its surface. Formworks are still man-made or assembled, workers position the rebar, they lead the pump boom and compact the freshly poured concrete[35]. The consequence is a higher potential for error but also for innovation and creativity. That is nevertheless what makes exposed concrete both so challenging and fascinating for architects.

3. QUESTIONS OF METHODOLOGY

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1 Having been isolated since the end of the Civil War in 1939, Spain wasn't even a member of the United Nations until 1955. The ideologically motivated autarchy was forced to give way to an open economy system in order to avoid bankruptcy. This is why in 1959 an official exchange rate for the peseta was established for the first time, facilitating the necessary currency flow.

2 About concrete works and skills see Adrian Forty's chapter "Concrete and Labour" particularly the following sentence: 'to a greater extent than with other processes of construction, the element of skill in concrete construction has been concentrated in a small group of specialists and experts and detached from the bulk of manual labour.' (Forty, 2012, 233-4). This was the case at Torres Blancas, where a few very experienced trained professionals led a workforce of unexperienced immigrants from the land regions.

3 Jacinto Martin Palanca, "Rentabilidad de los Encofrados," *Revista de Obras Públicas* 3053 (1969), 708.

4 This might be the reason why it was clear from the very first discussions between Huarte and Sáenz de Oiza that the tower was to be built in concrete. The relationship between concrete and modernity has been explained by Adrian Forty in the first chapter of his book *Concrete and Culture* (Forty, 2012, 13-41).

5 It was his activity as a patron that led him to Sáenz de Oiza. Jorge Oteiza, one of his main protégées, had worked with Sáenz de Oiza at the Sanctuary of Aranzazu (1950-5) and the Chapel at S. James' Way (1954). Asked by Huarte about an architect for his idea of a residential tower, Oteiza said 'Paco [common abbreviation for Francisco] Sáenz de Oiza, that's the one you need, without doubt'. (Huarte and Sáenz, 2000, 19). Coincidentally or not, all three were Basques (Sáenz de Oiza and Huarte from Navarra, Oteiza from Gipuzkoa).

6 Juan Daniel Fullaondo worked at Sáenz de Oiza's office from 1958 to 1963. He became later professor at the ETSAM (Escuela Técnica Superior de Arquitectura de Madrid) and was one of the main architecture critics in Spain until his early death in 1994.

7 Paulino Posada, "Una ciudad jardín vertical," *Blanco y negro* 2871 (13 May 1967), 23.

8 Sáenz de Oiza had already turned the basement of the headquarters of Huarte y Cía. into an exhibition space for the projects of the company in 1958. The project consisted of 800 sqm divided in three levels. Sáenz de Oiza understood this commission as a test of his planning skills. (Sáenz de Oiza, 1988, 27). Between this project and Torres Blancas he was commissioned by Huarte with a group of terraced apartments in Alcudia, Majorca (built in 1963).

9 He had built approximately ten buildings, all of them either social housing or churches. He had won the National Price of Architecture 1954 for his revolutionary chapel for St. James' Way.

10 Rafael Moneo narrates in (Moneo, 1998, 192-4) Sáenz de Oiza's achievements at the ETSAM, amongst others the changes he initiated in order to modernise the admission examination procedure.
11 According to his son Javier Sáenz de Oiza in (Gosálvez, 2010), he named the towers Torres Blancas after Le Corbusier's purism. He denies hereby the widespread theory that they were initially supposed to be built with a white marble aggregate.
12 Sáenz de Oiza said often: 'I would be happy if the ants could make their way up to the top' (Gosálvez, 2010).
13 RTVE, documentary "Tres Arquitecturas," broadcasted on 22 November 1990, publicly accessible at http://www.rtve.es/alacarta/videos/tres-aquitecturas, min 21-5.
14 Francisco Sáenz de Oiza, "Disertaciones," *El Croquis* 32/33 (1988), 28.
15 Rafael Moneo, "Perfil de Oiza Joven," *El Croquis* 32/33 (1988), 197.
16 By this time there were still two towers planned – the name Torres Blancas remained plural even though the second tower was never built. Sáenz de Oiza tells that they only got the building license for the first tower thanks to the work of some Argentinian watercolorists, who skillfully presented the building to the administration 'in a milder way than the reality' in Javier Martínez González and Marta García Alonso, "Construyendo Torres Blancas," paper presented at the 7th Congreso Nacional de Historia de la Construcción, Santiago de Compostela, Spain, 26-29 October 2011, 875.
17 *Hogar y Arquitectura* 49, 1963. This was the bimonthly magazine of the Obra Sindical del Hogar, the national agency for residential buildings during the Franco period.
18 It was published amongst others in *L'Architecture d'aujourd'hui* (1966, 1967 and 1969), *Baumeister* (6/1967, cover), (1/1969 and 6/1973), *Architectural Record* (7/1968), *Architettura* (1969) and *Domus* (1970) and *A+U* (1978).
19 Each unit had originally a freight lift connected with the restaurant on the top, offering a 24hours room service. Many of the first inhabitants were pilots, due partly to its location on the way to Barajas airport, partly to its cosmopolitan character. Many artists lived in Torres Blancas. Juan Huarte was the patron of the writer Camilo José Cela (1989 Nobel Prize in Literature) and presented him a large flat. Sáenz de Oiza also lived there with his family until his death in 2000. John Malkovich is said to own a flat in the upper floors (Patricia Gosálvez, "Los Bulos del Árbol de Hormigón," *El País*, 18 January 2010, Madrid edition). Nowadays, living in Torres Blancas is very popular among architects.
20 'A concrete dolmen, a dialog between nature and society, between technology and rocks, between the cave and the air conditioning' in Paulino Posada, "Una ciudad jardín vertical," *Blanco y negro* 2871, 13 May (1967), 21.
21 For example: 'Everything is exceptional in Torres Blancas (only the price is not)' and 'Torres Blancas: a prime example of the world's best architecture' – both sentences in the same newspaper advertisement: *ABC*, 18 July 1968, Madrid edition, 9.
22 'He came up once with plans for a triangular tower. I told him: "What? Get out of my sight. We are building it already!" But no matter how tense their relationship could get in these moments, they always reconciliated'. 'As a contractor that made me suffer a lot; from a personal point of view, I admired him even more.' Both quotes from Juan Huarte and Marisa Sáenz, "Francisco Javier Sáenz de Oiza. Pasión por la Belleza," *Pasajes de Arquitectura y Crítica* 20 (2000), 20-1.
23 Francisco Sáenz de Oiza, Carlos Fernández Casado and Javier Manterola Armisén, "Estructura de Torres Blancas," *Informes de la construcción* 12 (1970), 44.
24 Miguel Aguiló et al., *Javier Manterola Armisén – Pensamiento y Obra* (Madrid: Fundación ESTEYCO, 2004), 147.
25 The planarity of the vertical slabs wouldn't have been possible with the traditional formwork techniques of the 1960s.
26 Martínez González and García Alonso, "Construyendo Torres Blancas," 880-1.
27 Ibidem, 882; Francisco Sáenz de Oiza, Carlos Fernández Casado and Javier Manterola Armisén, "Estructura de Torres Blancas," 63.
28 Aguiló et al., *Javier Manterola Armisén*, 96.
29 Patricia Bracco, "Torres Blancas de Sáenz de Oiza. Un proceso abierto" PhD diss., Escuela Técnica Superior de Arquitectura de Madrid, 2004), 1126.
30 More about the semantics of concrete in Réjean Legault, "The Semantics of Exposed Concrete," in Jean-Louis Cohen and G. Martin Moeller (eds.), *Liquid Stone* (Basel: Birkhäuser, 2006), 46-56.
31 Adrian Forty's formulates a similar idea as follows: 'For any building of substantial size to be realized in concrete, it has to be translated [italic in the original] into the language of concrete,' in Adrian Forty, *Concrete and Culture – A Material History* (London: Reaktion books Ltd, 2012), 240.
32 Cyrille Simonnet connects the dependence of concrete on the formwork to its 'lack of iconicity' Cyrille Simmonet, *Hormigón – Historia de un Material* (San Sebastián: Nerea, 2009), 119.
33 A formwork usually stands by itself within a scaffold system and does not have the three-dimensional cohesion the concrete will have after the hardening. Furthermore, the pressure of the liquid concrete on the formwork during the placing and in the following days can be even higher than the loads the concrete has to bear afterwards.
34 The isolines Manterola and his team proudly calculated were almost impossible to build in the 1960s. Nowadays, it might be possible through the use of CAD-tools and plastic formwork but still not reasonable within the construction logic, let alone for its further use as a residential space.
35 Sáenz de Oiza tells in an interview following anecdote: 'One day, a Sunday, I went to the building site with the client, Huarte, […] and there was a small team of workers […]. I remember the question the client posed to him. He said "Maestro, what do you think of this work?" And, do you know what he said? He turned over, slow, like painfully, and said "The bad part is that no one can ever tear it down". [Laughs] He considered it too solid… he criticized the proposed object but he did admire the constructed object'. (RTVE, documentary 'Tres Arquitecturas,' broadcasted on 22 November 1990, min. 34-36)

3.1.4 The Glocal Construction Site and the Labour of Complex Geometry

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Abstract
This paper analyses the construction of Preston Scott Cohen's 2010 addition to the Tel Aviv Museum and its complex, computer generated torqued geometry in relation to the labor process that materialized it in order to argue for importance of the construction site and its labor practices in interpreting architectural culture under globalization by pointing to its un-synchronous reality. The encounter between elite architectural discourse and local construction practices is studied through interviews with workers, contractors and architects. In a first step, labor on the site is examined using Braverman's deskilling thesis. In a second step, the construction is understood historically within the political economy of Israel's building industry, which has been characterized by labor intensive 'wet' construction techniques based on exploitation of non-unionized labor from the Occupied Territories. Work on the building site was organized as a flexible assemblage of local experts and an international labor force recruited for its mastery of traditional building trades. At the level of management, it entailed a step back from the modern system of subcontracting. The work process could thus be typified as un-synchronous in its utilization of skill-based and mechanized techniques, often requiring the workers' participation in realizing the unprecedented design.
In conclusion, the paper argues for the relevance of Bloch's interpretive framework of the non-simultaneous for theorizing the culture of globalization in its local manifestations. The museum's design was chosen to represent Tel Aviv as a global city by creating a highly polished architectural image of fluidity. Yet this project was made possible by labor and managerial practices that are un-synchronous with such an image, thus highlighting the ambivalence inherent in contemporary architectural culture between effortless integration into global culture on the one hand, and reliance on an un-synchronous mode of production on the other.

Keywords
Building technology, construction labour, digital architecture, history of Israeli architecture, globalization

Introduction
The identity of modern architecture has been closely tied with the idea of construction. Design principles such as truth to materials and honest expression of structural forces associated with the Arts and Crafts movement or the New Brutalism valorise the labour invested in construction. Functionalism, in turn, sought to reform construction via industrialization and standardization, while Constructivism elevated it as a model for integrating architectural practice within revolutionary praxis. The importance attached to building activity by modern architecture may be emblematic of a broader modernist tendency to conceive society as a structure that could be subjected to planning. Thus one may expect a decline in the rhetorical visibility of construction in postmodern architecture, corresponding with its preoccupation with signification and consumption at the expense of production, and its disenchantment with modernist narratives of progress. In recent years, however, the construction site is reappearing in presentations of computer generated architecture, where it assumes a new meaning related to the debate over the epistemic status of the virtual. As Antoine Picon argued, digital design combined with computer aided manufacturing raises deep anxieties over the loss of values associated with traditional methods of architectural production, such as materiality, craftsmanship or tectonics, while its exuberant formalism is perceived as an abdication of social responsibility. Examining the construction of realized digital architecture, he identifies a creative tension between the fluidity of the design and the techniques mobilized to realize it.[1]
The case study of this paper, the extension to the Tel Aviv Museum by the American architect Preston Scott Cohen (2003-10), appears to reaffirm Picon's claim that digital architecture is not oblivious to the realities of construction, but rather establishes a dynamic rapport with it. In discussions of

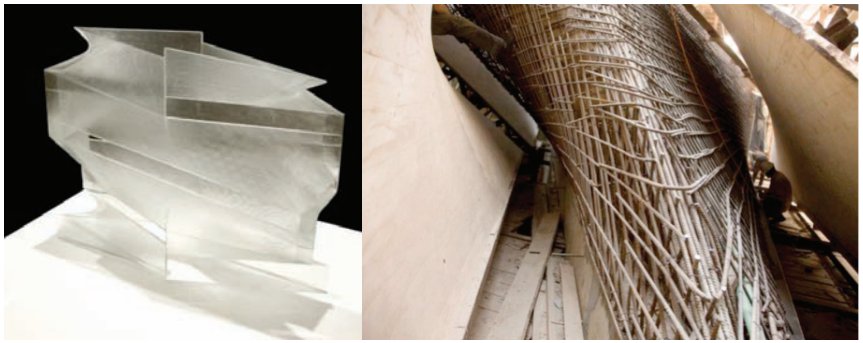

Figure 1. The lightfall: Conceptual model, right. Preparation of wooden formwork and steel reinforcement bars, left. *Source*: The Tel Aviv Museum of Art.

Figure 2. Overview of the construction site of the Tel Aviv Museum, showcasing the assembly of the concrete panel façade. *Source*: The Tel Aviv Museum of Art.

the building by the architect and the press, attention is drawn to the elaborate, manual preparation of the formwork for casting its concrete atrium, known as the 'lightfall' (Figure 1), and the assembly of the façade's prefabricated concrete panels (Figure 2). They rhetorically argue for the unification of intellectual labour and manual craftsmanship into a higher synthesis of virtual, fluid form and concrete, sensuous materiality.

This regained visibility of construction in architectural discourse raises two theoretical concerns not dealt by Picon: the first is the relevance of construction as a labour process for interpreting the work of architecture. The second is the historical framework through which to interpret the revival of interest in construction, and with it, the relationship between contemporary architecture and its modernist past. This paper analyses the Museum's design by enjoining the two themes of labour and history through the concept of the 'glocal'.[2] While the glocal is defined, and constrained, by the spatial dialectics of the local and the global, its rejection of a totalizing notion of globalization as a uniform, homogenizing process is closely associated with Ernst Bloch's notion of the non-synchronous, a point recently made by David Durst.[3] Bloch's notion of coexisting economic structures and sociocultural formations from different epochs works to expand the 'glocal' to encompass divergent temporalities. In the case of digital architecture, I argue, the glocal disengages it from overreaching, linear narratives of technological progress, by focusing on the heterogeneous context of its production and consumption.

The glocal context of the museum competition

That Scott Cohen's theoretical research into projective geometry would first be realized in Tel Aviv is essential for the analysis of the building through the dynamics of the glocal.[4] According to the architect, his competition entry was selected because 'only foreignness was capable of detaching this new building from its Israeli context and of placing it within the context of contemporary international architecture – and by extension, of introducing Israeli art to the international art world.'[5] The architectural avant-garde is embraced by the Israeli client to accumulate the cultural capital for establishing Tel Aviv as a global city. But to be global is also to integrate one's own cultural heritage into a global narrative. An *Architectural Record* review of the building titled "A New Spin to the White City" associated its design with 'the city's history of embracing radical leaps in Modernism within its urban fabric', a direct reference to Tel Aviv's designation as a World Heritage Site in 2003.[6] Moreover, the extension establishes a dialog with the original museum building (1971), considered a masterpiece of Israeli Brutalist architecture. Since the Tel Aviv Museum was an important agent in canonizing Israel's International Style and Brutalism, the commission reaffirms its institutional commitment to international modernism.[7]

Yet to be consumed as an image of globalization, the building had to be realized with exactitude and perfection, which was beyond the ability of the Israeli construction industry. Once examined through the prism of labour, the client's affiliation with modernism becomes ambiguous, since construction labour, to use Bloch's terminology, is asynchronous with the broader shift under globalization towards rationalization and optimization. Many building skills are resistant to mechanization or offshoring, and work at modern construction sites shares many of the attributes associated with pre-industrial forms of labour.[8] Yet there is another factor that plays a part in differentiating construction from broader trends in manufacturing: the self-reflexivity of architecture in respect to its conditions of production. Architects may prescribe for aesthetic or conceptual reasons building techniques that are asynchronous with dominant labour practices. Thus elite architectural production reacts to globalization in complex, ambivalent ways, simultaneously embracing the intensification of production through mechanization, while reclaiming architectural values associated with artisanal labour, as a form of 'artistic' critique of capitalism.[9] Scott Cohen's insistence in using handcrafted, exposed concrete for the lightfall is a case in point. According to the architect,

> One of the most critical functions of the 'hypars' was thus to commit the museum to a form that would resist the currently popular tendency to import to Tel Aviv the postmodern vocabulary of stone facades typical of Jerusalem. In Israel today, however, cast-in-place concrete has become, for all intents and purposes, taboo. For many, it recalls a 'dated' or by-gone era of provincialism and undignified pragmatism.[10]

To understand why concrete and the labour process invested in it have fallen into disrepute, and what may be the implication of their revival, I will situate the Israeli embrace of modernism historically within its local history of construction labour.

The glocal meaning of labour and materiality

The choice of modernism as the dominant architectural medium of the Zionist Movement is closely tied with the movement's valorisation of construction labour. Zionist leaders perceived the occupational structure of the Jewish people as distorted: the majority engaged in commerce and finance, and a minority occupied in productive, manual trades such as farming or industry. Zionism exalted the 'Hebrew labourer' to establish a self-reliant, virile Jewish identity, conceived as a counter-image of the diasporic, rootless and effeminate Jew.[11] Moreover, unionization became a necessity for competing with the cheaper local Arab labourer. Jewish workers formed building co-operatives and utilized modern industrial processes and management techniques to increase productivity and monopolize construction activity. The crisp, industrialized architecture of the 'White City', and especially the labour union's modernist worker's housing estates came to represent Labour Zionism, as it was differentiated from vernacular Arab architecture based on artisan labour and local materials.

After Israel's independence in 1948, the imperative of economic self-sufficiency led to the primacy of reinforced concrete and locally manufactured building components. Jewish immigrants from Arab countries were recruited as construction workers, following the belief that

> construction acts as a kind of natural vocational school for new immigrants. The majority of new immigrants come from the middle classes and are not accustomed to physical labour [...]. Under such circumstances the construction industry acts as an important and desirable transitional stage.[12]

The architecture of that period reflects two complementary trends: on the one hand, the glorification of concrete as a malleable, modest material showcasing the craftsmanship of unionized, trained labour, for civic architecture, including the old museum building. On the other hand, the systemic use of mechanization and prefabrication to raise productivity and reduce building costs, applied mostly to mass housing.

The occupation of Gaza and the West Bank in 1967 brought the Israeli construction industry into contact with an unlimited reservoir of cheap, unorganized labour, initiating a process of deskilling of construction labour, as there was little incentive to invest in vocational training or equipment. Another effect of the opening of the labour market to Palestinian workers was the rise of a neo-vernacular style built with manual stonework, to better express the religious-nationalist sentiment that arose from the repossession of the nation's ancestral land; Brutalism was spurned for its association with the dethroned Labour Party.

The reliance on unskilled, exploitable labour was disrupted by the first Intifada (1987-93). The building sector was allowed to import workers and building materials (especially curtain walls for Tel Aviv's high-rise office towers), a reversal of half a century of protectionist economic policy that sheltered both labour and capital. Following the Oslo Accord (1993), the liberal, outward oriented elite begun to embrace neo-modernist and neo-Brutalist architecture in order to culturally differentiate itself from social sectors it deemed too immersed in consumerism or insular ethnic-nationalism. Since skilled workers had to be recruited from abroad, this new tendency, which also informs the choice of cast-in-place concrete for the new museum addition, contradicts its original labour ethos within the context of Zionist nation building.

Fluid geometry and flexible labour

To overcome the shortcomings of the local construction industry for realizing the museum's design, the contractor drew a conceptual distinction between processes that required skill and ingenuity, and processes that could be rationalized and realized with existing labour capabilities and construction techniques.[13] While the lightfall and the façade belong to the first group, the structure exemplifies the second. It utilizes Vierendeel trusses that are concealed behind drywall, to establish the cubic neutrality of the art galleries. It was manufactured in a factory directly from the digital files, and bolted onsite; welding was not used because its quality could not be con-

trolled. Thus the hidden part of the building is its most 'advanced' in terms of applying industrialized manufacturing techniques to minimize labour skills.

The building of the lightfall belongs to a different temporality. Its construction took longer than a year, while work around it progressed in a rapid, industrialized pace. The reduced pace was dictated by the architect's subversion of the geometry of the hyperbolic parabola. While the hyper is adapted to reinforced concrete construction, as its curved surfaces are generated by simple, straight lines, Scott Cohen's torqued design does not allow it to be built with standardized formwork. Initially, the bidding contractors pushed for its realization in drywall, as was done for the vaulted courtrooms of the Supreme Court Building by Ada and Ram Karmi (1992).[14] The architect's insistence on handcrafted, exposed concrete entailed the development of a hybrid work process that merged computerized and artisanal building techniques. The contractor utilized RHINO software to translate the complex design into a simplified building process. First, a temporary structure was erected to support the formwork and workers. Next, surveyors established four reference points for each hyper, which were manually welded to the scaffolding. From these points a movable mesh of metal rods was erected to brace the wooden formwork. Due to the asymmetrical geometry, triangular wooden wedges were manually cut to fit the gaps between the straight boards. This delicate work was delegated to a crew of builders from Moldova mastering the traditional building skills associated with craftsmanship. Other workers skilled in concrete construction came from Turkey, the result of a 2003 military arms offset trade agreement, in which Turkey's construction expertise was exchanged for Israeli military technology.[15] Thus the construction of the lightfall, the element most associated with the bygone Brutalist work ethic, is enabled by the globalization of labour, and exemplifies its non-simultaneous character.

The construction of the facade reveals another level of ambiguity. In the original competition entry, it was conceived as a smooth hyperbolic surface, but the client insisted on stone cladding. The contractor promoted an alternative finish made of prefabricated concrete panels, and built at his own expense a mock-up to persuade the client of its aesthetic and economic superiority. As each of its 465 panels is unique, it could not be mass produced. A tilting concrete casting table was installed at the basement, since assembly had to be sequenced from the bottom up. In addition, it provided space for storing completed panels, thus disengaging the pace of production from that of assembly. To overcome inaccuracies, the builders devised a mediating substructure for attaching the panels to the structure. Computer generated vertical sections of the envelop at two meter intervals were fabricated on site and welded to the structure, providing 7 cm tolerance for fitting the panels and welding them in place.[16] The façade's backside is never visible, as it has no craft value. The concealed rudimentary substructure is emblematic of the non-synchronous labour on site, interspersing digital exactness with manual improvisation.

Conclusion

The project's reliance on craftsmanship could be interpreted as being critical of the process of deskilling and degradation of work as theorized Harry Braverman, in which capitalism reorganizes production to decrease skilled work, and thus renders labour into a commodity.[17] At the site, the rigid hierarchies and class demarcations between immaterial labour, management, and manual work were dissolved, as workers exercised a high level of control over the pace and method of construction, and were required to stretch their skills and learn new building techniques.[18] Yet this flexibility and agency is not inherent to digital architecture; rather, it is enabled by the global division of labour, in which modes of organization and skills of different temporalities and localities are combined in ambiguous coexistence. Thus Bloch's notion of non-simultaneity is especially useful for analysing the work of architecture in relation to both its conditions of production and consumption, and hence as a significant, unacknowledged dimension of the 'glocal'.

1 Antoine Picon, "Architecture and the Virtual: Towards a New Materiality," *Praxis* 6 (2004), 114-21. The discourse of digital tectonics is in part aimed at reconnecting computerized design with a longstanding architectural heritage that emphasizes structure, construction and the display of forces as the foundation of architectural reasoning. See especially Neil Leach, David Turnbull and Chris Williams (eds.), *Digital Tectonics* (Hoboken, NJ: Academy Press 2004).

2 The sociological concept of the glocal was developed to critique the simplistic understanding of globalization as a process of homogenization at the expense of and in opposition with local culture, by exploring the specificity of the encounter between global processes and local conditions and traditions, and the understanding of the economic role that local specificity plays in the larger system. Interdependency and the compression of time and space on a global scale work to integrate and differentiate the local in respect to the global. See Ronald Robertson, "Glocalization: Time-Space and Homogeneity-Heterogeneity," in Mike Featherstone, Scott Lash and Ronald Robertson (eds.), *Global Modernities* (London: Sage Publications, 1995), 22-44.

3 David Durst, "Ernst Bloch's Theory of Nonsimultaneity," *The Germanic Review* 77, n. 3 (2010), 171-94.

4 Preston Scott Cohen's reputation was established by the unrealized Torus House, which was exhibited at the MOMA in 1999. The Tel Aviv Museum Extension was his first large commission: As Cohen is not a licensed architect, he formed a collaboration with a local Israeli associate, the architect Amit Nemlich, who is an expert in concrete detailing.

5 Preston Scott Cohen, "The Route to a Building," in Yasha Grobman and Arielle Blonder (eds.), *Five Moments; Trajectories in the Architecture of the Tel Aviv Museum* (Tel Aviv Museum of Art, Tel Aviv 2011), 18.

6 Clifford A. Pearson, "A New Spin to the White City," *Architectural Record*, (November 2011). Tel Aviv's modernist architecture, and even more so Erich Mendelsohn's work in Mandatory Palestine, had been integrated into the historical canon of modern architecture and appear in textbooks such as William Curtis's *Modern Architecture since 1900*, 381-4, and Francis Ching, Mark Jarzombek and Vikramadiya Prakash, *A Global History of* Architecture, 741.

7 Yashar and Eitan's design for the old museum is made of four rectangular exhibition blocks that are rotated around an atrium made of exposed concrete frame. The introverted exterior is clad with machine-cut stone and rough faced concrete, themes that are reworked by Scott Cohen in the new building. Two landmark exhibitions at the Tel Aviv Museum are responsible for rendering Tel Aviv's crumbling buildings into cultural monuments and objects for preservation: the 1984 exhibition 'White City, International Style Architecture in Israel', curated by Michael Levin, and the 2001 exhibition 'The Israeli Project: Building and Architecture 1948-1973', curated by Zvi Efrat.

8 Gerald Finkel, *The Economics of the Construction Industry* (Armonk, NY: Sharpe, 1997).

9 Boltanski and Chiapello draw a distinction between 'artistic' and 'social' modes of critique: the first identifies capitalism as a source of disenchantment, inauthenticity, and oppression of human freedom, creativity and autonomy, while the second identifies capitalism as the cause of inequality and the destruction of communal bonds. This distinction is useful for analysing architectural practices that are critical of the effect of the market economy on culture and society. Luc Boltanski and Eve Chiapello, *The New Spirit of Capitalism* (London: Verso, 2005), 36-8.

10 Cohen, "The Route to a Building," 19.

11 In the Jews' State, published in 1896, Herzl declared that the 'Jews will enter the new land under the sign of labour'. His design of the national flag included seven golden stars, standing for the seven hour workday. Theodor Herzl, *The Jews' State* (Northvale, NJ: Jason Aharonson Inc., 1997), 195.

12 Haim Darin-Drabkin, "Economic and Social Aspects of Israeli Housing," in *Public Housing in Israel* (Tel Aviv: Gadish, 1959), 78. The educative and transformative conception of labour is central to Zionism: Herzl reasoned that the unemployed, penniless masses would arrive as a vanguard to build the nation's modern infrastructure, after which the middle class and the wealthy would immigrate: 'By their labour [the unskilled] will gain the right to own their own houses […] if they give evidence of good behaviour for a period of three years. In this way we will develop a diligent people who can be readily employed. A man with the discipline of three years' work behind him is ready for life.' Herzl, The Jews' State, 156.

13 Israel Chaskelevitch, interviewed by Roy Kozlovsky, Tel Aviv, 20 December 2013

14 The Supreme Court Building in Jerusalem establishes a dialogue with Mandate era monumental architecture built in traditional masonry technique; while the British architecture was aligned with the Arts and Crafts movement and its ethics of craftsmanship, the postmodern building exemplifies Ruskin's notion of 'structural deceit'.

15 The Turkish construction firm Yilmazlar responsible for recruiting labour for the project has a subsidiary in Israel, a reversal of the trend in which Israeli firms exported Israeli construction knowhow to developing countries in Africa (and Iran). Turkish operations in Israel weathered the 2010 Mavi Marmara incident, in which nine Turkish citizens were killed when the Israeli navy enforced a naval blockade over the Gaza Strip, leading to the downgrading of diplomatic relationships between the two countries.

16 Still, as many as 5% of the panels had to be made according to measure to fit in place.

17 According to Braverman, the fragmentation of work into simplified tasks is responsible for the polarization of society into a managerial elite and a majority of alienated workers. Harry Braverman, *Labour and Monopoly Capital: The Degradation of Work in the Twentieth Century* (New York: Monthly Review Press, 1998).

18 My analysis of skill relies on Kenneth Spenner's definition of skill, which adds to Braverman's emphasis on autonomy and control, other parameters such as level of competence required by the job (substantive complexity), and its skill intensity, which measures the degree in which the work challenges and develops the skills of the person doing it. See Doug Fraser, "Deskilling: A new Discourse and Some New Evidence," *The Economic and Labour Relations Review* 21, n. 2 (2010), 51-73.

3.2 The Historiography of the Present

SESSION CHAIR:
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In her concluding comments on the Second International Meeting of the EAHN in Brussels, Mary McLeod noted a tendency among more recently minted scholars and PhD students to be preoccupied (and perhaps problematically so) with the recent past. Evidenced either as the historiography or critical appraisal of the architecture since the 1970s or as the study of architectural history's earlier moments and trajectories through attention to their historians, this work actively addresses the patrimony of the present. It further looks to the task of understanding those moments in the recent past in which the form and structures of contemporary architectural thought, practice, education and criticism were introduced or confirmed. What do the tools and disciplinary perspectives of the architectural historian offer this problem? Is this a proper subject for architectural history scholarship? Can we reverse the implications habitually drawn from Tafuri's maxim '*non c'è critica, solo storia*' to argue that subjects of criticism can, indeed, be subjects of history? That the passage of time is not the only means by which to foster critical distance? When does it stop being too soon to start writing architectural history?

This session invites speakers to reflect on the broader issues at stake in this pull to the present: to historicize this development, to contextualize it institutionally and intellectually. What is at stake in the perceived growth of attention to the recent past? What is the nature of this work? What objectives underpin its momentum? Does it speak to the history and fates of architectural theory among the architectural humanities? Or the role of cultural studies in positioning architectural matters in hitherto unconsidered territories? And what are the implications of attending to the present and the recent past rather than other historical moments? Is there an impact upon resources, students and opportunities that can reshape architectural history and undermine traditionally strong fields of historical study (antiquities of various stripes, the medieval epoch, and so forth)? How does it affect architectural history's geography, or the parallel pull to consider the global? Papers in this session will address these broad-ranging questions through focused reflections on the current shape of architectural history as a field of study. Contributions may offer cross sections through a series of cases, through treatment of a defined moment (such as postmodernism, or deconstructivism) or present examples symptomatic of broader problems or positions within the questions sketched out here. Papers will ultimately contribute to the broader historiography of ideas in architectural culture, and contributions may also reflect on the role and valency of this disciplinary agenda on architectural history writ large.

3. QUESTIONS OF METHODOLOGY

3.2.1 Proclaiming the End of Postmodernism in Architecture

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Abstract
In recent years, ever greater numbers of researchers have been turning their attention to the subject of postmodernism in architecture, with most starting by stating when it expired. Indeed, it is when a cultural movement is definitively part of the past that people most commonly undertake to study it. Whereas the date of its emergence is regularly put back to earlier and earlier moments in the history of architecture, postmodernism in architecture is commonly considered to have ended – or died – in the mid-1990s, a period that corresponds to the most recent past into which historians have commenced their investigations. From that time onwards, the field of contemporary architecture has been declared open to theory and criticism. This paper will carefully examine the conditions under which postmodernism's death notice was given in architecture, noting furthermore how this notice differed between the architectural cultures of Europe and the United States. Which historians, critics and architects conducted its autopsy? What arguments were developed, for example, in the columns of the American journal *Architecture* in 2011 to say that post-postmodernism's time was up? Clearly distinguishing stylistic questions and anthropological issues, the paper will go on to consider the possibility that the end of postmodernism was announced prematurely, outlining a number of hypotheses with a view to historicising contemporary architectural production.

Keywords
Architecture, postmodernism, style, history, criticism

At the end of the 1980s, in the United States and in New York in particular, students, architects, critics and historians began to speak of postmodernism as something that belonged to the past. In the columns of the *New York Times*, the critic Paul Goldberger assured readers that for thirtysomethings, postmodernism was now both institutional and old-fashioned, while modernism was enjoying something of a comeback, albeit 'in fashion more than in substance.'[1] A few months later, in June 1988, in an article published in the *New Criterion*,[2] Roger Kimball expounded on how even the discipline's most illustrious elders were overcome by doubt. He was in fact reporting on a symposium and a debate, held respectively at Princeton University and the Parsons School of Design in New York City, during which architects Robert Maxwell, Anthony Vidler, Peter Eisenman, Robert Venturi and many others speculated about the 'death of postmodernism' and the advent of the 'next wave of architectural fashion'. In this same period, the historian Heinrich Klotz, who had been a companion to the movement, concluded the English edition of his history of postmodern architecture published by MIT Press by stating: 'The result of such daring adventures – trying to reach identity with the historical styles and still stay in the present – necessarily leads to the announcement of the "end of postmodernism." The final stage seems to have been reached, yet there is still much to come.'[3] And finally, there are many who hold that the *Deconstructivist Architecture* exhibition held at the Museum of Modern Art during the summer of 1988 marked the beginning of a new era. Indeed, the critic Charles Gandee, in his review of the exhibition for *House & Garden*, claimed, with a hint of irony, that now 'Postmodernism is *passé*.'[4]

What was going on at that moment? Exactly what kind of postmodernism was under discussion here? And what does it actually mean to proclaim its end? Were the critics writing history in real time or just making hasty judgments? Whether the future proves them right or wrong, at the very least we should give serious consideration to these influential commentators on the American architectural scene and examine the arguments they put forward. Indeed, it is frequently from this announced end that postmodernism is interpreted today, as a movement succeeded by contemporary architecture. In the end, this terminal and founding moment puts into question the methods and the aims of historians and critics in ways that the present paper will attempt to enlighten.

The fiasco of postmodern architecture

Beyond the failures of such notable icons of postmodernism as the Piazza d'Italia in New Orleans, which fell into disrepair a few years after its inau-

guration,[5] the first, often repeated argument that is used to condemn the movement at the turn of the 1990s focuses on the superficiality and artificiality of most of its realized projects. In the *New York Review of Books*, the critic Martin Filler avers that 'it is now widely acknowledged that postmodernism, which began two decades ago as a populist rejection of rigid and repetitive late modernism, has turned out to be just as formalist and schematic as the style it intended to supplant.'[6] The historian Alan Colquhoun is more specific in the columns of *Assemblage*, highlighting the casual use of the classical language of architecture made by developers and large firms: 'The problem that we encounter in the typical postmodern American office building is the lack of connection between the purpose of the building and the historical associations of its artistic form.'[7] He goes on to demonstrate the inability of postmodernism to implement its promise of giving meaning to architectural forms. The skyscrapers designed by Philip Johnson in the years before for Bank of America, AT&T, PPG, etc., could easily have served him as examples. Let us note here that henceforth it is postmodern constructions rather than postmodern discourse that are being condemned.

The second argument put forward to explain the burnout of the movement concerns the affirmative rather than the critical nature of most of the projects. For many commentators, by going from camp to kitsch, that is to say from parody to pastiche,[8] postmodernism lost its subversive and revolutionary power and so came to be considered as nostalgic, if not to say reactionary. This is evidenced by many projects, such as those Michael Graves designed for Disney – the Swan and Dolphin Hotels (1990) and the Walt Disney Headquarters (1990) – or Robert Stern's Casting Center (1989). Mary McLeod shows how, in the late 1980s, far from its grassroots origins postmodernism was thus directly associated with the 'new corporate style',[9] and as a result was devalued in the same manner as modernism had been twenty years earlier. For left-leaning architects and critics, this was enough of an invitation to bury postmodernism and place their hopes in a new movement awash with references to Russian constructivism.

The third frequently invoked argument concerns what had once been postmodernism's hegemonic status. From this point of view, the movement was undermined from within by a number of architects rightly or wrongly considered as its heroes. Robert Venturi came out with a series of scathing comments. For some time, he had railed against the advent of a new orthodoxy: 'the Post-modernists in supplanting the Modernists have substituted for the largely irrelevant universal vocabulary of heroic industrialism, another largely irrelevant universal vocabulary – that of parvenue Classicism …'.[10] At the end of a decade during which it had been omnipresent in specialized publications, postmodernism was a victim of its success, and for many observers had betrayed the promise of pluralism and eclecticism it held to in the place of an ideology.

The end of style and the rise of styling

Through the various arguments they developed, most commentators on the American architectural scene were certainly in consensus by the late 1980s about assimilating postmodernism to a historicist or classical style that succeeded the International Style. Moreover, the detractors of postmodernism concurred on this point with its propagandists, a pair of whom, Charles Jencks and Robert Stern, successively published two canonical works: *Post-modernism: the new classicism in art and architecture* and *Modern Classicism*.[11]

What is one to make of the postmodernism becoming a style? Firstly, that it retrospectively differentiates projects and designers hitherto bunched together by Charles Jencks under the welcoming banner of 'radical eclecticism'.[12] Frank Gehry, Rem Koolhaas and Peter Eisenman can no longer be considered postmodernist, but for a time became deconstructivists. Conversely, Allan Greenberg, Quinlan Terry and John Blatteau, who came from traditionalist backgrounds, were now categorized as postmodernist. The movement gained in unity, but its critical ambitions were reduced and it certainly lost some of its richness.

More fundamentally, it was the very notion of style that on this occasion took on a particular meaning, even a new one. The classicist or historicist style is not a style in the manner this notion is understood by modern architects, that is to say, as the historian and critic Peter Collins puts it, 'the expression of a prevailing, dominant or authentically contemporary view of the world by those artists who have most successfully intuited the quality of human experience peculiar to their day.'[13] Instead, the style in question referred to a series of *a*-historical and a-geographic formal features, completely independent of the technical, economic and social context in which they appeared – in this case the post-industrial American society of the late twentieth century. At a push, style can in this sense be considered as a signature by which we identify one architect over another. As understood by late 1980s commentators, the classical style was a fashion destined to be replaced by another fashion, like that of deconstructivism. Moreover, Philip Johnson describes the latter as 'not a new style' in the same way as modernism had been, but rather a set of 'formal similarities'.[14]

In this sense, the announcement of the death of postmodern style in the American architecture world might indicate paradoxically the true coming of postmodernism, which from then on would be irreducible to any particular style and would deploy itself in countless forms of individual expression. This is what McLeod suggests when she emphasizes the continuity, rather than the rupture, that occurs with deconstructivism.[15] It is also what Jencks argues in an issue of *Architectural Design* entitled "Post-Modernism on Trial" when he interprets the announced demise of the movement as a sign of renewal, precisely because of the revived pluralism that it heralded.[16]

The living-dead postmodernism

What light can the discourse pervading other professions and other disciplines in the same period shed on this so-called end of postmodernism in architecture?

Writing in *The New York Times*, the critic Andy Grunberg in 1990 affirmed that in visual arts, postmodernism 'has lost its momentum' and was showing 'signs of fatigue'.[17] In the art criticism and theory journal *October*, which had for a long time served as a laboratory for the movement, the critic Hal Foster lamented that 'treated as a fashion, postmodernism became *démodé*'.[18] As for the literary world, the situation was no different. De Villo Sloan commented that 'postmodernism as a literary movement in the United States is now in its final phase of decadence.' Its misfortune was to have been 'increasingly institutionalized and infested with academic theory and criticism.'[19] Seen from the point of view of its various cultural manifestations, postmodernism therefore seemed to be in decline and destined not to survive very long the modernism it had contested.

In the humanities and social sciences, in contrast, the meaning attributed to postmodernism broadened throughout the 1980s. From a subject of strictly epistemological reflection in the work of the philosopher Jean-François Lyotard,[20] postmodernism became paradigm that illuminated the economic, political and social context as a whole for many neo-Marxist intellectuals. According to Fredric Jameson, postmodernism refers to 'the cultural logic of late capitalism',[21] and, in the view of David Harvey, to a 'historical condition'[22] characterized by a new form of the flexible accumulation of capital. For those academics who single out the example of architecture, questions of style are instrumental; the most important thing is that postmodernism meets the growing demand for product differentiation in a competitive economy. In this respect, historical forms, symbolic images and signed architectures play a crucial role in the real estate market. The sociologist James Mayo argues in this spirit that 'just as with the historic roots of Postmodernism, architectural firms are using deconstruction as a design approach to market their buildings. Business interests have thus appropriated deconstruction for aesthetic capital as they have with other approaches to style.'[23]

When thus placed in a broader context in the early 1990s, postmodernism seems less ailing than humming with great vitality, a vitality mirroring that of American capitalism as boosted by Reaganomics. From this point of view, one could also consider postmodernism in the light of the debate sparked in 1989 surrounding the dissemination of Francis Fukuyama's thesis on the end of history.[24] The American philosopher argued that liberal democracy had triumphed over rival ideologies and was thus the 'end point of mankind's ideological evolution', as well as 'final form of human government', therefore bringing about the 'end of history'. In the very same way, it is into a perpetual present – a stasis – that postmodernism entailed the American architectural scene in the early 1990s, from which it has been merely adapted to various trends in matters of form and signification.

Postpostmodernism?

Dead, but not really, postmodernism haunted architects, critics and historians all through the next decade. In 2001, *Architecture* the journal of the American Institute of Architects published a special feature whose clearly stated objective was again to turn the page. On the front cover, Venturi defended himself against an invisible prosecutor, arguing that he had never been postmodern, and in his editorial, the critic Richard Ingersoll stated that 'you don't need a coroner to find out if postmodernist architecture is dead.'[25] Throughout the issue, as a decade earlier, the debate was about classicism and historicism. In the academic and professional fields of American architecture, postmodernism therefore essentially remained a style of the past, and not an active principle in the present. This is a view of reality that researchers, particularly historians, now must probe to see what elements of denial it includes and how it obscures our understanding of contemporary architecture.

That said, many questions arise concerning the way in which the history of contemporary architecture can be written today. Because it is suspended in a perpetual present, can contemporary architecture still be analysed from a diachronic point of view? Or is it better to approach it from a strictly synchronic angle? One of the issues at stake is in fact to know whether histo-

rians are best suited for rendering the ever-renewed trends and signatures intelligible. Is critical history making way for an historicizing criticism – in the event that we might consider them two truly foreign approaches? The problem here is that the pluralism and generalized relativism – the 'anything goes' attitude – characteristic of the postmodern condition also make it difficult to select and judge works for which it is the calling of any established critic to tackle. Finally, while individual backgrounds often appear today as the only identifiable patterns in the fabric of history, it seems that architects themselves may be in the best position to shed some light on their own production. Are not Rem Koolhaas's *S, M, L, XL*, Jacques Herzog and Pierre de Meuron's *Natural History* and Rafael Moneo's *Remarks on 21 Works* among the most remarkable contributions in the historiography of contemporary architecture?[26] The tendency of some to reflect on their past does not apply to all, and one might think that it is the role of independent and intellectually challenging interlocutors to assist in these attempts at ego-history,[27] and to tie these various strains together to better allow for a polycentric construction of the history of contemporary architecture.

1 Paul Golberger, "New Talents, New Ideas; Where is Architecture Headed?" *New York Times*, October 18, 1987.
2 Roger Kimball, "The Death and Resurrection of Postmodern Architecture," *New Criterion* 6 (June 1988), 21.
3 Henrich Klotz, *The History of Postmodern Architecture* (Cambridge, Mass.: MIT Press, 1988), 434.
4 Charles Gandee, "The Revolution of 88?" *House & Garden* (May 1988), 37.
5 See also Paul Walter Clarke, "The Economic Currency of Architectural Aesthetics," in Marco Diani and Catherine Ingraham (eds.), *Restructuring Architectural Theory* (Evanston, Ill.: Northwestern University Press, 1989), 57.
6 Martin Filler, "House Hunting," *New York Review of Books* 37, n. 1 (February 1, 1990), 21.
7 Alan Colquhoun, "Postmodernism and Structuralism: A Retrospective Glance," *Assemblage* 5 (1988), 14.
8 See also Fredric Jameson, "Postmodernism and Consumer Society," in Hal Foster (ed.), *The Anti-aesthetic: Essays on Postmodern Culture* (Seattle, Wash.: Bay Press, 1983), 113-5.
9 Mary McLeod, "Architecture and Politics in the Reagan Era: From Postmodernism to Deconstructivism," *Assemblage* 8 (1989), 29.
10 Robert Venturi, "Diversity, Relevance and Representation in Historicism, or Plus ça change…," *L'architecture d'aujourd'hui* 223 (1982), 99.
11 Charles Jencks, *Post-modernism: the New Classicism in Art and Architecture* (London: Academy Editions, 1987); Robert A. M. Stern, *Modern Classicism* (New York: Rizzoli, 1988).
12 Charles Jencks, *The Language of Post-Modern Architecture* (New York: Rizzoli, 1977), 127.
13 Peter Collins, *Changing Ideals in Modern Architecture* (Montreal: McGill-Queen's University Press, 1967), 62.
14 Philip Johnson, "Preface," *Deconstructivist Architecture* (New York: Museum of Modern Art, 1988).
15 McLeod, "Architecture and Politics in the Reagan Era," 29.
16 Charles Jencks, "Death for Rebirth," *Architectural Design* 60, n. 9-10 (1990) 6-9.
17 Andy Grunberg, "As It Must to All, Death Comes To Post-Modernism," *New York Times*, September 16, 1990.
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20 Jean-François Lyotard, *La condition postmoderne* (Paris: Editions de minuit, 1979).
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Commodification of Architectural Production," *Modulus* 22 (1991), 72.
24 Francis Fukuyuma, "The End of History?" *National Interest* 16 (1989), 4.
25 Richard Ingersoll, "Postpostmodernism," *Architecture* 90, n. 5 (2001), 109.
26 Rem Koolhaas and Bruce Mau, *S, M, L, XL* (Rotterdam: 010 Publishers, 1995); Philip Ursprung (ed.), *Herzog & De Meuron: Natural History* (Zurich: Lars Müller Publishers, 2002); Rafael Moneo, *Remarks on 21 Works* (London: Thames & Hudson, 2010).
27 Pierre Nora, "L'ego-histoire est elle possible?" *Historein* 3 (2001): 19-26.

3.2.2 Architectural Discourse and the Rise of Cultural Studies

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Abstract
None of the recently published anthologies of architectural theory, representing intellectual work in the field from the early 1990s to the present, refers to the rise of cultural studies in the contemporary discourse of architecture. Nor does the relationship between the history of architecture and the production of cultural studies appear to have been addressed. Nonetheless it is apparent that since the early 1990s, cultural studies – a field covering, amongst other subjects, politics, identity discourse, media, gender and popular culture – has grown in scope and is now taken up broadly within academic discussions of architecture. What can be made of this rise relative to the discipline of architecture and for an understanding of theory and history as agents of the discourse? In seeking to debate the post-critical moment in architectural theory of the late 1990s, Mark Jarzombek makes the observation that the kind of diverse intellectual work to which architecture has become subject since this time appears remote from the practice of architecture. Though Jarzombek's remark is an aside, it raises issues not yet properly faced that concern the role of cultural studies within architecture's disciplinary field. This paper will map the rise of cultural studies in relation to architecture from its beginnings with the 1990 Princeton symposium 'Sexuality and Space', organised by Beatriz Colomina (subsequently edited and published in 1992) and her 1994 book *Privacy and Publicity: Modern Architecture as Mass Media*, which constitute the incipient events setting out the ground for cultural studies entry into the disciplinary field of architecture. In retrospect, Colomina's claim to 'displace Architecture' through the frame of cultural studies was not simply about architecture as object, but can be seen in architecture's recent historiography as a moment of disciplinary displacement, the effects of which are still being felt in its academic field today.

Keywords
Architectural history, architectural theory, cultural studies

None of the recently published anthologies of architectural theory, representing intellectual work in the field from the early 1990s to the present, refers specifically to the rise of cultural studies in the contemporary discourse of architecture.[1] Nor does the relationship between history of architecture and the production of cultural studies appear to have been addressed. Nonetheless it is apparent that since the early 1990s, cultural studies – a field of intellectual work covering politics, identity, media, gender and popular culture amongst other themes – has grown in its use and is now taken up broadly within the history, theory and criticism academic discussions of architecture. What can be made of this rise relative to the discipline of architecture and for an understanding of theory and history as agents of the its discourse? In seeking to debate the post-critical moment in architectural theory of the late 1990s, Mark Jarzombek makes the observation that the kind of diverse intellectual work to which architecture has become subject since the start of the 1990s appears remote from the practice of architecture.[2] Though Jarzombek's remark is an aside, it raises issues not yet properly faced concerning the role of cultural studies within architecture's disciplinary field and its own particular 'history'.

The rise of cultural studies in the discourse of architecture can be evidenced in a series of publications spanning across the 1990s. This includes such edited collections such as Beatriz Colomina's *Sexuality and Space* (1992), Diana Agrest's *The Sex of Architecture*, edited by Diana Agrest, Patricia Conway and Leslie Kanes Weisman (1996), Joel Sander's *Stud: Architectures of Masculinity* (1996) and *Postcolonial Spaces* (1997), edited by Gülsüm Nalbantoglu and Wong Chong Thai, and monographs such as Jennifer Bloomer's *Architecture and the Text* (1993), Catherine Ingraham's *Architecture and the Burdens of Linearity* (1998) and Aaron Betsky's books *Building Sex* (1997) and *Queer Space* (1997).[3] A common thread amongst these diverse publications was their address to cultural and/or social themes in architecture focusing on two broad issues or questions – that of representation, in its dual Foucauldian/Derridian sense, and that of space, in terms of power-relations, politics and gender. The mode of writing was self-consciously interdisciplinary in the sense that it brought other disciplinary views to architecture in order to transform discussion of it – a means to actively critique disciplinary norms and assumptions about the role of the architect and architectural practices.

Illustrative of the moment that cultural studies emerged in the discourse of architecture was the symposium "Sexuality and Space," held at Princeton University in March 1990. Organised by Beatriz Colomina it included presentations by theorists of film, culture and gender alongside those of architectural historians and theorists. The presentations were published in 1992 as the first volume in the "Princeton Papers on Architecture" series edited by Colomina herself, who had joined the faculty in 1988 from Columbia University. According to Ralph Lerner, then Princeton's Dean of Architecture, the inauguration of the series was an important moment in the intellectual life of the School – seen as a means to capture and record live debates and discussions articulated within the school body – something, he suggested, that had never before attempted. It was also Lerner's view that the Princeton papers would 'inspect the limits of architectural discourse [and] document discussions and images generally left out of the architectural mainstream.' This was not simply a move to promote other voices within the discipline. According to Lerner, the intent was to 'contribute to the widening of the architect's intellectual and artistic boundaries.'[4]

As convenor of "Sexuality and Space" (and editor of the book) Colomina took an even more incisive position than Lerner on the broadening of architecture disciplinary boundaries. In her introduction she notes how the use of contemporary critical theory by architects and architectural theorists in the 1980s began an opening up of an architectural discourse that had then revealed its own limits. By way of example, she saw how that discourse, in failing to address the 'undisclosed' relations of sexuality and space that pervaded institutions and their formation, had failed to go beyond a defined and delimited set of intellectual concerns that were, in effect, sanctioned by the discipline. Colomina's strategy to identify new ways of seeing and understanding architecture was to enlist intellectuals from outside architecture's disciplinary field (cultural theorists) to facilitate a broader discussion of architecture and thereby to reconceptualise architecture as a disciplinary field. This reconceptualization meant replacing 'the traditional thought of architecture as object' with the view it be approached as 'a system of representation'. Implied in this simple intellectual move was a new set of divisions within the field. Forms of media (drawings, models, photographs and well as the buildings themselves) would tell their own stories, and would not necessarily cohere around entrenched questions in the discipline concerning authorship – the study of an architect's oeuvre through the buildings and projects attributed to them – or assumptions about architectural representation that privileged buildings as the ultimate consequence of architectural activity. The greater project announced by Colomina in staging the "Sexuality and Space" event was, in her own words, 'to displace Architecture' – that is, to reformulate its disciplinary boundaries by the introduction of fresh interdisciplinary concepts and questions understood as a critique of the then-current modes of research and analysis in the history and theory of architecture.[5]

With the publication of *Privacy and Publicity* in 1994 Colomina took this agenda to two major authorial figures in twentieth-century architecture – namely, Adolf Loos and Le Corbusier.[6] Though the book addressed their work it did not do so in a way that was consistent with their assumed authorial positions. The archives, photographs, drawings and advertising examined therein were used to foreground other issues of cultural context – practices of representation that emerged with the rise of mass media in the twentieth century – which served to displace architecture from its traditional expression through buildings and into these other forms of mass-produced representation. Colomina's position and intent was clearly announced in the book's title, which referred to neither Loos nor Le Corbusier as its subjects, but only to the broader cultural issue of media that was at stake in their work. What Colomina clearly presented as a rebuttal of the terms in which architecture was understood in mainstream historical and theoretical accounts at the time became an immediate critical success, with *Privacy and Publicity* winning the International Architecture Book Award sponsored by the American Institute of Architects (AIA) in 1995 – and arguably inaugurating a new standard in the culturally inflected historiography of architecture.

Colomina's work of the 1990s, as well as that of Agrest, Bloomer, Sanders, Ingraham, Betsky and others, called for a moment when the study of architecture could be loosened from the 'straightjacket' of its then historical and theoretical framing. It can also be seen, in retrospect, as that moment when those modes of inquiry drawn from cultural studies began a process of greater legitimatisation within architectural discourse – the occasion when they began to operate from within architectural discourse rather than from its exterior. The broader context that proceeded this moment is important to acknowledge. The intellectual debates of the 1970s and 1980s had already opened architectural discourse to its re-coding through the kinds of conceptual tools offered by structuralism, phenomenology, semiology, psychoanalysis and the heavily politicised thought of the Frankfurt School – a means to test and adjust the discipline by its tactical engagement with other discourses. Yet as K. Michael Hays notes in his reflections on the intellectual life of the journal *Oppositions* that prosecuted those famous debates on autonomy and history from 1973 to 1984, 'new textual strategies' began in the mid-1980s to introduce new kinds of themes to that same discourse – 'subjectivity, gender, power and property, geopolitics and others' – distinct of those attributed to the *Oppositions* generation of historians and theorists.[7] Those alternative discourses fuelled the issues and questions subsequently used to expand architecture's disciplinary limits in the 1990s, marking the arrival of cultural studies.

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What also marked the mode of cultural studies deployed within architectural discourse was its utility for critical agendas within the discipline. In this regard, the works of theorist/historians such as Agrest, Bloomer, Ingraham and Colomina in particular were seen to exemplify, in the intellectual context of the 1990s, a critical approach like that articulated by the historian Manfredo Tafuri in the mid-1970s, namely, his concept of history as a 'project'. Tafuri's intention at that time was to remind those engaged in the discourse of architecture of their obligation to history in its own right – of its nature as an 'open discursive construct'[8] – whose lessons were timely but also always provisional. This approach was a warning against the 'abuse' of history – its use as a means to reinforce the agendas of architectural practice or of individual architects and their beliefs, cast, by Tafuri as the spectre of 'operative criticism'. As Teresa Stoppani has noted, while the works of Agrest, Bloomer and their contemporaries of the 1990s were not 'operative' in Tafuri's sense, these authors were nonetheless able to consciously suspend 'their theoretical practices between the project as design and the project as history'[9] – making a position from which to undertake an open and performative critique of the contemporary conventions of writing on architecture and its historical methods in the construction of new contingent histories and texts. In their performance of this critique, however, it was as if a place had been established within historical discourse from which to enact provisional readings of architecture that rendered as a new mainstream that work that had been previously characterised as being on the margins of discourse in which alternative views of the discipline had been sought and practiced. A cultural studies approach to architecture, practiced as a form of critique in the 1990s, would quickly move to the centre and become a research method in its own right.

A topic deserving greater discussion is the promulgation of cultural studies in architecture at an institutional level, which facilitated the rise of cultural studies in architectural research. Such institutional support can also be seen through new journals created as venues for scholarship. The MIT Press journal *Grey Room*, founded in 2000, seeks to promote a contemporary 'cross-disciplinary discourse' including architecture, art, media, and politics with a focus on aesthetic practice and critical debate. *Grey Room* was successor to *Assemblage* (also MIT Press), a key international journal of critical theory in architecture from 1986 to 2000. Its demise, and *Grey Room*'s succession, further legitimised cultural studies as a mode of inquiry intrinsic to architecture as a discipline – placing it in relation to other cultural practices with which there was an implied equivalence.

Understanding the continuity of intellectual practice between 1980s critical theory and the rise of cultural studies in architectural discourse, supported by contemporary journals like *Grey Room*, raises questions of this history's contribution to discussion around architecture's so-called post-critical moment, spanning the turn of the twenty-first century. While Harry Francis Mallgrave and David Goodman argue that the 'shift from theoretical distance to pragmatic engagement is inseparable for the "irrational exuberance" of the mid 1990s,'[10] it is also the case that critical operations within the discipline of architecture were staged and expanded through the end of the decade via the interrogatory mode of cultural studies. The shift to a post-critical architecture, the notional abandonment of critical theory for critical practice, was, in this sense, not a blanket proposition – a mode of architectural research based in the practices of cultural studies emerging from the age of critical theory would succeed in outliving it, providing different kinds of opportunities for criticality in architecture.

The entry of cultural studies into the discipline of architecture not only provided occasion to broaden the fields in which architecture might operate, it also arrived at a moment coinciding with the expanding research agenda within universities and the growing recognition of architecture as a subject of academic discourse. The effect of cultural studies on the discourse of architecture can be seen as twofold. Firstly its effect has been to reframe architecture as an object of intellectual work and to displace it into its forms of representation, producing a subsidiary and multifarious discourse. S, and secondly, and somewhat paradoxically, cultural studies has also been subsumed and absorbed by architectural discourse to the extent that it can be used to reinforce the discipline's claim to its own intellectual concerns, give legitimacy to new kinds of intellectual work by which to understand architecture and underpin architecture's status within an academic context. The mode of cultural studies in present-day architectural discourse can be seen as instrumental and even operative – not in relation to the agendas of architectural practice (as Tafuri may have once seen it) but in terms of agendas played out at an institutional level – providing a means to underwrite the expanding practice of cultural research for the discipline within the Academy.

Architecture was hardly the only discipline to be affected by the rise of cultural studies. Its broader impact upon the humanities and social sciences is evident and offers useful points of comparison here. The 'spatial turn' in the study of geography for example – that discipline's own cultural studies moment – introduced a new paradigm that transformed an understanding of the discourse and its theoretical construction by the introduction of new terms such as 'space', 'place' and 'mapping'.[11] This was a different impact from that experience in architectural discourse precisely because it was an architecture rendered as a cultural field that had become available in other fields as an analogy. It did, though, lead to the re-evaluation of terms. Architecture's effects were more complex and plural when seen from the perspective of cultural studies. For architecture and other disciplines cultural studies became an accepted tool of intellectual practice – drawing an authority on the basis of its image of marginality despite its now central position in discourses and institutions. What effect, though, does this mainstreaming have upon the capacity of cultural studies to serve as a form of critical practice?

This question, and the broader impact of cultural studies entry to the field, has largely passed without remark; at the very least, the presence of cultural studies is simply assumed. In *An Introduction to Architectural Theory* (2011), Mallgrave and Goodman are alert to the multiple trajectories evident in the contemporary discussion of architecture but make no strong claims for cultural studies as constituting a broader form of practice to which architecture is subject, preferring to reinforce its characterisation as a presence at the margins, a claim which can no longer be made in a meaningful way.[12] In their introduction to *The Sage Handbook of Architectural Theory* (2012) "Shifting Paradigms and Concerns," Hilde Heynen and Gwendolyn Wright note with insight that 'architectural theory now recognizes diversity, discontinuity, contingency and inevitable if unpredictable changes over time'[13] through inclusive discussion on issues such as gender, race and culture. Yet they shed no light on the bigger picture of how this came to be – or on how it relates to the greater rise of cultural studies in the contemporary architectural scene with which they have both engaged in their own work.

Recognising these multifarious forms of inquiry as constituting the presence of cultural studies within the discipline as monolithic rather than multiple leads to other questions, not yet fully grasped and here only introduced, concerning how this presence shapes the present modes of architectural discourse and the meaning of its rise as a marker of architecture's status in contemporary culture and practice. As Colomina's writings on Le Corbusier and Loos in the 1990s recast an understanding of the construction of architect/authors within the field there are other effects of cultural studies upon the discourse of architecture yet to be examined and explained. Architecture's critique through the frame of cultural studies began nearly three decades ago, long enough ago for us to realise that the claims made at that time were not simply marginal ones as they were often character-

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ised by detractors and supporters alike. An examination of architecture's recent historiography reveals this time as initiating a moment of disciplinary displacement the effects of which are still being felt across its academic field today.

1 See for example K. Michael Hays (ed.), *Architectural Theory Since 1968* (Cambridge, Mass: MIT Press, 1998); Kate Nesbit (ed.), *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory* (New York: Princeton Architectural Press, 1996); and A. Krista Sykes and K. Michael Hays (eds.), *Constructing a New Agenda: Architectural Theory 1993-2009* (New York: Princeton Architectural Press, 2010).
2 Mark Jarzombek, "Critical or Post-Critical," *Architectural Theory Review* 7, n. 1 (2002): 149-51.
3 Beatriz Colomina (ed.), *Sexuality and Space* (New York: Princeton Architectural Press, 1992); Diana Agrest (ed.), *The Sex of Architecture* (New York: Harry S. Abrams, 1996); Joel Sanders (ed.) *Stud: Architectures of Masculinity* (New York: Princeton Architectural Press, 1996); Gülsüm Nalbantoglu and Wong Chong Thai (eds.), *Postcolonial Spaces* (New York: Princeton Architectural Press, 1997); Jennifer Bloomer, *Architecture and the Text: The (S)crypts of Joyce and Piranesi* (New Haven, Conn.: Yale University Press, 1993); Catherine Ingraham, *Architecture and the Burdens of Linearity* (New Haven, Conn.: Yale University Press, 1998); Aaron Betsky, *Building Sex: Men, Women, Architecture, and the Construction of Sexuality* (New York: Harper, 1997); and *Queer Space: Architecture and Same-Sex Desire* (New York: William Morrow, 1997).
4 Ralph Lerner, "Preface" to Colomina (ed.), *Sexuality and Space*, np.
5 Beatriz Colomina, "Introduction" to Colomina (ed.), *Sexuality and Space*, np.
6 Beatriz Colomina, *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge, Mass: MIT Press, 1994).
7 K. Michael Hays (ed.), *Oppositions Reader* (New York: Princeton Architectural Press, 1998), XIV.
8 Teresa Stoppani, "The Building of Tension – Manfredo Tafuri's Legacy: from Operative Criticism to Historical Project, Between Critical Practices and Material Practices in Architecture," in Hamid van Koten (ed.) *Reflections on Creativity: Exploring the Role of Theory in Creative Practices* (Dundee: Duncan of Jordanstone College, 2007), 1.
9 Stoppani, "The Building of Tension," 13.
10 Harry Francis Mallgrave and David Goodman, *An Introduction to Architectural Theory: 1968 to the Present* (Chichester: Wiley-Blackwell, 2011), 178.
11 Barney Warf & Santa Arias (eds), *The Spatial Turn: Interdisciplinary Perspectives* (London: Routledge, 2008).
12 Mallgrave & Goodman, *An Introduction to Architectural Theory,* 216.
13 C. Greig Crysler, Stephen Cairns and Hilde Heynen (eds), *The Sage Handbook of Architectural Theory* (London: Sage, 2012).

3.2.3 After Nature: Architectural History and Environmental Culture

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Abstract
One of the more prominent aspects of recent architectural history involves how the field has been configured relative to the environment. Since the 1960s, a number of historians and critics have engaged the field on these terms. An analysis of these histories helps to simultaneously dispel and expand the rubrics of 'environment' and 'sustainability' as they are deployed in architectural discourse, and in particular to lead such concerns away from engagement with nature as a static object of concern and towards a more diverse and broad based attempt – at once aesthetic, technological and social – for the use of design tactics to intervene in the global ecological system. Historical narratives and critical analyses by Brenda and Robert Vale, James Wines, Malcolm Wells, Philip Drew and many others developed not only in book form, but also through articles, special issues, and new journals. The first part of this paper will analyze how these projects harnessed historical evidence either with the intent of clarifying methodological or technical challenges in the present, or sought to describe a *longue durée* history of vernacular practices as a means to justify the contemporary significance of architectural-environmental traditions. At the same time, the issues embedded in these writings should not be dismissed for their ideological commitments. The second part of this paper will place these architectural-environmental histories in a dynamic relationship with, rather than in opposition to, the range of interpretations of architecture's social, aesthetic, and technological future as it has been envisioned since the 1970s. The aim is to outline a historiography that sees concern over territorial management, social change, and the outlines of the ecological future as part of the architectural historiography of the present, while also remaining attentive to the premise of the environment as a new driver for social and political change.

Keywords
Technology, environment, the future, discourse, image, agency

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While interest in those global concerns we now call 'the environment' have a long history in architectural practices and theories, the historical treatment of architecture in relationship to these environmental factors arguably was instigated around 1966, and reflected through concerns developing far outside the field. In Kenneth Boulding's essay "The Economics of the Coming Spaceship Earth," first published in an obscure collection on resource economics but later widely distributed, excerpted, and referenced, he began by suggesting that 'we are in the process of a long transition in the nature of the image which man has of himself and his environment.'[1] It was an early instance in which the 'cultural' and 'aesthetic' aspects of environmental change were seen to be as significant as the technological and material ones. His point, in other words, was that the way in which we conceive of and imagine the relationship between humans and the environment affects the patterns and processes that allow us to live comfortably within it. Architects, it seems, were among the first to understand this; or in any event Boulding's injunction was of especial relevance to the design fields, of the most prolific producers of this image economy. The history of such images – reimagining the relationship between human and natural systems, and read for their possible instrumental effects on environmental conditions, began to be written around this same time.

Architects, in other words, were producing a number of those images, and architectural historians in the period were collecting them, cataloging them, and forming them into narratives – of what that image was, and how it could change. Such images were almost always projective, imagining different, though not necessarily utopian, futures; and thinking about how to build them. What I want to suggest is that a significant development in the historical analysis of threads of environmentalist architecture of the period from 1966 to the present is less the architecture itself – its forms, its means of energy efficiency, its strategies of social engagement – and more the production and circulation of images about the future. The production of architectural historical knowledge became, and still is, a vibrant discursive project focused on the interdisciplinary negotiation of the human dimensions of environmental problems. This is not about nature, but about systems, and about how human and natural systems, insofar as they can be differentiated, are differentiated only so that they can be made to more advantageously interact.

In order to explore this dynamic I want to open up for our collective analysis some of the historical production of the period, and in particular examine the images – actually reproduced or described in text – that were deployed on these terms. Rather than look to self-consciously historical scholarship, we

can find evidence in the production of architectural knowledge that was only in part intended to provide a historical narrative. In these cases, this re-assembly of the past – prior centuries or decades – was intended to be instrumental to re-framing architectural practices in the present. These developments played out both through analyses that we can clearly call *environmental*, which I will discuss first; and also, as I will discuss second, through a range of historical analyses and reflections on architecture, technology, and culture that, though not explicitly aimed at environmental change, nonetheless operate, from today's perspective, as important interventions in the historiography of architectural knowledge as it came to be more engaged with environmental concerns.

This first set of histories of the environmental movement in architecture were not histories at all, but rather methodological handbooks aimed at improving environmental performance and awareness that also that provided a robust historical context – usually with examples of both traditional and modern architectural practices. One of the more remarkable products here are the books *Solar Control and Shading Devices* (1957) and *Design with Climate: Bioclimatic Approach to Architectural Regionalism* (1963) by Victor and Aladar Olgyay.[2] The two books were written to convey a complex method of adapting a building to its climatic region, which the Olgyay twins had been playing out in their teaching at MIT and Princeton University since the late 1940s. Typical of the handful of climate-design manuals of the period, they begin by attempting to understand the deep past – in this case, an exploration of the migration of Native American tribes relative to the building types they developed – for its relevance to the climatic practices of the present. They showed these images and posed these building practices as a natural response to climate conditions, available for transformation into modernist practices; mixed in, for example, with images of more culturally and historically distant building types, they include a photograph and section detailing the climatic innovations of Paolo Soleri's Dome House, built in the Arizona desert in 1951.

A more aggressive attempt to map the recent history of modernist-inflected climatic design knowledge played out in the Olgyays' 1957 *Solar Control and Shading Devices*. (Figure 1) A 96-page "Part II: Architectural Examples" contained a catalogue of climate sensitive buildings of the inter-war and early post-war period. Here recent historical knowledge is, again, seen as instrumental to practices in the present – though in a very specific, and strangely a-historical way. There are no dates in "Part II"; the spreads on each building are intended for their scientific value more than as a narrative of architectural-historical development. Technical drawings to determine a building's 'sun mask' – a central

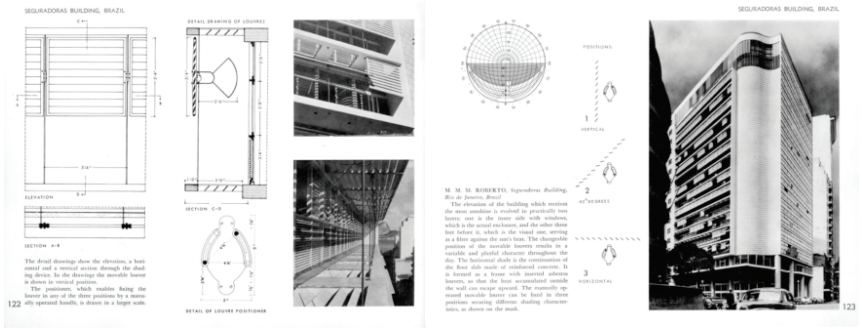

Figure 1. An 'architectural example' from Victor and Aladar Olgyay, Solar Control and Shading Devices, 1957.

aspect of their climatic method – are paramount, and the building photographs focus on the variety of façade treatments that their method allows. Buildings, for the Olgyays, are data points, intended to aggregate and produce 'increased knowledge' about how to build in a range of climates.

At the same time the images tell a history. Le Corbusier stands out – his own set of redrawn sketches, under the title "Une petite histoire du brise-soleil chez Le Corbusier" was published in *Architecture d'Aujourd'hui* in 1944; the Olgyays reprint it at the beginning of the book, and also develop at great length a comparative analysis of recent important buildings – including Mies' Seagram Building; Harrison and Abramowitz's Alcoa headquarters, and others; and find Le Corbusier's Unité d'habitation to be the most sensible climatically, 'blocking the sun before it enters the building' rather than attempting to manage it mechanically.[3] Their implicit history of thinking about architecture and climate, with Le Corbusier in the lead, leads to an alternate geography of modernist development. The attention is focused, in addition to the US and Europe, on South America (especially Brazil), West Africa, the Middle East, Australia, and other areas we now see as the Global South. The focus is on how how design principles can manage the vagaries and unpredictability of climate; an interest, in other words, in the recent history of architecture as evidence of systems and processes, as an instigation for the field to encounter a range of social conditions and environmental challenges.

Much of this dynamic – a focus on design principles, an engagement with recent history as example, and an embedded assumption of a modernist progressive trajectory – persists across a range of methodological books in the period. These tend to start with a historical pastiche, and then focus in on recent historical examples to set up new principles, methods, or building types

that the book is intending to promote – again, using history, instrumentalizing it, to inform methods for building in the present – but writing history all the same. Brenda and Robert Vale, in *The Autonomous House: Design and Planning for Self-Sufficiency* (1975), rely on a number of alternative traditions in this fashion.[4] In their case nearly every chapter – on "Harnessing the Wind," "Heat Pumps," "The Problem of Water" – is introduced with a summary history of the relevant processes, suggesting not only possible technological forms but also possible engagements with larger socio-historical patterns of settlement; this is of course, their point, that different types of technological engagement resonate across different kinds of social formation.

This dynamic is developed with most obvious reference to architecture in the Vales chapter on the solar house, called "Power from the Sun". After some older examples illustrating basic principles, and as a means to introduce their own premise of adapting a building's systems to the possible inputs of the natural environment, they discuss in some detail the design and technological condition of a number of solar houses built in the 1940s and 1950s.[5] Technical means to determine the precise angle of solar incidence, the length of the roof projection for a given latitude, and also the mechanics of solar heating and storage in water tanks, pebbles, or chemical solution are discussed simultaneously as historical experiments and directives for the present. What is especially interesting in this and other chapters is the transition from images of historical buildings to diagrams demonstrating the possibility of engaging these historical systems and devices towards transforming building practices.[6]

Numerous related examples play out similar concerns and strategies, often with somewhat more aggressive advocacy for seeing these recent examples as directives for future practices. Malcolm Wells' edited publication *Notes from the Energy Underground* brought together both activists and historians to consider a range of new building techniques, focused on Wells' own practice of building with berms or underground.[7] The book brought together a range of voices interested in intervening in the cycles of energy production and consumption – here in the midst of a brief period of government interest in solar subsidies in the mid-1970s, the force of Wells' book was a rejection of government assistance. The history of the past was justification for a quiet, though possibly quite effective, form of resistance.

It was also justification for the production of images, and Wells' contributions to the energy economy of environmentalist architecture were substantial. Wells' watercolours are another source for images sitting not quite in the

present, but somewhere between the recent past and the near future – a practice of explicitly examining a project on the terms of its 'before and after' potential that continued up until he passed away in 2009. His own watercolours operate precisely across the nexus under examination – images of the near future, rooted in the possibilities of the present. The obstacles imagined are not architectural or technical, but about social formations, and the images are attempting to convince the viewer of the viability and promise of the vision of the built world, so that they will help build it.

Although these examples exhibit a compelling relationship between historical and methodological knowledge, they are not intended as histories in the normal sense. Their project is that of material transformation in the built world, not the production of scholarly knowledge. They blur distinctions between modes of architectural writing. More straightforward historical narratives also pursued this instrumental agenda, not through an appeal to design method but rather according to a broader dialogue on the environment, economic growth, and risk. These are also not strictly architectural histories, and they see hope for the future in the recent past – though on very different terms.

The beginning of thinking through architecture and history on these environmentalist terms has its echoes in Lewis Mumford's heralding of the emergence of neotechnic era out of the paleotechnic past in his *Technics and Civilization* (1934). It is possibly one of the first definitive traces of a technologically focused environmentalism, not only in architecture. Mumford inherited the historiographic schema of paleotechnic/neotechnic from his mentor, Patrick Geddes; Geddes had himself based it on a careful reading of George Perkins Marsh.[8] A businessman, diplomat, politician and 'geographically minded historian' Marsh published *Man and Nature; or Physical Geography as Modified by Human Action* in 1864. His basic thesis, developed through studies of deforestation in the US and Europe gathered during his lengthy travels, is that man is inevitably 'an active biological agent… a disturbing agent, who upsets the harmonies of nature.'[9] Marsh was among 'the first to conjoin all human agencies in a somber global picture.'[10] Mumford, under this influence, 'focused simultaneously on cultural diversity and relations of power *within* human society, refusing to divorce individual attitudes to nature from their social, cultural, and historical contexts,' thus allowing Mumford to write an ecological history of technology, and to prefigure an environmentalism of technological experimentation and new social movements.[11]

Though Mumford would significantly temper his enthusiasm in later years, these early formulations maintain their influence; or better, they help to describe how the framework, in architecture, of the destructive potential of man's inhabitation on the planet has been re-inscribed as incentive towards technological innovation and social transformation. This has had numerous threads of development since the interwar period, perhaps most recognizably in Giedeon and Banham. The architectural history of technological optimism reflects the same methodological premise discussed above – one good example is the text *Radical Technology*, developed from an issue of *Architectural Design* (*AD*) in 1976 edited by Peter Harper and Godfrey Boyle, and somewhat from the same milieu as *The Autonomous House*.[12] In these texts, technology is seen to be able to provide devices and efficiencies, and also to reconfigure social formations, so as to facilitate a new and more environmentally sensitive future. *Radical Technology* also reflects the premise of the better-known *Whole Earth Catalog* by providing a manual for living off the grid or in collective housing. By contrast, more recent publications, such as Catherine Slessor's *Eco-Tech: Sustainable Architecture and High Technology* (1997), propose that proper technological thinking in architecture can lead, without social transformation, to a more rational relationship between human and natural systems.[13] To a large extent this is the dominant premise in the sustainable architecture of the present – technology will provide solutions, so that social conditions can stay the same.

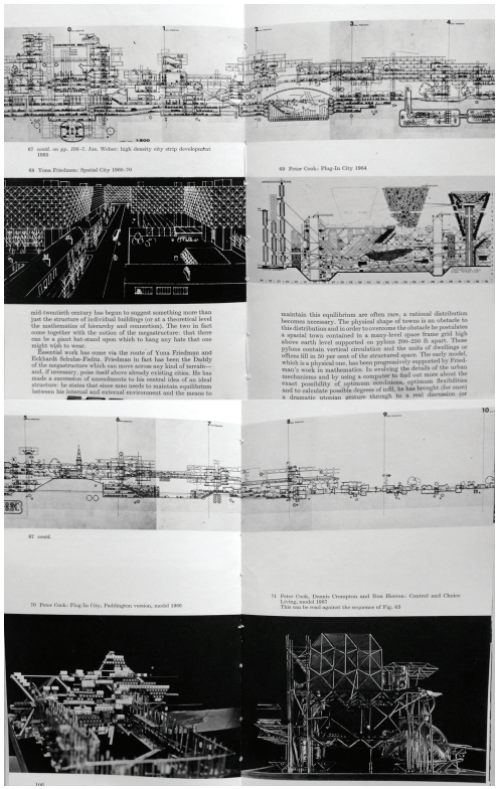

Figure 2. Figures 67-71 from Peter Cook, *Experimental Architecture*, 1970. Note the resonance with Ehrlich's suggestion of a single, global building, perhaps especially in the image running across the top of both spreads, 'Jos. Weber: high density city strip development, 1965.'

Another end of the spectrum, and one that allows me to begin to conclude this survey by returning to questions of the image economy, is Peter

Cook's *Experimental Architecture* of 1970. Cook explicitly focused on 'new projects [that] anticipate a future condition of man though not consistent with other formal interpretations of the same social idealism,' including the work of Archigam, Superstudio, Constantin Doxiadis, Paolo Soleri, Yona Friedman and others.[14] (Figure 2) Cook's basic goal is to articulate, through a historical analysis of formal, material, and technological innovation, how architecture engages futurological discourse. In so doing, he attempts to use cultural means to re-capture what Andrew Ross has described as 'a solid claim on the future'. Cook is participating in a larger futurological movement that is attempting to 'respond to popular desires for a more creative and less standardized way of life,' and positions architecture relative to the corporate-bureaucratic discussion on energy, pollution and other environmental 'goods' and 'bads' in the period.[15]

Similar concerns are evoked with reference to Cook's own work as part of the Archigram collective, again from a place somewhat outside of the architectural discussion. Paul Ehrlich's *Population Bomb* (1968) emphasizes the catastrophic elements of the shrinking availability of resources, and the inability of social or political mechanisms to manage these variables effectively within an increasing awareness of the world system. Introducing the population problem as 'a numbers game' spiraling up towards catastrophe, Ehrlich refers to a proposal by J. H. Fremlin, a pioneer nuclear physicist and frequent futurological interlocutor, who had

> guessed that such a multitude might be housed in a continuous 2,000 story building covering our entire planet. The upper 1,000 stories would contain only the apparatus for running this gigantic warren. Ducts, pipes, wires, elevator shafts, etc, would occupy about half of the space in the bottom 1,000 stories. This will leave three or four yards of floor space for each person [who] could travel only within a circle of a few hundred yards radius on any floor.

This evocation resonates with the imagery being produced as architectural megastructural fantasies and speculations in the same period; it also shares their futurological ambivalence. Though seemingly dystopic, such a structure would, according to Ehrlich, 'permit each person to choose his friends among some ten million people… and "one could expect some ten million Shakespeares and rather more Beatles to be alive".'[16] Amidst these serious technological challenges, the cultural effects, in other words, could be dynamic and productive.

Thus, again, Boulding's intervention: it is the 'image of the future' that is at stake. The project is cultural, not technological. Environmentalism, read through narratives of the past, present, and future embedded in architectural writings of the 1970s, is not about a return to a state of natural harmony but about the projections of dynamic future – one that is informed by scientific knowledge, inflected by cultural expressions of desire, and instantiated through applied technological practices such as architecture.

Boulding's 1966 text has been reflected in recent 'eco-critical' scholarship, perhaps most directly in the work of literary scholar Rob Nixon. His 2010 book Slow Violence and the Environmentalism of the Poor reiterates Boulding's frameworks, but with the diffuse panic that characterizes contemporary discussions. The modern environmental crisis, Nixon writes, is a crisis of representation; as he writes: 'climate change, the thawing cryosphere, toxic drift, biomagnification, deforestation, the radioactive aftermath of wars, acidifying oceans, and host of other slowly unfolding environmental catastrophes present formidable representational obstacles that can hinder our efforts to mobilize and act decisively.'[17] The relative invisibility of environmental decay, its delayed and dispersed effects, and perhaps most importantly its attritional or agglomerative condition, renders it irrelevant to an image and spectacle infested cultural discourse. From this perspective, the production of images by architects, and the collection of those images into complex narratives of social progress, environmental decline, and cultural opportunity, are increasingly important.

1 Kenneth Boulding, "The Economics of the Coming Spaceship Earth," in H. Jarrett (ed.), *Environmental Quality in a Growing Economy* (Baltimore, MD: Resources for the Future/Johns Hopkins University Press), 3-14.
2 Victor and Aladar Olgyay, *Solar Control and Shading Devices* (Princeton, NJ: Princeton Architectural Press, 1957) and Victor Olgyay, *Design with Climate: Bioclimatic Approach to Architectural Regionalism* (Princeton, NJ: Princeton Architectural Press, 1963).
3 Olgyay, *Design with Climate*, 13.
4 Brenda and Robert Vale, *The Autonomous House: Design and Planning for Self-Sufficiency* (London: Thames and Hudson, 1975); see also *The New Autonomous House: Design and Planning for Sustainability* (New York: Thames and Hudson, 2000).
5 The history of the solar house in the immediate post-war years is the subject of my forthcoming book *A House in the Sun: Modern Architecture and Solar Energy in the Cold War* (New York: Oxford University Press, 2015).
6 This combined historical and methodological strategy was reproduced in Brenda Vale, *Green Architecture: Design for an Energy-Conscious Future* (Boston, Little and Brown, 1991), and is perhaps most significant in John Farmer's *Green Shift: Changing Attitudes in Architecture to the Natural World* (Oxford, UK: Architectural Press, 1996). See also Brenda and Robert Vale, *Time to Eat the Dog? The Real Guide to Sustainable Living* (New York: Thames and Hudson, 2009).
7 Malcolm Wells, *Notes from the Energy Underground* (New York: Van Nostrand Reinhold, 1980).
8 Guha and Martinez-Alier claim that Mumford's most important legacy is his 'ecological history', again citing the model of Geddes as a 'patient investigator of historic filiations and dynamic biological and social relationships.' Ramachandra Guha and Joan Martinez-Alier, *Varieties of Environmentalism: Essays North and South* (London: Routledge, 1997), 189.
9 George Perkins Marsh, *Man and Nature; or Physical Geography as Modified by Human Action* (Seattle: University of Washington Press, 2003), 109. The subtitle was added in the 1874 edition. According to David Lowenthal, in the introduction to the edition cited, it was 'the most influential text of its time next to Darwin's *On the Origin of Species*' (XV). Mumford co-convened a conference at Princeton assessing Marsh's work, see Marston Bates, Lewis Mumford, Carl O. Sauer, and William L. Thomas, (eds) *Man's Role in Changing the Face of Earth* (Chicago: University of Chicago Press, 1956). See also Frank G. Novak (ed.) *Lewis Mumford and Patrick Geddes: The Correspondence* (New York: Routledge, 1995), 36.
10 Paul Hawken, *Blessed Unrest: How the Largest Social Movement in History is Restoring Grace, Justice, and Beauty to the World* (New York: Penguin, 2008), 43.
11 Guha and Martinez-Alier, *Varieties*, 200.
12 Peter Harper and Godfrey Boyle (eds), *Radical Technology: Food, Shelter, Tools, Materials, Energy, Communication, Autonomy, Commodity* (London: Pantheon Books, 1976).
13 Catherine Slessor, *Eco-Tech: Sustainable Architecture and High Technology* (London: Thames and Hudson, 1997).
14 Peter Cook, *Experimental Architecture* (New York: Universe, 1970).
15 Andrew Ross, *Strange Weather: Culture, Science, and Technology in the Age of Limits* (London: Verso, 1997), 172.
16 Paul Ehrlich, *The Population Bomb* (New York: Ballantine Books, 1968), 19, also quoting Fremlin from a 1964 article in the *New Scientist.*
17 Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, Mass.: Harvard University Press, 2012).

3.2.4 Looking Back, Looking Now: Architecture's Construction of History

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Abstract
The debate concerning the temporal boundaries of architectural history is a pressing issue, the implications of which reach beyond pure intellectual discourse to raise questions that are educational, economic and institutional. The notion of history in our field has indeed begun to change, concurrent with a general re-examination of its epistemological and disciplinary boundaries. In this paper, we argue that while practicing the discipline of architectural history within traditional timeframes and established analytical tools is of utmost importance, scholars should also embrace the research and criticism of more recent architecture. Taking our cue from scholars who have raised similar questions with regard to art history, such as Preziosi and Camille in the 1980s and Rogoff, more recently, we demonstrate that it is not only the past that inspires the present: the study of the past as an object or subject of research is always influenced by the present, by its current discourses and ideologies. In other words, looking at what is built now, or has been built only recently, is an important dimension of looking back. While underscoring the importance of researching the history of architecture contextually (also as a tool for understanding recent architectural production), we investigate how historical research is transformed by the present, by intellectual and academic "turns" as well as by cultural developments. We will show how recent architecture has influenced the architectural canon as well as how it has shaped our perspective of architecture's cultural context in past eras. It positions the important role of the present in the construction of history and the production of new historical knowledge. Including the present in teaching and research is certainly a breech of disciplinary boundaries, but it has the capacity to maintain architectural history's academic relevance and its relevance to society and its evolving built environment.

Keywords
Architecture, modernism, brutalism, Israel, S. Gall, Googleplex

Last March, the Azrieli Architecture Archive was inaugurated in Tel-Aviv, Israel. A symposium entitled 'The History of Israeli Architecture in the Information Age' was organized to celebrate its opening. On the invitation appeared a photograph of architect Ram Karmi's Student Dormitories, built in Be'er-Sheva in 1976.[1] This is a late-modernist building of exposed concrete, and the question should be raised as to why the conference organizers chose this 38-year-old building to advertise the event. As part of our discussion, we will propose that this choice attests to a growing interest in late modernism, which stems not only from developments in research but also from looking at contemporary architecture.

One of the issues extending from this session's theme, "The Historiography of the Present," is that of the temporal boundaries of architectural history. This is a matter with implications that reach beyond pure intellectual discourse, raising questions that are educational, economical and institutional. The notion of history in our field has indeed begun to change, concurrently with a general re-examination of its disciplinary boundaries and methods, as well as its objects of research.[2] In this paper we demonstrate how the study of the past as an object or subject of academic research is influenced by the present, by its current discourses, as well as by architectural practice itself. By proposing a reading of two examples of contemporary architecture as an inspiration for historical inquiry and interpretation, we aim to show that looking at what is built now, or has been built only recently, is an important part of looking back.

Contextualizing concrete
The importance of researching the history of architecture contextually and with the use of well-established tools and methods is especially evident when expanding the geographic boundaries of the field. Architectural history's 'global turn' has revealed significant gaps in documentation and analysis and this is the case with Israeli architecture. As such, the influence of recent and contemporary architecture upon the objects of architectural history seems even more apparent. Architecture in the city of Be'er-Sheva can be taken as an example. It is the metropolitan center of southern Israel and is a city that exhibits an abundance of distinguished late modernist architecture constructed in exposed concrete. The material came back into vogue around 1995, following a cessation that lasted barely twenty years. It reappeared first in the campus of the Ben-Gurion University of the Negev, in a new master plan and buildings by Ada Karmi-Melamede, an architect of national prominence.[3] This revival coincided with a global 'comeback' in the use of ex-

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posed concrete in architectural practice. It was a conscious, post-modernist, approach that revived 1960s and 1970s Brutalism, as well as additional, mostly local, aspects of modern architecture. Academically, however, it was only in 2000 that a major exhibition, entitled The Israeli Project, addressed Israeli late modernism. It was followed by an extensive catalog published in 2004.[4] Another exhibition was held in 2009, entitled The Poetry of Concrete.[5] We can thus trace a process whereby architectural practice in a sense canonized a style that had only recently subsided, and inspired exhibitions that marked a commencement of historical research. It is important to note that these exhibitions preceded the advent of academic books and scholarly papers. This stems, in our opinion, from an ongoing urgency in establishing an Israeli national visual culture and publicizing it for mass, rather than academic, consumption, with the first exhibition roughly coinciding with the young nation's fiftieth jubilee. A historiography of local late-modernism was thus embraced as it constructed a history of the new state's built environment. Consequently, academic publications on the subject significantly increased following the first of the aforementioned exhibitions.[6]

In the past decade, contemporary architecture's reification of late modernism has become even more apparent, attesting to the influence of both Karmi-Melamede's buildings of the 1990s and the academic surge. Beit Halohem – a centre for wounded veterans – exemplifies this and shows contemporary architecture's impact upon historiography. (Figure 1) Planned by Kimmel-Eshkolot architects, the building was completed in 2010. It was widely publicized upon its completion and was awarded the prestigious Rechter Prize, the most important architectural prize in the country. Kimmel-

Figure 1. Kimmel Eshkolot Architects, Beit Halohem, Be'er-Sheva, Israel, 2010. Photograph by Erran Gitler

Eshkolot have clearly expressed their referencing of exposed concrete as constituting homage to Be'er-Sheva's late modernist architecture.[7] Ram Karmi's dormitories, with which we opened this discussion, appear to be one source of historical inspiration for the contemporary building, as can be seen in the use of angular forms and faceted volumes. Kimmel-Eshkolot have also noted the building's visual contextualization of the nearby Negev Monument, a 1960s environmental sculpture made entirely of exposed concrete, which can be seen from Beit Halohem.

We would like to argue that the reworking of the forms and materials of late modernism in recent and contemporary architecture, such as Karmi-Melamede's university campus buildings and Kimmel-Eshkolot's Beit Halohem, is indeed affecting architectural history in ways that differ from previous discourses: the renewed appropriation of exposed concrete and its referencing of a specific urban locale, refine and more clearly define the legacies of late modernism. While the exhibitions and research we have discussed underscored the ties between architecture, national politics and society, contemporary architecture is affecting research beyond this scope: materiality and form have begun to be more thoroughly investigated, a focus that also resonates the growing international body of research of brutalism and structuralism in the past five years.[8] In this respect, an international conference, which point of departure was exposed concrete as a material, was organized in 2013 in Be'er-Sheva, concurrently with the launching of a documentary website dedicated to 'Israeli Brutalism'. While these are only beginnings, they nonetheless underscore the advent of research that aims to focus upon thoroughly explaining local architectural phenomena as related to international late modernism, opening up new investigations that include aesthetics, technology, sustainability and more. An additional important aspect of how this contemporary architecture is negotiating history becomes apparent through publicity and mass communication.

The Ben-Gurion University has recently published a book of its contemporary architecture. In this publication, the revival of exposed concrete is underscored and canonized, thus creating an historical field for the campus's present.[9] Furthermore, the municipality of Be'er-Sheva launched a public relations initiative, branding the city as the capital of 'Israeli Brutalism'.[10] Finally, choosing Ram Karmi's Student Dormitories for publicizing the consecration of an archive that should prove a major contribution to research, it positions recent architecture as a valid and central object of inquiry. As a document that bridges between visual culture and historical research, it expresses an awareness brought about not in the least by publicizing and historicizing

the contemporary. Public relations projects such as official publications and conferences, national prizes and urban branding, all of which are twenty-first century modes of mass communication, have thus become a part of constituting not just the present, but also what is worthy of attention in the past.

While contemporary architecture has always influenced historians' readings of the past, it seems that the immense growth of mass communication has magnified its impact. Documentation that begins as a website, and attention brought to a certain issue by a public relations endeavor, have significantly more influence today not only upon public awareness but also on academic research. What Beatriz Colomina wrote twenty years ago regarding the importance of mass communication for architecture in the first half of the twentieth century has, in a sense, amplified.[11] Contemporary architecture's engagement with mass communication in the age of the World Wide Web has intensified, and its negotiation of its past is dealt with through more 'channels'. The architects themselves have better means at their disposal, with which to mediate their projects and conceptualize them. The architects discussed here actively historicized their present and harnessed it to a reading of more recent architecture. In Israel these processes are also coupled with the need to invent an architectural history. Contemporary architecture thus mediates its precedents as public monuments of historic value and aesthetic quality, actively canonizing them.

Googleplex considered

Our next example investigates the twenty-first century workspace as point of departure for studying the past. This is another aspect of the profound effect that the World Wide Web has had upon architecture and its research.[12] While the field of architectural history itself is undergoing fundamental changes in the Information Age, a phenomenon addressed by the symposium with which we opened, architecture is also changing in its functions, forms and modes of production.[13] Among the most interesting aspects of this change are the new physical spaces required by the web industry, for both infrastructure and operation. The novel production of knowledge and communication by companies such as Google and Facebook has presented specific and, in some ways, unprecedented requirements for office design. Google's main offices in Mountain View, California, known as the Googleplex, as well as their offices worldwide, prescribe an extremely diversified office environment.14 (Figure 2) The corporation headquarters reside in a refurbished hi-tech complex redesigned by Clive Wilkinson Architects and DEGW. It includes a variety of workspaces that, in addition to standard and traditional offices, introduce

Figure 2. Clive Wilkinson Architects and DEGW (now Strategy Plus at AECOM), Googleplex, Mountain View, California, USA, 2005. Source: https://www.behance.net/gallery/Google-Headquarters-Silicon-Valley/4858177

domestic, ludic and pseudo-urban spaces. Rigorous attention has been given to leisure, health and fitness areas as well. The Googleplex and its like display a redefinition of workplace architecture which intentionally blurs the boundaries between public and private, work and leisure, implementing them in new and unexpected functional and stylistic combinations.[15] In the workspaces of internet-based companies new environments are formed, environments that, as John Archer has said, 'engage (not merely "reflect") the conflicts and challenges of [their] time.'[16] Such profound changes call for a fresh look at the history of offices, in particular, and workspaces, in general. We would like to suggest that the interpretation of these new spaces can provide fresh insights regarding even medieval architecture – that of Benedictine monasteries – and to propose a preliminary exploration of applying concepts such as public vs. private and work vs. leisure in studying and understanding them.

Alfred Kieser claimed, already in 1987, that 'Medieval [Benedictine] monasteries provide the first example of an "iron cage".'[17] He continues to refer to the Cistercian monasteries of the twelfth century as an 'international conglomerate.'[18] These terms, borrowed from the discourse of modern society and economics, are anachronistic and alien to the medieval world. However, it is precisely this alienation which, when critically and thoughtfully applied, contributes to a fuller understanding of the medieval world. This breach of historical concepts provides new discourse and reading formations, raising the possibility of reading the plan of the S. Gall Monastery, for example, in light of the new architecture and discourse of the Googleplex. The unrealized plan of S. Gall, drawn in the third decade of the ninth century, depicts an entire Benedictine monastic compound.[19] Because the plan does not exactly correspond to any known monastery, modern scholars dispute just about every aspect of it.

When interviewed about the Googleplex, Andrew Laing of DEGW observed that in general, new hi-tech complexes are 'much more like being at a university than being in a conventional work environment.'[20] This apt comparison was further emphasized by Clive Wilkinson's viewing of the Googleplex plan as an implementation of 'the concept of education in the workplace.'[21] Such an approach paved the way for an architectural plan that merged academic campuses and 'traditional' offices. The architects of Googleplex devised thirteen different zones and arranged them from hot to cold, depending on the level of interaction they encouraged. 'Engineers,' said Wilkinson, 'might work in teams, but they require a high level of concentration'.[22] Accordingly, hot areas were defined as more public and active zones, while cold areas were more secluded and private.

Since Benedictine monasteries were in many ways also a university and a work environment combined, we believe that reading them (as they are presented in the S. Gall plan) through the lens of new planning and theorizing concepts, can shed additional light upon the division of the monastery into six different functions that are generally accepted in current research: health, education, reception, church and dependencies, agriculture and crafts. [23] Looking at the Googleplex architects' design and their conceptualization of the differentiation between spaces that enable 'independent study' and those dedicated to 'community accomplishment,'[24] can afford new insights upon the Benedictine monastery plan. Moreover, our understanding of the division of the St. Gall church into autonomic units, achieved with the aid of parapet screens and a series of separate altars, can benefit from a comparison to contemporary office cubicles, and thus provide a fuller perspective of the church's historical context.

An additional aspect deals with the relationship between the 'kingdom' (Googleplex or the medieval monastery) and the outside world. The monastery wall, its gate, the divisions in the church itself, the cloister, the exact location of its dormitories and all other functions, can be re-investigated in light of the Googleplex plan, which was made for a corporation that exists between the passion for accessibility and what has often been described as 'paranoia', since Google rigorously protects its operational confidentiality.[25]

This re-reading can enable a closer look at the tension that existed in the medieval monasteries between privacy and publicity, and between the various populations of the complex and the activities conducted within it. In other words, until now, the architecture of Benedictine monasteries has been examined through the Rule of S. Benedict (*Regula Sancti Benedictini*), which requires the monk to work and pray (*ora et labora*) as well as to integrate between segregation and partnership. These requirements can now be examined by concepts used by the Googleplex architects and by the 'Googlers' working there, such as 'hot vs. cold', 'concentration vs. face time', or 'openness vs. control'. The fact that both the Benedictine monastery and the contemporary corporation aspire to form an architecture that creates a world that is ideal and utopian, yet simultaneously practical, constructs historical positions in which not only the past affects our reading of the present, but vice versa.

An additional dimension to these observations can be provided by the commencement, in June 2013, of construction of a monastery according to the plan of S. Gall in Messkirch, Germany.[26] The project, called Campus Galli, aspires to execute the plan using only the methods, tools and materials that were available in the ninth century. [27]This project, estimated to take about forty years, clearly reflects the 'modernist' commitment to the 'objective truth about the past'.[28] The Campus Galli project is fascinating in its attempt to accurately construct in the most 'authentic' way a past that never actually existed, since the monastery was never built. It is thus a process opposite to the one that we have suggested whereby contemporary practice and discourse are conceived as the 'methods, tools and materials' used in order to re-build our understanding of the past.

Conclusion: architecture's construction of history

To summarize, contemporary and relatively recent architecture impacts architectural history's objects and themes of research, as well as the study of architecture's cultural contexts in past eras. It can and should be qualified along with the advent of interdisciplinarity and the constant and apt search for new methods. In the Information Age, as mass communication becomes even more central to the discourses taking place in the field, the toolbox of architectural history's methods is also crucial for a serious engagement with the present. As the boundaries between 'traditional' scientific methods and new ways of acquiring and disseminating information become blurred, their intertwining and balancing need to be addressed as well. Thus, while practicing the discipline of architectural history within established analytical tools and traditional (yet always expanding) timeframes is of utmost importance, writing 'the historiography of the present' is significant in expanding our breadth of knowledge. It has the capacity of maintaining architectural history's academic relevance, and its relevance to society and its evolving built environment.

1 Karmi Architects (Ram Karmi, Ada Karmi-Melemede, Haim Ketzef and Ben Peleg), Student Dormitories, Ben-Gurion University of the Negev, Be'er-Sheva, Israel, 1972-6. See Ram Karmi, Lyric Architecture (in Hebrew) (Tel-Aviv: Ministry of Defense, 2001), 138-57.

2 See, for example, the following discussions: Nancy Stieber et al., "Learning From Interdisciplinarity," *Journal of the Society of Architectural Historians* 64, n. 4 (2005), 417-40; Diane Harris, "That's Not Architectural History!" *Journal of the Society of Architectural Historians* 70, n. 2 (2011), 149-52.

3 See Inbal Ben-Asher Gitler and Shlomit Tamari, "The Marcus Family Campus: New Design and Contemporary Architecture," in Yehuda Grados and Isaac (Yanni) Nevo (eds), *Science and Scholarship in the Negev: The Story of Ben-Gurion University of the Negev* (in Hebrew), forthcoming May 2014

4 Zvi Efrat, *The Israeli Project: Building and Architecture, 1948-1973*, exh. cat., 2 vols (Tel Aviv: Tel Aviv Museum of Art, 2004) (in Hebrew).

5 Yehudit Metzkel (cur.), *The Poetry of Concrete*, exh. cat. (Tel Aviv: Eretz Israel Museum, 2009) (in Hebrew).

6 See, for example, Anna Minta, *Israel bauen: Architektur, Städtebau und Denkmalpolitik nach derStaatsgründung 1948* (Berlin: Reimer, 2004); Sharon Rotbard, Avraham Yaski, *Concrete Architecture* (Tel-Aviv: Babel, 2007) (in Hebrew); Ayala Levin, "The Mountain and the Fortress: The Location of the Hebrew University Campus on Mount Scopus in the Israeli Imaginary of National Space," *Theory and Criticism*, 38-39 (2011): 11-34 (in Hebrew).

7 ZEZEZE Architecture Gallery, interview with Michal Kimmel-Eshkolot and Eitan Kimel, YouTube video, March 19, 2012, online at http://www.youtube.com/watch?v=h4dzCy3Q-2M.

8 See, for example, Alex Kitnick and Hal Foster (eds.), "New Brutalism," special issue, October 136 (2011); Tom Avermaete, Tomáš Valena and Georg Vrachliotis (eds), *Structuralism Reloaded: Rule-Based Design in Architecture and Urbanism (Stuttgart*, London: Axel Menges, 2011). For the issue of exploring historical materiality via contemporary architecture, see David Leatherbarrow and Mohsen Mostafavi, *Surface Architecture* (Cambridge, Mass.: MIT Press, 2005), 1-8.

9 Chyutin Architects (eds.), *From Vision To Reality: Architecture at Ben-Gurion University of the Negev, 1990-2006* (Be'er-Sheva: Ben-Gurion University of the Negev Publishing House, 2010).

10 Held May 30, 2013. See Esther Zandberg, "Be'er-Sheva Presents: 50 Shades of Concrete" (in Hebrew), *Ha'aretz*, February 6, 2013, online at http://www.haaretz.co.il/gallery/architecture/environment/1.1923940

11 Beatriz Colomina, *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge, Mass.: MIT Press, 1994).

12 For a novel approach to the historiography of the modern, 1960s workspace see Reinhold Martin, "Computer Architectures: Saarinen's Patterns, IBM's Brains," in Sarah Williams Goldhagen and Réjean Legault (eds.), *Anxious Modernisms: Experimentation in Postwar Architectural Culture* (Cambridge, Mass.: MIT Press; Montreal: Canadian Center for Architecture, 2000), 141-4.

13 See for example Paolo Tombesi, Bharat Dave, Blair Gardiner and Peter Scriver, "Rules of Engagement: Testing the Attributes of Distant Outsourcing Marriages," *Architectural Engineering and Design Management* 3, n. 1 (2007): 49-64.

14 Clive Wilkinson Architects and DEGW (now Strategy Plus at AECOM), 2005. See Jade Chang, "Behind the Glass Curtain," Metropolis Magazine, July 2006, online at http://www.metropolismag.com/July-2006/Behind-the-Glass-Curtain.

15 Anna Klingmann discusses this phenomenon with regard to commercial spaces. See Anna Klingmann, *Brandscapes: Architecture in the Experience Economy* (Cambridge, Mass.: MIT Press, 2007), 115, 122. With regard to Googleplex, see Peter Jakobsson and Fredrik Stiernstedt, "Googleplex and Informational Culture," in Staffan Ericson and Christina Riegert (eds.), *Media Houses: Architecture, Media and the Production of Centrality* (New York: Peter Lang, 2010), 120-4. A new Googleplex is presently being planned. See Paul Goldberger, "Exclusive Preview: Google's New Built-from-Scratch Googleplex," *Vanity Fair* (February 22, 2013), online at http://www.vanityfair.com/online/daily/2013/02/exclusive-preview-googleplex.

16 John Archer, "Social Theory of Space," Journal of the Society of Architectural Historians 64, n. 4 (2005), 432.

17 Alfred Kieser, "From Asceticism to Administration of Wealth: Medieval Monasteries and the Pitfalls of Realization," Organization Studies 8 (1987), 114.

18 Ibidem, 118.

19 The Plan is reserved in the Stiftsbibliothek Sankt Gallen, Ms. 1092. See Lorna Price, The Plan of St. Gall in Brief, based on the work of Walter Horn & Ernst Born (Berkeley: University of California Press, 1982).

20 Chang, "Behind the Glass Curtain".

21 Clive Wilkinson Architects, Case Studies: John Meachem, Googleplex: A New Campus Community, online at http://www.clivewilkinson.com/work/casestudies/googleplex.html

22 Chang, "Behind the Glass Curtain".

23 Price, The Plan of St. Gall in Brief, 19.

24 Clive Wilkinson Architects, Case Studies: John Meachem, Googleplex.

25 Chang, "Behind the Glass Curtain".

26 Angelika Franz, "Ox Carts and No Coffee: Building a Monastery the Medieval Way," *Spiegel Online International* (March 21, 2012), online at http://www.spiegel.de/international/zeitgeist/medieval-monastery-town-to-be-built-in-southern-germany-a-822375.html

27 Campus Galli-Carolingian Monastery Town, online at http://www.messkirch.de/de/English/Campus-Galli

28 Gertrude Himmelfarb, "Telling it as you like it: Postmodernist History and the Flight from Fact," in Keith Jenkins (ed.), *The Postmodern History Reader* (London: Routledge, 1997), 158-74.

3.2.5 Radical Histories and Future Realities – NOW

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Abstract
Over the course of the twentieth century, architecture was marked by a series of radical visions in which architecture played a prominent role in reconfiguring both society and individual consciousness. Architectural manifestoes marked a path towards wholesale societal reform, and their subsequent failure to reshape society heralded a period of disbelief in a better future through architecture. Current culture seems increasingly focused on the present. Even the appeal to 'tradition' or to 'history' in current societal discourse is a mode of addressing present maladies rather than a long historical narrative. Following Douglas Rushkoff's suggestion that societal developments on the whole are suffering from 'present shock', this paper questions the agenda of architecture in the twenty-first century. If the proliferation of media directs our attention to a permanent, all-encompassing 'now', then how can architecture, a field driven by the promise of alternate futures, find a new mode of existence? This paper takes up a number of failures and successes of twentieth-century architectural propositions, and questions how architecture might conceive of a future that does justice both to imminent realities and possible ideals. In a global state of 'presentism', if the future is no longer to be envisioned, then what might the future of architecture entail? And what will become of history and theory, in a non-narrative permanent present? Does this beg the need for a more extended or deeper understanding of history? Does it seek timeless critical reflection that continues time and again to hit the mark? While there is a risk in this permanent present – the impossibility of standing out, of teleological satisfaction, and of narrative threads that bring together long and various histories – might it not also suggest a new relation between the practices of history and theory and the bubbling cauldrons of the practices they study?

Keywords
Architecture, theory, utopia, present shock

In recent years, I have found a striking desire in my students to understand historical chronologies – to construct timelines of 'what' happened 'when', and in relation to which conditions. This comes at a time when these same students increasingly turn to Google to seek out precedents for their projects or their papers. In so doing, they find Pinterest boards and blogs that provide them with a broad palette of examples. Yet these examples are often presented without particular hierarchy. All the necessary data may be literally at their fingertips, including time, place, author, political context and social background – yet somehow the necessary historical contextualization are read as abstract facts online. While all the pieces are there, the understanding of these projects through blogs and digital forums is a steady hum of sameness. At the same time, these students ask to hear chronologies, to understand the time and context surrounding particular developments that have caught their eye.

They appear to recognize that the sources they use make no visual or hierarchical distinction between, say, 1914 or 2014. They seem to sense that contextualization will aid them in understanding this material in a different way – and this raises a crucial question for the field of history and theory. How much context is necessary to understand these precedents? How much continuity must be grasped, and what, if anything, does a 'situated' view provide beyond the abstract factual information? In addition, what is it that we gain from the networked and immediately accessible references online, beyond the ease of availability? And perhaps, by implication, what happens to the information that remains sealed on paper, as long as Google Books has not yet digitized it?

This is, in essence, a simple observation in three parts. First, an increased 'presence' (both literally and metaphorically) of information leads to fundamental questions of selection, evaluation, categorization and understanding. Second, the mere presence of 'facts' as the foundation of rigorous scientific research is not felt as sufficient, suggesting the importance of contextual information and interpretation. Third, if there is indeed an increase in focus on the 'recent past', the most popular channels of communication may play some role in this.

In itself this phenomenon can hardly be considered new. In the discourses on architecture published between 1863 and 1872, Viollet-le-Duc calls attention to the many books available on architecture, as well as the increased ease of travel, allowing students to visit projects that were unreachable until then. He identifies what today we might call information overload:

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> At present new objects, giving birth to new ideas, are constantly thrust upon our attention. It no longer requires six weeks to go to the eternal city; Africa and Asia are at our doors; photography inexhaustibly spreads abroad reproductions of the monuments of human thought and labor in every age and clime.[1]

Indeed, it is the sheer availability of many sources and references that raises the issue of selection and judgment:

> at the present day, discrimination is difficult in proportion to the greater number of objects to which it must be applied. We have in our libraries and our museums drawings and other reproductions of innumerable monuments, belonging to all ages and all civilizations, but we do not possess a method of appropriation and classification. [2]

These statements would seem no less appropriate today, begging the question of whether we are currently facing no more than a continuation (or perhaps exaggeration) of a longstanding development, or whether we should see a contemporary state of affairs in which the recent past indicates something other. Might this be seen as a new turn in historiography? Should we conceive of our relation to contemporary architecture as marked by something more than a sense of rapid change that recurs periodically? In *Present Shock*, Douglas Rushkoff suggests that recent developments in the media and in digital technologies are giving rise to a different relation to narrative and continuity. Using examples such as the Facebook and the Occupy movement, he charts out alternate understandings of what it means to be 'here' or 'now' in the twenty-first century. While many of his analyses call to mind earlier moments of envisioning alternate futures in response to altered societal or technological conditions (from Dadaists to the Futurists, or from audio systems in the 1960s to mobile phones in the early 1990s), it may be worth questioning whether we are currently facing a change in *scale* or a change in *kind*.

Through the rearview mirror: history and narrative

Right now, it seems increasingly difficult to offer an historiographical narrative that does justice to distinct developments on a global scale. This might suggest the demise of the grand narrative as both inevitable and liberating. However, zooming in on the smaller scale, on to the local identities that are equally crucial to our (self-)understanding, we might well ask how personal and cultural narratives interact in the compression of time we find on the Internet and in social media. The permanent buzz of blogs and of social media, and their reiteration of the same small blurb makes all things equal, as long as they are online. In this, our time may seem unique. However, it also recalls many moments in history where a potential 'information overload' was announced and utilized to argue for careful and considered reflection. In other words, each expansion of information is then accompanied by a call to the faculties of judgment and evaluation. Viollet-le-Duc's identification of a nineteenth-century 'information overload' was accompanied by his appeal to the importance of judgment. While this was directed at the École des Beaux-Arts as an explicit proposition to rethink the core values of its curriculum, his emphasis on judgment as a central skill to selecting examples and precedents to study might be as easily situated in our own time.

This judgment typically involves a reflection on the thing itself and its qualities, but situated within a broader context of other projects, of context and of timeliness. This knowledge was traditionally founded upon a slow process of apprehending, reflecting, and studying a project from a position of privilege.

> Architectural works, which fifty years ago would scarcely fill a single shelf in our libraries, now crowd an entire room. Every pupil possesses or can possess elements of information which formerly were concealed in the cabinets of masters and exhibited only to the elect.[3]

This offers students now (or then) the opportunity to form their own opinions, independent of the established interpretations of their teachers. As such, the availability of reference material enables a more widespread assessment of (historical) value.

For today, this raises the question of narrative. In the wake of postmodernism, we may now agree that a sense of 'grand narrative' has disappeared – yet this does not completely dismiss the role of interpretation or classification. But what if we entertain the thought that interpretation and classification are transforming in the wake of poststructuralist analyses? For Rushkoff, many of the changes in the cultural role of narratives may be traced back to digital media. While this is perhaps too simple, he offers a thoughtful example of the early deconstruction of narrative in adventure books that allowed the reader to choose between different courses of action, construct multiple narratives with distinct and different endings. These multiple stories thus primed an audience for the gaming platforms in which each choice would lead to alternate paths. In this perspective, structure

becomes more important than storyline, and individual choices have identifiable consequences for the unfolding of the story.

The future's so bright: architecture's golden glow

If there is indeed a breakdown in narrative and a general preoccupation with the present, then what might this mean to architecture and its historiography? Certainly, the storyline of architecture in the twentieth century is one of conviction: a deep-seated faith in its impact on future society. From the modernists who hoped to construct healthier cities that would by their very nature make an appeal to the inhabitants to perform up to the standards of modern life, to the happy futures constructed out of plastics and space travel in the 1960s, our daily threats of congestion and chaos in the twentieth century city have been constantly answered with ideal cities and structured ensembles. In the 1960s in particular, this hopeful glow of the future fed a plethora of projects with distinct features, from the cheerful fantasies of Archigram to the brutal gestures of Superstudio. Ranging the full spectrum from techno-optimism to a healthy skepticism, these projects formed a drawn, collaged, written field of possible futures, each with its individual interpretation of the developments of technology and society. Particular driving forces recur throughout different projects, including the condition of the postwar city, with its suburbs and postwar reconstruction, the relation to the environment in various shapes and forms, and technology as the ever-present driving force of innovation.

In each of these moments, the present was marked by its promise more than its reality. As such, the 'here' and 'now' were aimed at 'soon'. This has consequences for historical reflection. In the most radical version, it may lead to complete dismissal in favor of the future:

> To admire an old picture is to pour our sensibility into a funeral urn instead of casting it forward with violent spurts of creation and action. Do you want to waste the best part of your strength in a useless admiration of the past, from which you will emerge exhausted, diminished, trampled on?[4]

In periods of strong focus on the future, particularly those strains based in modernism, the practice of architecture has put forward environments to transform life as we know it. As such, the close relation between the buildings and the people within is emphasized, exaggerated even. Might a longer historical horizon, or a more in-depth description, clarify the hidden assumptions embedded in projects that utilize a moment in time as agenda for an architectural project?

This leads to another question. What might a historiography of the present offer architecture as a discipline? Might an engagement with historical narrative provide an alternate understanding of the present? Might it thus reframe the present as a critical moment rather than as a vessel for the reintroduction of a lost past or as the beginning of a brighter future? What might be necessary to achieve this? And is it possible to attain this without the distance over time, which allows us to speak with authority?

... We gotta wear shades...

Yet, even while in recent history the focus on the future has been replaced by the preoccupation with the present, the overarching rhetoric of imminent futures is not yet gone. Perhaps though, rather than focusing on 'the future' or on historical reflection as such, we might turn to a few approaches that rethink time and presence in relation to architecture.

To begin with time, might the notion of 'timeliness' offer an interesting path? While the importance of facts should not be denied, there is an element of cultural depth in historical study. Narratives help construct central questions, and frame the distinctions between then and now, as well as similarities. Narratives help create empathy, which may also sensitize us to presence, in a phenomenological, embodied sense. In his assessment of our relation to digital-age technologies, Rushkoff turns to the abstraction of our current experience of time.[5] While he proposes that our digital technologies have extended the forcefulness of an industrial, abstracted, clock-driven sense of time he simultaneously suggests that there is nothing inherent in these technologies that enforces this upon us. Instead, he suggests, the time may have come to return to what the Greeks called *kairos*, a form of 'timeliness', or an embodied form of time experience.[6] This experience of time appeals to attention, multiple senses, and a sensitivity to the 'right' moment. As such, what Rushkoff proposes is to seek out the phenomenological depth of the moment.

Bringing this to a historiographical consideration of the present, one might ask whether 'timeliness' is a manner of bringing empathy, understanding and contextual sensitivity into the discourse of architecture.

Our built objects, after all, are present in a material sense. They are apprehensible visually and materially, and may be judged in their drawings. As

things in the world, they already may call attention to the embodiment of perception. And so I return to my students: they increasingly refuse to form a solid opinion without having visited a building, they seem to intuit what is missing in the work they read – the considered reflection that is formed by walking somewhere, hearing the sounds, smelling it, touching it. Aaron Betsky, in a lecture some years ago, discussed the importance of presence, and the inadequate descriptions we have. He described how Charles Moore was able to explain a certain kind of light in New England churches in comparison to others, and how it was in the presence of these churches that new insights arose on quality of light.

As the turn to modernity in architecture was supported by a historiography less focused on context and more on abstraction, so a current 'historiography of the present' may be best supported by a 'historiography of presence'. Revisiting our understanding of these buildings forms the perspective of an embodied perception, reintroducing the architectural tour in order to ensure an in-depth understanding of the building, the ensemble or the city under consideration, may well be the best remedy for the proliferation of quick marketing blurbs replicated throughout the many blogs online. The architecture of the future is by necessity a projection – we do not build our soon-to-be utopias but rather proposed them first as projections of a possible future. As computer renderings bring the future to our very present, these images may impact our ability to look forward, and indeed to gain critical distance. These many possible futures populate our collective retinas, becoming part of the world we live in. Our drive to form a better future may still be present, but our ability to envision a successful reconfiguration of the present to the future is becoming crowded out by the many voices claiming that 'just over there, the grass is greener'.

Perhaps, for just a little while, we could try some alternate paths: one would be that of presence and embodiment.[7] A study of projects could focus on those we have visited, have experienced, have spent time in. The projects and spaces we know intimately, with which we have built up a relationship. Granted, this may be in opposition to the inventive drive of modern and contemporary architecture, but it may also allow us to revive a more stable and robust approach to issues such as the 'tolerant normality' proposed by Lampugnani. If we were, as an experiment, to engage in the slow gazing proposed by T. J. Clark,[8] and to build upon a global body of work that takes embodied reflection for its core; and if we, instead of basing our judgments on the material abstracted in images and words, privilege a full, sense-laden experience of space, and use the networks we have instead to maintain connections and build a body of work; perhaps we could then truly begin to construct a historiography of *presence*, as a contribution to the field of architecture in the early years of this century.

1 Eugène-Emmanuel Viollet-le-Duc, *Entretiens sur l'Architecture*, 1863-1872, citing from *Discourses on Architecture*, trans. Henry van Brunt (Boston: James R. Osgood and Co., 1875), 137.
2 Ibidem, 135.
3 Ibidem, 137.
4 Filippo Tommaso Marinetti, "The Futurist Manifesto" (1909), in Stanislao G. Pugliese (ed.), *Fascism, Anti-fascism, and the Resistance in Italy: 1919 to the Present* (New York: Rowman & Littlefield, 2004) 28.
5 Douglas Rushkoff, *Present Shock: When Everything Happens Now* (New York: Current, 2013).
6 See Joke Hermsen, *Kairos. Een nieuwe bevlogenheid* (Utrecht: De Arbeiderspers, 2014).
7 Harry Francis Mallgrave, *Architecture and Embodiment: The Implications of the New Sciences and Humanities for Design* (New York: Routledge, 2013). See also Russell Jacoby, *Picture Imperfect: Utopian Thought for an Anti-Utopian Age* (New York: Columbia University Press, 2005).
8 Bart Verschaffel, "Omzien naar 'choses plus apparentes que les paroles': T.J. Clark over Nicolas Poussin," *De Witte Raaf* 125: 9-11.

3.3 On Foot: Architecture and Movement

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Walking is key to the acquisition of spatial knowledge. It is the most fundamental means by which we make sense of architecture and space, and it is embedded in the practice of historians who only feel secure in their understanding of a structure once they have visited it in person, poking their heads through doorways, sensing the narrowness of corridors with their bodies, and negotiating physical shifts in elevation as they ascend or descend from one level to another. But while the measuring of space with the body may be rendered concrete in traditional dimensions – labeling distances the length of arms and feet – the act of walking remains so taken for granted that its consequences often seem invisible. As Francesco Careri observes, however, walking represents a transformative practice and, for anthropologist Tim Ingold, circumambulation offers a way of knowing. This most pedestrian mode of transport is in fact capable of bringing about radical shifts in meaning affecting not only the occupant but even the space itself (as in Alfred Kazin's experience of New York). Martin Heidegger lamented 'the loss of nearness' in modern culture where, he suggested, the triumph of modern technology in overcoming great distances had also rendered human experience more uniform or generic, and where increased accessibility and familiarity tended to impoverish the most intimate lived human experiences. And yet perhaps within the most basic mode of human locomotion lies the seeds of transformation and renewal. Through walking we come into contact with the object, engaging both the distant and proximal senses. Through walking we begin to recover a sensual experience too casually glossed over in the conventional academic study of architecture as a static object projected onto a pixellated screen. We measure buildings by paces and construct narratives as we negotiate the natural and human world.

This session seeks to investigate the implications of such observations. In what ways does the act of walking open up the traditional history of architecture and urban spaces to new kinds of interpretation? How does walking challenge the dominant praxis and modes of understanding that currently dominate architectural history? How does walking provide a means to interrogate and even redefine the experience and understanding of buildings and spaces? Topics might include historically specific questions surrounding medieval pilgrimage or the modern drifter in the city. We also welcome broader topics on human locomotion, space and the built world.

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3.3.1 Porticoes and Privation: Walking to Meet the Virgin

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Abstract
Late Medieval and Renaissance pilgrimage, whether to distant lands or local shrines, necessarily involved movement and this movement often demanded some sort of privation. Those who normally rode finished the journey on foot, those who normally walked went barefoot or even on their knees. This latter part of the journey, the final stages of pilgrimage, were – from the sixteenth century on – often given architectural expression in the form of porticoes that reached out from the shrine to greet the pilgrim and announce that their journey was about to be fulfilled. Among the most celebrated examples are the porticoes of the Madonna di Monte Berico near Vicenza and the Madonna di San Luca in Bologna. These porticoes were a non-essential part of the shrine and would have been very expensive to construct. So why were they built at all? Why did the patrons feel it necessary to build them? How did pilgrims experience them? How did they enhance the devotional aspects of the journey? And what exactly was the relationship between the built architecture of the portico and the additional privations that the pilgrims were undergoing. These are some of the questions that this paper will address. Besides this, it will also explore earlier architectural responses to the latter stages of pilgrimage in an attempt to identify how this particular architectural form emerged and developed.

Keywords
Pilgrimage, walking, shrine, Spoleto, Vicenza, ex-voto

Introduction

Pilgrimage to the shrine of a saint is usually accompanied by some form of privation. It subjects the body to hardship, or at the least encourages abstinence from bodily pleasures as a means of cleansing or purging the pilgrim's spirit. One form of privation associated with pilgrimage was the act of walking itself. Walking can of course be as much a pleasure as a hardship, but when associated with pilgrimage it is usually seen as the latter. What transforms walking into an act of self-denial is both the nature of the journey *and* how the walking is conducted. Privation might be associated with the length of the journey, the nature of terrain traversed, the wearing of uncomfortable clothing, or the mental concentration needed for prayer or other ritual acts undertaken and endured as part of the journey. This ritualised form of arduous walking is part of the process that spiritually prepares the pilgrim for meeting their chosen saint.

Procession as pilgrimage in early modern Italy

In the case of cross-continental pilgrimages – so popular during the medieval and early modern periods such as those to Jerusalem, Rome and Compostela – the journey was certainly long, often uncomfortable and regularly prone to danger.[1] Privation was thus in-built. But many of the most popular shrines erected in Italy in the fifteenth and sixteenth centuries stood close to the communities they served, significantly reducing the opportunity to experience the exhaustion and other forms of privation associated with long-distance walking. Typically these shrines were located within a mile or two of the city's walls: such was the case with the Madonna di Monte Berico in Vicenza (1428), S. Maria delle Grazie at Fornò near Forlì (1450), S. Maria della Quercia at Viterbo (1467), S. Maria della Pietà in Bibbona (1481), the Madonna del Calcinaio at Cortona (1485), the Madonna delle Lacrime in Trevi (1486) or S. Maria della Croce in Crema (1490).[2] Moreover, many shrines were located inside the city walls, including SS. Annunziata in Florence (1448), S. Maria della Pace in Rome (1481), Tempietto del Volto Santo in Lucca (1484), S. Maria delle Carceri in Prato (1485) and the Madonna dell'Umiltà in Pistoia (1492) to name just a few.[3] This of course limited still further the potential for pilgrimage, and maintaining the notion of pilgrimage in such cases was thus very difficult. It is unclear to me whether local devotees visiting the shrine as individuals would have seen themselves as pilgrims, yet there is some evidence to suggest that they would have seen themselves as such when they participated collectively in the annual procession to honour their patron.

The 'pilgrimage' made by the citizens of Prato in 1484 to their miracle-

working image, known as the Madonna delle Carceri, soon after the image began to exhibit its thaumaturgic powers reveals the ways that devotional walking could be carefully choreographed.[4] On 23 August 1484 the civic authorities decided to hold a grand procession that would involve everyone in Prato.[5] Eight organisers were appointed, four by the Comune and four by Carlo de' Medici the provost of the *pieve*, the local baptismal church. Between them they decided that the solemn procession would take place on the following Sunday, but that as a prelude participants should attend preaching in the *pieve* on the Friday and Saturday, fast for three days beforehand in the manner of Lent and prepare themselves for the procession by going to confession and taking holy communion. The organisers wanted to make sure that the participants would be prepared and purified in readiness for the event. Thus privation began before the walking did. And the walking itself, the journey, which can be reconstructed from the description provided in this same source, took the participants on an extended trip around the town in two concentric loops. It began with the outer loop. Starting at the *pieve*, the town's principal church, it set off to the west, making its way via San Domenico out to S. Nicolo, before turning back on itself and running south east along the via Cambioni as far as S. Chiara before turning north east and proceeding as far as the Mercatale, where it turned northwest going almost as far as S. Agostino. Then it turned back on itself to begin the inner loop running past the *pieve* once more and running around some of the inner streets before reaching the shrine, where it passed in front of the image, before going on to the piazza del Comune and ending up where it began at the *pieve*.[6] Part of the point of extending the route of the procession in a double loop around the town was to encompass the whole city and symbolically take the townsfolk through every quarter so that they could in a sense assume collective ownership of the procession and better express communal devotion to the image of the Virgin, their new protector. But part of the rationale too was undoubtedly to lengthen the journey, to make it more taxing for the participant. These various forms of privation, the Lenten fasting, attendance at the Friday and Saturday sermons, the participation in confession, communion and extended procession would have given the event the character of a mini-pilgrimage. Other forms of privation could also accompany extended processional walking. In 1426 soon after the inception of the Marian miracle cult at Monte Berico in Vicenza, the bishop organised a solemn procession, which involved 'an enormous multitude of both men and women of all ages, who took the path towards Monte Berico. Some cried bitter tears, others beat themselves with chains and went barefoot, and others wore coarse sackcloth. And everyone sang devout lauds with such gentle devotion that it seemed like one of the triumphs in paradise.'[7]

Such forms of privation would have made the event much more arduous, more like a pilgrimage.

In the light of these observations about walking to meet saints, I would now like to pose two questions more directly associated with architecture. First of all, how did this form of walking affect architectural design? And conversely how did architectural design affect walking?

Buildings responding to walking

One example of how local pilgrimage – and the walking associated with it – could affect architecture can be seen just outside the medieval walls of Spoleto at the Madonna di Loreto, a centralised shrine built from 1571 to house a miraculous image of the Virgin Mary.[8] The image had been painted in 1537 by the relatively well known Sicilian artist Jacopo Siculo as part of a wayside shrine, but it did not attract a cult following until 1571 when the city was hit by an earthquake and the terrified townsfolk sought solace in the image of the Madonna of Loreto.[9] The early form and siting of the wayside shrine is shown in an early ex-voto image.[10] The painting shows the shrine before it was encased in the church, as being rectangular and open at one end, but without its eighteenth-century pilasters and decorative garb (Figure 1). More significantly for the present argument it shows the chapel as located right beside the main road that led from the town of Spoleto in the valley below – off to the left in the image – to Todi – up to the right. This site posed a tricky problem for the designer of the church. There were two options: either move the image or move the road. Miraculous images were rarely moved and there were various reasons why they had to be left where they were.[11] One would have been the widely-held belief that the site was

Figure 1. S. Maria di Loreto, Spoleto (1571). Interior.

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chosen by the Virgin who wanted to be adored in that spot. It was not just that the image was endowed with special powers but rather that the image's powers were associated with this particular place. Some further reasons are outlined in an account the of Spoleto cult written in 1621 by Ignazio Portalupi, who explained that

the chapel stands as if under the cupola near the choir, which is its ancient site. And it was left intact with the same roof with which it was covered from the beginning. The image was not moved from its place, because as the wall was made of masonry it could not be cut out and transported elsewhere whole without damaging it. And this is the reason why the church was built in the way it was. Besides, such transformations generally diminish the devotion of the people.[12]

Portalupi thus pointed out that devotion was clearly site-specific, and by extension that walking to this particular site had become an important part of the miracle cult itself. The image could not be moved. The solution adopted was to embrace the road by building over it, thus preserving the route to the site that was so dear to pilgrims, while at the same time building a relief road around the church for non-devotional traffic. Thus it is not by accident that the main door of the church is actually on the building's flank, facing Spoleto's Porta San Matteo.

The Madonna di Loreto at Spoleto was not an isolated example. This problem affected many shrines of this period in Italy.[13] The road often led to the side door of churches with a relief road looping around the building. This is the case, for example, at S. Maria della Pietà in Bibbona of 1481 and S. Maria della Consolazione in Todi of 1508. Given the importance of preserving the road running through the church on the cross axis some shrines dispensed with the idea of a door opposite the high altar entirely: these include the Madonna di Mongiovino at Tavernelle near Perugia (1523) and S. Maria di Varano of the mid-sixteenth century in the Marche.[14] Especially interesting in this respect is the shrine of S. Maria della Croce in Crema (1490), which in an early modification to the layout preserved the original processional route through the building, even though an obvious and far more logical arrangement could have been adopted.[15] The shrine marked the spot where a young woman, fatally wounded by her husband, had a vision of the Virgin just before she died. With no other physical relic of the vision than the location, the site itself became the cult focus. Thus the church was built over the site with points of access in the form of domed vestibules set into the circular exterior placed on the building's two main axes, one aligned with the city gate and the other at right angles to it. Soon after the cult's inception the devotional focus was transferred from the site to a miracle-working image of the Virgin.[16] This image needed to be housed in the building and the obvious solution was to accommodate this image in the northern vestibule, transforming it into a chancel. This arrangement would have allowed the south door facing the town to become the main point of access, with the image located opposite it. But this was not the choice the building commissioners made. They set the image in the eastern vestibule, preserving the established pilgrimage route through the building. Furthermore, it seems the very first structure built to accommodate the pilgrims on the site was designed at least in part for the transit of pilgrims. Stefano Colderero, an eye witness, described it in his diary as 'that portico with those two projections in the area that corresponds to the road in the middle where the altar is.'[17] While it is difficult to make sense of Colerero's description, it seems clear that the use of the word portico suggests access and that there may well have been two access points, highly suggestive of the notions of ingress and egress.

In these cases the old routes used by pilgrims to visit the Virgin were preserved in the shrines built to accommodate the cults. Pilgrims would have reached the shrine on its cross axis, often given the side elevations of these structures greater prominence than the elevation opposite the cult focus. Given the demand for multiple elevations of equal design weight and the demand for strong longitudinal and transverse axes, architects might well have been encouraged to turn to the centralised plan as an ideal solution.

Walking responding to buildings

If these buildings were designed to accommodate walking, were they also able to affect the manner of walking, and were they designed to do so? In the case of the Madonna di Loreto at Spoleto the road leading to the shrine was upgraded in 1571 to encourage pilgrims to visit the shrine.[18] Moreover once the church was built the road led directly to the door. At this point the wayfarer needed to make a decision: choose the road which led through the church or choose the one that led around it. It was a choice between asking for the journey to be blessed or ignoring that option. Many wayfarers would have chosen the holy route. It might have slowed walking and slowed the journey but it may well have reassured the traveller. Once inside the church behaviour would have been affected too. This is evident from the ex-voto image considered earlier. It shows some Dominican friars walking up the hill from Spoleto. Their attitude is one of ambling, discoursing, presumably about the Virgin. In front of them a lame pilgrim is staggering up the hill, bent and clearly struggling. Coming down the hill in the opposite direction is a pilgrim with a long staff who is chatting with a woman carrying a basket. All these figures have not yet arrived at the shrine. The others depicted have. They have already rounded the edge of the structure and have gained

a view of the image. On doing so they are induced to fall to their knees. While it is the image that prompts this reaction, it is the building's outer wall that prevents them from acting in this way earlier. The wall is the boundary which transforms walking into kneeling.

I would like to explore one further shrine-related building which seems to have affected behaviour in an interesting way. It is the Arco delle Scalette built in Vicenza in 1595 (Figure 2), a structure that was designed as a marker, a point of access to the holy mountain of Monte Berico, mentioned above.[19] Commissioned by the Venetian captain, Giacomo Bragadin, and possibly designed by Palladio, it was conceived as a triumphal arch.[20] Such triumphal arches, aside from their association with ancient Roman building types, would have been most familiar to the general public through the great ephemeral structures built to honour visiting dignitaries such as that built in Venice in 1574 for Henri III, King of France.[21] In this particular case the arch was undoubtedly honorific, as it was designed to accommodate the annual civic procession undertaken to the shrine of the Madonna di Monte Berico. It would have reminded devotees not only of the protection the Virgin offered the town in times of calamity and her triumph over plagues, but also of the Virgin's assistance in their own personal triumphs over ills that afflicted them. It was very much a civic monument, one that faced the town in a way that the shrine itself on top of the hill could not owing to its siting, with its façade facing away from the city. In this respect it was rather like an extension of the shrine's entrance. It addressed the town, bearing aloft its two other patron saints Leonzio and Carpophoro whose bones were housed in the cathedral, and thus linking the shrine with the city that it served.[22]

Before the Arco delle Scalette was built there was probably no marker indicating where the route up the hill to the shrine began. Once built, it seems to have had a significant effect on the nature of walking. An ex-voto image of 1696 housed at the church shows the arch and bears an inscription that tells the following tale:

Figure 2. Arco delle Scalette, Vicenza (1595)

Catherine, wife of Gerolamo da Soggio from Schiavon near Marostica in the Vicentino, after having lost the power of speech for 15 days came with fervent faith to this Virgin in the following manner. She began her journey at 11.00 at the foot of the stairs on her knees and went on her knees as far as the church kissing the stones on the road as she went and she finished it at 23.00 to the amazement of all the people visiting the Blessed Virgin there. The miraculous image was uncovered and immediately her tongue was loosened…[23]

What seems to be clear from this account is that the Arco delle Scalette and its steps acted as a threshold that induced a different mode of movement. We have already see how pilgrimages were broken down into different stages of privation: preparation for walking in the form of fasting, purging oneself through confession, taking communion and listening to preaching before the walking began. What this suggests is that the walking itself could involve stages with increasing levels of privation too. What seems to be the case here is that the walking from Marostica was supplanted at the foot of the hill by a more severe form of privation – climbing the hill on one's knees. In the image we see her beginning her ascent at the foot of the steps. It took the building to change her behaviour.

Notes

I would like to thank Christy Anderson and David Karmon for their helpful and stimulating suggestions.

3. QUESTIONS OF METHODOLOGY

1 Among the most stimulating general historical studies of pilgrimage are Jonathan Sumption, *Pilgrimage: An Image of Medieval Religion* (London: Faber, 1975); Patrick J. Geary, *Furta Sacra: Thefts of Relics in the Central Middle Ages* (Princeton: Princeton University Press, 1978); Victor and Edith Turner, *Image and Pilgrimage in Christian Culture: Anthropological Perspectives* (New York: Columbia University Press, 1978); Robert Ousterhout (ed.), *The Blessings of Pilgrimage* (Urbana and Chicago: University of Illinois Press, 1990); Diana Webb, *Medieval European Pilgrimage, c. 700-c. 1500* (Basingstoke: Palgrave, 2002). See now also Paul Davies, Deborah Howard and Wendy Pullan, *Architecture and Pilgrimage, 1000-1500. Southern Europe and Beyond* (Farnham: Ashgate, 2013).

2 For the Madonna di Monte Berico see Giocondo M. Todescato, *Origini del santurario della Madonna di Monte Berico* (Vicenza: Edizione Servi di Maria, 1982); Giuseppe Barbieri, *Monte Berico* (Milan: Terraferma, 1999). For S. Maria delle Grazie di Fornò see Giacomo Santarelli, *Cenni Storici sul Sacro Tempio di S. Maria delle Grazie volgarmente detto di Fornò*, (Forlì: Bordandini, 1857); Paul Davies, "Studies in the Quattrocento Centrally Planned Church," 145-212. For S. Maria della Quercia outside Viterbo see Mario Signorelli, *Santuario Madonna della Quercia Viterbo* (Viterbo: Quatrini, 1967). For S. Maria della Pietà at Bibbona see Giuseppe Marchini, "Vittorio Ghiberti Architetto," in *Scritti di storia dell'arte in onore di Mario Salmi* (Rome: De Luca, 1961), vol. 2, 187-202; Riccardo *Pacciani*, "S Maria della Pietà a *Bibbona* e S. Maria delle Carceri a Prato," in Bruno Adorni (ed.), *La Chiesa a pianta centrale, Tempio civivo del Rinascimento* (Milan: Electa, 2002), 80-95. For S. Maria del Calcinaio at Cortona see Pietro Matracchi, *La Chiesa di S. Maria delle Grazie al Calcinaio presso Cortona e l'opera di Francesco di Giorgio*, (Cortona: Calosci, 1991) and Paul Davies, "S. Maria del Calcinaio a Cortona come architettura di pellegrinaggio," in Francesco P. Fiore (ed.), *Francesco di Giorgio alla corte di Federico da Montefeltro*, (Florence: Olschki, 2004), vol. 2, 679-702. For the Madonna delle Lacrime at Trevi see Tommaso Valenti, *La Chiesa Monumentale della Madonna delle Lacrime a Trevi* (Rome: Desclée, 1928). For the Madonna della Croce at Crema see Cesare Alpini et al. *La Basilica di S. Maria della Croce a Crema*, (Cinisello Balsamo: Amilcare Pizzi, 1990).

3 For the shrine of SS. Annunziata in Florence see especially Wolfgang. Liebenwein, "*Die Privatisierung des Wunders: Piero de' Medici in SS. Annunziata und S. Miniato,*" in Andreas Beyer and Bruce Boucher, *Piero de' Medici il Gottoso (1416-1469)* (Berlin: Akademie Verlag, 1993), 251-9. For S. Maria della Pace in Rome see the important excursus in Hans Ost, "Studien zu Pietro da Cortonas Umbau von S. Maria della Pace," *Römisches Jahrbuch für Kunstgeschichte*, 13 (1971), 231-304, and Maria L. Riccardi, "La Chiesa e il Convento di S. Maria della Pace," *Quaderni dell'Istituto di Storia dell'Architettura*, 26 (1981), 3-90. For the Tempietto del Volto Santo in Lucca see P. Lazzarini, *Il Volto Santo di Lucca* (Lucca: La Fotometalgrafica Emiliana, 1980). For S. Maria delle Carceri in Prato see Pietro Morselli and Gino Corti, *La Chiesa di Santa Maria delle Carceri in Prato,* Biblioteca dell'Archivio Storico Pratese, VI, (Florence: EDAM, 1982), and Paul Davies, "The Early History of S. Maria delle Carceri in Prato," *Journal of the Society of Architectural Historians*, 54 (1995), 326-35. For the Madonna dell'Umiltà in Pistoia see Amedeo Belluzzi, *Giuliano da Sangallo e la Chiesa della Madonna dell'Umiltà a Pistoia* (Florence: Alinea, 1993). The dates cited in the text are those associated with the beginning of construction of the shrine, not the date of the origin of the miracle cult which in some cases began earlier.

4 Paul Davies, "S. Maria delle Carceri in Prato and Italian Renaissance Pilgrimage Architecture," *Architectural History*, 36 (1993), 1-18, especially 13-14.

5 An account of the procession and the preparations for it can be found in Andrea del Germanino, *Miracoli et gratie della gloriosa madre vergine Maria delle Charcere di Prato, l'anno 1484*, Biblioteca Roncioniana, Prato, MS 86, fols 50v-52v; the text of this manuscript has been published in Laura Bandini, "Il Quinto centenario della 'mirabilissima apparitione,'" *Archivio Storico Pratese* (1984), 55-96 and in I. Gagliardi, "I miracoli della Madonna delle Carceri in due codici della Biblioteca Roncioniana di Prato," in Id. et al. *Santa Maria delle Carceri a Prato. Miracoli e devozione in un santuario toscano del Rinascimento* (Firenze: Mandragora, 2005), 104-134.

6 The text specifies that the procession started at the *pieve*; it went down via Valdigora (present-day Via Muzzi), then to S. Domenico, along Corso (Corso Savonarola), to San Nicolao, along the Cambioni to San Jacopo. It then went to S. Chiara, passed through an arch and went on to San Marco, the Spedale del Dolce, the Mercatale, S. Margherita, to the three *gore* and the *gorellina*, on to the *stufa*, S. Matteo, S. Michele, the Vescovado, and the piazza of the *pieve*. It went down the street of the leather workers (*pillicial*) to San Giorgio,the new well, San Giovanni del Tempio, and the image of the Madonna delle Carceri. Passing by the image it went on to the tower of the loggia of Giovanni Migliorati, the Piazza del Comune, the Via dei Sarti before returning to the *pieve* where it began. See previous note.

7 *Historia della miracolosa costruttione del sacro tempio di S. Maria di Monte di Vicenza*, Venice 1556, fol. 5r-v: 'Il Reverendissimo Episcopo della città di Vicenza ordinò una solenne processione, con tutte quelle solennitade quali in quel tempo prestar potevano, con una copiosa turba de l'uno & l'altro sesso de molte etade verso il Berico monte presero il camino, Tra l quali altri con amare lagrime piangendo, altri con ferree discipline battendosi con i pietri ignudi, altri vi erano che di grossi sacchi erano vestiti. Et in tutti insieme divine lode cantavano con tanta cordial devotione, che un degli trionphi parea del paradiso.'

8 Giampiero Ceccarelli, *La Madonna di Spoleti*, (Spoleto: Grafiche Millefiorini, 2009).

9 Ignazio Portalupi, *Historia della miracolosa immagine della Madonna Santissima di Loreto fuor di Spoleto (Spoleto: Tommaso Guerrieri, 1621), 25-6; transcribed in Giampiero Ceccarelli, La Madonna di Spoleti*, (Spoleto: Grafiche Millefiorini, 2009), 46-7.

10 The ex-voto image is illustrated in Giampiero Ceccarelli, *La Madonna di Spoleti*, (Spoleto: Grafiche Millefiorini, 2009), 32.

11 For a discussion of this topic and its effect on church design see Paul Davies, "Studies in the Quattrocento Centrally Planned Church" (PhD Diss., University of London, 1992), 85-121; Paul Davies, "La santità del luogo e la chiesa a pianta centrale nel Quattro e nel primo Cinquecento," in Bruno Adorni (ed.), *La Chiesa a Pianta Centrale. Tempio Civico del Rinascimento*, (Milan: Electa 2002), 26-35.

12 Portalupi, *Historia, 61; transcribed in Giampiero Ceccarelli, La Madonna di Spoleti*, 59: 'La Cappelletta…sta come sotto la

Cupola vicino al Coro; che è il suo antico sito, nel quale si è lasciata co'l medesimo tetto, con cui stave fin da principio coverta, non si essendo mossa l'immagine dal suo luogo, perché essendo fabbricata la muraglia di vivo, non si sarebbe se non malagevolmente potuta tagliare, e trasportare altrove intiera, che questa pure fu la cagione perché si fabbricò la chiesa con tale architettura; oltre che tali trasmutazioni sogliono per lo più scemar qualche poco la devozione del popolo.'

13 See in particular Jürgen Zänker, "Il Primo Progetto per il Santuario di Santa Maria della Consolazione a Todi e la sua attribuzione", in *Studi Bramanteschi. Atti del Congresso Internazionale. Milano, Urbino, Roma* (Rome: De Luca, 1974), 603-15; Davies, "Studies in the Quattrocento Centrally Planned Church," 122-33.

14 For the Madonna di Mongiovino see Zänker, "Il Primo Progetto per il Santuario di Santa Maria della Consolazione a Todi e la sua attribuzione," 603-15; for S. Maria di Varano see P. Zampetti, *Il Santuario di Macereto ed Altri Edifici a Pianta Centrale del Secolo XVI* (n.d., n.p.).

15 See Luisa Giordano, "L'architettura," in Cesare Alpini et al. *La Basilica di S. Maria della Croce a Crema* (Cinisello Balsamo: Amilcare Pizzi, 1990), 35-91.

16 This image is now in the *cappella maggiore*. It is not entirely clear when the east entrance was modified to form the high altar chapel but it must have been before 1514 when the subterranean undercroft below the *cappella maggiore* is mentioned by Pietro Terni, extracts of whose *Annali di Crema* are published in Tommaso Ronna, *Storia della chiesa di S. Maria della Croce eretta fuori della R. città di Crema*, (Milan: Manini, 1825), Document 3, 306.

17 Ibidem, 278.

18 Portalupi, *Historia, 45-47; transcribed in Ceccarelli, La Madonna*, 53-54.

19 The most recent study of the Arco delle Scalette is by Donata Battilotti. It appears in Lionello Puppi, *Andrea Palladio*, (Milan: Electa, 1999), 507 (with bibliography).

20 DEIPARAE VIRGINI BERICAE MONTIS/ IACOBVS BRAGADENO AMBROS F PRAEF/ RELIGIONIS ET URBIS AMANTISS D/ MDXCV.

21 Tracy E. Cooper, *Palladio's Venice*, (New Haven and London: Yale University Press, 2005), 213-27.

22 The bones of these saints were rediscovered in Vicenza cathedral in 1455; see Giovanni Mantese, *Memorie storiche della chiesa vicentina* (Vicenza: Neri Pozza, 1964) vol. 3, part 2, 566-7.

23 The painting is reproduced in Giuseppe Barbieri, *Monte Berico* (Milan: Terraferma, 1999), 49. The inscription reads: 'Catterina moglie di Hieronimo dal Soggio habitanti in Schiavon soggetta a Marostica del Vicentino dopo 15 giorni di perduta loquella si portò con fervorosa fede a' questa Vergine in questo modo: principio' la sud[etta] donna il viaggio alle hore 11 al fondo delle scalette a' genochinuni in sino alla chiesa non cessando di continuo bacciare le pietre della strada e terminò alle hore 23 con grand stupore della gente pervenuta che fu alla B. Vergine li fu scoperta la miracol[osa] ima[gine] e sub[ito] la lingua snodò e proruppe in queste precise parole - Madre mia di tutto questo [missing words]. Di tutto questo ne son testimoni religiosi tanto secolari quanto regulari, gentilhuomini, gentildonne, cittadini, essendo in sabbato giornodi concorso piu' di tutte gli altri' (author's transcription).

3.3.2 Defining the Boundaries of London: Perambulation and the City in the Long Eighteenth Century

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Abstract

This paper will explore how London was defined by the new interest in walking in the long eighteenth century. As Michel de Certeau famously wrote, central to understanding the 'practices of everyday life' which create the urban milieu was the act of walking. However, such a notion can be traced back beyond the modern *flâneur* to the eighteenth century when perambulation was also seen as an important mode in the comprehension and experience of the city. In the writing on eighteenth-century culture a great deal of attention has been given to London's coffee houses, assembly rooms and the open areas of the inner city, such as squares, as the quintessential Habermasian spaces of sociability and forgers of the public sphere. But little attention has been paid to the equally important outer London suburban playgrounds. This talk will focus on the periphery of the capital to consider how the outer London landscapes were understood by contemporaries through the act of strolling in their green spaces. The paper will draw from a large body of urban literature such as the anonymous guidebook, *A Sunday Ramble*; *Or*, *Modern Sabbath-Day Journey*; *In and about the Cities of London and Westminster* (1774-1780) which offered a guide to 'the various interesting scenes … of this Metropolis and its Environs'. Visual evidence in the form of topographical prints will also be used to establish the significance of this new leisure activity in contributing to the character and culture of the outskirts and its architecture as a distinct metropolitan zone spatially and metaphorically. This was a landscape created by movement and its accessibility from the centre, by a variety of means of transport, among which pedestrianism can be seen to be of crucial importance.

Keywords

London, eighteenth-century architecture, open spaces, perambulation

Introduction

London in the long eighteenth century was a vast sprawling region whose outer limits were depicted on maps from the 1680s onwards as being anywhere from 20 to eventually 50 miles from the centre. Up until the building boom which followed the Great Fire of 1666 the 'outparts' were generally only a short walk away and generations of citizens had resorted to them for rest, sport and recreation. The elite meanwhile indulged in the traditional aristocratic pursuits based around horsemanship and hunting. With the extraordinary growth of the middle-class in London from the later seventeenth century onwards a new class of wealthy urban dwellers were formed who, while often able to afford to at least hire a carriage (if not own one), began to enjoy the simple pleasures of pedestrianism in and around their urban heartland. As MacLean, Landry and Ward have noted 'walking, once the resort of the indigent traveller, had become a fashionable form of recreation for the middle and upper classes'.[1] The beginnings of the vogue for urban promenading can be traced in John Gay's 1716 mock-heroic poem *Trivia: Or, the Art of Walking the Streets of London*. The poem itself asserts the pleasures, and perils, of a new form of bourgeois urban pedestrianism. Gay's walker eschews the carriages and sedan chairs of the wealthy in favour of a healthier and more frugal means of self-propulsion:

> Let Beaus their Canes with Amber tipt produce,
> Be theirs for empty Show, but thine for Use.
> In gilded Chariots while they loll at Ease,
> And lazily insure a Life's Disease;
> While softer Chairs the tawdry Load convey
> To Court, to *White's*, Assemblies or the Play;
> Rosie-complexioned Health thy Steps attends,
> And Exercise thy lasting Youth defends.[2]

Gay associates unhealthy carriages with the centrally-located spaces of the elite such as the Court, gentlemen's clubs and theatres; thus linking luxury and vice with 'the false Lustre of a Coach and Six'.[3] In contrast to this identification of a dissolute lifestyle with inner-city excess an increasing number of visual and literary accounts from the later seventeenth century began to depict the 'outparts' or 'environs' as they came to be called as a rustic idyll for leisurely walking and taking the air.[4]

A Sunday ramble

This paper will concentrate on one account, drawn from a large body of urban literature, the anonymous guidebook *A Sunday Ramble; Or, Modern Sabbath-Day Journey; In and about the Cities of London and Westminster* (1774-94). It will focus on four places visited by the two ramblers - the unnamed author and his companion the Captain - which illuminate various facets of the relationship between the peripatetic and the spatial. The book offered a guide to 'the various interesting scenes… of this Metropolis and its Environs' which included: mineral wells, coffee houses, places of public worship, taverns, public gardens, Sunday routs and bagnios.[5] This was a landscape far removed from the everyday commercial and domestic sphere; instead it was defined by the extremes of the sacred and the secular. Not only was the 'journey' specifically set on 'our weekly Holiday' but each chapter also began with the time of day starting with dawn and finishing after 9pm at night. Walking distances were measured as much in time as in distance, a very important consideration due to the dangers of walking abroad in the dark. Traversing the open fields around the city was an unwise and perilous undertaking where robbers who preyed on pedestrians, known as footpads, as well as highwaymen on horseback lurked at night. The joys of rambling were therefore temporally proscribed but also geographically limited to those places within 5 miles or so of the centre, which as Daniel Defoe put it, lay near enough London so that 'they can walk to it in the morning and return at night'.[6]

The first area our ramblers came to was Islington, a couple of miles from their start and a place featured in many of the earliest prints of the outer London environment. Such images depicted a landscape filled with figures talking, strolling and viewing the semi-rural zone that surrounded them. The circumambulatory routes around the capital were also shaped by meal-times and the set-times for imbibing a range of liquids at the large number of establishments that sprang up to cater for these demands. A walk in the outskirts was often a trawl from spa to inn to tea-room to tavern as much as anything else. The morning was devoted to the taking of mineral waters and so our two walkers began with a trip to Bagnigge Wells, a spa retreat just outside city. It was thronged with visitors at mid-morning taking the waters, enjoying the splendid gardens or reading the newspapers provided on a Sunday. By these means and the addition of a large assembly room the spa had been transformed from 'a little alehouse' to a place comparable to Vauxhall. Walking was not confined to movement between sites but was also one of the primary activities to take place at the resorts themselves. At the Wells the author relates that so popular was parading in the new assembly room that it had to be divided in two, creating one section for walking and one for eating, so that 'the waiters…were … [not] prevented from giving proper attendance to those dining'.[7] The gardens with their walks were

another draw and included architectural features such as a 'small neat cottage built in the rural stile' and a grotto 'large enough to contain twenty people'.[8] Architecture in this account is continually related to its capacity for absorbing crowds of people estimated at three hundred in this one resort on a Sunday morning.

Having established the defining features which determined the route and timing of *The Sunday Ramble* I will now focus on a number of locations that display different aspects of the spatial-peripatetic dynamic. One of the last places that the pair visited was Kensington Gardens, 'where we proposed to spend an hour in the elegant shades of the favourite retirement of his late majesty George II'.[9] They journeyed here by coach - which they were well-off enough to afford - as it was by now 8 o'clock in the evening. Such gardens had of course long served the upper classes as spaces for perambulation in their terraced walks and wildernesses, as had their indoor equivalents of long galleries and covered loggias.[10] The novelty in London in this period lay in the opening of such spaces to the broad mass of the public. The author described how such gardens could accommodate a whole host of activities, both the solitary and the sociable:

> Does the *ruralist* wish to indulge his meditations in private – he may plunge into the recesses of a thick grove, and enjoy his own reflections … Burns the *beau* to appear in a crowd of gaiety and elegance – he may visit the enchanting walks behind the Palace and Greenhouse… or seeks the *rejected lover* to forget the frowns of a capricious mistress – let him join the giddy crowd with the beau.[11]

The gardens were not completely open access. Servants were placed at the entrances to regulate the company and 'prevent persons meanly clad from going into the garden'. 'But notwithstanding the great care that is taken to preserve decency and decorum' a problem with the scribbling of obscene verses on the glass of the green-house persisted 'to the great offence of all those who are not lost to all sense of shame' with even 'many apparently virtuous females poring over the lines'.[12] The danger but also the thrill of perambulation was that the experience and the view could not be controlled; idealised architecture and landscape constantly collapsed into the brute realities of urban life. The author recounted that the Mall in S. James's Park was: 'chiefly used by the quality to walk in before dinner; and seldom visited by them in the evening, as it is too much frequented, at that time, by the more publicly complying females'.[13] The participation of respectable women in strolling and inhabiting such public places was a new phenomenon in London from the mid-seventeenth century onwards.[14] The experience of walking in the grounds of a palace might have been a thrillingly novel experience for the large numbers of the urban middle classes but it was an inherently traditional form of perambulation in a garden that they were undertaking. Increasingly men and women began to seek a closer involvement with nature in the fields and open spaces outside the city. Such practices became more self-conscious under the impact of the Picturesque from the later eighteenth century onwards but as with other cultural engagements with the environs, such as landscape views, were already well-established by the 1750s.[15]

The essentially family-orientated and middle-class nature of this new form of excursion is made evident in our Sunday ramblers' trip up Primrose Hill, situated about two miles north of the centre. The author commented that it was 'a place of very fashionable resort of the moderate Bourgeoiserie [sic], who usually lead their children there to eat their cakes and partake of a little country air'.[16] He then provides a wonderful account of a scene which was later illustrated by George Cruickshank as *Pastimes of Primrose Hill* (1791) which demonstrates other dimensions of the enlarged notion of the metropolitan that the act of walking engendered. (Figure 1)

The print shows Tom Cheshire, a cheesemonger, 'who is so remarkable in his patriotic affection for the place of his nativity that although he spends six

Figure 1: George Cruickshank, Pastimes of Primrose Hill, 1791. *Source:* British Museum.

days of seven in the very centre of it, the whole of the seventh is occupied in viewing it through a telescope from some of its most convenient and contiguous acclivities'.[17] As de Certeau noted the ordinary citizens live 'down below' and write 'an urban text … without being able to read it'.[18] The desire to make that text legible and totalize that experience through viewing directed many day trippers towards the highest points around the city.[19] Tom focuses his instrument towards the dome of S. Paul's, the symbolic centre of the city, and used on maps and in texts of the period as the point from which distances were measured.[20] The experience of architecture therefore was shaped not just by the act of walking but also by scopic practices which created an aerial scenography around the city constructed around its highest points. Such elevated positions were seen as physically desirable due to their clean air and lack of smoke but also as morally superior.[21] The spatial mapping that these pedestrian journeys created allowed for a kinaesthetic experience of the city: satisfying the sight with viewpoints, the smell and breath through clean air, sound through the relative tranquillity and taste through the gustatory delights available. If we free ourselves from the tyranny of the gaze and the visual, to which art and architectural historians have traditionally given primacy, the realm of the environs is revealed as a sensory smorgasbord in which the other senses were as important as viewing. Of course 'sites' do not simply equate with 'sight'.

Puffing up the hill behind Tom Cheshire is his neighbour Mr Zachary Save-all, a tallow chandler – 'dragging a four-wheel chaise behind him with four children in it, while his wife followed with his wig fixed upon the point of his cane, and his hat placed upon her bonnet'.[22] Mr Save-all has been:

> Somewhat longer in the accumulation of wealth and rotundity; and is therefore of course the *greater* man in the world; besides, Zachary has to boast, what is an object of infinite importance to a citizen that he has lived thirty years in the same house. Zachary's week-days are spent so very much alike his neighbour's that it would be inhuman to separate them on the Sabbath… but, as Tom's hobby-horse is perspective on that day, so is Zachary's exercise. For that reason Zachary has provided a vehicle… in which he crams four of his wife's children, and by lugging them up the side of a forty-five degreed angle, hopes to reduce a corporal magnitude which however, *great*, is rather inconvenient.[23]

Laura Williams has shown how perambulation was also influenced by new ideas about health and movement. It was thought to be one of the best ways to stimulate the necessary circulation of the fluids in the body, in line with Harvey's theories of the blood. This was deemed to be particularly important for urban dwellers whose lives were more physically circumscribed than was 'natural'.[24] Such satirical images of overfed City families resorting to the rural environs were a popular genre but they also bear witness to a new middle-class appropriation of the landscape around the town centre.[25] The association of rambling specifically with Sundays came about with the relaxation of Puritan attitudes from the early eighteenth century onwards. The Sabbath walk became acceptable initially as a means for pious reflection to aid the spiritual journey, as in Moses Browne's *Sunday thoughts: The morning's meditating Walk* (1750). The strength of non-conformism in the outer areas led to the fields around London being thronged with dissenters on Sundays. These outdoor meetings combined the spiritual with the possibility of more secular pleasures as the author of *A Trip from St James's to the Royal-Exchange* cynically observed:

> In my Peregrinations through the City, I could not help observing that the Dissenters are much degenerated from their former way of keeping the *Sabbath*… to have refresh'd the Joints with a Walk, or the Countenance with a Smile, would have been as bad as Sacrilege or Murder… But now also the Case is quite otherwise with too many of them, who can on the Lord's Day prefer *Saddler's Wells* to *Salter's Hall*, and a *Bottle* to the *Bible*.[26]

Nowhere represented this mixture of the sacred and the secular better than another stop on our ramblers' itinerary, the Pantheon in Spa Fields. It was built on the model of James Wyatt's Pantheon in Oxford Street (1769-72) or the Rotunda at Ranelagh (1742), a much grander pleasure garden in Chelsea. The latter was the largest of these structures on the truly gigantic scale of 150ft diameter and 555ft circumference. The main attraction was the interior which was specifically designed as 'a promenade'. (Figure 2) One observer commented on the sound created by the acoustic of the vast interior space: 'all was so orderly and still you could hear the whishing sound of the ladies' trains as the immense assembly walked round and round the room'.[27] A guide-book of 1793 states that 'walking round the Rotundo' was 'one of the pleasures of the place' while others referred to the parade more disparagingly as 'circular labour' or 'the ring of folly'. [28] The depiction of such spaces as scenes of confusion and gaudy ornamentation reflects the critiques of contemporary architectural theorists, such as Robert Morris and John Gwynn, who argued that the grotesque and the novel had first been introduced into architecture by the Goths and the Vandals. Thus the mixing of styles and breaking of classical order, as the hallmarks of the new commercial

Figure 2: Thomas Bowles, The Inside View of the Rotunda in Renelagh Gardens with the Company at Breakfast, 1753. *Source:* British Museum.

leisure architecture, were a symbol of the wider disorder of society and its moral decline.[29]

The Spa Fields Pantheon may have been designed by William Newton, who had been apprenticed to the designer of the Ranelagh rotunda, William Jones, and there are strong similarities between the two buildings.[30] The interior, for which no views are known (although a plan survives), according to our guide consisted of 'two galleries, reaching entirely round the whole [...] in the middle is a curious stove, with fire-places all round'; the chimney of which protruded through the roof.[31] The interior was of 50ft diameter, small compared to Ranelagh but still of a considerable size, and formed a space for strolling and display. The clientele was less refined: 'consisting of some hundreds of people of both sexes; the greater part of which, notwithstanding their gay appearance, were evidently neither more nor less, than journeymen taylors, hair-dressers, and other such *genteel* people'.[32] Indeed it was so crowded that: 'the noise of people's feet, together with the shape of the building, rendered it no bad similitude to what it was compared by a countryman present; who staring at the multitude of people in the spacious galleries, declared that it was the largest *beehive* he had ever beheld'.[33] For contemporaries the allusion here to Bernard Mandeville infamous satire *The Fable of the Bees* (1714) would have been evident. He used the 'Grumbling Hive' as a metaphor for the teeming activity of the commercial city fuelled by luxury and avarice: 'Vast numbers thronged the fruitful Hive;/Yet those vast Number made 'em thrive;/Millions endeavouring to supply/Each other's Lust and Vanity.'[34]

The Pantheon in the two earlier editions of the *Sunday Ramble* figures as a pleasure dome yet from 1777 this 'hive' of lust and vanity had become a non-conformist chapel, with symbolically 'the Statue of Fame on the top' removed.[35] As a chapel the building remained equally popular, attracting crowds of up to 2000. The Countess of Huntingdon, who formed her own denomination in 1783, took over the building and used the adjoining house, previously the Dog and Duck Inn, as her residence. This transformation from hunting inn to pleasure dome to chapel perfectly represents the layering of respectability and dissidence to be found in these outlying areas as well as the mutability of classical architecture at the time. The ideal form of the Pantheon suggests static uses but in practice it housed fluid and changing functions, only truly revealed to the visitors who strode its floors, heard its sounds and experienced the paradoxical juxtaposition of vast space and pressing humanity. Much of the urban literature of the period reflects this ambiguity towards the crowd and it is part of the environs' essential urbanity that they formed a space for sociability just as much as the centre.[36] Urban dwellers left the city on Sunday to escape its cramped conditions but flocked to large, open spaces outside the city paradoxically equally thronged with their fellow escapees.

Jane Jacobs in her *The Death and Life of Great American Cities* discussed how perceptions of strangeness and social distance vary according to the circumstances of city life and built environment.[37] In rambling through the London outskirts our eighteenth-century *Modern Sabbath-Day Journey* expands our notion of urban spatiality into the surrounding countryside to set up a more dynamic dialectic between town and country. It also provides alternative narratives for the Georgian city based not on notions of form, nor even function, but rather on contemporary social and phenomenological experience. These new understandings overturn traditional perceptions of classical architecture to reveal it not as an idealised construct but as the contemporary, contingent and continuously re-configured landscape of modern life.

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15 Timothy Clayton, *The English Print 1688-1802* (New Haven and London: Yale University Press, 1997).
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19 Christine Stevenson, "Vantage Points in the Seventeenth-century City," in *Tall Buildings in the London Landscape*, Michael Hebbert and Elizabeth McKellar (ed.), special issue, *London Journal* 33/3 (2008), 217-32.
20 Stephen Daniels, "The Prince of Wales and the Shadow of St Paul's," in Stephen Daniels (ed.), *Fields of Vision: Landscape Imagery and National Identity in England and The United States* (Cambridge: Polity Press, 1993), 11-42; McKellar, *Landscapes of London,* 31-55
21 There was a tradition of repairing to the capital's edge in order to survey the prospect as a metaphor for the political and moral pulse of the nation, first established by John Denham's topographical poem *Cooper's Hill,* 1642. See Matthew Craske, "Richard Jago's *Edge-Hill* Revisited: A Traveller's Prospect of the Health and Disease of a Succession of National Landscapes," in Richard Wrigley and George Revill (eds.) *Pathologies of Travel* (Amsterdam, Rodopi, 2000), 121-56.
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33 Ibidem, 49.
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35 *A Sunday Ramble*, 63.
36 For Richard Sennett the eighteenth century was a time when close physical contact in the city still signified order see, *Flesh and Stone: The Body and the City in Western Civilization* (London, Faber & Faber, 1994).
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3.3.3 Walking Through the Pain: Healing and Ambulation at Pergamon Asklepieion

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Abstract

Due to their curative function and their proximal relationship with patients' bodies, perhaps the sanctuaries most sensitive to the moving body in Antiquity were the Asklepieia. The high imperial period of second century CE saw enthusiastic Roman additions and renovations of earlier existing Asklepieia of Asia Minor and Greece, during which they became ubiquitous, manifesting themselves forcefully in the landscape through their architecture. This emphasis on the curation of healing spaces is not surprising since in Roman culture, the body occupied a privileged condition whereby its visible manifestations were considered as signs of character and identity. Furthermore, the numerous textual and material references to movement and healing in second-century medical literature indicate a link between body kinetic and architecture. Accordingly, this intrinsic link not only heightened in a healing environment but was also instrumentalized purposefully as a curing mechanism in Roman healing spaces. Therefore, these sanctuaries of healing were considered to be of utmost importance in their task of orchestrating and regulating citizens' bodies and thus the spaces through which they moved. In my paper, I offer an experiential reading of the healing sanctuary of Pergamon. I argue with the aid of this fairly well preserved site, that the healing sanctuaries of Asklepios located mainly in the countryside away from cities, not only mimicked the kinetic vocabulary of the Romanized cities they were linked to but also employed this kinetic lexis to create spaces for movement therapy. Through orchestration of armatures and other architectural elements, Romans developed visual, aural and haptic sequencing within the grounds of the sanctuaries to allow a form of locotherapy. Through the analysis of archaeological, literary and architectural evidence, my paper aims to achieve a phenomenological understanding of the kinetic body and its employment in Roman healing practices.

Keywords

Healing, kinetic, ritual, movement, phenomenology

> Golden Venus it is said, while on her way from the height of Eryx to the Idalian groves, driving her gentle swans, entered the shrine at Pergamum, where the great helper of the sick is present to aid and stays the hurrying fates and bends, a kindly deity, o'er his health-bringing snake.[1]

This mythical story by Statius is one of the many references to the much-revered god of Asklepios, the healer of the sick in Antiquity and his sanctuary at Pergamon. Approximately 25 km inland, established in between two rivers – Ceteios and Selinus – its neighbouring city Pergamon was located on the northern side of the Caicos Valley in the region of Mysia. This extensive Greco-Roman city had a remarkably long history, from its earliest phase of development dating back to seventh century BCE to its latest, a Byzantine phase of fourteenth century.[2]

At around 400 BCE the Pergamene Asklepieion was established at the existing religious sanctuary of an unknown deity located at a spring three km southwest of the city. This early Asklepieion consisted of a number of temples, the first of which was Asklepios Soter, an early healing building, a fountain house, and several altars. In the late Hellenistic period the sanctuary expanded southwards and took the form of a large rectangular court surrounded by porticoes, temples, and an enlarged so-called 'treatment building'. A gymnasium and colonnaded portico was also constructed to the west of the main complex. Beginning with the early Roman rule, this rather extensive Hellenistic sanctuary was gradually re-organized and over two centuries -through the addition of new structures, which were particularly positioned on the east and the renovations of the existing buildings- was transformed into a comprehensible axial space. By the time of Hadrian, around second century CE, the entire sanctuary assumed a readily coherent architectural language (Figure 1).[3] It is this specific period of renovations of the second century CE that provides the necessary fodder for the study of the link between movement induced by

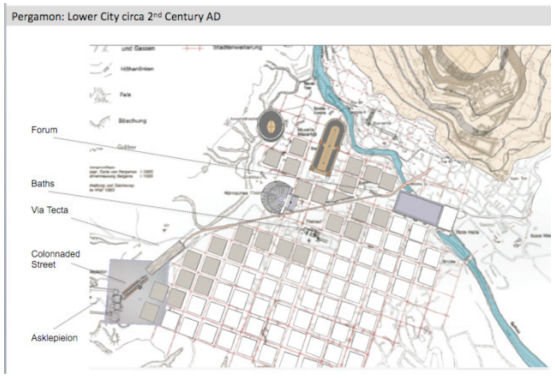

Figure 1. An areal view of the schematic model of Pergamon lower town *Source:* Base map DAI annotated by the author

architecture and healing in Asklepieia. To clarify this relationship, the analysis initially considers the positioning and orientation of Pergamon Asklepieion within its urban landscape and the reaffirmation of its ritual boundaries during the renovations. Subsequently, it explores the temple grounds to highlight the intricacies of architectural articulation that induce movement and bodily curation. Through phenomenology, the purpose of this study is to unveil the specific narrative that governs this extra-urban curative complex and illustrate the possible subjective interaction through the eyes of the 'moving' patient.[4]

The urban milieu and the asklepieion: via Tecta, Heiligestrasse and Hallenstrasse

Almost all Asklepios sanctuaries located in the territory of the Roman Empire associated with healing or therapeutic activities were exclusively located outside of the city gates or were sanctuary complexes, autonomous and self-sufficient and laid in the countryside located on major intercity thoroughfares. They were rejected, displaced entities that would otherwise pollute the ancient city fabric. Pergamon's Asklepieion, in its early life as a Hellenistic sanctuary, was also an extra-urban complex isolated three km away from the city centre. After the Roman expansion/renovations of second century, it was engulfed by the surrounding city. The solitary disposition of the sanctuary was jeopardized by urban sprawl during the second century, causing it to lose its autonomous quality. A main thoroughfare, which began at the Acropolis, proceeded down to the plain through the urban sprawl, diagonally crossing the lower forum and connecting to the bridge over the Selinos River terminating at the gates of the temple Asklepieion.[5] Once an inconsequential country road leading to the relatively loosely designed temple grounds, this main avenue assumed the role of a major avenue traversing the entire city as its civic and religious functions culminated at the propylon of Asklepieion. This civic urban density adjacent to temple grounds posed a new design challenge. As there was an urgent need to separate the realm of Asklepios, the milieu of the ill, from that of the healthy, the renovations to the Asklepieion now included the last 500 m stretch of the main avenue. Burdened with the responsibility of marking a ritual boundary, much of the main avenue was transformed into a colossal Via Tecta – a covered walkway – while the last 130 meters was turned into a colonnaded sacred way – Heiligestrasse –. The two individual stretches were built architecturally, spatially and programmatically distinct from each other. Architecturally, the 20 m wide and 500 m long Via Tecta with its large pillars, its massive vaults and its monumental size provided a stark visual contrast with the slender and elegant unfluted columns and the relatively human scale environment of the colonnaded street enhanced with the help of its segmented travertine paving. The two sections were also spatially distinct. The Via Tecta as a closed and finite thoroughfare with heavy masonry, its bustling atmosphere of shops and food vendors, posed a contradiction to the openness, translucency and breadth of the colonnaded street. These two sections of streets were deliberately detached and slightly slanted to be perceived individually by walkers. The pilgrims approaching the sanctuary were displaced from their civic surroundings and civic identities as they exited the Via Tecta and were re-placed, repositioned mentally and physically into a ritual realm of healing as they entered the colonnaded street. The definition of a terminus and displacement was reinforced by visual inaccessibility. Walkers coming out of the Via Tecta could not catch any glimpse of the entrance to the temple and instead they perceived a wall of receding columns. Several views taken from the 3D model indicate that there was no direct visual relationship between the two armatures (Figure 2). It is possible that this offset relationship was created purposefully to startle the visitors and was intended to cause a mind shift as they contemplated proceeding towards the colonnaded sacred

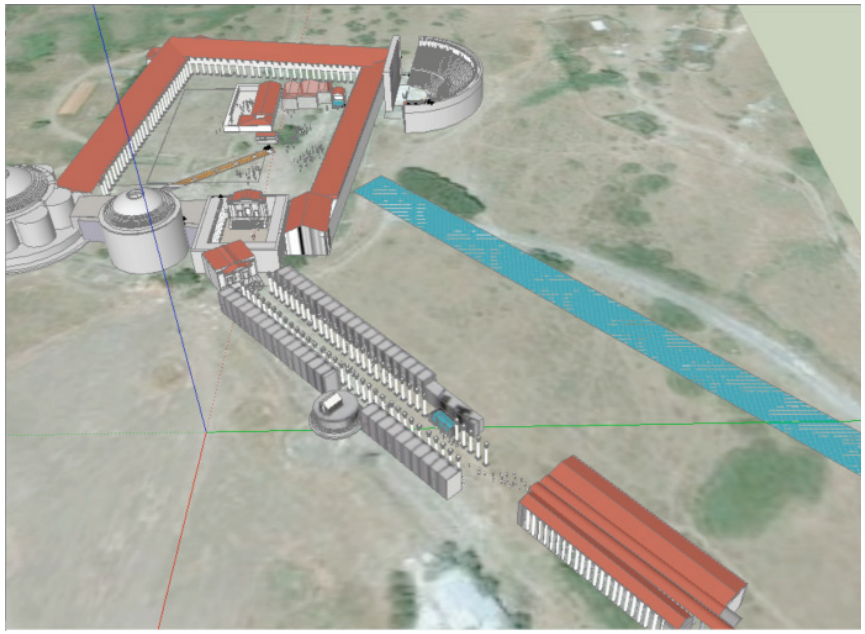

Figure 2. 3D Sketch-up visualization of the temple grounds on Google Earth

way. As Petsalis-Diomidis states 'as pilgrims approached the sanctuary and expectation mounted they mingled seamlessly with marble likenesses from the public mythological and religious realms.'[6]
This moment by moment unfolding of ritual meaning created a significant crescendo that peaked at the gates of Asklepieion. Finally at the gates the pilgrims had to turn and adjust their views once again to climb the stairs of the propylon which was itself 52° off-centre. David Macauley in *Walking The Urban Environment* defines urban strolls as a way to perceive our environment whereby they '… orient the lived body while ceaselessly dislocating and relocating us within new boundaries, regions, and territories.'[7] In the light of this, the deliberate act of disconnection does indeed define a new territory, causing a mental dislocation followed by its relocation in a new mind-set.

Within the bounds of the sanctuary precinct

The various changes in the architectural language and spatial distribution that were visible in Pergamene Asklepieion, mirrored the many alterations the cities of Asia Minor went through over 300 years. By the Roman Imperial period both displayed a palimpsestic bricolage of Hellenistic, local and Roman architecture. 8 Mid second century spatial and architectural reconfiguration of the complex drew on Roman Imperial architectural order and composition utilizing armatures, connective tissues, framing porticoes and other unifying architectural elements to encourage and direct movement. However this kinesthetic experience, achieved through this architectural vocabulary, was deliberately more acute than that which existed in the cities.
After the Roman intervention of second century, with its theatre, library, Propylon and forecourt, temple of Zeus-Asklepios and later rotunda, latrines, bathing areas, its forum and its surrounding walls, the sanctuary of Asklepieios had all the trappings of a compressed Roman Urbis. In truth, these Hadrianic restorations and additions to the already existing early Roman – most likely Trajanic – and pre-Roman Hellenistic structures – Asklepios Soter, Hygieia, Telesphoros and Apollo Kaliteknos – provided the necessary foundations for a timeless city: with both its civic and religious edifices complete with its fountains, its theatre and public gathering areas, – such as the forum and stoas – the complex was designed with such complexity and unity that it encouraged no adjustments to its existing 'encyclopedic framework'.[9]
Here, there was no room for public display of local wealth or any other form of personal display but the Imperial vocabulary and the therapeutic language of the reigning deity Asklepios. Providing various facilities the complex grounds entailed a range of spaces, an abaton – a dream room –, a library, a theatre, a healing centre, pseudo-agora exhibition spaces for healing testimonies and spaces for rituals and processions. These range of spaces and their architectural elements practically constituted a well-orchestrated therapeutic environment that provided holistic cures and ritualistic, religious and medicinal activities within its walls. There was no one specific structure that mediated healing but the entire space contributed to the healing process and imposed its rules upon the mind and upon the body of the sick pilgrim.
In *On the Margins of the City of Rome*, classicist John R. Patterson explores the physical, ritual, economic and legal boundaries governing ancient Rome. His definitions of boundaries also covers what the Roman jurists called Continentia Aedificia, an expanse of built form that reached beyond the city walls.[10] By this definition, the sanctuary was in fact a Continentia Aedificia which entailed its own ritual demarcations. The ritual boundary that was already expressed successively after the Via Tecta through the Heiligestrasse and the closed cradling architecture of Hallenstrasse reached its high point at the propylon. The handsome forecourt that prepares the visitors provided an ascending and then descending viewpoint into the courtyard of the sanctuary. In other words, as the visitors stepped into the propylon and moved through these undulating spaces, they became aware of the ritual-sensitive gaze that governed the entire complex.
The body and mind of the pilgrim was first prepared to enter the religious boundary by the forecourt after passing through the gates of the temple. The rectangular geometry straightened the viewer's gaze and body to fit the true way to approach to the temple. The rite of passage, a true displacement from civic boundaries, was completed as the visitor stepped into the temenos through the propylon, raised above ground level to deliberately mark this transition. Aristides, a Greek rhetoric of 2nd century and a relentless hypochondriac who famously spent months on end in Pergamon Asklepieion, defined the sacredness of this area and the importance of the propylon by giving details about the ceremonies carried out, which clearly point out the importance of this pre-preparation and prepositioning: 'I stood at the propylea of the temple. Many others were also gathered together as whenever there is a purificatory ceremony at the Temple. And they wore white garments and the rest of us an appropriate form.'[11]

The courtyard

Upon passing through the forecourt, the pilgrim once again had to reposition by descending the staircase to a large courtyard housing various functions. Bathing and other therapeutic activities occurred in the fountains and within the courtyard while prayers and dedication were carried out in cult niches and temples located within this courtyard. Aristides comments on

the importance of the appropriate positioning of the body while carrying out these activities, where the movements of various bodies of pilgrims were put on display, loosely choreographed around the existing shrines, wells and temples within this courtyard. These armatures defining the courtyard acted as hinges to which bodies would be attached and manipulated. As Aristides states more than once in his sacred tales:

> I was lying in accordance with a certain dream vision, between the doors and latticed gates of the Temple and the god gave me the following verse…Then I anointed myself in the open air, in the enclosure of the temple and baths in the Sacred Well and there was no one who believed what he saw.[12]

There was an inherent display of movement apparent in the designing of the courtyard and the porticoes. Petsalis-Diomidis chooses to categorize these spaces of pageantry as a part of a 'spatial taxonomy' apparent in the sanctuary. This terminology however brings a certain inertness to this otherwise active space.[13] Bathing and other therapeutic activities occurred here and within the courtyard while prayers and dedication was carried out in cult niches and temples located within this courtyard. This area was teeming with patients, pilgrims, temple staff and even spectators. Aristides always stresses his bodily actions, his ablutions, his dedications and even his exercises that he performs in front of his 'spectators'. His emphasis on the exactitude of his actions bespeak the importance of the appropriate positioning of one's body according to the various sacred wells and altars as well as the timing and sequence of each activity in the courtyard. Drawing water from the Hellenistic fountains whose stairs descend touching the sacred ground water, and making libations or giving prayers to the temple altars whose steps ascend towards the heavenly statues of gods and goddesses, the visitors would be in constant undulation and oscillation within this open space. These armatures defining the courtyard served as signposts to which bodies would be attached and manipulated. This movement therapy – locomotion therapy – needless to say not only had a component of temporality and therefore an inevitable ephemerality but were also strictly tailored according to each individual person and his/her illness.

Second-century Galenic theory, an amalgamation of Socratic and Hippocratic medical notions, clearly indicates that disease was not seen as a separate entity and was accepted as an imbalance, a disorder of the human body, which itself was a wholesome unit composed of separate parts [*moria*].[14] Inevitably the healing spaces created, were not geared to address the individually defined illnesses but were designed to cure the entirety of the citizen's body and its humors. These humors were not static entities but were flowing through the body of the individual thus this idea of the kinetic was already heavily incorporated into the medical *corpus*. As the human body with all its humors was taken as an extension of the natural world, its healing environment, Asklepieia were designed to house therapeutic rituals that would activate the body.

Throughout the day ritual boundaries within the courtyard would alter in locality and time both according to individuals and according to communal rituals. A ritual often mentioned regarding this particular sanctuary of Asklepieion is that of the lighting the lamps. After the night fell, the patients who would by now retreat to their chambers would place gifts on a table or altar. The temple staff Nakoroi, would come around to light the sacred lamps located in the incubation chambers and around the temple.[15] The priests would enter and after reciting the evening prayers to the god asking for divine help, collected these votive gifts. Later, the lights were put out and the patients fell asleep hoping for a vision for an ailment. These types of daily rituals would mark territories within the courtyard, the incubation rooms and the shrines dotting the temple grounds.

The colonnaded porticoes and other spaces

As early as the second century, Hippocrates argued for the benefits of walking as an exercise for the soul and the body; Vitruvius, the architectural writer who lived in the time of Augustus, listed the benefits of walking with exceptional scientific precision and stressed its effects on the necessary modulation of dry and humid body, and underscored the importance of walking in open air and its benefits to one's eyesight as well as to body's humors.[16] Vitruvius' contemporary Aulus Cornelius Celsus who had written an extensive work on Medicine entitled *De Medicina*, also believed in the curative powers of walking specifically for epilepsy patients and the *inbecilli* – what he termed the weaklings who spent too much time sitting and reading. Furthermore, he talked about the correct ways of walking, giving great emphasis on the type and condition of the roads on which one should walk.[17]

Within the courtyard, the pilgrims were encouraged to walk and enter various buildings and spaces allocated for differing functions such as the library, the theatre or the incubation chambers, all of which required specific bodily gesturing and positioning. The placement and movement of the sick bodies were curated and regulated by several pathways that led to these specific spaces. The colonnaded portico encouraged a circumnavigation around the courtyard leading the patients to the library and theatre, while encouraging them to converse and walk. The theatre and the library may have encour-

aged a more passive stance to healing but also provided pleasures of a more secular nature. Exploiting the favourable topography, the sanctuary was designed to include vaults, substructures and underground passages that hid and enveloped the pilgrims as they ebbed and flowed from one activity setting to the next. The cryptoporticus underneath the south portico, which was designed to serve as a covered walkway with benches at intervals meant that one could navigate and continue exercising indoors on hot days. The underground tunnel diagonally crossing the courtyard, (70 m long) with stairway at each end urged the pilgrims to take undulating pathways back and forth between the so-called rotunda or 'treatment building' and the courtyard.

The precinct at the end of this tunnel was situated outside of the peristyle courtyard. Although it mirrored the shape of the Temple of Zeus-Asklepios with its circular shape and its oculus it was significantly less visible. W. Radt argues that this was a particular move to show a harmony between the architectural features of the temple with this edifice. However, the building remains quite obscure to the visitor from the outside and this repetitious harmony would not be readily visible when viewed from within the courtyard.[18] Touching the southern stoa at its south eastern tip only the upper part of the structure was noticeable from the courtyard. The building consisted of a substructure and a superstructure, the latter about which there is limited archaeological evidence, with a small indirect entrance with a flight of stairs from the courtyard and a slightly larger one in the form of a rectangular niche accessible only through the south stoa. The purposefully obscured entrances, and the 70 m long inclining tunnel lit by skylights at intervals, also included a channel through which a small stream of water flowed through to the building encouraging the walker to follow through into the structure. Furthermore, the configuration of the spaces inside this rotunda with its circular walls and its six hemispherical apses containing water wells encouraged the pilgrim to move still forward and circulate this very peculiar healing space. Even though the archaeological evidence does not clarify its function, this precinct provides clear markers for understanding the movement and body-oriented medical approach.

Conclusion

In contrast to today's healing establishments, the Asklepieia demanded active, mobile and ambulatory visitors and rejected the notion of passive, incapacitated, and terminally ill patients. The sick subjects that the Asklepieia would welcome were principally active agents, to some extent able to carry out physical activities, ready to interpret their own dreams and experience the provided cures directly through their own actions within the built environment. Thus, the integrative cures depended on the movements and the positioning of these active participants hence the design and configuration of spaces within the temple precinct were arranged accordingly.

The increase in type and number of structures and the newly introduced armatures to the Pergamene Asklepieion during the second century, created a closely-knit architectural web. A web, through which the pilgrims and/or patients flocking to the sanctuary had to pass, and through which they were manipulated, moved, placed and displaced during their process of healing. The architectural details and spatial reconfigurations emphasized and curated movements of the patients, placing and displacing them in precise calculated ways, in an effort to facilitate a holistic healing process.

This interaction of mind, body and the built environment remains an uncharted territory particularly in the healing sanctuaries of the ancient world. This is partly due to the fact that available literary sources giving glimpses of everyday wanderings – primarily Roman elegies and satires – are urban genres staged specifically in the cityscape.[19] Publications on travel and pilgrimage such as the valuable edited volume of Elsner and Rutherford do, nonetheless, tackle the subject of movement and the sick body in transit or in extramural sanctuaries.[20] However, in reference to the historiography of healing spaces the literary field and architectural field frequently miss each other in scholarly conversations. The field research is usually teamed with epigraphic work and is kept separate from the philosophical/literary groundwork. In this context the Asklepieia of the Greco-Roman world need to be re-evaluated not as the origins of hospitals but as healing spaces geared towards the manipulation of moving bodies. In this light, Asklepieion of Pergamon, provides a valuable model for illustrating Greco-Roman approaches to healing and its undisputable dependence on spatial design.

1 J. H. Mozley (ed.), *Statius P. Papinius* (London: W. Heinemann ltd., 1928), 184.
2 W. Radt, "The Urban development of Pergamon," in *Urbanism in Western Asia Minor: New Studies on Aphrodisias, Ephesos, Hierapolis, Pergamon, Perge, and Xanthos*, David Parrish and Halûk Abbasoğlu (eds.), *Journal of Roman Archaeology* supplement 45 (2001). See also George Sarton, *Galen of Pergamon* (Lawrence: University of Kansas Press, 1954). Various scholars including George Sarton maintain that Pergamon's renaissance began during this period, under Attalos I Soter (241-197) and reached its climax under his son and successor, Eumenes II (197-60). Without a doubt, a significant amount of publications on Pergamon - beginning with Wilhelm Dörpfeld in 1900- have concentrated on particularly this Hellenistic- Attalid era that lasted half a century and produced remarkable sculptural and literary works. It is these sculptural and literary works that drive the scholarly conversation.
3 Adolf Hoffmann, Harald Hanson, Willy Zschietzschmann and Gioia De Luca, "Das Asklepieion," in *Altertümer von Pergamon* (Berlin: De Gruyter, 2011).
4 As Favro stresses in her article "Reading the Augustan city," the city is like a text that is read by its viewers and 'authors of urban narratives in antiquity rely heavily on their readers'. Diane Favro, "Reading the Augustan city," in Peter James Holliday (ed.), *Narrative and Event in Ancient Art* (Cambridge UK: Cambridge University Press, 1993), 232.
5 The characteristics of this main road are explained thoroughly by both Hofmann and Radt through archaeological and literary evidence. The general width of the road fluctuates between 5-6 metres, corresponding to two lanes. Other elements of the road are hairpin turns. Radt also states that there were large-scale open sewers and also fresh water pipes that would pose as obstacles in the road system. For more information see W. Radt, "The Urban development of Pergamon," (2001); Adolf Hoffmann, "Wege der Kommunikation in kleinasiatischen Städten. Vom Wandel der Auffassungen in hellenistischer und römischer Zeit" in Dieter Mertens (ed.), *Stadtverkehr in der antiken Welt: internationales Kolloquium zur 175-Jahrfeier des Deutschen Archäologischen Instituts Rom, 21. bis 23. April 2004* (Wiesbaden: Dr. Ludwig Reichert Verlag 2008), 35.
6 Alexia Petsalis-Diomidis, *Truly Beyond Wonders: Aelius Aristides and the Cult of Asklepios*, (Oxford: Oxford University Press, 2010), 173.
7 David Macauley, "Walking the Urban Environment," in Gary Backhaus and John Murungi (eds.), *Transformations of Urban and Suburban Landscapes: Perspectives from Philosophy, Geography, and Architecture* (Lanham, MD: Lexington Books, 2002), 194.
8 On palimpsestic vista of Rome and its sites/sights see David H. J. Larmour and Diana Spencer, *The Sites of Rome: Time, Space, Memory* (Oxford and New York: Oxford University Press, 2007), 77-8.
9 Petsalis- Diomidis' definition of the Asklepieian architectural layout 'an encyclopedic, all encompassing sacred framework', Petsalis-Diomidis, *Truly Beyond Wonders*, 3.
10 J.R. Patterson, "On the Margins of the City of Rome," in Valerie M. Hope and Eirean Marshall (eds.), *Death and Disease in the Ancient City* (London: Routledge, 2000), 90. He lists the city walls, the pomerium as the ritual boundary marked out by a series of shrines and processions, such as those of Terminus on the Via Laurentina, Fortuna Muliebris on the Via Latina and Dea Dia on the via Campana which formed the boundary of the archaic city. He then defines the economic boundary as the customs boundary with 37 gates, which allowed taxes to be levied on goods to be sold 90 while he underscores the less precise boundary Continentia Aedificia devised by the Roman jurists. These boundaries served specific activities and had their own rules.
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12 Aristides, *Hieroi Logoi*, XLVIII; Behr. *Aristides*, (1981), 71.
13 Petsalis-Diomidis, *Truly Beyond Wonders*, 170.
14 Georg Helmreich (ed.), *Galēnou Peri kraseōn tria. Galeni De temperamentis libri III* (Lipsiae: in aedibus B.G. Teubneri,1904), 9.
15 Morris M. Weiss, M.D. "Telephoros-Neglected Son of Asklepios," *Louisville Medicine, Jefferson County Medical Society* 40, n. 11 (1993), 32-4; Richard Caton, *Two Lectures on the Temples and Ritual of Asklepios at Epidauros and Athens* (Hertford: S. Austin and Sons, 1899).
16 M. H. Morgan (ed.), *Vitruvius: the ten books on architecture of Vitruvius Pollio* (New York: Dover Publications, 1960), 155.
17 W. G. Spencer (ed.), *Celsus: De Medicina* (Cambridge, Massachusetts: Harvard University Press,1971), 49.
18 Radt, "The Urban development of Pergamon," 267.
19 Miller exemplifies the urban oriented satires of Horace, Ovid and Juvenal. Paul Allen Miller, "I Get Around: Sadism Desire and Metonymy on the Streets of Rome with Horace, Ovid and Juvenal" in *The Sites of Rome: Time, Space, Memory*, ed. David H. J. Larmour and Diana Spencer (Oxford; New York: Oxford University Press, 2007), 138-67.
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3.3.4 Raymond Unwin Tramping the Taskscape

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Abstract
In an 1897 lecture Raymond Unwin imagined the rich relational thought processes of a man at home making a shoe for a friend: concentrating intensely on the work to hand and striving for comfort and durability, the man simultaneously thought of 'the foot the shoe has to fit, of the life [his friend] leads' and the circumstances in which the shoe would be worn. In the same essay that Tim Ingold coined the phrase 'taskscape' to examine such intermeshings of craftsman, environment and social relations, he also defined landscape as 'the taskscape in its embodied form: a pattern of activities "collapsed" into an array of features'. For both Ingold and Unwin gardening is an activity of the same order as craft. By extension landscapes such as Hampstead Garden Suburb can be fruitfully read as an embodiment of their inhabitants' gardening taskscapes. If so, they are structured according to lines Unwin himself drew across English fields. Describing the emergence of these lines from his imagination Unwin emphasised the role of walking in his design process: it was as he 'tramped' the site that they appeared. In his use of 'tramping' Unwin identified a very particular mode of perambulation, identical to that ascribed by Ingold to the wayfarer. His survival depending on heightened perceptions and an ability to tune movements to suit emerging situations, Ingold's wayfarer engages with a taskscape like a craftsman forming 'a line that advances from the tip'. This description of walking as a craft establishes a contiguity between Unwin, the tramp laying out a garden suburb, and the shoemakers and gardeners later working between the resultant lines. This paper situates Unwin's deployment of the word 'tramp' within contemporaneous usage to explore these overlaps and to posit his landscapes as the unitary result of various walking and craft taskscapes, all foregrounding what Ingold calls 'the cutting edge of the life process itself'.

Keywords
Arts and crafts, gardening, Ingold, town planning, tramping, Unwin

The importance of the practice of gardening to an understanding of Barry Parker and Raymond Unwin's two seminal landscapes is clear from their names; throughout their history Letchworth Garden City, designed from 1903 on, and Hampstead Garden Suburb, begun two years later have been referenced in gardening discourse.[1] Meanwhile the existence of Ruskin Close in Hampstead also indexes in nomenclature the debt those founding and designing the garden suburb owed to one of the fathers of the arts and crafts tradition. Both landscapes also appear in narratives of that movement, very often as a democratic but diluted culmination of its ideals.[2] The physical realities of Hampstead and Letchworth manifest this dual influence of gardening and craft; collapsing any distinctions between the different practices of making on view, the emphasis instead is on a human engagement with natural elements or materials. Indeed, their principal author, Unwin hoped that the creativity of this engagement would be evident in his landscapes, suggesting that the purpose of town planning was to 'allot and preserve' a 'space and sphere […] within which [the individual] may be free to exercise his liberty and initiative.'[3]

While they became increasingly less strident in their articulation, romantic socialist ideals such as this persist in Unwin's writings on planning throughout his life. They do so even as he simultaneously contributed to the emergence of a more pragmatically political version of socialism in Britain. These ideals also complicated his own role as chief designer of such vast suburbs as Letchworth and Hampstead. The hierarchy established by town planning whereby a figure such as he assumed a disproportionate power in laying out these residential landscapes ran counter to the democratic visions emanating from his principal intellectual mentors, Edward Carpenter and William Morris. Unwin's wariness regarding this power surfaces in his influential 1909 book, *Town Planning in Practice*, when he warns against planners 'usurp[ing] the functions of a dictator'.[4]

The description of the planning design process which follows this warning stresses the importance of walking the ground. Not leaving tangible traces in the manner of gardening and craft, the role of this walking in the creation of Letchworth and Hampstead is not inscribed as obviously on the landscape. Yet once again, the nomenclature deployed in both is revealing in that it is specific about the pedestrianism that was important in their conception. Letchworth boasts a cul-de-sac called 'Camper's Walk' while Hampstead is graced with both 'Wordsworth Walk' and 'Coleridge Walk'. All three allude to an English peripatetic tradition, associated with romantic vagrancy, which had become increasingly popular during the Edwardian era. Offering a sense of freedom and a communion of mind, body and world, this tradition posited walking as an 'act of resistance' to an industrialised and respectable soci-

ety.[5] In the term used in a pivotal sentence in *Town Planning in Practice*, it was this iteration of walking which Unwin referenced:

> As the designer walks over the ground to be planned, he will picture to himself what would be the natural growth of the town or district if left to spread over the area… As he *tramps* along there will arise in his imagination a picture of the future community […] and the main lines of his plan should take shape in his mind before ever he comes to put them on paper'. [6]

Unwin's use of the practice of 'tramping' can be seen as an attempt to position the planner's work on a par with the gardening and crafting that completed his landscapes - the human vitality invested in all three dissolving any hierarchies that might otherwise arise between he who structured the landscape and those that worked between the planner's lines.[7] Advancing this idea, I will draw parallels between the Edwardian discourse on tramping and that surrounding making within the arts and crafts movement. And as it weaves 'wayfaring', a type of walking very similar to Unwin's tramping, into a search for a substratum linking and equalising all forms of making, I will use the anthropologist, Tim Ingold's concept of the 'taskscape' to do so.[8] Offering a means of thinking from the act of making *outwards* into the landscape, the taskscape seems an appropriate vehicle to analyse Letchworth and Hampstead - authored by a figure with an ambivalence towards his leading role, Unwin's landscapes are also tangibly the work of generations of anonymous gardeners.[9]

Ingold, proposed the idea of the taskscape in his 1993 essay "The Temporality of the Landscape" as a means of thinking through the intermeshed and complementary relationships that exist between people and their environments when they are involved in ordinary household 'tasks'. For Ingold a task is 'any practical operation, carried out by a skilled agent in an environment, as part of his or her normal business of life'. Adding that 'tasks are the constitutive acts of dwelling', Ingold draws attention to their social aspect.[10] The rich relational thought processes involved in their performance, he suggests, create connections which ground people in both their environment and their society. They take their place and their meaning 'within an ensemble of tasks, performed in series, or in parallel, and usually by many people working together'. It is this gathering 'of tasks, in their mutual interlocking' that Ingold terms a 'taskscape'.[11]

Conceived in opposition to labour, it is perhaps no surprise to find that in the industrialised world, the taskscape 'persists' for Ingold 'in those contexts in which we claim to be "at home"'. '[A] domain in which activities are thought

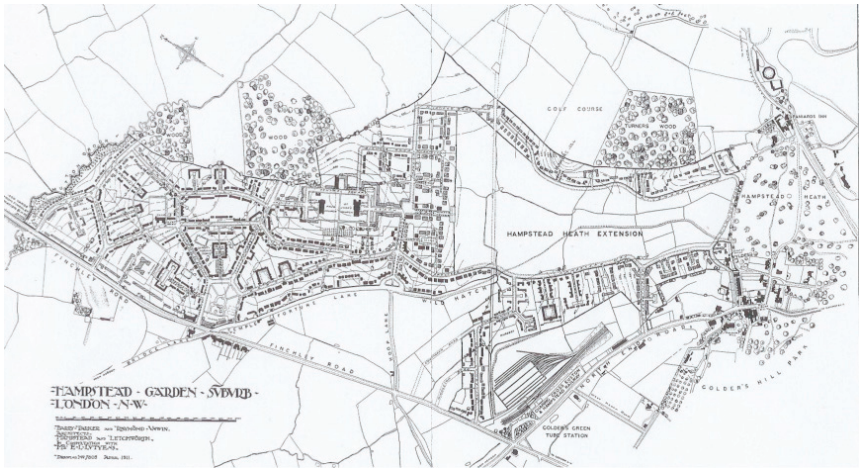

Figure 1. Parker and Unwin, Hampstead Garden Suburb Site Plan, 1911. *Source:* Raymond Unwin, *Town Planning in Practice*, T. Fischer Unwin, London (2nd ed.) 1911

of primarily in terms of tasks', home is 'that zone of familiarity which people know intimately, and in which they, too, are intimately known. As such, it encompasses all the settings of everyday life: whether the house, street, neighbourhood, or place of work.'[12]

The fact that workers can feel 'at home' in factories indicates to Ingold that home 'may be thought of as a domain of activity that has remained relatively impervious to capitalist relations of production – a relic of the householding economy of the pre-industrial era.'[13] Referring to Heidegger, he groups his ideas about tasks and home into what he terms the 'dwelling perspective' and suggests that 'the dynamic of industrial society' lies in a dialectical relationship between this and a 'commodity perspective'.[14]

A curious dovetailing exists between such ideas and those explored by Unwin in an 1897 lecture entitled 'Gladdening v. Shortening the Hours of Labour' which reveals how he feels his countrymen should spend their time.[15] Like Ingold, Unwin sets up a dichotomous relationship between labour and that more 'sociable'[16] work done in the realm of the home, the latter being pitched as a pre-existing 'baseline of sociality'[17] against a modern system structured on the creation of 'wage slave[s]' and 'consumers'. As Glenn Adamson points out, craft was invented as an 'other' to industrialism, promising escape from its strictures.[18] Thus, a man making shoes in industrial quantities would, according to Unwin, have 'no interest in his work' as there were 'no human relationships in it' and he would be 'lead to think of [nothing] but how many he can make and how much he can earn in a given length of time'. However in contrast a man making a shoe for a wife or friend would concentrate intensely

Figure 2. Hampstead Garden Suburb, 30 July 2010. *Source:* photograph by Paul Tierney

on the work to hand. Striving for comfort and durability, he would simultaneously think of 'the foot the shoe has to fit, of the life the [proposed recipient] leads' and the circumstances in which the shoe would be worn.

Enjoying and taking an 'intelligent interest' in the making of the shoe because his heart was 'in it', the man would work to the best of his 'power and knowledge'. Like Ingold, Unwin imagined that the ramifications of the 'well-doing' of such a task rippled beyond its immediate scene, impacting upon the man's inhabitation of space. Pieces of information which had previously been disconnected in his mind would be given 'a definite place and relation' within a world-forming system defined by a chosen hobby such as gardening. His 'interest always active' within him, a gardener would be 'constantly on the look out for anything explaining it and which it will explain.'[19]

In this light, Unwin imagined the residents of his landscapes, their eyes attuned to nature through their gardening activities, walking his landscapes. The town planner having planted each road with a different tree, such residents would adjust their walks to and from work depending on arboreal seasonal cycles.[20] Similarly, an amateur 'worker in iron' making a latch would 'think of it at all times', noticing 'beautiful examples [to] imitate and improve' upon. Imagining such a man preparing the ironmongery for a door his neighbour was 'making for his cottage', Unwin suggests the interlocking of various tasks within a community which Ingold defined as emblematic of the taskscape.[21] As residents, wearing shoes made by loved ones, walk iteratively through his suburbs they are in a very real way involved in bringing themselves, the community the landscape and its buildings into being.

Just as a piece of music is not present 'in the score', but only in the playing, a taskscape, according to Ingold cannot 'pre-exist' but comes into bring 'when it is being performed.'[22] However, tasks such as the making of ironmongery 'congeal in a solid medium', to use Ingold's terminology. Attempting to capture this, he suggests that 'the landscape […] must […] be understood as the taskscape in its embodied form: a pattern of activities "collapsed" into an array of features'. Given that human beings weave their movements and lives amongst natural cycles, Ingold suggests that 'the forms of the landscape arise alongside those of the taskscape, within the same current of activity'. [23] And given that 'the activities that comprise the taskscape are unending, 'the landscape is never complete: neither "built" nor "unbuilt", it is' instead 'perpetually under construction'.[24]

A vision of the built environment as the counter-form of a community's ongoing daily actions exists within WR Lethaby's 'Of Beautiful Cities'. A text known and valued by Unwin, it proposed that work on city reforms 'should begin on the humblest scale by sweeping streets better, [and] washing and whitewashing the houses.'[25] Along with a passage transcribed from 'Of Beautiful Cities'. Unwin kept amongst his papers one from Lethaby's 'Art and Workmanship' which similarly advocated a town planning based on small acts: 'If ever we are to make civilisation on a plan, we shall have to begin by recognising that it is founded first of all on labour.'[26] In this model, the form of the city is not pre-determined but instead emerges out of a cumulative and communal process. The beauty of the result rests on the creativity and acuity of the decisions being made on the spot at the many 'leading edges' of production which such a model of city-forming opens up: 'an instinct in the people' as Unwin described it 'to do just the right thing.' [27]

Inspired predominantly by John Ruskin's seminal text, 'The Nature of Gothic', amongst Arts and Crafts practitioners it was such 'workmanship of risk' which was most valued. As quoted by Ingold, David Pye defined this succinctly as work in which:

> the quality of the result is not predetermined, but depends on the judgement, dexterity and care which the maker exercises as he works. The essential idea is that the quality of the result is continually at risk during the process of making.[28]

Ruskin claimed that asking a craftsman to rely upon his own instincts for the forms with which he was tasked would unearth a life-force heretofore

untapped. While perhaps competent at reproducing pre-determined forms, when challenged in this way the worker's execution would, according to Ruskin, become 'hesitating':

> he thinks […] and ten to one he makes a mistake in the first touch he gives to his work as a thinking being. But you have made a man of him for all that. He was only a machine before, an animated tool.[29]

Ingold's longstanding study of such workmanship of risk is sustained by the ontological implications of the close (or collapsed) relationship it fosters between humans and their environment. He suggests that this relationship gives us glimpses of our existence, not as organisms *within* the environment, but instead as part of 'one indivisible' and continuously developing 'totality' *with* it from which form is 'emergent'. Embedded in the craftsman's 'creative involvement in the world' can be seen, according to Ingold, 'the cutting edge of the life process itself, the ever moving front of what Alfred North Whitehead called a "creative advance into novelty"'.[30]

By locating a common source at such a depth Ingold can claim that the 'cutting edges' across a variety of different practices such as making, gardening and child-rearing are manifestations of the same life processes and so, for instance, his essay "Walking the Plank" conflates sawing and walking. [31] Having to continuously adjust his movements to the fibrous particularities of the plank, Ingold suggests that the

> carpenter, a workman of risk, is like the wayfarer who travels from place to place, sustaining himself both perceptually and materially through a continual engagement with the field of practice, or what I have elsewhere called the 'taskscape', that opens up along his path. In this respect he is the complete opposite of the machine operative, a workman of certainty, whose activity is constrained by the parameters of a determining system.[32]

In many of Ingold's writings there is a shuttling between the craftsman and the wayfarer, each being used to explain the practice of the other.[33] Emerging from such analogies is the particularity of the walking which interests Ingold - he uses the term wayfarer to describe perambulation with an 'itinerant character,'[34] in which there is a 'coupling between movement and perception.'[35] Unlike a traveller, who merely traverses a predetermined route, Ingold's wayfarer is free to respond to that which he sees before him, and hence like a craftsman he forms 'a line that advances from the tip.'[36]

It is this line which is invoked by Unwin's description of a planner tramping a site in *Town Planning in Practice*. '[T]hinking out the main points of his problem', the planner was to 'group […] the town […] upon the hills or slopes' as he walked them. Noting features to be preserved and views to be emphasised, he was to select 'suitable positions for […] squares or *places'* 'on the spot'.[37] It was, according to Unwin, 'only when, on the ground, all these formative influences have been balanced' that the designer could 'safely commence to draw out his design.'[38]

Situating Unwin's usage of tramping alongside contemporaneous literature on the topic brings to the fore a sense of tramping as a walking which advanced 'from the tip'. Douglas Goldring's short-lived literary journal, *The Tramp,* for instance constantly distinguished its preferred perambulation against that of the 'common tourist tribe', whose movements were predetermined by an itinerary drawn from a Baedeker guidebook.[39] Instead of 'doing' or 'seeing' well-worn sights, those wishing to tramp were urged not to plan in advance but instead to 'merely let things happen.'[40] 'Feeling', 'experiencing' and 'interpreting' virgin territory for themselves, a sense of unity with the surrounding environment would ensue.

Recounting a tramp in the New Forest for instance Lady Margaret Sackville in the March 1910 edition of Goldring's journal described being as 'alert as a deer to all that the woods hold.' '[L]ingering or passing on at will', her 'comprehension' quickening 'to catch the forest's slightest whispers', she at last gained an understanding of 'that hidden impulse which makes the birds sing'.[41] Operating without an itinerary as Sackville advocated often necessitated the finding of lodgings as night fell. In the following edition Osbert Burdett recommended delaying this as late as possible to introduce an element of risk to tramps and to induce an attendant heightening of the senses; he purposefully constructed situations whereby 'at the end of the day' there would be 'no inn […] in sight', his 'perceptions' then 'expand[ing]', he would learn 'the secret of Nature by becoming a part of the landscape instead of being the spectator of it.'[42]

Requiring the fine tuning of perceptions and involving a powerful sense of 'being alive', it is such moments that Ingold theorizes and that Ruskin attempted to integrate into the work and lives of craftsmen. Given that Unwin introduces his description of the design process as a means of supplanting a planner's 'preconceived ideas', and given that the role of his process is to weave a new settlement into the land and weather of a site it was also moments such as these that Unwin sought while tramping fields designing suburbs.[43] This is most clear in his account of the designing of Letchworth in which he is again specific about the type of walking involved in his design

process. '[A]fter tramping over the land for about a week' with 'the general scheme' taking shape in his mind, he recounted how he realised that casting a line between 'three old oak trees' which he noticed 'standing out solitary' and 'two lines of copse wood' at a distance could 'anchor the plan definitely on the ground'. 'When looking at those trees' afterwards he 'often remember[ed …] with a feeling of gratitude to them' the way in which 'they suggested… the exact position in which to stake out the axial line.'[44]

To the extent that he gave his hobbyist countrymen tasks that challenged their capabilities to hone and develop their senses, and that he then imagined them adapting their routes through those suburbs according to subtle seasonal changes, Unwin also presumed that similar moments would give meaning to life in the landscapes he designed.[45] Suggesting means by which the creativity involved in crafting and wayfaring can be thought of in the same vein, Ingold invites a speculative reading of Unwin's use of the word 'tramp' in accounts of his design process, pulling it into close contact with his descriptions of crafting and gardening in 'Gladdening versus Shortening the Hours of Labour.' Like crafting, tramping promoted Ingold's 'dwelling perspective', pitted against and 'impervious to capitalist relations of production'. Hence the continuous conflation of the physical freedom experienced while tramping and a concomitant sense of 'social freedom' throughout *The Tramp*'s pages.[46] And hence perhaps, the dual campaign that labourer's organisations mounted for shorter working hours on one hand, and for freer access to the landscape on the other, in order that as Rebecca Solnit notes, their 'hard-won time' could be spent tramping.[47]

Read through Ingold, Unwin's invocation of tramping resolved qualms he held about the democratic legitimacy of the planner. It dissipated distinctions between himself and other makers, rendering his actions equal to those that followed in the taskscape. While the lines he drew across English fields structured later activities such as building, crafting and gardening, Unwin's lines, in Ingold's terms, were collapsed into a landscape which was always in a process of emergence. Conceived while tramping and hence in communion with Ingold's 'current of activity' or 'the life process itself', these lines were placed within broader forces with deep ontological roots.

An adherent of transcendentalism, as a young man Unwin's writings regularly refer to a 'Great Spirit' from which everything emanates, recording in his diary for instance an appreciation of Ralph Waldo Emerson's 'idea that each piece of art is a manifestation afresh of the universal mind or soul which is behind all things.'[48] Tramping was seen at the time as a means of accessing this soul; in 1912 Holbrook Jackson used very similar terms to Ingold when he asserted that it involved 'participating in the full current of life'[49] and a 'merg[ing] into the very source of life itself.'[50] Facilitating such access, tramping allowed Unwin to imagine the town planner as a figure simultaneously tapping into, channeling and being part of a structuring life force.

In this way it supports a simile he used late in life when explaining the town planner's role. Introducing planning to an area, Unwin suggested, was akin to 'inducing' 'the mysterious and beautiful […] structure of crystallization […] to spread through a formless solution.' Lest his listeners detected a deficit in democracy between the planner providing the rigid lines of this structure and those who brought form to the mass of the crystal, he referred to the 'very newest science' which explained 'that so far from being rigid, the crystal structure merely defines limits within which the utmost activity of atoms takes place and', according to Unwin, 'would even suggest that the individual composing the atoms may enjoy something very like free will and initiative.'[51] Emerging freely from the same source, and indistinguishable in materiality, the structure and mass of Unwin's crystal were the same and hence almost equal. Collapsing actions such as wayfaring and sawing into each other such that they express the same 'current of activity', Ingold's writings evoke a similar democracy of making. However, while also describing a comparable sense of landscape as emergent, his notion of manifold interlinking taskscapes congealing together evokes a more everyday and earthy process than that of crystallisation. Ingold's concepts therefore seem to capture more precisely the realities of tramping, crafting and gardening that manifest themselves in Unwin's suburbs, landscapes which somehow grow themselves out of the cutting edge of making.

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1 As C.B. Purdom puts it 'The garden is inevitable in Garden City'. C.B. Purdom, *The Garden City, A Study in the Development of a Modern Town* (London: JM Dent, 1913), 104. For an early example of Parker and Unwin's landscapes appearing within gardening discourse see Miller, *What England Can Teach Us about Gardening*, and for a recent example see Waymark, *Modern Garden Design*.

2 See for instance Davey, *Arts and Crafts Architecture*.

3 Raymond Unwin, 'Housing - Cottages', (UN.9/2.i), Box 1, Folder 9, RIBA Archives, London.

4 Raymond Unwin, *Town Planning in Practice, An Introduction to the Art of Designing Cities and Suburbs* (London: T Fisher Unwin, 1909), 140. Barry Parker's 1912 article "Democracy's Influence on Architecture" revealed the partnership's uncertainties in this regard as late as 1912. He suggested that architects should operate as planners only until such time as 'the mass of the people take an intelligent interest in [architectural] problems and insist upon their dwellings being the sincere expression of their own ideals'. Parker, 'Democracy's Influence on Architecture', 153-4.

5 Rebecca Solnit, *Wanderlust, A History of Walking* (London: Verso, 2001), 265. Peter Howarth identifies 'an updating and expansion of the Wordsworthian concordia discors between man and inner landscape' as running through literature on tramping (Howarth, "The Simplicity of WH Davies," 166).

6 Unwin, *Town Planning*, 149-50.

7 In constructing the architect and attempting to distinguish him from the craftsman, Alberti identified two related constituent elements in buildings, the lineaments and matter: 'the one the product of thought, the other of Nature, the one requiring the mind and the power of reason, the other dependent in preparation and selection' (quoted in Ingold, *Making*, 50). As Ingold explains, by 'lineaments' (*lineamenta)* Alberti meant 'a precise and complete specification of the form and appearance of the building, as conceived by the intellect, independently and in advance of the work of construction (*structura*)' (Ingold, *Making*, 50). While the architect was responsible for these '[t]he hand of the skilled workman' was required, according to Alberti, 'to fashion the material according to lineaments' (quoted in Ingold, *Making*, 50). Alberti's framework is useful in thinking about Unwin's landscapes as he also constructed the town planner in relation to the craftsman, but seeking to blur the lines that Alberti had established. According to Ingold, Alberti's conception of the design and construction process opposed the medieval model in which 'the lineaments of the structure, far from being imposed upon the material, emerge from the process of building itself' (Ingold, *Making,* 55). Although Unwin had an obvious interest in the town planner defining lineaments, he was simultaneously attracted to the idea of this medieval model.

8 Drawing upon Wallace, Ingold makes a distinction between wayfaring and a 'traveller' embarking upon a 'tour', a distinction which, as we shall see, is also one made in the pages of *The Tramp* (Ingold, *Lines*, 79). The ontological claims he makes for wayfaring also reprise many of those made for tramping: 'Wayfaring, I believe, is the most fundamental mode by which living beings, both human and non-human, inhabit the earth […] The inhabitant is rather one who participates from within in the very processes of the world's continual coming into being and who, in laying a trail of life, contributes to its weave and texture' (Ingold, *Lines*, 81).

9 In an apt description, Henrietta Barnett (the founder of Hampstead Garden Suburb) referred to it as a 'gardened district' (Barnett, "A Garden Suburb at Hampstead").

10 Tim Ingold, *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*, (London: Routledge, 2000), 195. Unlike labour it does not demand a 'separation between the domains of "work" and "social life"' (Ingold, *The Perception of the Environment*, 323).

11 Ibidem, 195.

12 Ibidem, 330. Insisting on a 'qualitative and heterogeneous' aspect to the time spent performing one, Ingold pits his notion of 'the task' against that of labour, which relies in contrast on a conception of time as 'quantitative and homogenous', such that it can be sold (Ingold, *Perception,* 194).

13 Ibidem, 330.

14 Ibidem, 333. Ingold contends that we have had to accommodate our orientation towards tasks within a framework 'that seeks at every turn to deny the reality of situated social experience'. Although 'fundamental to our personal and social identity, to our knowledge of place and people, and to the practice of our everyday skills' this orientation 'constitutes the baseline of sociality upon which the order of modernity has been built, and from which we have now to come to terms with it' (Ingold, *Perception,* 338, 333).

15 Mark Swenarton warns against placing too much emphasis on its main argument that English legislators should devote their energies to the creation of a country in which people were only engaged in work which they enjoyed. He suggests that in common with most Northern socialists, 'the notion of "joy in labour" was' for Unwin, 'peripheral to [his] thought' (Swenarton, *Artisans and Architects*, 164). Of more pertinence, according to Swenarton, were Unwin's stated beliefs that socialism should enable 'each man to produce in the easiest way known' and that it should devote itself to making possible 'increased leisure' time (Swenarton, *Artisans and Architects*, 166). If we accept that Unwin's views on labour were more practical and modern than suggested in 'Gladdening', and concentrate on the lecture as an insight into his thinking on the thought processes involved in craft, the dovetailing between his and Ingold's thoughts becomes tighter.

16 Raymond Unwin, 'Gladdening V. Shortening Hours of Labour,' (UN. 15/3), UnR/2/3, Box 2, Folder 3, 'Notes', RIBA Archives, London.

17 Ingold, *Perception* 333.

18 See Adamson, *The Invention of Craft.* Morris defined craftspeople simply as 'makers of things by their own free will' and Ruskin affected an easy slippage between freedom during a craftsman's labour and wider societal freedoms that would accrue should labour be reorganised (Quoted in Adamson, *The Craft Reader*,147).

19 Raymond Unwin, 'Gladdening V. Shortening the Hours of Labour,' (UN. 15/4), UnR/2/3, Box 2, Folder 3, 'Notes', RIBA Archives, London.

20 Unwin, *Town Planning,* 278.

21 Raymond Unwin, 'Gladdening V. Shortening the Hours of Labour,' (UN. 15/4), UnR/2/3, Box 2, Folder 3, 'Notes', RIBA Archives, London.

22 Ingold, *Perception*, 197.

23 Ibidem, 198.

24 Ibidem, 199.

25 William R. Lethaby, 'Of Beautiful Cities' excerpted in Mary Greensted (ed.), *An Anthology of the Arts and Crafts Movement,* (Hampshire: Lund Humphries, 2005), 42.

26 Raymond Unwin, 'Ethic and International Relations', (UN. 7/7), UnR/1/7, Box 1, Folder 7, RIBA Archives, London.

27 Unwin, *Town Planning*, 98-104. Unwin believed such an instinct had been responsible for the beauty and unity of medieval cit-

ies. He was fond of citing the related Lethaby maxim: 'The well doing of what needs doing' (Lethaby, "Art and Workmanship," 161).
28 David Pye, *The Nature and Art of Workmanship,* (Cambridge: Cambridge University Press, 1968), 7.
29 John Ruskin, *The Nature of Gothic, A Chapter of the Stones of Venice*, (London: Kelmscott Press, 1892), 17. That liberating craftsmen in such a way would lead to a renewed vitality in architecture was an orthodoxy of arts and crafts rhetoric, found in Unwin's writings for instance as late as 1932. Swenarton lists the appearance of this idea in Unwin's texts throughout his career (*Artisans and Architects*, 164).
30 Ingold, *Perception,* 19.
31 See the chapter 'Making Things, Growing Plants, Raising Animals and Bringing Up Children', ibidem 77-88.
32 Tim Ingold, Being Alive, Essays on Movement, Knowledge and Description, (London: Routledge, 2011), 59.
33 In the notes for 'Walking the Plank' Ingold is definitive about the relationship between craft and wayfaring: 'Pye's distinction between the workmanship of certainty and of risk thus *precisely* [my emph.] parallels my own between transport and wayfaring' (Ingold, *Being Alive,* 246). This relationship is reiterated in *Making*. Citing Deleuze and Guattari, Ingold states that: 'Artisans or practitioners who follow the flow are, in effect, itinerants, wayfarers, whose task is to enter the grain of the world's becoming and bend it to an evolving purpose. Theirs is an "intuition in action"' (Ingold, *Making*, 25). And again: 'to adopt a helpful distinction from Deleuze and Guattari (2004: 410), [making] is not an *iteration* of steps but an *itineration*: making is a journey; the maker a journeyman' (Ingold, *Making*, 45).
34 Ingold, *Being Alive,* 17.
35 Ibidem 59. In *Lines* Ingold collapses any distinction between a wayfarer and his movements: 'The wayfarer is continually on the move. More strictly, he is movement' (Ingold, *Lines*, 75). Quoting Ruskin, he suggests that wisdom lies embedded within this collapse: 'In life as in art, Ruskin declared, wisdom lies in "*knowing the way things are going*" (Ingold, *Lines*, 130).
36 Ibidem, 150. For Ingold the notion of a particular 'line' is integral to his understanding of craftwork. In a book-length study he describes this line as one 'free to go where it will, for movement's sake'. Characteristically, Ingold uses walking as a means of defining the line: it is, he tells us, as 'Klee memorably put it, the line that develops freely, and in its own time, "goes out for a walk"' (Ingold, *Lines*, 73). With such a line '[o]ne could almost treat line as a verb, and say that in the thing's growing - in its issuing forth, in its making itself visible, as Paul Klee would say - *it lines*' (Ingold, *Making, 135*). Ingold contrasts this line with another kind, 'in a hurry' which 'wants to get from one location to another, and then to another, but has little time to do so. The appearance of this line, says Klee, is "more like a series of appointments than a walk". It goes from point to point, in sequence, as quickly as possible […] for every successive destination is already fixed prior to setting out, and each segment of the line is pre-determined by the points it connects' (Ingold, *Lines*, 73). In defining this other line, Ingold also draws distinctions between what he defines as wayfaring and more goal-oriented walking: 'the line has been fragmented - under the sway of modernity - into a succession of points or dots […] and wayfaring [has been] replaced by the route-plan' (Ingold, *Lines*, 75). There are perhaps parallels to be drawn between Ingold's studies of lines and Unwin's description of the 'main lines' of the plan emerging as the town planner tramped along.
37 The manner in which Unwin provided *places* and defined views, both to the surroundings and to 'fine buildings' within the new town plan to some extent provides an 'itinerary' of nodal points for those walking his landscapes. Ingold notes that although people increasingly 'find themselves in environments built as assemblies of connected elements […] in practice they continue to thread their own ways through these environments, tracing paths as they go' (Ingold, *Lines*, 75). Even so, in providing a landscape composed of special points of interest linked by straight lines, suggesting a quick and uninterested transit between these points, it could be argued that Unwin's approach often opposes the active environmental engagement associated with the practice of tramping. His attention to the needs of traffic in the chapter 'Of the Arrangement of Main Roads' in *Town Planning in Practice* certainly suggests movement 'across' rather than 'along' the earth's surface to use Ingold's terminology (Ingold, *Lines*, 89/90). Having said that, Unwin's analysis of curved v. straight streets in, 'Of the Individuality of Towns' (in *Town Planning in Practice*) is a sophisticated one and in his design of Rushby Mead in Letchworth (for instance) there is the sense of a road having been defined by a particular joy in wandering.
38 Unwin, *Town Planning*, 150-1. Once Unwin brought the lines he arrived at through tramping into the realm of the office the use of the tools at hand (e.g. rulers) brought with it a mode of working with its own implications (see for instance the revisions made to Unwin's initial 1905 curvilinear scheme for Hampstead). For Ingold the 'difference between drawing a line freehand and with a ruler precisely parallels that between wayfaring and transport' (Ingold, *Lines*, 161). Drawing freehand, he asserts, 'you have all the while to keep an eye on where you are going and make adjustments accordingly' (Ingold, *Lines*, 162). If Unwin's tramping on the site was successful in appropriating the open-endedness of crafting or making, such assertions suggest subsequent work done in the office might be as pre-defined as transport. However Ingold is rightly hesitant in making too forthright a distinction between making and designing and would be wary of imagining that the work done on drawing boards in Unwin's office was conducted in an abstract realm wholly distinct from that on site (Ingold, *Making*, 70-73).
39 MEM Donaldson, "An Attractive Corner of Inverness-shire," *The Tramp,* 1 (4), (1910), 299. See also: Roberts, "The Art of Vagabondage," 11; Clive Holland, "Summer Wanderings in the Hardy Country," 239; Ernest Young, "Abo," 308; Dr Ernest Baker, "The Snow Frontiers of Switzerland," 308; Cecil Mortimer, "Weekends out of England: I - Belgium," 395; Cecil Mortimer, "Weekends out of England: II - Paris Montmartre via Newhaven and Dieppe," 491.
40 Cecil Mortimer, "Weekends out of England: I - Belgium," *The Tramp,* 1 (5), (1910), 395. For articles making explicit the need to 'experience' places off the tourist trail see for instance: Harry Roberts, "The Art of Vagabondage," 22; Lady Margaret Sackville, 'The New Forest,' 83; Holbrook Jackson, 'On Going to Nowhere," 131-134. John Mitten, "A Good Travel Book," 377.
41 Lady Margaret Sackville, "The New Forest," 84.
42 Osbert Burdett, "On Maps," *The Tramp,* 2 (5) (1911), 479.
43 Unwin, *Town Planning,* 140. As well as describing the romance of wandering, *The Tramp* addresses its practicalities with instructions being provided on how to fish and/or trap animals (see for instance Arthur Ransome, "Fishing by the Way," 402/3). The ideal reader of the journal was to equip himself well before embarking on a tramp (see for instance Edith A. Browne, "Kit Notes", 390) and copious advertisements were provided in order to help in choosing a kit. Notwithstanding an ambivalence towards their use, a large proportion of the book reviews were devoted to guidebooks suggesting careful planning was also common before most tramping trips. Pye's main criticism of the arts and crafts movement is its unrealistic promotion of craft conducted without recourse to jigs, guides or prior design, as those centrally involved in the movement would have known such aspirations had no basis in the technical facts of making. As Ingold points out in 'Walking the Plank' preparation of tools and procedure is essential to the craftsman. Similarly, Unwin sends his planner out to 'tramp' the ground only after he has studied any information available on the site.
44 Raymond Unwin, "The Planning of Garden City," 228.
45 Taped interviews with residents of Hamp-

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stead Garden Suburb perhaps vindicate Unwin in his presumptions. Remembering her childhood in the early years of the suburb, Miss R. Murphy mentioned how Asmuns Hill was 'lined with almond trees' and recalled 'turning out of Hampstead Way on a sunny day and seeing all the trees in blossom with the sun shining on them.' She added that 'Hogarth's Hill was full of peach trees which were a deeper pink and came after the almond blossom. Williefield Way was full of crab apples which we ate… and the other part of Williefield Way [was planted with] red maple trees.' Miss M Grainger of Hampstead Way in a separate interview also mentioned the almond trees in blossom on Asmuns Hill. (Murphy, Grainger)

46 Peter Howarth, "The Simplicity of WH Davies, "*English Literature in Transition 1880-1920,* 46 (2003), 165. This conflation occurs in other literature on tramping too. Holbrook Jackson described tramping or vagabondage as 'the habit of occasional lapse from the upholstery of civilised life' (Jackson, *All Manner of Folk*, 60) and Leslie Stephen wrote of the sense of 'escaping on ticket-of-leave from the prison-house of respectability' (Stephen, "In Praise of Walking," 19).

47 Solnit *Wanderlust,* 168. Tramping's relationship with capitalism's processes of creative destructions are more complicated than craft's as its practitioners claimed an ambiguous and sometimes ambivalent kinship with the hordes of itinerant workers created by these processes. The contorted nature of this relationship is most evident in Arthur Rickett's *The Vagabond in Literature* when he writes of the 'restlessness' and 'nervous instability' of the vagabond: 'One of the legacies of the industrial revolution had been the neurotic strain which it has bequeathed to our countrymen… It has never been summed up better than by Ruskin, when, in one of his scornful flashes, he declared that our objects in life were: whatever we have, to get more; and wherever we are, to go somewhere else' (Rickett, *The Vagabond*, 9/10).

48 Raymond Unwin, 'Raymond Unwin's Diary for the Year 1887', May 19, Raymond Unwin Collection, Box 1.6, John Rylands Archives, Manchester. Much of this thinking can be traced back to Carpenter's influence on Unwin. As Jackson explained Carpenter elaborated for a generation 'the germinal idea of life… surging outwards [and] developing form'(Jackson, *All Manner of Folk,* 127).

49 Jackson, *All Manner of Folk*, 54.

50 Ibidem, 60. Jackson used the term 'vagabondage' which was interchangeable with 'tramping'. Such claims for tramping are consistent throughout *The Tramp*, with Harry Roberts for instance claiming that it is 'only the tramp who is able to realise the meaning of Maeterlinck's statement that we all live in the sublime' (Harry Roberts, "The Art of Vagabondage," 26). While the literature on tramping continuously presents the practice as a means of connecting with the world, whether or not it was a solitary and insular activity was a matter of debate. George M Trevalyan made a distinction between walking and tramping, with the latter promoted as the more communitarian activity (Trevalyan, "Walking," 60-2). Positioning everything seen by even a solitary walker within 'the great mystery' tramping was generally seen as enabling a sense of connection to all humanity. This could be established even when those encountered along the route 'appeared at odds with Nature'. Eden Philpotts for instance found a place for a 'belligerent' and armed range-clearer in the general 'progress and falling out of things' (Phillpotts, "A Dartmoor Day," 502).

51 Raymond Unwin, 'Regional Planning with Special Reference to the Greater London Regional Plan, a paper read before the Royal Institute of British Architects on Monday 6 January, 1930', Raymond Unwin Collection, Box 1.4, John Rylands Archives, Manchester.

3.4 'Bread & Butter and Architecture': Accommodating the Everyday

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This session takes its title and theme from a 1942 article by English architectural historian John Summerson, who called on practicing architects to face 'the real-life adventures which are looming ahead' instead of trying 'to fly level with the poet-innovator Le Corbusier'. To render architecture 'effective in English life', Summerson argued, would be the role of qualified teams of 'salaried architects' working for local and central authorities or commercial undertakings. Their 'departmental architecture' would be responsible for lifting the average quality of everyday building practice for the benefit of all, while providing a profession constantly seeking to secure its place in society with 'those three essential things for any born architect – bread, butter, and the opportunity to build'. Coincidentally, the following year saw the publication of Ayn Rand's novel *The Fountainhead*, whose architect protagonist epitomised the 'prime mover,' the individualistic creative hero who singlehandedly conquered his place in history. Seemingly following Rand's drive, the canon of western contemporary architecture has overlooked Summerson's everyday 'salaried' architecture, however dominant it may have turned out to be in our built environment, praising instead the solo designer and his groundbreaking work. It seems to have been in 'departmental architecture' that the social role of the architect – both in terms of social hierarchies and contribution to social betterment – was primarily tested and consolidated in the aftermath of World War I. Yet the work of county, city and ministerial architects, and heads of department in welfare commissions, guilds and cooperatives is seldom discussed as such. The specific character of this work as the product of institutional ini-

tiatives and agents, as the outcome of negotiation between individual and collective agendas, remains little explored, even when celebrating the few public designed projects that are part of the canon.
What is, then, the specificity of this 'Bread & Butter' architecture? What is its place in architectural history studies, and how should we approach it? What does it tell us about the dissemination and hampering of architectural trends, or the architectural culture within institutions and agencies? Is it relevant in today's context of swift downplaying of institutional agency in the spatial accommodation of everyday needs? Are we prepared to bypass the still prevalent notion of the architect-artist, the prime mover, and look at the circumstances of those who played their part in inconspicuous offices and unexciting departments? We welcome papers that address these and other questions prompted by the theme, focusing on the period after World War I, when many public initiatives were put in place, until the late 1960s, when established hierarchies were challenged and the architect's place in society again changed.

3.4.1 Humdrum Tasks of the Salaried-Men: Edwin Williams, a LCC Architect at War

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Abstract
Working at the London County Council Architect's Department through the 1930s to 1950s, known (if at all) as a member of the design team for the Royal Festival Hall, Edwin Williams is usually presented as a regressive figure, his design work marked by his beaux-arts training. With no evidence of any significant contribution to formal or spatial developments of architecture in the post-war period – in drawings, plans or diagrams – Williams's story is firmly confined to the hidden 'back-room' of architectural history. Using archival evidence and histories of the construction industry, this paper sets out Williams's role in the organisation of rescue and recovery services in London during the Second World War. The paper argues that, through his development of training schools and curricula for Rescue Service personnel, Williams played a key role in the formation of a skilled, mechanised, modern demolition industry. Operating complex emergency projects under extreme conditions, the same contractors and building operatives trained in Williams's programme were later responsible for the clearance of bomb damaged sites and slums. Rather than a history of coincidence – whereby designs by 'new empiricists' fortuitously arrive at the same time and to the same party as a radically modernised construction industry, a centrally planned economy, and a London full of holes to fill – this paper suggests that certain developments in modern architecture can be considered as contingent upon practices of the demolition industry. Discussing the various techniques and technologies Williams integrated into his training programme this paper contributes to a wider discussion on how the history of modern architecture might be rethought. By concentrating on the 'organisation' and 'progress' of production that architects engaged with during the Second World War and after, new configurations of continuity and change emerge in which the 'humdrum tasks' of 'salaried-men' appear crucial.

Keywords
London County Council, Second World War, British modernism, demolition, industry, architectural epistemology

Introduction

Much of the discussion around post-Second World War architecture in Britain revolves around the question of whether an appropriate, or inappropriate architecture for the social democratic state was ever produced. Questions have been asked as to how civic and political buildings – concert halls, galleries, parliamentary buildings – communicate, express, or facilitate concepts and practices of social democratic governance and the formation of a polity.[1] The material, structural, and formal values of social housing, education, and health care buildings have been assessed for their ability to respond to the requirements of social democracy.[2]

These architectural histories are framed within wider political histories and the emergence of the welfare state from liberal programmes of social security in the 1920s through to a full blooded Keynsian mixed economy of the 1950s, variously defined as democratic (in a representational sense), technocratic, bureaucratic, and 'compromised' (to the extent that the new welfare state was concerned with redistribution of surplus from private to public ends). These different aspects of social democracy are further complicated in terms of their relation to each other – either simply as 'co-existing' (but in which case what elements are technocratic, what democratic, what bureaucratic and so on), functionally layered, or competing.

The question posed by architectural history has been whether the *products* of architecture – that is, buildings – answered to the needs of the welfare state and to what extent these products were over-determined by one or other aspect. As an example, it was possible for Adrian Forty to identify and categorise Tecton's Finsbury Health Centre of the 1930s and the London County Council (LCC) Architect's Department's Royal Festival Hall of the 1950s as 'social democratic' in the sense that those buildings spatially confirmed liberal democratic values.[3] On the other hand it was equally possible for the same author to define the Southbank Exhibition of the Festival of Britain as 'technocratic' because of the structural relationship of the architectural and other design professions that produced that event to the civil service and executive government of the period. The Festival of Britain Exhibition, then, responded in a broad sense to a 'social democracy', but in a specific sense to a 'technocracy'.[4] But, how are we to understand the daily 'practices' (rather than 'products') of architecture as contributing to the history of social democracy?

In his forensic history of the design of the Royal Festival Hall, Miles Glendinning argues that mid-century modern architecture in Britain has largely been (and should be) understood as the result of conflicts and sympathies operating between the 'art' of the singular visionary architectural designer, and the 'social function' of the collective, prosaic municipal authority.[5] The Festival Hall emerges as the culmination of the architect Robert Matthew's struggle to free the municipal office of the LCC Architect's Department from the 'vast, repetitive workload of minor development-control casework… of the same everyday character: numbering and naming of streets, the condition of bomb-damaged roofs, and the demolition of Anderson shelters'.[6]

As such, Glendinning frankly and overtly utilises an established historiographic trope in which the history of architectural production is bifurcated. The necessary (or perhaps that is 'necessarily'?) prosaic building programme of modern social democracy in the twentieth century – planning and the codification of the urban environment, municipal over-site of private building production, regulation of the building industries, distribution and control of consumption of building materials and so on – is recalled only in contradistinction to the design and production of 'exceptional' civic and private spaces of modernism. This split history of the development of modern architecture in Britain is reproduced throughout the criticism and historiography on and of the period.[7] Hiving off the 'humdrum tasks' of the 'salaried men' allows for exclusive attention to be paid to the emergence of modernism in Britain prior to the Second World War and its subsequent development immediately following. This includes the overturning of regressive and conservative architectural principles in the Royal Institute of British Architects (RIBA) and the emergence of a generation of architects educated in modernism and determined to produce it.[8] The bumpy road of British modernist architecture and the contests between 'New Empiricists', or 'New Humanists', and the earlier avant-garde (represented in émigré figures such as Berthold Lubetkin) and later avant-gardes (whether 'neo-Classicists' or 'New Brutalists') can then be set out along strictly formal lines.

Whilst who and what might be covered by any of these stylistic umbrellas is allowed to remain an always-moot point, the interpretative grid is strictly maintained: formal and structural innovation traceable to the drawing board. With very few exceptions this produces both a powerful, coherent history (of modernist architecture as naturally responsive to social democracy) and a swathe of contradictions and lacunae – not least of which concerns the relationship of architectural practice, transformations in the building industry, and developments in social democracy itself.[9]

Edwin Williams

A figure such as Edwin Williams does not so much fall outside the stylistic umbrella as fall outside the story of British architecture's ever changing weather entirely. Born in 1897, Williams was a student at the Liverpool School of Architecture in the early 1920s, the very particular training in architecture he received there complemented by a scholarship to the British School at Rome

in 1928.[10] Williams moved to London and joined the LCC Architect's Department in the early 1930s. Regarded as professionally competent and well organised, but personally thin skinned and caustic, Williams's rise through the ranks of the Department reached a ceiling as a succession of younger, avowedly 'modernist' architects were appointed above him. In the late-1930s the positions of Deputy Architect and then Architect to the Council were given to John Forshaw. Then again, in the 1940s, and despite the high regard for Williams, Robert Matthew (Architect to the Council) and then Leslie Martin (Deputy) were brought in to the Department.[11]

With little evidence of any contribution to the advancement of modern architecture, Williams has been safely placed in the backroom of modern architecture's production through the twentieth century, dismissed with his *Beaux-Arts* training.

This paper presents an argument that depends on pulling a figure like Williams – and the kind of work that he conducted – into historical relief. This is not to suggest that Williams can be shown to have produced any remarkable but previously unrecognised architecture of merit. Rather, that the roles that Williams undertook through his career, and the manner in which Williams conducted those roles, can begin to alter our understanding and appreciation of fundamental concerns in the provision of architecture within a social democratic welfare state. Crucially, Williams's career raises questions about the matrix of relations established between the profession (of architecture), the industry (of building) and various forms of state institution and agency (the LCC and central government) that emerged during and immediately following the Second World War.

To develop this history requires an examination of the central functions of the Architects' Department during the Second World War and the role taken by Williams within that.

The Second World War and the role of the LCC architect's department

On 8 February 1939, with the threat of aerial bombardment looming, the Home Office contacted the Clerk of the Council, to relay the Lord Privy Seal's decision that the LCC should assume responsibility for the organisation of 'demolition, shoring and rescue work'.[12] Whilst there was general recognition that the size and complexity of London's civil defence operations required close supervision and control by municipal authorities, a debate continued through the period on the extent to which oversight and ultimate authority should arrogate to officers of a central state civil service, to the LCC or to Borough district surveyors.[13] The resulting structure appeared as a loose pyramid, with the LCC Architect's Department operating at a middle tier between central government and borough levels who in turn liaised with private professionals and contractors.[14]

Nine days after the announcement that the Council would be responsible for rescue and recovery services in London, a conference was held to review the operational position.[15] There, the nature of the problem became clear. The Borough Engineer of Hampstead explained that

> As regards Hampstead an organisation might be said to be practically non-existent. Building firms in Hampstead were practically restricted to decorative work and they had neither the materials nor employed the type of men required for the work of demolition and rescue.[16]

Whilst certain Borough Engineer's were slightly more optimistic – particularly in Holborn and Westminster – it became clear that the organisation of the Rescue Service would have to develop some way of generating manpower from a building 'industry' that had largely been absorbed into the war effort.[17]

Unsuitable and ill-disciplined

The proposed Rescue Service faced two problems. First, how to integrate operatives from various building trades – and the ragged edge of the building industry in particular – with professional officers from the County and Borough councils. Second, how to get that work force at all, given that they were in direct competition with the military for young, fit, able men. A growing concern developed over 'ill-discipline' in the Service ranging from petty theft to major theft of salvage and absenteeism.

It was in response to these problems that five Training Schools were established. Training was, for the most part, provided through a system of lectures and practical exercises. These were delivered by members of the LCC Architect's Department and Engineer's Department, by invited specialists, and by military personnel from the Armed Forces.

The training programme and five schools

It was Williams who co-ordinated the Schools and produced the Council's *Notes on Training for Rescue Parties* which became the model document for a national training programme.[18] From this document and the memoranda on timetables distributed across the Rescue Service, a practical educational programme emerges that can be classified in five parts.[19]

Basic constructional skills were complemented by with recovery skills, such

as how to move about in a structure that is unstable and/or on fire, and how to extract bodies (whether injured or lifeless). Further training was provided by experts in basic bomb detection, management and disposal, as well as the deployment of explosives for large-scale demolition works.
The organisation and utilisation of equipped lorries, was soon supplemented by training in the deployment of heavy plant – mechanical derricks, cranes, and adapted trucks and tractors. Finally, basic instruction in domestic building structures was provided, as well as instruction in core demolition skills, following the 'upside down' or 'top-down' method of deconstruction.
These five elements constituted the core of the Training programme. They do not constitute training in a craft, nor a technical training, but rather training in emergency operations. It provided a disparate and, in terms of skill, extremely uneven labour force, with the most basic understanding of the material and structural qualities of simple buildings.

From technical to disciplinary training

However, another aspect of the training which becomes increasingly pronounced, was in the discipline of Rescue Service parties. The early programmes and Williams's *Notes* include forms of training that not only introduced Rescue Service trainees to various skills and services, but also to constant structured exercises testing organisational activity on and off duty. These exercises were initially framed by Williams as necessary due to the peculiar nature of the work to be conducted by the Rescue Service groups – that is, the emphasis placed on 'improvisational discipline' under extreme conditions.
However, there is a progressive development toward a hierarchical structuring of activity and oversight and of disciplinary programmes such as 'competitive' exercises, whereby operatives were organised into competing teams. Increasingly, the training of Rescue Service Operatives moves from a concern with teamwork for the effective operation of equipment and rapid response, to 'teamwork' as a means to prevent and/or exorcise deviant behaviours.

In operation

> … the indescribable mess at the incidents, piles of debris covered with a fog of dust and dirt through which the figures, by the light of flares or perhaps a blazing gas-main or a burning building, could be seen passing dimly, were reminiscent of pictures from Dante's Inferno. Daylight only brought a sense of devastation and desolation with a curious impression that buildings after all consisted merely of broken timbers, bricks and rubbish.[20]

3. QUESTIONS OF METHODOLOGY

As well as immediately attending to bomb damaged sites – rescuing trapped people and recovering bodies – the Service was responsible for recovering valuable items: salvageable material such as lead, timber, brick, iron or steel; ceramics; furniture; textiles; food; and, water.
The result of salvage operations was the development of a number of distribution networks: salvage stores in government warehouses; hard-core dumps in London's parks (and use of hard-core as ballast in shipping to North America). Furniture found its way to a number of markets. Food recovered from bomb-damaged sites was immediately distributed through the Health Service. Later firebombing caused considerable problems. Finally, the Rescue Service provided support for emergency medical and mortuary services.
In the historical accounts of these operations – whether first hand or in subsequent histories – there are two distinct, but I think related, elements that recur – the first affective, the second epistemological. First, in descriptions of the Service the *figure* of the Rescue operative is always 'a part of', 'continuous with', or 'hidden within' changing or indeterminate matter (fire, smoke, rubble, etc.). The operative emerges from or recedes into a traumatic material landscape. Not without the caveat that they offer hope, these figures *are* the human dimension of a built environment in transformation. And they disappear with it.
At the same time, the basis of the history of the Service resides in the notebooks of the district surveyors, the statistical tables produced at the LCC, and the memos of instruction issuing from the same, which establish, maintain and police distribution networks. Accounts of the Service are essentially accounts of how to quantify and analyse newly 'released' material, how to redistribute the building fabric, how to establish networks for that distribution and how to police those. And this includes populations – from the workers within the Service who would later perform the first stages of reconstruction, to the urban population identified, measured, allocated to, and relocated from the built environment.

Post-Second World War

It is clear that Williams, acting in a role that bridged the work of the LCC Architect's Department and the Borough district surveyors, contributed to the formalisation and technical development of the demolition industry. Prior to 1939 demolition was strictly a 'craft' industry relying on a transient work force using traditional methods and equipment of deconstruction.[21] By 1943, those contractors employed in the Service had formed the National Federation of Demolition Contractors and, with pressure from the Nation-

al Federation of Building Trade Operatives, enter into annual agreements through a Demolition Wages Board.[22]

Municipal architects become intimate with and operate with the very technical, mechanical and organisational means by which London would be transformed. The same contractors and workers who, at the beginning of the reconstruction process, employ a mixed technical production programme of skilled work and heavy plant, have been trained by the architects and district surveyors who would instruct them in the progress of reconstruction.

At another level, Williams continued to utilise the 'improvisational discipline' concept. In a 1962 article for the *Journal of the RIBA*, Williams sets out his position on the appropriate nature of professional practice in the production of building and its control. In the face of the reshaping of London's municipal government Williams warns against the absorption of building control into a national (and therefore Whitehall controlled) framework.[23]

Williams argues that attempts to construct a set of totalising standards to which building activity would have to submit is both admirable and dangerous. Opposing this technocratic and centralising organisation of building control, Williams argues for the extension of the 'building control officer's' powers. Citing the specific, contingent and concrete nature of building production, Williams contrasts conformity to technical abstraction with submission to professional judgement. The position is argued on pragmatic, commercial, and political grounds: speed, flexibility, and redress.

In countering the abrogation of powers from municipal to state authority; in doing so on the basis that such protects individual liberty and commercial imperative; and in defending the status of professional expertise as the exercise of judgement, rather than accession to technical abstract knowledge; Williams's statement on building control encapsulates an empiricist position in modern architecture and its conception of social democratic provision.[24]

Clearly my account of 'empiricism' operating in architecture is targeting a different discursive formation than that identified by the 'New Empiricist' style, famously coined by Eric de Mare in the pages of the *Architectural Review*.[25] Proposed as a potential 'import' from Sweden, the 'New Empiricism' in Britain was always understood as a refusal of the 'International Style' and promotion of a regional architecture, and necessarily a return to a humanistic socialism, rooted in the arts and crafts tradition (all of this, in turn, a refusal of modish ultra-leftism).[26]

One could try to crowbar Williams's work into such a stylistic category. His training in the Liverpool School of the 1920s, and period at the British School in Rome, suggests a classicism anathema to 'New Empiricism'. Still, the ambiguous relation of American *Beaux-Arts* and late British arts and crafts embodied by the Liverpool School – in both stylistic and ideological terms – leaves that option open.[27]

But I think there is a value in introducing a new schematic for empiricism in architecture of the period as it points to a potentially different periodization of architectural development. Rather than rely on an account of architecture as a succession of products – whether these are conceived or interpreted rhetorically, aesthetically, or ideologically – we can consider architectural development in terms of disciplinary formations and procedures, and processes of production. Williams's work then becomes part of a longer development of a form of architectural practice that seeks to foster and marshal individual 'judgement' to corporate ends.

Finally, however, I think it's clear that such a history hardly puts to rest the many issues that revolve around rhetorical and aesthetic attempts in architecture to suture, elide, or sustain the traumas of the blitzed city through the 1950s. All I would suggest is that the ambiguities of reconstruction, the politics of memory, and the trauma of a built environment that is required to both recall and be forgotten – which resides in works such as, and only for example, 'Patio and Pavilion' by Nigel Henderson, Eduardo Paolozzi, Alison and Peter Smithson, for the This is Tomorrow exhibition (1956) – are only heightened at a different register when we turn to the disciplinary practices of urban reproduction through the Rescue Service and later demolition practices. The parallel production of the affective figure who must at once appear and disappear (recover and demolish) and the population figures of municipal authority which enable planning, redistribution and policing of the built environment suggest a tension that resonates through both the practice of social democratic politics and the arts of the same period.

3. QUESTIONS OF METHODOLOGY

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3.4.2 Third Text: Albert Kahn and the Architecture of Bureaucracy

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Abstract

In 1947, Henry Russell Hitchcock published *The Architecture of Bureaucracy and the Architecture of Genius*, in which he elaborated two very different paradigms of post-war architecture. Frank Lloyd Wright exemplified the architecture of genius, Albert Kahn that of bureaucracy. Just four years after Nikolaus Pevsner instructed readers that inhabitable construction could be divided into bicycle sheds (vernacular building) and cathedrals (Architecture), Hitchcock inserted a new category that defined something more than mere building, but less than Architecture, and Kahn was its chief representative. This new category was further linked to quality as distinct from artistic value in building. Kahn's buildings are good buildings; they are not, however, 'architectural art'. Hitchcock thus addressed a recent difficulty: progressive modern architects often accused of failure on qualitative grounds when deploying new techniques might not produce 'good buildings' in terms of construction, despite groundbreaking aesthetic or experiential work. But by creating a distinction between two kinds of 'good building', each was preserved from the other, eliminating a point of confusion and a loophole that had often been exploited to denigrate the new and untried for political or ideological reasons. Hitchcock was not alone in his opinions of Kahn's work: George Nelson, Frederick Towndrow, Carl Condit, and others repeated similar ideas. The Architecture of Bureaucracy, then, was a new category set between two existing modes of building. Kahn provoked this splitting and insertion; but its consequences are still to be reckoned. This paper considers the phenomenal production of Albert Kahn in terms of scale, seriality, space, and archival analysis, and narrates a third text for the history of twentieth-century architecture, in which architecture offers a different story of modernization through construction. It is part of an ongoing Kahn project at the University of Michigan.

3.4.3 The Architect, the Planner and the Bishop: the Shapers of 'Ordinary' Dublin, 1940-70

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Abstract

From the 1930s through the 1960s, Dublin's development occurred at its periphery: wheels of narrow roadways, punctuated by green spaces, provided the low-density frameworks for terraced residential boxes surmounted by pitched roofs and fronted by pocket gardens. Vast structures of ecclesiastic authority, the Catholic (determinedly revivalist) church building and the suite of Catholic (tentatively modernist) schools, were presented as support structures for the mass housing, thereby completing the image and experience of Dublin's new mid-twentieth-century suburbs. This was the frenzied making of Dublin's middle landscape – an ordinary world into which most Dubliners were born. It provided an a priori environment by colonising the city's rural edges at great speed, and to such an extent that the original paradigm of the British Garden Suburb ideology was barely recognisable. The provision of these new but truly vernacular neighbourhoods was the charge of Ireland's local authorities, namely Dublin Corporation. Expedience, from economic necessity and slum-clearance priority, drove this mid-century building production, amounting to repetitive form and to a sameness of landscape. But behind these vernacular and so-called ordinary developments was a complex web of design decisions, planning preferences and moral imperatives. Taking the genesis of one vast north Dublin neighbourhood, Raheny/Coolock, as a case study, this paper sets unseen archive material from the local Catholic Bishopric and Dublin Corporation, alongside critical thinking around post-war suburbia generally and Irish Catholicism. Startling hand-drawn maps by local priests reveal how the Archbishop of Dublin (John Charles McQuaid, from 1940-71) influenced Dublin's planning processes and controlled the architectural flavour of swathes of developing parishes. Moving from the collective environment of the neighbourhood's suburban estates to the individual project of an expressionist concrete church, this paper seeks to unpick the variously silent and active roles of the architect, the planning office, the patron and the user in the making of the more recent and everyday built environment that is Irish suburbia.

Keywords

Post-war suburbanisation, Dublin, catholicism, housing estates

3. QUESTIONS OF METHODOLOGY

It is not an exaggeration to state that Dublin of the 1940s and 1950s was a potently Catholic city. The mass popular commitment to Catholicism in Ireland ensured that the space of the capital city was infused with religiosity, made manifest physically through the proliferation of large-scale revivalist churches and public and private grottoes, variously celebrating 'Our Lady' through facsimiles and adaptations of Lourdes' famed grotto. As one observer, New Zealand Archbishop P. J. B. McKeefrey claimed during a visit in 1950, Dublin's streets were 'impregnated with faith'; concluding, like others, that 1950s Ireland was the most Catholic country in Europe.[1] Following Ireland's official independence from Britain in 1922, the Catholic Church was waiting by, as the moral guardian of constitutional nationalism, to ensure that post-colonial Ireland made the transition to Catholic nationhood and ostensibly by the mid-century, to become a Catholic Corporatist State.[2] Because of shared social and educational experiences between Irish statesmen and Irish churchmen, the language of public discourse was conditioned, most notably around the hazards of excessive state control. But in this so-called tension with the state, Irish Catholicism was not in *opposition* to the state but was an *extension* of the state, often acting in place of the state.

A key protagonist and engineer of this theocratic governance was Dublin's Archbishop John Charles McQuaid, who assumed his position in 1940 and remained in place until 1971. McQuaid was at the helm of all processes - social, educational and cultural – in what was the most significant archbishopric in Ireland, the Dublin Diocese. Inevitably McQuaid's centrality to mid-twentieth-century Ireland's social development has been acknowledged by contemporary Irish history and Irish Studies, however his role in the physical formation of Dublin has not been considered; specifically, his close relationship with Dublin Corporation's town planning officer, Michael O'Brien which in turn forced design decisions upon the Corporation's Housing Architect, Herbert Simms. Significantly, between 1940 and 1965, McQuaid oversaw the erection of thirty-four churches and the formation of twenty-six new parishes, in response to the Catholic population growth of the archdiocese from 630,000 to 725,058.[3] The demographic backdrop explains such religious zeal: this was a twentieth-century tale of rural depopulation, or as the Irish euphemistically called it, 'the drift from the countryside' whereby as Dublin swelled with rural migrants, its Catholic congregations expanded.

Relentless Catholic expansion ensued and for a number of reasons, to be unpicked by this paper, this expansion was concentrated at Dublin's periphery: wheels of narrow roadways, punctuated by green spaces, provided the low-density frameworks for terraced residential boxes surmounted by pitched roofs and fronted by pocket gardens. With Counter-Reformation fervour, Dublin's ever-increasing flock had to be accommodated. New suburbia was its context. Throughout the 1940s the Archbishop consecrated temporary corrugated metal sheds or tin churches, soon to be replaced, from the mid-1950s by vast concrete hall churches clad in revivalist clothing. Byzantine here, Hiberno-Romanesque there: the recipe was straight-forward - the ingredients were a mixture of historical forms and contemporary concrete technology, and the method was quantity-over-quality (figure 1, photo-story of 1950s Dublin churches). While the revivalist default tone of these large public commissions frustrated the Irish architectural community, it seemed an inevitable by-product of the frenzied making of Dublin's 'middle landscape' during the mid-twentieth century. The church's potency was a fact of life. As lead authors of education, social services and healthcare, the church's influence upon built form was a logical conclusion - especially in relation to the built form of 'ordinary building', driven as it was by pragmatism and bureaucracy.

Importantly, behind these so-called ordinary, vernacular developments was a complex web of design decisions, planning preferences and moral imperatives, amounting to a sameness of suburban landscape and a tussle between the bishop-planner-architect of our title. Indeed, Archbishop McQuaid's ascendancy in 1940 coincided with the seminal *Report of the Inquiry into the Housing of the Working Classes of the City of Dublin* (1939/43, hereafter *Report of Inquiry*) - a report which, above all, confirmed an anti-urban attitude underpinning housing development and planning culture in Ireland from the 1930s. The report's salient recommendations were in favour of suburban cottages over urban flats. Figures published by Dublin Corporation's Housing Committee in 1938 revealed that of the schemes then under construction, 6987 were cottages and only 1641 were flats.[4] As the *Report of Inquiry* asserted in its lengthy appendices, the average cost during the period 1937-39 for a four-room cottage was £565 as opposed to £992 for a four-room flat.[5] Obviously city-centre land was more expensive than virgin sites at Dublin's western edges, and early 1940s material obstacles discouraged urban flat development.

Not forgetting that housing provision in 1930s and 40s Dublin was a crisis situation. The authorities were in the midst of a slum clearance programme, so that suburban preference, stemming from the suburban cottage's relative cheapness, was hard-headed. But economic exigency was conveniently matched by theoretical bias; namely British Garden Suburb theories, which had been gaining ground in Irish officialdom since the 1910s. Undoubtedly, in the face of extreme urban disorder coming out of tenement squalor, Dublin's predominantly middle-class housing reformers championed garden suburb teaching around lower densities and fresh air. In taking up the post of Dublin's first Housing Architect in 1932, Herbert Simms mapped out a slum clearance project that in the short time from 1932 to 1939, oversaw the design

and construction of 7638 units. He and his team worked tirelessly to decant slum neighbourhoods; to provide Dutch expressionist-styled 4-storey deck-access perimeter flat blocks on disused urban sites; and to develop a vast housing colony of two-storey pitched-roof houses at the city's edge.

While Simms' flats provided some soft modernism to the city centre, they were 'the other'; it was really the low-rise pebble-dashed terraces of houses in former green-field sites that became the image of post-war Ireland. Being closer to rural experience, Ireland's inchoate suburban terrains presented officials, housing reformers, former slum-dwellers, rural migrants and indeed, the Catholic Church with a palpable alternative to expensive urban regeneration. At its best the suburban housing estate could offer autonomy of environment - as romanticised by J. M. Richards's 1946 homage to the British suburb, *Anatomy of Suburbia*: '…in the suburb each man can see his own handiwork… to some extent he can feel responsible for his environment and thus get a sense of controlling his destiny.'[6] For Ireland, suburbia's rural affinity was crucial. Writing a review of Dublin architecture in 1966, Dermot O'Connell described the 'wave after wave of migrants from rural areas, who now constitute in this generation, or at one remove, the major part of the city's population', and suggested that this predominately rural identity had shaped the urban form: 'The effect has been to perpetuate in urban conditions the countryman's characteristic desire to see and to touch the land'.[7]

So, Dublin's mid-century suburban vernacular arose out of economic exigency and a degenerate form of liberal Garden Suburb individualism, but also, out of Irish Catholicism's pro-rural communalism. The key to Catholic social teaching was the sanctity of the family unit, which was emphasized in Ireland through the 1937 redrafting of the Irish Constitution.[8] Irish Catholic teaching favoured a moral and social order of small-scale capitalism and family property, most appropriately met in the small farm infrastructure of nineteenth-century Ireland. Again, suburbia's affinity to rural experience was central - the inference being that the lower the density of the housing, the higher the moral behaviour therein. While the Garden Suburb movement was motivated on *aesthetic* grounds of universal human experience (the emotional advantages of the readymade yet natural environment), the Irish Catholic Church aspired towards moral *control* of a growing and potentially unwieldy urban flock. In 1947 Rev. John Kelleher commented in an influential local Catholic journal that, as rural Catholics moved to urban centres, their innate piety brought 'a fresh accession of strength to the Church in the cities.'[9] Then, to put it crudely, if Ireland's Catholic hierarchy (the bishop) 'managed' the demographic crisis, the cities could become prime Catholic breeding grounds in 1950s and 60s Ireland - or more particularly, the new housing estates fringing those cities.

Returning to the triad of our title, McQuaid appears to have ensured a key position in planning processes within his diocese, primarily through an undocumented relationship with the local authority's planning officer, Michael O'Brien. Anecdotal accounts record weekly meetings between Archbishop and the planner, with the latter supplying McQuaid with reports, committee memos and maps charting prospective development around the city. Indeed the McQuaid archive reveals the extent of the Archbishop's knowledge of Corporation affairs. Documents include a large folder on public lighting from 1941, the City Manager's remarks and reactions to the *Report of Inquiry* 1943, a report on vandalism of tenement properties from 1943, an extensive housing report from 1947, and more.[10] The Archbishop was uncannily well informed. Initial observation would conclude that in the main, the Church was 'reacting' to Corporation plans. However, uncatalogued archive correspondence between the Archbishop and his clergy, most pointedly on the subject of evolving parish lands, sheds alternate light, and the active agency and influence of local authority upon Church or vice versa becomes increasingly ambivalent. Furthermore we know from particular church commissions and religious art censorship – for example, the overturning by McQuaid of the assessment of a church design competition in 1954, or his rejection of a Roualt painting from an exhibition of French sacred art in 1955 – as well as the presence of a British Education Ministry manual on school design in his papers, that McQuaid troubled himself with aesthetic matters and formal decisions.

An intriguing example of the Church/local authority (planning and architectural officials) interchange was around the speedy development of suburban neighbourhoods at Dublin's north east edge - Raheny, Donnycarney, Coolock, Killester, Artane. The Archbishop, in perceiving the need for territorial consolidation in the face of exponential growth, had appointed a team of advisors on architectural and planning issues. With these advisors – Fr Fitzpatrick, Canon McArdle, Fr. O'Reilly and Fr. Barrett, to name a few - expansionist planning through the systematic chopping up of parishes could be achieved straightforwardly. In the Raheny instance, McArdle began by reacting to Corporation plans and forwarding a crucial planning document to McQuaid, in late 1950:

> I enclose very fine report by Mr O'Brien… on plans for the years to come. Your Grace will note paragraph (g) referring to development on the North side, depending on the new Howth drainage scheme. They expect now that building will begin there about 1952 or 1953. This whole area is very large. It is to be laid out for private building and large areas of Corporation houses… I have discussed this matter with the City Engineer and he is of the opinion that it will be possible to get between the two sites, drainage facilities for approximately 4000 dwellings.[11]

Taking a typically reasoned and remote approach to parish planning, by January 1953, McQuaid had activated Fr Fitzpatrick into responding to the Corporation plans by notionally subdividing the lands in question, and predicting their future shape from the basis of parish culture. Fitzpatrick produced four remarkable hand-drawn maps representing the parishes in 1949, 1954, 1959 and post 1960 (Figure 2, Fitzpatrick's maps). [12] Here was a priest arranging parish boundaries with the liberty and power of a colonising emperor. While the intentions were worthy in that for themselves both Fitzpatrick and the Archbishop were great educators and were stimulated by the provision of social and educational services within these blank canvas contexts, the process is striking. As the drawings express, Fitzpatrick's exercise was not about building more churches – there remained four parish churches between 1954 and post-1960. But motivated by Catholic ideology and pragmatism, a *habitus* as such, we witness an almost implausible mix of straightforward naiveté with rational modernising geographical and cultural engineering. It seems extraordinary, considering the immense implications and the subsequent *a priori* nature of this suburban environment in which most Dubliners grew up, that such subjective methods ultimately shaped Dublin's periphery during the mid-twentieth century. From the maps and other contemporary correspondence, Archbishop McQuaid emerges as a type of medieval God-with-compass-figure, carving out the former greenfields of Dublin's urban/rural edge and divvying up parish lands with extraordinary ease and calculated detachment.
Fitzpatrick reported that one of the neighbourhoods, Killester could be an autonomous parish already by 1953; that he had 'drawn in green ink a line to indicate tentatively the area it might claim. As your Grace will see this area might include some of the S. Anne's housing estate.'[13] Fitzpatrick's account continued, inadvertently highlighting the mundane realities of parish formation and the difficulties posed by the 1950s Irish economy:

Raheny presents great difficulties. Raheny has no money, and even with the new parishioners in S. Anne's they will not provide sufficient resources to pay even the interest on the cost of a Church – until the area north of the railway has a population. I was fortunate in getting money from outside sources to pay the debt existing when I came here and to purchase the school and church sites. These sources have now dried up. Yet the population in 1955 will already be too big for the tiny S. Assam's Church and it would be a pity to put a temporary church on the fine site chosen by Fr. Gregory Byrne as far back as 1942. With the development of the Edenmore-Kilbarrack area another church and more schools will be needed in the Howth Junction district. Between it and the sea, private building has already laid the foundation of such a need. But this is in another parish.[14]

These documents provide remarkable first-hand accounts of Dublin's suburbs as a mass of inchoate territories to be manipulated. The means were modest but the ambition was not curbed. The spatial unit at the basis of all was the parish, in a sense providing the physical boundary and structure for the collusion of the Irish state and Catholic Church during the period. In 1949, the American Jesuit sociologist Alexander Humphreys situated the meaning of the parish in both the lived and metaphysical experience of Dublin's working or 'artisan' classes:

> The parish…stands as the liturgical and sacramental centre that effects a strong, over-arching unity among the artisan practitioners in the realm of ideas and ideals. It is the most immediate and articulate source of many of the major values that impregnate its parishioners' lives. From it, the artisans imbibe most of their great definitions of the world, and of their place and meaning in the cosmos.[15]

Humphreys collected the oral histories of the new Dubliners, born of rural migrants and by the 1940s inhabiting these new neighbourhoods. Such a place was never their choice; one account poignantly revealed the alienating effects of the swollen and ever-swelling parish:

> When we first moved out here, there were only a few families and the parish was much smaller… they used to have all sorts of functions in the little school house… The priests were much closer to the people… Then in a short time, people just poured in here by the thousands and we had to build a new church. Now everybody here is practically a stranger…[16]

Just as the serialised pitched-roof windswept houses, set against a horizon of squat mountains, became the image for mid-twentieth-century Ireland, so too was the looming presence of the supporting structures of ecclesiastic authority – the bombastic church and the almost-complete suite of tentatively modernist schools. The mid-twentieth-century Irish parish: the nascent Dublin parish – a complex mesh of Catholic institutions, integrating the social and the spiritual and whose influence permeated the very fabric of society. Unsurprisingly then, this Catholic collective consciousness, this *habitus*, shaped the architectural form, giving rise to ordinary Dublin.

1 Archbishop P. J. B. McKeefrey, "Farewell to Shannon," *The Furrow* (March 1950), 5-8.
2 Eugene McLaughlin, "Ireland: Catholic Corporatism," in Allan Cochrane and John Clarke (eds.), *Comparing Welfare States. Britain in International Context* (London: Open University, 1993), 205.
3 Deirdre McMahon, figures taken from *Irish Catholic Directory* 1941-72 in "John Charles McQuaid, Archbishop of Dublin, 1940-72," in James Kelly and Daire Keogh (eds.), *History of the Catholic Diocese of Dublin* (Dublin: Four Courts Press, 2000), 380.
4 These statistics are taken from "Housing Committee Report n. 6" in *Reports and Printed Documents of the Corporation of Dublin, January - December* (Dublin: Sealy, Bryers and Walker Printers, 1938). In 1938, there were 1959 cottages and 1358 flats in contract (total 3317 units). In total, there were 11,945 units in the construction programme and 8946 of these units were cottages.
5 "Altered Policy Regarding the Classes of Accommodation to be Provided: Flats or Cottages," quotation is from point 333 (118) and the statistic is from point 338. Ibidem, 120.
6 Ibidem, 27-8.
7 Dermot O'Connell, "The Irish Architectural Scene," in *Building*, September 9, 1966, 115.
8 According to Cathal Condon's research into McQuaid's role in the redrafting of the Constitution in 1937, McQuaid sent the following wording to Eamon de Valera: 'The State guarantees the constitution and protection of the family as the basis of moral education and social discipline and harmony, and the sure foundation of ordered society.' See Cathal Condon, "An analysis of the contribution by Dr McQuaid to the drafting of the Constitution of Ireland" (master's thesis, UCC, 1995), 93-94, cited by Dermot Keogh "The Role of the Catholic Church in the Republic of Ireland 1922-1995," in *Building Trust in Ireland* (Belfast: Blackstaff Press for the Forum for Peace and Reconciliation in Ireland, chairperson Judge Catherine McGuinness, 1996), 126.
9 Rev. John Kelleher, "Catholic Rural Action," in *Studies* 4 (1947), 421.
10 All of these documents and files are to be found in DDA, McQuaid Papers, Dublin Corporation/Government Box, AB8/B (also numbered on its lid, 555).
11 Corporation report outlining 1950s development plans, forwarded to Archbishop from Canon McArdle on 21 November 1950, DDA, McQuaid Correspondence 1949-71, Killiney collection 6 (uncatalogued letters to McQuaid's house in Killiney, South Co. Dublin).
12 Report from Fr. Fitzpatrick to the Archbishop, 12 January 1953, ibidem.
13 Ibidem.
14 Ibidem.
15 Alexander J. Humphreys, *New Dubliners. Urbanization and the Irish Family* (London: Routledge Kegan Paul, 1966), 190.
16 Oral account, Humphreys, ibidem.

3.4.4 Layers of Invisibility: Portuguese State Furniture Design 1940-74

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Abstract
The intricate role of architects in designing furniture to equip national monuments and public buildings in Portugal during the twentieth century remains insufficiently studied. The so-called Estado Novo regime (1926-74), which corresponds largely to Salazar's dictatorship, promoted the concentration of a large amount of official design and construction activities in the Ministry of Public Works. Department architects were called in to intervene at all scales – regional planning, urban design, architecture and furniture – within an unusually challenging scope of diversity and flexibility that gave shape to the country's constructed landscape and sought to reflect the state itself.
However, the furniture designed to outfit the state's representative buildings across the entire gamut of its functional types has been underestimated by contemporary critics, and largely forgotten by historiography. There are many factors supporting this multilayered invisibility. This production was the outcome of institutional offices within a conservative and repressive state. It underwent the stigma of regime architecture and became confined to the circuit of official propaganda. The design of furniture was (under)valued as subsidiary by the authors themselves, and the historiographies of architecture and industrial design have done little to change this understanding. Even in the cases where those department architects did develop a career as independent authors, they scarcely escaped anonymity to become noticed.
Part of a wider, on-going, multidisciplinary research project, our exhaustive survey of this production and its critical analysis have enabled us to recognize standard modus operandi, varying strategies of state representation with different functional, aesthetic and ideological orientations – from the more conservative and conventional to the attempt to follow the latest international trends – as well as its impact on the furniture manufacturing industry of the country. Our paper seeks to unveil some of these actors' unseen contribution, with its noteworthiness and shortcomings, and to enrich what is often a black-and-white narrative.

Keywords
Portugal, furniture, design, architecture, modern, revival

In 1940 Portugal's Ministry of Public Works[1] set up the Furniture Acquisition Commission (Comissão para Aquisição de Mobiliário - CAM) under the Directorate-General of Buildings and National Monuments (Direcção-Geral dos Edifícios e Monumentos Nacionais - DGEMN), an institution created in 1929 and responsible for the planning and construction of public service buildings and for the maintenance and conservation of Portugal's national monuments. As laid down in the law creating the Commission, the work of CAM was to focus on 'studies and the acquisition of furniture for the first settlement intended to new buildings of the State and others that had undergone radical alterations or extension works', with the aims of ensuring 'harmony between the furniture used and the architectural language of these buildings', 'to achieve its submission to common principles' and ensure 'the appropriate technical management and controls.'[2] This policy to centralize the organisation of services and the strict definition of procedures, particularly in promoting the architectural works and basic infrastructure, was an important component of what was known as the Estado Novo, the political regime resulting from the 1926 military coup and that lasted until the 1974 revolution, led almost throughout by António de Oliveira Salazar (1889-1970)[3].

In view of the attributions of CAM and the availability of the archives documenting four decades of its work, this commission has been the initial object of study for the research project entitled Móveis Modernos.[4] This work was to contribute to the understanding, appreciation and protection of this heritage of furniture, drawing attention to the role played by furniture in the process of shaping public spaces and the rhetorical effects associated with this, a field that has been somewhat overlooked, if not simply ignored, in studies on contemporary architectural production.

The project Móveis Modernos helped identify almost all the work done by CAM, using well defined categories of programme: buildings representing the State; public offices; public care and health; schools; tourism; installations for military and security forces. However, we quickly realised that, apart from CAM, other authorities in Public Works and other ministries also had responsibilities in the furniture sector, namely those promoting installations for specific functions such as elementary and secondary education, health, justice, as well as some structures built specifically for special facilities, such as universities and the major teaching hospitals.[5] This diversity of promoters meant there were professionals working on furniture design in all of these authorities, doing the fundamental work of guaranteeing the image and operation of the country's public services. This shows that the objective to centralize and impose standards, expressed in the law that created CAM, was not fulfilled. And if this universe of agents with responsibilities in the design and decision-making process in this field was divided among the different authorities and working programmes, their true dimension remains, even today, ignored by historiography.

Although on an exploratory and fragmentary basis, our research helped us recognise and critically assess some of the authors designing furniture and fixed facilities to meet orders placed by the State agencies. The examples selected in this text to illustrate and discuss the work of this group of agents help build up a picture of many aspects, such as how the profession was practised, the practical consequences of the work and its importance in shaping public environments, all of which throws light on a narrative that is often seen only in black and white. With this approach we will overcome the multiple invisibility of this sector of design – masked by the preconceived idea of an official architecture used by a repressive, conservative state, by lack of interest in architecture designed for the network of public services and by the general failure to understand the smaller scale items found in the universe of public buildings (fittings and furniture). Of course the routine, rather than exceptional, nature of most programmes, associated with bureaucratic conditions that tended to demand little, were some of the arguments to support final results that are no more than routine, if not mediocre. The authors themselves were not above this contempt and underestimated the furniture projects in their biographies and professional records. Similarly, those responsible for CAM regularly omitted to mention their work in this department, and so also contributed to the idea of its irrelevance.

However, among the examples that we will look at, we find proof (certainly not regularly) that, even under tight conditions (economic, political, social) there was room for serious research and for a balanced search for consistency without excesses, the results of which can be considered satisfactory. Recognising these works will also contribute to both a more integrated, complete view of the built environment, as well as to enriching the discussion on the products, processes and producers involved in civil service.

One of the most classic examples of a civil service-architect attached to CAM, with considerable responsibility in furniture design, is Luís Benavente (1902-93).[6] Among his first interventions are those within the context of the social work of the medical doctor Fernando Bissaya Barreto, in Coimbra.[7] A recurrent theme appears in these works, at the time a pioneering approach, in the use of tubular steel furniture, clearly a legacy of central European modernism, the replicas closely resembling international models (both German and Austrian, as well as French) and their variations, adapted to available resources and to the specific needs of the programmes for which they were required (Figure 1). We believe that in this process Bissaya Barreto's involvement was important in that he followed carefully the most

Figure 1. Ninho dos Pequenitos, Coimbra. Proj. 1934. Arch. Luis Benavente (1902-1993). *Source:* photography C. Henriques. Archive Direcção-Geral de Comunicação Social.

recent European initiatives in providing facilities for public care and health and adopted them expressly as models.

There is no doubt that the most substantial part of Benavente's career, also that part in which furniture was involved,[8] developed in adapting existing buildings to new functions, such as the *Palácio Foz* (1941-53), in Lisbon, turning an eighteenth century building into the headquarters for the official propaganda services of the regime.[9] And there was the Palácio de Seteais (1953-7), in Sintra, a neo-classic baronial mansion converted into a high standard hotel facility.[10] In both cases, Benavente resolutely opted for revival furniture – replicas, rather than contemporary reinterpretations —, attempting to establish links of continuity and mimicry with the architecture of the spaces he was dealing with. We might say that both in architecture as in furniture, in Benavente this move away from a clearly modern language to a more classical, revival flavour is due mainly to his seeking to adequate to functional programmes and to architectural context, but this process has a clear ideological sense in relinquishing international trends and technical oriented solutions in favour of the products of the erudite elites of the past as being better suited to what was the desired present time.[11]

The case of Jorge Tavela de Sousa (1914-98) is quite different. De Sousa was responsible for the drawings (and certainly for the design) of the furnishings and fixed facilities developed by the Junta das Construções para o Ensino Técnico e Secundário (active from 1934-69), destined to be used in high schools and technical colleges built throughout the country. All of this was systematic and coordinated so as to respond to all planned functional needs, in numerous dimensions and for various purposes (furniture for seating, tables and desks, containers, laboratory benches and gymnasium equipment, etc.) and the various hierarchical categories considered. A certain *Art Déco* taste is visible in the shapes of these items, with their elementary volumes, flat surfaces and straight lines, combined with natural, enclosing curves, always built in dense, dark, heavy, highly resistant types of wood, that the vast colonial territories at the time provided, and justified by the expectation that they would be used on a daily, public basis for decades to come. The existence of a furniture-type catalogue is proof of the need to find a way to facilitate the process of school installations, but also of the fact that a level of understanding had been reached on the needs and uses of these facilities, providing a tried and tested *corpus*,[12] that we will find applied also in other facilities external to the strictly school universe, in which classrooms and laboratories, among other spaces, were required. CAM was one of the agencies that used this catalogue frequently, which explains why there are drawings produced by the Junta in the CAM archive.

Tavela de Sousa did not complete his training as an architect[13] and his professional career led to less individual visibility. He employed his graphic skills in collaborating with other professionals[14] or in partnerships with colleagues of the same generation, in which the true author of the project ended up by being diluted.[15]

Raul Rodrigues Lima (1909-80), in his turn, is a case of an unusually long career in public procurement, both as an architect involved in State structures and as an architect working from his own private workshop,[16] In the field of furniture his work is known in the architectural projects for which he was responsible. This is the case with the Instituto de Odivelas (1951), a teaching institution destined for the education of the daughters of the military, built in austere barrack-like architecture, on a colossal scale, and filled with a collection of furniture that, rather unusually but at the same time conventionally, staged a rural setting for those environments.[17] In the Palace of Justice in Oporto (1960; inaugurated 1961), Rodrigues Lima designed the extensive plan in complete, formal coherence between architecture and furniture, the tone being monumental and authoritative, much favoured by a regime that was conservative and totalitarian. Lima, who had already 'designed the furniture for several law courts', recognised then that 'it was not easy to prepare this project', due to the numerous and complex 'judicial and

functional conditioning factors with which he had to comply in selecting the right type of furniture and its arrangement in the great hearing halls, as well as the quality of the materials', and in finding a solution he counted on the 'almost constant assistance and collaboration of the Director General for Justice',[18] that is, in close dialogue with the agents of power, helping materialize the intricate hierarchical web and codify the desired order. The work of Rodrigues Lima was given scarce recognition by the critics and historiography, no doubt due to the multiple stigma of being an architect close to the regime, the nature of the programmes in which he worked (particularly within the context of restricted freedom and of repression) and the language adopted to achieve this.[19]

Still in the second half of the 1950s, a process began to renew references that once again began to bring official Portuguese production closer to that of the international architectural culture of the time, and that encouraged seeking out new approaches to modernity. This movement also had consequences for furniture and was implemented both by civil service architects working for the State, and by independent professionals contracted specifically for occasional jobs.

Eduardo Coimbra de Brito (1930-99), a civil servant with the DGEMN for most of his career,[20] was associated, in partnership with António Linhares de Oliveira,[21] with the project for the facilities of the Instituto de Fomento Mineiro (Institute for the Development of Mining) (1958-59; inaugurated 1963), in Oporto. The building, in modern-style blocks, housed the laboratories and other working areas, but also the structures representing the institution and its hierarchy (director's office, meeting room, auditorium, etc.). Linhares de Oliveira, a civil servant with the same Institute, signed the furniture project, in which the decision to seek modernity was a pretext for investment in a design exercise that was somewhat eclectic in its choice of references (Scandinavian, in the elegance of structures; but also Italian, in the refinement of constructive details and geometric complexity).

In 1959-60, Coimbra de Brito developed a project[22] to adapt the nineteenth century palace of the Oporto School of Fine Arts to the institution's new teaching needs. Contrary to the attitude prevailing until then, imitation and conventional historical reinvention were rejected. The auditorium, library, meeting rooms and offices were to occupy spaces left after the extensive demolition of the original interiors. The language of the new construction reinterpreted the legacies of history in the light of contemporary international trends and this was also reflected in the furniture proposed for the more representative spaces of the school, the formal plainness of which gave these spaces more domestic comfort than the formality of institutional ritual. Coimbra de Brito's interest in furniture became renowned when he founded his own company to produce furniture to order,[23] and that would go on to develop furniture lines for the retail market.

According to more conventional historiography, the variety of furniture projects in public buildings in Oporto may have been justified by the distance of this city from the main decision-making centres, which gave the architects a greater degree of freedom of action. However, in Lisbon as well, where supposedly State control would have been tighter, and in programmes where this freedom would not have been immediately foreseeable, we find signs of change and the same invisibility.

Norberto Corrêa (born 1926) worked in the official office that planned the Cidade Universitária Lisboa.[24] In 1957, for the Officers' Mess in Pedrouços (architecture by Sabino Correia), he worked on the furniture project and interpreted this functional programme as a hotel facility (Figure 2), using the most recent standards for this type of structure, that was modern in expression and to which an uncommon degree of precision and detail was applied. As a building to be used by Officers of the Armed Forces, it is surprising that its author achieved such a degree of creative autonomy in working for an authority that might have been expected to exert conserva-

Figure 2. Officers' Mess, Pedrouços. Proj. 1957. Arch. Norberto Corrêa (born 1926). Source: DGEMN/DSID, FOTO 0541624

tive pressure on those responsible for its design.[25] Despite the vast amount of work done by Norberto Corrêa, both at home and abroad, recognition of his work and critical acclaim are still slow in coming.[26]

José Luís Amorim (1924-99)[27] is another relevant case. Amorim claims, in an autonomous chapter of his *curriculum vitae*, responsibility for furniture projects, although presenting them second to his architectural production. Apart from a considerable amount of work done for the State, particularly for the ministries of Public Works and Overseas Territories, Amorim was never officially a civil servant in either of these ministries, and continued his career as an independent professional. From 1945, Amorim also designed furniture for the Lisbon Identity Records Archive (Arquivo de Identificação Lisboa) (architecture by Caetano de Carvalho, 1890-1976) and for the Hospital Júlio de Matos (architecture by Carlos Ramos, 1897-69). One of the first projects in which he was fully responsible involved the facilities for the Institute of Tropical Medicine (Instituto de Medicina Tropical) (1957; architecture by Lucínio Cruz), in which he established a number of principles and models, which he developed in several other furniture and facilities projects for the DGEMN, up to the 1970s.[28] Initially his work bore the mark of precision and a demanding assessment of needs, as well as critical monitoring of the technical conditions of production and the respective results, as was the case with the work for the Institute of Tropical Medicine. This attitude was to give way, later, to apparently accommodating, and settling for, solutions not well adapted to the specific context (scale, spaces, style and geometry), causing a sense of lack of adjustment, as seems to have been the case with the National Library (1965-8) and the Doctor Ricardo Jorge National Health Institute (1967-71). On the whole, Amorim reinterpreted traditional typologies, formally modernized with an eye to the international trends of the time. He developed a coordinated series of items clearly related in their formal familiarity, matured and stabilised over time, which included hierarchical series of seats, containers, desks, support furniture and laboratory benches (producing modular systems easy to combine and adaptable to complex infrastructure networks). Some of these items have gone onto the production line intended for the market and been used in other buildings,[29] although it is impossible to assess the true extent of this production and, hence, the true importance of their author.

The many stigmas of invisibility seem to have been removed deliberately, and irreversibly, by the action taken by Daciano da Costa (1930-2005). Initially trained as a painter,[30] Daciano dedicated himself to interiors and furniture design, but also to industrial design and teaching. He invested in his own research, which involved a constant critical attitude to the project for public facilities, having always refused to become a civil servant in the design work, which might have made his position more limited or less demanding. The different activities in which he became involved, and the diligence and talent he brought to them, allowed him to defend these disciplines as being complementary to architecture, and guaranteed his total professional autonomy, and, unheard of until then, distinguishing him from his peers in the eyes of the critics and the public. Defending the methods of design to achieve an adequate, rational approach to the context, Daciano did not under-estimate the role of sensitivity, intuition and virtuosity in clashing with convention. His work on interiors for civil services, such as the National Library (1965-8)[31]or the documentation and meetings centre of the National Laboratory of Civil Engineering (1971-2),[32] suggests a mixed balance of civic monumentality and humanism, of the familiar and unexpected, with an appropriate sense of scale for the whole and the detail, recalling the history of modern design in a clear geometrical language, in which the undeniable mark of the author wisely avoids monotony and repetition.

The invisibility that marks most of this production can also be understood in the light of the rhetoric produced by those responsible. In fact, CAM claimed only 'to imprint on everything a minimum of neatness, balance and good taste',[33] to give shape to the 'respect and discipline required of everyone'. In the work of CAM, ambition is not recognised as playing an important role in qualifying environments and the architecture of interiors (any more than efficiency, comfort, formal coherence, modernity), in investing in a strategy to promote the quality and precision of industrial production that might make the sector more competitive and effective, similar to what happened in civil service offices in other countries. Without such a perspective, chronic problems remained that activities reports complain of repeatedly: a lack of material, financial and human resources – in quantity and with specialist training –, or the absence of legal procedures adequate for selecting more qualified supplies and not just at low cost. Even the objectives of the founding law soon proved to be unachievable: CAM would not have the means to achieve them, far less determine strategies to define an image, restricting itself to little more than applying administrative procedures in acquiring furniture and facilities for public services. These strategies, in existing at all, depended on other official structures, on other agents, and in very specific contexts.

1 Then known as the Ministry of Public Works and Communications, whose competencies were defined in 1932 in the Decree n. 1454 (*Diário do Govêrno*, Ist. series, 157, 7 July 1932), at the time when the young engineer Duarte Pacheco (1900-43) was appointed Minister.

2 Portugal, Decree-Law n. 30,359, *Diário do Govêrno*, Ist. series, 80, 6 April 1940, 465-6.

3 Salazar was Minister of Finance from 1928 and head of government from 1932 to 1968. He was mainly responsible for the contents of the 1933 Constitution, which formally introduced the *Estado Novo*.

4 *Móveis Modernos. A actividade da Comissão para Aquisição de Mobiliário no âmbito da Direcção-Geral de Edifícios e Monumentos Nacionais. 1940-1980* (Modern Furnishing. The work of the Furniture Acquisition Commission in the scope of the Directorate-General of Buildings and National Monuments. 1940-1980); the project is centred at the *Centro de Investigação em Arquitetura, Urbanismo e Design*, of the Faculty of Architecture of the University of Lisbon, receiving funding from the Foundation for Science and Technology (reference PTDC/AUR-AQI/115660/2009). The team is formed of João Paulo Martins (principal researcher), Leonor Ferrão, José Pereira, Graça Pedroso, Marta Rosales, Margarida Elias and Sofia Diniz, the consultants being João Vieira, Eugénia Costa and Christian Raabe. This research project focused specifically on the history of product design, exploring the links between the history of architecture and interiors, the history of industry and technology, economic and social history and the history of institutions.

5 Among others, the *Junta das Construções para o Ensino Técnico e Secundário* (1934-69), the *Delegação para as Obras de Construção de Escolas Primárias* (ca 1940-69), the *Comissão das Construções Hospitalares* (1946-71), the *Comissão das Construções Prisionais* (1934-70), the *Delegação das Novas Instalações para os Serviços Públicos* (1948-70), as well as the bodies responsible for the construction of the universities of Coimbra (*Comissão Administrativa do Plano de Obras da Cidade Universitária de Coimbra*; 1941-69), Lisbon and Oporto (*Comissão Administrativa dos Novos Edifícios da Universidade*, 1934; *Comissão Administrativa das Novas Instalações Universitárias*, 1957-69), the agencies of *Caixa Geral de Depósitos* (up until 1942, the *Secção de Obras e Edifícios da Caixa Geral de Depósitos, Crédito e Previdência*), or post offices (*Comissão dos Novos Edifícios para os CTT*, created in 1934). Also had competencies for the furnishings of the Ministry for Overseas Territories (public buildings constructed in territories that were at the time Portuguese colonies), and the ministries of Justice (court buildings) and Finance (diplomatic representation facilities abroad).

6 Luís Benavente received his diploma in architecture from the Oporto School of Fine Arts, in 1930. He was on the staff of the Ministry of Public Works from 1932. His career developed in working for the DGEMN, and he reached the position of Director of National Monuments (1952-8) and joined CAM in the period 1950-9. For around ten years (1958-69) he was commissioned at the service of the Ministry for Overseas Territories, and intervened many times in dealing with architectural heritage in the territories of the Portuguese colonies at the time. He was Portugal's delegate in the commission that drew up the Venice Charter (1964), having also been a founding-partner of ICOMOS (International Council of Monuments and Sites). See José Manuel Fernandes, "Luís Benavente e o Palácio Foz," *Monumentos, Revista Trimestral de Edifícios e Monumentos* 11 (1999); AA VV, *Luís Benavente - arquitecto* (Lisboa: IANTT, 1997); Cláudio Guiomar de Oliveira, "Luís Benavente (1902-1993)," in Jorge Custódio (ed.), *Portugal 1910-2010 - 100 Anos de Património – Memória e Identidade* (Lisboa: IGESPAR, 2010), 250.

7 From 1934, Benavente was associated with initiatives conducted by the medical doctor and professor Bissaya Barreto (1886-1974), who at the time directed the *Junta Geral do Distrito de Coimbra*, with special responsibility for implementing a significant and exceptional plan to provide facilities for social assistance in the region. In this context, Benavente was involved in extending the Celas Sanatorium (operating since 1932), where he was more specifically responsible for a recovery terrace (1934), in the works for the *Hospital dos Covões* (inaugurated 1935), also known as the *Sanatório da Colónia Portuguesa no Brasil*, the *Hospital de Sobral Cid* (1936) and the *Parque Infantil Dr Oliveira Salazar* (inaugurated 1936).

8 His widow placed Benavente's personal collection, documenting the different periods and aspects of his professional life, in the National Archive of the Torre do Tombo in 1995. One part of the collection is made up of numerous furniture projects, almost all based on revival languages, which are not identified by the author, and which were neither studied nor arranged systematically.

9 Margarida Elias, "A intervenção da DGEMN e de Luís Benavente na adaptação do Palácio Foz para sede do Secretariado Nacional de Informação. Mobiliário e decoração de interiores (1940-1953)," *Revista de História da Arte* 11 (in the press).

10 Margarida Elias, "Os hotéis de Santa Luzia e de Seteais e a actividade da Comissão para Aquisição de Mobiliário (1953-1955)." Paper presented at the IV Colóquio de Artes Decorativas da ESAD/FRESS. O móvel e o seu espaço. Entre Portugal e Brasil: móveis do séc. XIX ao séc. XX, October 2012; proceedings in the press).

11 The understanding of modern furniture during these years and the possibilities for its use in defining representative interiors is very clear in the comments Benavente made on renovating the São Bento Palace (1950), to turn it into the official residence of the prime minister, the role then occupied by Salazar. Benavente claimed at the time that with the aim of 'improving the ambiance of that residence' in order to 'make a different impression' on those received there, the furniture and accessories in chrome in the entrance foyer should be replaced by 'an oriental ceramic vase', 'to serve as an umbrella holder' and 'a seventeenth century Portuguese cupboard or something similar', to hold hats and coats.

12 In fact this catalogue was used in around one hundred projects (29 secondary school buildings and 69 technical colleges, for what was known as industrial, commercial and agricultural education), designed and built by the end of 1960s, using common functional and ideological guidelines. The work of planning and typological standardization for this was also used for as a basis for furniture projects prepared by the Delegation for Building Works for Primary Schools (*Delegação para as Obras de Construção de Escolas Primárias*) (active around 1940-69).

13 Tavela de Sousa studied at the Lisbon School of Fine Arts. The specialist press publicised his works from early on, particularly the *Titânia Cinema* project for the town

of Portimão. "A Arquitectura Portuguesa Cerâmica e Edificação," *Reunidas* 43 (October 1938), 16-17.
14 Namely in the workshop of Luís Cristino da Silva (1896-1976), one of the most important architects of his generation and a teacher at the Lisbon School of Fine Arts.
15 Interview with the architect Vasco Santos Pinheiro, grandson of Tavela de Sousa, 11 December 2013.
16 Raul Rodrigues Lima graduated as an architect from the Oporto School of Fine Arts in 1931. He was appointed deputy architect of the Commission for Prison Construction in 1939, and was responsible for planning several dozen prisons throughout the whole country. At the same time, in his own workshop, and with an undeniable overlapping of status, he worked on several official procurement orders executed in a solid formal language but with no particularly boldness. An example of this are the sixty or so building projects for law courts for which he was contracted by several municipalities, no doubt due to his privileged proximity to the ministries of Justice and Public Works.
17 The models used in this project would have resulted from adapting models from the catalogue of the Olaio factory, one of the most important furniture producers at the time.
18 IHRU: DGEMN/DSARH 005/209-3487/01.
19 See João Palma Paio, "Arquitectura Portuguesa de Justiça. Os Palácios de Justiça no Período do Estado Novo" (master's thesis., Faculty of Architecture, Technical University of Lisbon, 1996); António Manuel Nunes, *Espaços e Imagens da Justiça no Estado Novo. Templos da Justiça e Arte Judiciária* (Coimbra: Edições Minerva, 2003); Ricardo Silva Pinto, "Raul Rodrigues Lima, un arquitecto del Estado Novo; La Arquitectura Penitenciaria" (PhD diss., Madrid Technical College of Architecture, 2009).
20 Eduardo Coimbra de Brito graduated from the Oporto School of Fine Arts in 1957. He was on the staff of the DGEMN from 1959, ending his career as Director of Building and Monuments of the Centre Region (1995-7).
21 António Linhares de Oliveira graduated from the Oporto School of Fine Arts in 1966. The two architects met again in studies for the installations of Oporto University, more specifically the project to adapt the Burmester Palace for the installations of the Faculty of Arts (1965).
22 The initial project for the *Aula Magna*, dating from 1955, the work of Lixa Filgueiras (1922-96; a graduate in architecture from the Oporto School of Fine Arts in 1956), was directed by Manuel Fernandes de Sá (1903-80; a graduate of the Paris *École Supérieure des Beaux-Arts* in 1934). In 1956 Filgueiras e Fernandes de Sá met on several occasions with Carlos Ramos, director of the School, to discuss the project and to 'monitor the process of furniture design'. The project was also reviewed by Filgueiras (final version 1957; inaugurated 1960) prior to the latter leaving the DGEMN in 1958 to join the Oporto School of Fine Arts as an assistant (Gonçalo Canto Moniz, "O Ensino Moderno da Arquitectura. A Reforma de 57 e as Escolas de Belas-Artes em Portugal (1931-69)" (PhD diss., University of Coimbra, 2011, 368-70).
23 The 'Movélia' provided furniture for the Hotel da Balaia (1965-7), a reference work in the career of the architect Francisco Conceição Silva (1922-82; a graduate of the Lisbon School of Fine Arts in 1949); later he was to market furniture using his own catalogue.
24 Norberto Corrêa graduated in architecture from the Lisbon School of Fine Arts in 1953. When he was working for the Lisbon City University he designed the installations for the canteen and students' facilities, including the respective furniture (1954-62). He went on to have a long career as an independent professional that ranged from urban planning to architecture and to interiors and furniture – particularly in the hotel sector –, and participated fully in the movement that throughout the decades of the 1960s and 1970s gave shape to the tourist industry of the Algarve, in the south of Portugal. See Graça Corrêa (ed.), *M. Norberto Corrêa - Arquitectura e Urbanismo* (Lisbon: Uzina Books, 2013).
25 Interview with the architect Norberto Corrêa, 16 October 2013.
26 Graça Corrêa (ed.), *M. Norberto Corrêa*.
27 José Luís Amorim graduated in architecture from the Lisbon School of Fine Arts in 1956. He was hired by the Ministry for Overseas Territories for urban planning and architecture (1958-61) and was an employee of the Lisbon Municipal Council in the town-planning sector (1962-8).
28 For the installations of the *Junta de Energia Nuclear* (1961), in Sacavém, with initial architecture by António Lino (1909-61), besides other buildings in this complex for which he was fully responsible for designing (1965-80); the National Agronomy Station (1962), in Oeiras, with architecture by Jorge Segurado (1898-1990) and José Maria Segurado (1923-2011); the National Library in Lisbon (1965-8), with architecture by Porfírio Pardal Monteiro (1897-1957) and António Pardal Monteiro (1928-2012); the Doctor Ricardo Jorge National Health Institute (1967-71), with architecture by António Pardal Monteiro; the Lisbon Palace of Justice (1968-9; inaugurated 1970), with architecture by Januário Godinho (1910-90, graduate of the Oporto School of Fine Arts, 1941) and João Andresen (1920-67; graduate of the Oporto School of Fine Arts, 1947); the Infante D. Henrique Naval College (1970; inaugurated 1972), in Paço de Arcos, architecture by José Costa Silva.
29 For example, in the Setúbal District Hospital (*Hospitais Portugueses*, April-May1959).
30 Daciano da Costa graduated as a painter from the Lisbon School of Fine Arts in 1961. See João Paulo Martins, *Daciano da Costa, Designer* (Lisbon: Calouste Gulbenkian Foundation, 2001).
31 Daciano was responsible there for the interiors and the principal reading room, catalogue room, cafeteria, auditorium, director's office and meeting room. The furniture of José Luís Amorim was placed in other spaces in this building.
32 The architectural project for the documentation and meeting centre of the National Civil Engineering Laboratory was the work of Norberto Corrêa.
33 Direcção-Geral dos Edifícios e Monumentos Nacionais. Comissão para Aquisição de Mobiliário. *Relatório*, 1950, 10.

3. QUESTIONS OF METHODOLOGY

3.4.5 Bureaucratic Avant-Garde: Norm-Making as Architectural Production

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Abstract
The production (and dissemination) of architecture through institutions has long been unaccounted for in favor of avant-garde creation – an omission that recently moved into the focus of historical research. The architecture of the German Institute for Norm (DIN), founded in 1917, presents a unique case for such rewriting of the history of the discipline. Rather than producing representative buildings, the DIN designed architecture through norms. When the DIN 476 defined the paper format A4 in 1922 as national norm, the DIN re-shaped architectural production from the inside out. Where the paper format was normed, the normed-size binder followed. The filing cabinet for the folder was normed, and, lastly, the building that housed the normed furniture. This system of norming the part, rather than the whole, defined the very architecture of this institution: the best solution was to be found, prescribed, and disseminated. By determining the window in 1919, the norm-makers of the DIN formatted the view of the world for the inhabitant; by formatting the door handle, the point of physical contact between user and architecture was shaped and normalized. Rather than treating such norms as mere regulations on a sheet of paper, I want to argue that the systematic norm-effort in early twentieth-century Germany needs to be considered not opposed to, but as integral to contemporaneous architectural production. In constant interdependent exchange, figures such as Walter Gropius, Ludwig Mies van der Rohe or Peter Behrens were active protagonists in the norm production of the DIN. At the same time, DIN officials such as Karl Sander designed the parts that would form much of the *Neue Architektur* of the time. With this paper I want to argue for a re-integration of the norm into architectural history: I propose the necessity of reevaluating the prevalent reading of the norm as a limiting corset of the avant-garde towards an understanding of the norm as active agent in form-making.

3.5 The Architecture of State Bureaucracy: Reassessing the Built Production of (Colonial) Governments

SESSION CHAIRS:
JOHAN LAGAE
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The cultural, material and spatial turns in political historiography have brought about a cross-fertilization between political and architectural history in the last two decades. The spaces in which politics take place and the political implications of architecture have become a focus of interest both for political and architectural historians. However, this encounter has strengthened the tendency to view politics primarily as a representational activity, rather than an act of governance. Hence, historians have privileged the study of what Walter Bagehot, when writing on the English constitution in 1873, called the 'dignified parts' of the state – the Houses of Parliament, museums, embassies, and national world's fair pavilions. Buildings which house the 'efficient parts' of the state – the ministries, the public administrations, and so on – have hitherto remained largely neglected in academic research.
In this session, we are interested in investigating this second, more mundane built production of the state, aligning us with the argument of Henry Russell Hitchcock's 1947 article that the 'architecture of bureaucracy' is worthy of (scholarly) attention as much as is the 'architecture of genius'. In particular, we want to address the norms and forms that have influenced such governmental buildings as well as the actors involved in their design and construction. We invite papers that tackle questions via a case-study-based discussion. For example, how was the organization of the state (centralized vs. decentralized) reflected in its built apparatus? How does the (urban) site, the scale, the architectural language and the interior spatial distribution of state buildings illustrate the ways in which the state medi-

ated its position *vis-à-vis* the citizen? To what extent did government develop particular building types, and what do these tell us about the desire of the state to improve its efficiency? Was their design underscored with notions of Taylorism? What constituted the technocratic building apparatus of the state? What were the networks of power and knowledge implied in official bodies like Public Work Departments that constituted what Peter Scriver has referred to in the British colonial context as the 'scaffolding of empire?' Papers should be interpretative rather than descriptive in nature, and can present case studies within the time frame 1918-70. We do not set limitations in terms of geographical scope but request that when the focus is on the architecture of state bureaucracy in colonial territories, the authors also draw comparison with the situation 'at home'.

3.5.1 SOM, 1939-46: From 'Engineered Dwelling' to the Manhattan Project

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Abstract
This paper concentrates on the organizational influence of the military on the architectural practice of the U.S. during World War II. The firm of Skidmore, Owings & Merrill (SOM) grew from a small design office into a large-scale corporate architecture-engineering firm by adopting wartime government projects, particularly the town of Oak Ridge, Tennessee (1943-46), where the atomic bomb was developed.
Central to this transition was SOM's work with the John B. Pierce Foundation, which specialized in psychological and physiological research in the domestic environment as well as in the advancement and realization of the prefabricated house, the 'engineered dwelling'. SOM and the Pierce Foundation began to collaborate in 1939 and continued to explore large-scale, highly rationalized construction in two major commissions: the Glenn L. Martin Aircraft Company (1941-2) and the Manhattan Project (1943-6).
Working with the John B. Pierce Foundation, SOM learned, theoretically and practically, how to standardize and systemize a building. At Oak Ridge, the firm progressed further, designing and supervising the construction of thousands of houses and various buildings, such as churches, schools, hospitals and shopping malls. Mastery of advanced technology in prefabrication and experience with numerous building types enabled the firm to provide fast-track economical construction and to efficiently manage their labor force. The expansion and later international triumph of SOM could not have been imagined without the collaboration with the military.
This paper consists of three main components: the John B. Pierce Foundation's research on prefabrication and the use of space in the domestic environment, SOM's activities at Oak Ridge, and the firm's organizational transformation through interactions with the Pierce Foundation and the military.

Keywords
SOM, prefabrication, Manhattan project, organization, WWII

The small town of western New Jersey, Lebanon appears to be one of the typical towns along I-78 – there is little unusual about it. However, there are some small, old houses that contain remarkable history. Though now mostly forgotten, these houses were nationally known for being some of the first prefabricated houses in the late 1930s. Additionally, they were employed as prototypes for constructing the city of Oak Ridge, Tennessee, which was built as part of the atomic bomb development during the Second World War. While focusing on the activities of the architectural firm Skidmore, Owings and Merrill (SOM), I will examine how the research on prefabricated housing, construction of the atomic bomb town and the rise of a bureaucratically organized architectural practice were interrelated.

SOM has been known as a representative of American corporate architecture since the early 1950s. However, few people know how or when the firm developed into a large, corporate organization.[2] William Hartmann, one of the early partners of SOM, argued that the Second World War enabled the firm to become a large-scale architectural organization. The critical moment came in 1942 when the Manhattan Engineer District, a confidential wartime military organization, selected SOM to design and build the city of Oak Ridge, Tennessee. This town was part of the atomic bomb development known as the Manhattan Project. When SOM started working on the town, it was a small design firm with limited experience. Its projects prior to 1942 included only small-scale exhibition designs and prefabricated houses. By the time the war was over, SOM had become one of the largest architecture firms in the country, with substantial experience to deal with almost any type and size of project.[3]

From 1939, SOM was entirely devoted to research on the prefabrication of houses and related issues, working with one of the most well-known prefabrication research institutions, the John B. Pierce Foundation. The collaboration between SOM and the Pierce Foundation began in 1939 with a small prefabricated house design. This house and subsequent collaborative projects allowed SOM to gain sufficient technical knowledge and on-site experience that would later prove beneficial in taking on large-scale military, government and corporate commissions as well as in developing technical expertise for the post-war office buildings. It is during this period that significant changes in SOM's business areas, organizational systems, and architectural forms occurred.

The John B. Pierce Foundation was established in 1924 by John B. Pierce, then Vice President of the American Radiator & Standard Sanitary Corporation. Its Housing Research Division was set up in 1931. In 1933, the foundation established another division, a Laboratory of Hygiene, in New Haven, Conn. This division specialized in physiological problems. The research into prefabricated housing, the use of space in the domestic environment, and physiological and psychological research were intended to complement each other. For the foundation, prefabrication was the result of a scientific understanding of individual and family life and the industrialization of a building. However, prefabrication did not necessarily mean standardization. On the contrary, it was understood as a precondition of flexibility.

It is worth noting how the foundation's research was formulated around 1940. One of the key members of the foundation, John Hancock Callender argued that 'housing design should be based on family needs. The problem was how to obtain the data on which to base a design for housing not one, but several thousand, families.'[4] Callender believed that thorough research on family life would help achieve flexibility as well as prefabrication. The Pierce Foundation's early research program on family life was highly influenced by a German sociologist, Svend Riemer, who worked with the Swedish Cooperative Building Society. One of Dr. Riemer's research methods, generally called the Stockholm Study, was a continuous record of the activities of each member of a family. More than 200 families were researched through interviews and on-site sketches and then statistically classified. Presenting a paper at the Milbank Fund annual conference in New York City in 1939, Dr. Riemer argued, 'Design is a problem of conflicts in space and time'.[5] Design was not an issue of style or aesthetic. To focus on the conflicts of family living, Callender suggested analyzing housing design in terms of three categories: space, equipment, and environment.[6] Space was measured by the physical occupation of a person and equipment around specific items in the domestic space; such as a chair, a table or even a mirror. The environment was subdivided into physiological and psychological measurements. While the physiological environment included control of moisture, heat, ventilation, light, sound, and sanitation, the psychological environment incorporated control of privacy and consideration of the general appearance and impression of the space and equipment. Aesthetic preferences and social standards were considered as psychological factors. Design in this process did not begin with physical walls and their shapes, but with 'a human and wrapping around him with the required space, equipment, and environment.'[7] The objective spatial measurements of human activities and developments of various furnishings became important parts of design. The style of a house might be 'fairly conventional – possibly even Cape Cod Colonial', when taking into account aesthetic preferences and social standards.[8] This concept of design was internalized by SOM in its work with the foundation and was further advanced during the war.

SOM's first opportunity to work with the foundation came unexpectedly while working for the New York World's Fair of 1939. The Westinghouse was one

among many of SOM's exhibition buildings. Joseph F. O'Brien, who worked for the corporation as the organizer of the exhibition, later joined the Pierce Foundation as Director of Electrical Research.[9] Through him, SOM became Consulting-Architects to the foundation, which enabled it to accumulate expertise related to prefabrication technology, the scientific understanding of human activities, and the systemization of its architectural language. The plywood 'Experimental House' of 1939, built on the O'Brien's farm in Lebanon, NJ, was the first result of their collaboration.[10] SOM designed and built the house and its numerous variations based on the research of the foundation.

This initial exposure to prefabrication research helped the firm win a commission to standardize the many different types of prefabricated houses that existed in the market. For the October 1940 issue, the *Architectural Forum* commissioned SOM to study all prefabricated housing and to create 'a basic house design' that supposedly included all the merits and excluded all the weaknesses of individual variations. The general intention of the project was not only to present an economical house, but also to examine prefabricated houses available on the market and provide the manufacturers with a standard model of the low cost dwelling unit. For the journal, SOM presented a prefabricated house and developed a feasible manual for large-scale housing development. SOM explained its design with a 'Plan Selection and Orientation' diagram. The firm chose one basic plan. Based on the plan, eight variations were produced. These variations could be installed in any location according to the orientation diagram. This simple diagram was believed to be employed in almost all parts of the country.[11]

On 7 October 1941, a group of businessmen, government officials and reporters gathered in Baltimore, Maryland in order to celebrate the completion of a housing project for the employees of the Glenn L. Martin Aircraft Company. The event was followed by a tour to Middle River, Maryland, where a 600 unit housing project was built. SOM was the main architect for the project, creating general plans and specific technical drawings as well as construction supervision. The Experimental House was used as a prototype.[12] A set of detailed drawings was repeated 600 times to create 600 identical houses. It took a compact four and one-half room rectangular shape, type A3 in the 'Plan Selection and Orientation' diagram. 'Cemesto' board was the main building material, a product of the Celotex Corporation, which was a board that consisted of cane-fiber insulation board core, sealed with a special compound between two layers of a combination of asbestos and cement. All panels, ceiling boards, and structural members were delivered cut to specified sizes by the manufacturer. Assembly work was done mainly in a field shop. Construction workers from each trade performed their own work similar to assembly-line factory workers, entirely alienated and isolated from the final product.[13]

The successful completion of the Glenn Martin project helped SOM participate in the Manhattan Project. The United States began development of the atomic bomb around 1942, when the U.S. Army Corps of Engineers created the Manhattan Engineer District (MED) under the directorship of Leslie R. Groves. There were three major locations for the project, Oak Ridge (TN), Hanford (WA), and Los Alamos (NM). Among them, Oak Ridge, the city SOM designed, was the first and most complex. The site of the future Oak Ridge did not appear on the map until fall of 1942. The area was carefully selected; it was safe from air attack, had dependable electric power in large quantities supplied by the Tennessee Valley Authority, and had flat areas suitable for building that were separated by natural barriers to make a sufficient town site. There was an abundant water supply from the Clinch River, and the land was cheap. MED ominously called the site 'Kingston Demolition Range' and later renamed it Clinton Engineer Works (CEW). This was the name officially used to refer to the whole site during the project.[14]

During the construction of houses, no one knew the final size of the town, which became larger and larger until it turned out to be 'the biggest job of quick town building ever attempted in the USA'.[15] When the war ended, what had been empty land in 1942 was filled with a population of 75,000, with all necessary facilities for a town. With an increase in size and complexity of its participation at Oak Ridge, SOM was forced to reinvent its own architectural practice. The town itself went far beyond the boundary of a traditional architectural practice, requiring a new architecture-engineering firm that could cover road and housing construction, hospital and school design, town planning, equipment design and interior design. SOM's mission required the firm to extensively expand their business areas, diversify personnel, manage a large number of people with various backgrounds, and rationalize the firm's organization for efficiency and effectiveness. The town of Oak Ridge was a laboratory where SOM built a new kind of architectural practice that anticipated the post-war corporate architectural and engineering practice.

SOM's first contract officially spanned from February 1943 to July 1943. The main focus was 'the design of all structures required for a community to house approximately 12,000 inhabitants', which included 'the design of dwelling units, store groups, theatres, churches, grade schools, high school, hospital, recreation buildings and other buildings as required for the community.'[16] In its first phase, SOM designed site plans for roads and house locations: 3000 dwelling units comprised of six types, two shopping centers, a town administration building, a hospital, a nursing home, an elementary school, two apartment buildings, a gas station, a recreation

hall, and several neighborhood stores. SOM was hired with the lump sum of US$130,000 under the condition of compensation for overtime and additional services.17 However, until the end of 1943, SOM was regarded as part of the Pierce Foundation. This was soon about to change.

Spring of 1943, while Merrill and others were working at the site from dawn to dusk seven days a week, the small New York office on East Fifty-Seventh Street was full of architects, engineers, and draftsmen producing plans for houses. William Brown, who was then only 34 years old, was put in charge of the housing project at Oak Ridge. He later took charge of the special buildings as well as the housing. Robert Cutler designed the hospital and Arne Engberg the Town Center.18 The SOM New York office was the locus for the project until late 1943. Drawings were produced there and sent to the nearby MED headquarters. Due to security reasons, the communication between the firm's New York office and the Oak Ridge office was modulated by the military security team. Several MED officers were assigned to the mission and almost continuously stayed in the office. Their jobs entailed guiding and checking all drawings and acting as a liaison between SOM, MED, and CEW.

The second major contract spanned from 6 September 1943 to 1 August 1944. Now the scale of SOM's task grew much larger and more complex. The estimated population of this phase rose to 44,000 residents and soon increased to 66,000. Design specifications included overall site plans, 9250 new family dwelling units excluding the 30,000 units already under construction, new men's dormitories necessary to accommodate 1600 mean, women's dormitories to house 6000 occupants, cafeterias, laundries, schools, and other structures to complete the development of the city. It also incorporated distribution facilities in the town which had previously belonged to an engineering firm, Stone and Webster (S&W). Now serving as an architecture-engineering firm, SOM was asked to handle facilities such as the various sewer, water, and power facilities.[19]

In August 1943, Colonel James C. Marshall, Engineer of the District, was promoted to Brigadier General and assigned another job not related to the Manhattan Project. The deputy Engineer Kenneth Nichols became the leader of MED under General Groves. Realizing the strategic importance of CEW, he decided to transfer the district's headquarters from Manhattan to the administration building at Oak Ridge called 'the Castle'. Accordingly, the major portion of the SOM design team moved to the city of Oak Ridge in the same month.[20] Despite initial difficulties at the new location such as acquiring office space, furniture and telephone, the general situation was significantly better for SOM. First, the complicated communication problem between MED and the SOM New York and Oak Ridge teams had dissolved, which allowed the firm to instantly respond to certain unexpected situations or difficulties occurring at the site. Secondly, SOM became fully exposed to MED, while the latter gradually relied on the firm for any issue related to town planning, housing design and construction. SOM was immediately and continuously available for the diverse demands of the city. The firm was constantly pressed by MED to take on many different roles. This not only meant intense pressure, but a great opportunity as well.

SOM took on an exclusive yet inclusive role within the fenced town of Oak Ridge. As the only architecture-engineering firm in the town, the scope of their responsibility was indeed 'challenging' as Owings later acknowledged, and MED gave them 'many interesting roles to play.' It was 'alarmingly all-inclusive.'[21] The firm was responsible for anything remotely connected with the planning, building, furnishing, or equipping of the town. This was quite beyond the conventional boundary of architectural services. The situation forced Skidmore and Owings to restructure its organization by bringing in competent professionals from entirely different fields. For instance, the L. S. Ayers department store in Indianapolis dispatched their key merchandizing manager at Owings's personal request. In addition, Skidmore asked Robert Moses of New York to send the chief engineer of the Tri-borough New York-New Jersey Bridge Authority to head the traffic and highway department. SOM hired a complete construction company from Grand Rapids, Michigan to become the construction division of the firm. Construction manager Jan Porel, with whom SOM had worked on the Glenn L. Martin project, also joined the team.[22]

Importing personnel from other fields was to some degree compelled by SOM's second contract with MED. 'The Architect-Engineer was required to maintain his complete staff, and conduct all his operations at Oak Ridge,' wrote Captain Samuel Baxter, then the Contracting Officer's representative at MED. After working with SOM during all stages of the contract, he reported that 'an adequate and competent organization was maintained throughout the period of the contract.'[23] All those in charge of the various departments were 'experienced and capable men in their respective fields'. Baxter similarly indicated that the business administration of SOM was 'well organized and functioned efficiently and that accounts, files and property records kept up to date and in good order with the result that final accounting and auditing of the contract should be completed in a minimum time after the completion of technical services.'[24] Thus SOM's positive evaluation was, in part, the result of its having imported personnel from other fields and of managing them efficiently.

During the project, MED sometimes thought that the schedule for completing housing, special buildings, roads, and the utilities was almost im-

possible. SOM, however, surprised the military by producing a significant amount drawings and specifications within the allotted time frame. MED perceived SOM as quite an efficient and competent organization.[25] Working at the site, SOM now had to restructure all loosely related areas of architecture-engineering under the aegis of its firm. This was the true beginning of the modern, bureaucratic architectural firm.[26] At the end of 1944, about twenty months after the first team of six SOM employees arrived, the firm had some 650 employees at the Oak Ridge site. The New York and Chicago offices had also grown significantly, supporting the operations at Oak Ridge and working on several military projects. SOM had been transformed into an entirely different firm in its organization, operation, and capability. The firm successfully completed the contract, while simultaneously restructuring its organization. A small architecture firm had transformed itself into a well-modulated architecture-engineering firm capable of undertaking a complicated engineering project.[27] Working under a difficult schedule, SOM overcame all obstacles and became a large, complex, yet flexible organization. The various roles that SOM's architects were forced to take on at Oak Ridge helped them carry out far-reaching projects, which most architecture firms of that period could not have undertaken.

The Oak Ridge project would later enable the firm to qualify for large-scale military and government projects as well as projects for corporate headquarters such as the US Military Compound in Okinawa, the Creole Petroleum Corporation in Venezuela, the US Air Force Academy in Colorado Springs, and the Connecticut General Insurance Company. Without considering the Oak Ridge project, it would not be possible to explain the evolution of SOM. In fact, it is reasonable to argue that the small firm finally became the SOM we know today through the experience and organizational transformation in Oak Ridge. The size, scale of business, and organizational structure of the firm fundamentally changed during the war. Simplified architectural design, advanced technology and efficient organization of a large-scale labor force were unified. Systemization and mechanization of architecture as in prefabrication and the reorganization of the firm under the pressure of the military during the war contributed to the rise of SOM in the 1950s.

1 Robert Davison wrote: 'An engineered dwelling would be one in which, through technical procedure, optimal use is obtained from all the materials in the dwelling, not only from the standpoint of resistance to predetermined structural loads, determined by wind and floor loads, etc., but predetermined "numerically expressed" values, such as might be developed from test and research by engineers and scientists in the fields of thermal environment, illumination, sanitation, physiology, and psychology and sociology'. Robert Davison, "The Engineered Dwelling," *Prefabricated Homes*, April 1943. This article was republished by The John B. Pierce Foundation in the following year.

2 See also Hyun-Tae Jung, "The Evolution of Architectural Organization: Skidmore, Owings & Merrill in the Mid-Twentieth Century," *Pidgin: Journal of Princeton University School of Architecture* 15 (2014), 18-29.

3 William Hartmann, *Oral History of William Hartman*, interview by Betty Blum (Chicago: The Art Institute of Chicago, 2003), 71-2.

4 John H. Callender, *Introduction to Studies of Family Living* (John B. Pierce Foundation, December, 1943), 5.

5 'All too often the designer views the home in its static aspect only. He considers it as comprising so much space with so much furniture, neglecting the fact that it is the setting for many diversified activities of the family and its individuals, occurring in continuous flow and often conflicting… in space and time… Design is a problem of conflicts in space and time'. Svend H. Riemer, quote ibidem, 8. Riemer's paper was later published. Svend H. Riemer, "Family Life as the Basis for Home Planning," in American Public Health Association, Committee on the Hygiene of Housing, *Housing for Health* (Lancaster: Pennsylvania, 1941).

6 Callender, *Introduction to Studies*, 12-3.

7 Ibidem.

8 Ibidem,15.

9 *New York Times*, November 12, 1938, 26.

10 "The Architectural Forum Defense House by Skidmore, Owings & Merrill, Architects," *Architectural Forum*, November 1940, 444-9.

11 Ibidem.

12 *A Vital Contribution* (Chicago: The Celotex Corporation, 1941).

13 "Six Houses a Day," *Business Week* September 13 (1941), 65. The magazine reports 'This Lebanon house is the spiritual father of homes for airplane workers which are going up at the rate of six a day at the Glen L. Martin Co. Plant, Middle River, Md'.

14 MED used compulsory acquisition to purchase a rectangular area of 59,000 acres at US$2,600,000. Charles O. Jackson and Charles W. Johnson, "The Urban Frontier: The Army and the Community of Oak Ridge, Tennessee, 1942-1947," *Military Affairs* (February 1977), 9.

15 "Atom City," *Architectural Forum* (October 1945), 103.

16 "Design Progress Report: Skidmore, Owings & Merrill," 15 June 1943, File MD-

600.914 "(Skidmore, Owings & Merrill) Design Progress Report," Box 4, RG 4nn-326-85005, NARA.
17 However, the total amount would later prove to be millions of dollars, attracting more jobs in other MED-related areas both during and right after the Second World War. Ibidem.
18 William S. Brown, manuscript sent to Owings, October 1970, Box 49, The Papers of Nathaniel A. Owings, Library of Congress.
19 A Letter by Captain Samuel S. Baxter to T. C. Williams, Project Manager of Stone and Webster Co. at CEW, October 4, 1943, File MD-600.914 "(Skidmore, Owings & Merrill) Design Progress Report," Box 4, RG 4nn-326-85005, NARA.
20 Ibidem.
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23 Captain Samuel S. Baxter, "Completion Report of Skidmore, Owings and Merrill, Contract No. W-7401-eng.69," 9 October 1944, File MD-600.914, "Skidmore, Owings & Merrill, Completion Report," Box 51, RG 4nn-326-85005, NARA.
24 Ibidem.
25 Baxter concluded the report, 'It is the opinion of the undersigned officer [Captain Samuel S. Baxter] that Skidmore, Owings and Merrill discharged work under this contract in a highly satisfactory and efficient manner, that competent men were placed in charge of the various parts of the work, that schedules were met in most instances, and that the work produced fulfilled the requirements of the District Engineer in an economical manner. The partners, the project manager, and the department heads of Skidmore, Owings and Merrill cooperated with the undersigned officer in every way possible, and left nothing undone in their efforts to complete the job in the best manner in the shortest time'. Ibidem.
26 Henry-Russell Hitchcock describes SOM as an example of architecture of bureaucracy in the 1947 article, "The Architecture of Bureaucracy and the Architecture of Genius," *Architectural Review* (January 1947), 3-6.
27 Brown recalled that the Oak Ridge project significantly increased the scale of the firm's operations and the number of staff. Brown also noted that the personnel of the firm 'successfully handled the problems involved in coordinating many different types of technicians toward a single result'. Brown, Manuscript sent to Owings, 6.

3.5.2 Unmonumental Buildings, Monumental Scale: Santiago Civic District

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Abstract
Undoubtedly, the urban space that best represents state power in Santiago and the country as a whole is the so-called Civic District, which includes the seat of executive power, the Palacio de la Moneda, and the buildings of ministries and main public agencies. Its creation – at the beginning of the 1930s – coincides with the nascent process of Chilean modernization, which would last until 1973. This process cannot be understood without the construction of what we will call here transcendental space, namely the representational space that through architecture depicts the idea of the nation as an imagined community (Anderson 1983) led by the state towards progress. In this context, public space has a formative role and is designed to highlight the position of La Moneda as the symbol of (presidential) power.
However, it is interesting to note that this transcendental space and the centrality of La Moneda as monument are only achieved by means of building massive anonymous buildings around the palace, in order to house the administrative apparatus of the state. From the early versions of the Civic District plan on, functional purposes as 'better administrative control and coordination' were given priority, even over 'urban embellishment.' In line with what Karl Brünner, the Viennese planner, wanted to emphasize – 'a magnificent scale' –, the final project develops as a series of concrete buildings regular in height, with undecorated facades and no distinctive features other than their identity as a building complex. Nevertheless, it is precisely this condition of mass and its scale which allows the project to succeed in its main goal: to constitute the 'void' – that is to say, public space – as a celebratory place to the power of the state, a grey scene for the palace to stand out.

Keywords
Monumental, civic, district, state, Santiago, architecture

Public space as a transcendental space

Throughout history, architecture has played a key role in giving shape to political conceptions and social schemes. From the urban transformation of Rome set in motion by pope Nicholas V (1447-55) to the great works developed by André Le Nôtre for Louis XIV in Versailles and the L'Enfant plan for Washington DC, every political system or regime in the making has used proposals of urban form as representations of a social order, destined to educate the subjects or citizens of a nation. Even experiments as different as the role played by Futurists and modernist architects like Terragni in the aesthetic scaffolding of Italian Fascism (Ghirardo 1980), or the identification of Costa and Niemeyer with the idea of progress in the creation of Brasilia share a common feature: the reinterpretation of the national through the lenses of utopian or avant-garde principles.

These constructive avant-gardes took part in what we may call the building of new nations, most often through monumental works, exemplary of what we may call transcendental space. This working concept or space category can be explained through three elements: its condition as a formative space (namely a representational space for the State and the elite to educate the masses); the avant-gardist notion of modernity, understood as a linear process leading to progress; and the social agents that occupy such a space as extensive bodies (the mass, the People).

The case of the Civic District in Santiago de Chile is interesting in this regard because it attains the condition of a transcendental space in its entire definition, but it does so by building unmonumental volumes in order to provide a void, an empty space with a distance to admire the real monument, the presidential palace. Its formative character resides in the construction of a public space to educate the citizens about the spatial and political centrality of the State through the staging of the people before the palace as a symbolic image of the nation, the imagined community described by Anderson (1983). However, the production of that space also involved functional and economic points of view which ultimately influenced the plans, regulations and built form of the Civic District.

Figure 1. Vol d'oiseau view of the Civic District from Constitution Square (north). *Source:* Carel Kapelner, *Urbanismo y Arquitectura* July 9, 1940, 7.

Unmonumental buildings at a monumental scale: the grey buildings of the Civic District

The idea of developing a civic district in Santiago first emerged in the mid-nineteenth century, only a few decades after Chile had become an independent republic; however, many of the proposals developed up until 1913 had more to do with the planning of the city's expansion than with a government complex, first suggested in that year by Ernest Coxhead in his plan for the city and reaffirmed by Ricardo Larraín Bravo, Héctor Hernández and José Luis Mosquera in the context of the first congress of local governments held in Santiago in December 1914. Mosquera himself authored in 1918

Figure 2. View of the La Moneda and the Civic District as background from Teatinos Street. *Source:* photograph by the author, January 2014.

the first proposal to build a presidential palace in the block to the south of the Palacio de La Moneda, the government seat, which by then was also home to the president. Several other proposals were discussed during the following decade in the midst of the collapse of the so-called 'parliamentary republic' (1891-1925), but none of them was approved.
The concrete discussions about the realisation of a plan and its design were finally developed in the context of a nascent modernisation process led by the State, which only properly started after the definition of the nation's territorial and institutional identities; namely, after the land conquests and losses in the late nineteenth century wars and most important, after the establishment of a regime based on presidential rule with the Constitution of 1925.
This last political event also marks the beginning of a five-decade period in Chilean history, known as the Developmentalism period, where the concepts of economic autonomy, industrial development and mostly the idea of progress guided the policies of all subsequent governments, led by different political formations such as traditional agrarian right-wing parties, right-wing populists, a Popular Front centre-left coalition, Christian Democrats and finally a left-wing Marxist coalition, the Popular Unity (1970-73).
The issue of modernisation is indeed central to our discussion, as long as the site of the future Civic District – basically the urban context of La Moneda – was part of a bigger transformation plan. Karl Brunner, an Austrian planner and engineer, was hired by the government in 1929 to advise the Ministry of Public Works in all matters related to city planning and to be a lecturer in Urbanism at the University of Chile. Brunner's proposal for the city involved the opening of diagonals and big avenues in the Hispanic grid, along with the development of specific building ordinances of both hygienic and Sittean inspiration. Gurovich (2010) states that the inclusion of diagonals was probably a concession from Brunner to the 'local taste', infatuated with foreign examples, even though many local planners disregarded the typology because of its high costs.
This process is related to what Cáceres in 1995 has described as the Chilean process of authoritarian modernisation. According to his article, it is in the context of the dictatorship of Carlos Ibáñez (1927-31) when the State intervention and investment in public works increase notoriously, in an effort for alleviating the effects of the 1929 world crisis and improving equity and coverage in the provision of city equipment and infrastructure.

Gurovich (2003) has done a detailed account of the discussions at every level in the long process of conception and realisation of the civic district idea, which ambitious aim was to 'realise in a single project the intention of creating an urban compound around the Palacio de La Moneda that represents the strength of the State apparatus and national identity'. However, since the very process of creation of the law, government officers and the media pushed functional needs to the fore: for example, the need to alleviate downtown traffic and connect the city centre with the southern neighbourhoods, or the need to achieve 'a better administrative and economic control and coordination'. The purpose of concentrate the services of public administration was an express desire of Ibáñez, as stated by González Cortés (1940), who considers a sort of added value 'the urban embellishment due to the beautiful plastic impression of the projected big building masses'.
The first project was developed between 1927 and 1930 by the practice of Josué Smith Solar and José Smith Miller – who had designed the southern façade of the palace a few years earlier –. The proposal included two main features: the suppression of the north-south axis that characterised almost all previous proposals and its replacement for the expansion of the already existent streets adjacent to the palace; and the expropriation of the entire block to the south of La Moneda in order to build there a new presidential residence and an important square between this palace and the older building, with an obelisk in the centre. The final proposal by these architects recommended also expropriating the entire block to the north, which was used as a parking lot, in order to build there the new Constitution Square.
In December 1929, the Diario Ilustrado – an influential conservative newspaper – stated that the project seemed to be '[…] the most adequate solution for the arranging of fiscal buildings in that sector of the city, and that it could contribute to the embellishment of Santiago, adding splendour to the magnificent façade designed by Mr. Smith'. The editor also highlighted at the same level both the spatial configuration that maintained the 'traditional architecture' and the 'considerable economies' that bringing all State agencies together implied.
In February 1930, the National Congress passed the law 4828, which authorized the development of the Civic District. The projected complex included the presidential palace along with the ministries of Public Education, War, Navy, Social Welfare and other State agencies. However, the main purpose of the law was to define the financial procedures and land purchases that made possible the development of the project.
The Smith's proposal was supplemented in July 1930 by a report from the Ministry of Public Works written by Brunner, in which he makes a series of recommendations regarding the height of the future buildings surrounding the palace and the square proposed by the Smiths. It is interesting that Brunner's initial suggestion for the buildings immediately next to La Moneda was that they matched the palace's height (three storeys).

The fall of the Ibáñez government in 1931 meant a halt to this and other infrastructure projects. The Civic District project begins again in 1934, when Brunner returned to the country to work for the City council as an adviser for the Land Use Plan. The government had appointed in 1932 a commission for this purpose, integrated by prominent professionals and former officials, such as former city mayor Alberto Mackenna, the engineers Jorge Alessandri and Francisco Mardones, and architects as Luis Muñoz Maluschka, Alberto Schade and Ricardo González Cortés. In this context, Brunner was assigned to develop a 'definitive' proposal for the civic district, including the space of the Alameda (the main street) and the new square to the north (Constitution Square).

One of the main criteria from this commission was to avoid any 'costly fantasy', something that reminds us from what several authors suggest in terms of the more conservative or transitional choice made by Chilean planners and decision-makers when coming to urban planning paradigms. The neoclassical Viennese school was in that sense much more influential than the bold modernism heralded by Le Corbusier. There was a sort of struggle between these currents even within architectural schools, but public projects up until the 1950s were defined in the Brunner tradition.

Brunner's second proposal involves a series of decisions which purpose in terms of urban form focus in highlighting the centrality of the Palacio de La Moneda, by applying to the complex symmetrical configurations and proportions that intend to 'emphasise the magnificent scale', while at the same time defining patterns of development for further expansions of the city. Rodulfo Oyarzún, one of the Chilean planning pioneers, highly regards Brunner's general definitions for the Civic District, specially his idea of setting a maximum 8-storey height 'for the prudent but strong and robust architecture of La Moneda to stand out by contrast and proportion'.

Maybe Brunner's most eloquent proposal towards monumentality is the idea of connecting the buildings on both sides of the north-south axis in their upper part, creating a great arch to frame and accentuate the perspective on the palace from the south. This was partly motivated by Brunner's perception that the blocks that shaped the so-called 'Central Avenue' had a northern façade too short to provide architectural grandeur to the site. However, neither this idea nor the proposal for a 'monumental colonnade' in front of the palace were taken into account, mostly due to financial reasons (Oyarzún 1996).

Although this second proposal by Brunner was not finally built, his core ideas definitely influenced the final plan, just as the political common sense did. In 1935, the government organised a competition for another 'definitive' project, in the context of a public works program to foster employment. The competition was won by Carlos Vera Mandujano, an architect of both public and private experience. Vera worked for two years coordinating a large team from the Architecture Department of the Public Works Ministry, to finally develop a unitary project that aimed to create a major urban impact through concentrating public services, generating commercial equipment on the ground floors and opening a new avenue to connect downtown to the south neighbourhoods. Gurovich (2003) argues that through these operations the project intended to 'capture the proper scene and space for the uplifting of the civil, military and religious ceremonies', while González Cortés (1940) celebrated at the time the inclusion of commerce on the lower floor with a warning about the problems in single-use neighbourhoods.

During the development of the project, there were other experienced architects who presented proposals as part of a public discussion, such as Luciano Kulczewski, who shortens the axis of the Central Avenue to just 58 m, or González Cortés, who as part of the Public Works Department develops the project south to the Almagro Park, proposing to place the seat of Congress at the other end of the axis in direct relationship to La Moneda. Even within the official team there were different architectural design approaches: Vera develops in the first place an expressionist scheme, with horizontal windows in the fashion of Erich Mendelsohn's Schocken department store or its local offspring, the Oberpaur building, built by Sergio Larraín and Jorge Arteaga in 1929.

According to Gurovich (2010), it was Vera's municipal counterpart, the architect Alfredo Prat Echaurren, who played a key role in the definition of the final physiognomy of the complex. Prat, an admirer of Brunner's 'scientific approach' to planning, dismissed radical changes and advocated instead for the creation of urban spaces in line with the European tradition of stony open squares within high density fabrics, openly excluding high-rise buildings. The final proposal defines a typology of concrete blocks which façade proportions refer to the presidential palace, although they lack all outside decoration. The building height varies from eight storeys for the new avenue, nine-storey buildings for the lateral streets (Morandé, Teatinos and their projections to the south of Alameda, the main street) and twelve storeys for the buildings facing La Moneda on the south border of the main square. Besides the usual regulations in land occupation and use, grouping and height, Vera and Prat added another constraint that underlines the intention to create a dull context for the palace to stand out: all façades should be finished with a grey quartz paste in the fashion of the Central Bank, located to the north of La Moneda. So, every building would silently integrate into the compound, regardless of its particular function and interior definitions. The special urbanism and building ordinance for the District was promulgated

in August 1937 and the building activity – with many different architects involved in design- lasted up until 1950, a not so long period having in mind the resources of Chilean economy.
To a certain extent, the final project best expresses the ideas discussed by politicians and architects at the time. The president of the Architects' Association, Ricardo González Cortés, celebrated the exemplary character of the Civic District plan for the future development of the Santiago Land Use plan, underlining the notions of order, openness and its proper scale, according to the importance of the site. González Cortés (1940) quotes the planners of the new Moscow Transformation Plan and suggests for Santiago their idea of opposing to the absence of classification and clear zone definition 'the homogenous creation of big neighbourhoods of the same structure, that allow to expose the modern realisations of architecture and building technique and make them deeply spread across the spirit of the people'.

Civic District: contested space, immutable buildings

After 1950, Civic District buildings remained intact while both public space and the palace suffered major changes (it is even curious that in the bombing of La Moneda during the *coup d'etat* in September 1973, no rockets were aimed at the grey blocks while the palace was heavily damaged). The symbolic relevance of the Civic District is such that every government in the last 40 years has attempted to leave its mark on the site. The dictatorship of Pinochet (1973-90) chose to block the north-south axis, the Bulnes Avenue, by building in 1979 a monument designed by Echenique, Cruz and Boisier that the government called the Altar of the Fatherland, an 'elevated platform-square of stony expression' that would host two symbols of the military power: the crypt of O'Higgins, the founding father and first commander of the Army, and the Flame of Liberty, a gas-powered eternal flame to symbolise the 'liberation of the Marxist yoke'.
However, there was a previous unbuilt project, designed in 1975 by Claudio Barros and presented as part of the 'supplementary works' to the construction of the city subway. The project included a huge pentagonal square that involved the transformation of the main avenue to run under this square, which in the middle had an inscribed star where stood the 'tomb of the Unknown Soldier'. It is interesting how this proposal almost perfectly matches one of the main examples analysed by Anderson (1983), the Unknown Soldier cenotaph, which in Anderson's words while paradoxically empty of bodies is at the same time 'saturated with ghostly national imaginings'.

3. QUESTIONS OF METHODOLOGY

In addition to the occupation of the national civic site with military symbols, the dictatorship also organised in 1979 a competition to redesign Constitution Square, the block located to the north of La Moneda, which up to then was still used as a parking lot. The competition was won by a then young architect, Cristián Undurraga, who proposed a design based in the proportions of the presidential palace, dividing the square with strong diagonals both to define it as a transit place and to leave an empty triangle next to the building, providing a sort of atrium to the palace.
The condition of the Civic District as a contested space was also remarked by the protests during the late 1980s and early 1990s, where permissions to march before La Moneda were often denied and every time a demonstration crossed the square, participants would attempt to put out the 'liberty flame' as a political sign against the Pinochet dictatorship and its legacy.
Ten years after the return to democracy, the government of Ricardo Lagos (2000-6) decided to intervene the Civic District, this time by re-designing to so-called Liberty Square (the open space between La Moneda and Alameda, at the time nothing but a fenced lawn). The program selected was to build a subterranean cultural centre with a square on top, an esplanade renamed as Citizenship Square. Paradoxically, the architect of this new urban intervention was Cristián Undurraga, the same selected in 1979 by the military, who also redesigned Bulnes Square, demolishing the Altar of the Fatherland and removing the Liberty Flame while designing a new subterranean memorial crypt for Bernardo O'Higgins. These operations aimed to re-open the central avenue connecting La Moneda to the south, in a symbolic move that allegedly bridged the gap with the democratic past of this urban project.
This open space proved once more its centrality as a political public space when chosen as the favourite stage for the theatrical demonstrations of the student movement in 2011, when youngsters would perform innovative ways of protesting, such as massive choreographies or a 1800-hour continuous relay race around the palace.
Maybe the most interesting fact for our argument is that all new projects developed in the Civic District since its creation meant intervening open space; the grey building complex that shaped the space and still defines it hasn't changed. Even the Piñera administration (2010-14) grandiose Bicentennial Legacy project – represented by the installation of an enormous national flag, in the fashion of Mexico City's main square – only included a minor intervention: painting the buildings with the same colour to harmonize the compound, thus recovering the original sense of homogeneity.

Conclusions

The Civic District can be described as an urban architecture project that spatially and symbolically articulates the existing palace with the new scale of the city by means of a 'mute' architecture, a complex of unmonumental buildings superimposed to the traditional Hispanic colonial block structure of the city to highlight the site of power and thus to educate the people according to the project of the national State, something that has gone unchanged for seventy years and that the recent governments have only tried to emphasise through their interventions.

The place and its use still fit the definition of transcendental space, not only due to continuous government's investment on the site throughout the years, but also because of the citizenship's perception of it as a national public space, where almost all major social movements attempt to constitute themselves as a relevant political agent.

The prevalent form of expression of the national State in public spaces has historically been the architecture of symbols and of the institutions: the common feature of both is the sphere of the monumental. In this case, if we think of Bataille's definition of architecture ('Architecture is the true nature of societies […] it is in the forms of cathedrals and palaces that Church and State speak to and impose silence upon the crowds'), we might conclude that the formative purposes of the State can also be fulfilled by not uttering any (architectural) words.

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3.5.3 Architecture's Red Tape: Governmental Building in Sweden 1964-72

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Abstract

This paper focuses on the work of the Swedish National Board of Public Building (KBS) during the 1960s, and aims at elucidating the relation between the agency's bureaucratic structure and its construction of new buildings. A particular focus is placed on KBS's construction of the *Garnisonen* office building in Stockholm. The building functioned as a case study for KBS in its attempt to rationalize construction and develop new working procedures and building systems, and as such it manifests KBS's ideas at the time. My interest is not primarily in architecture as representation of politics or ideology, but rather how aesthetics of ideology determine the form of architecture and bureaucracy. The study traces how the division of labor and specializations of tasks (public administration) affect the division of space and the making of buildings (architecture).

The combined interest in architecture and public administration is also historical, firstly because architecture's crisis in the late 1960s was contemporaneous with the crisis of public policy and public administration, and secondly, the reorganization of Governmental agencies coincided with the reorganization of Swedish public architecture. In the late 1960s both public administration and architecture sought to find more flexible structures that could accommodate other political and architectural ideologies than the predominant modernist views, and make administration and production more efficient. Catchwords such as 'adaptability', 'changeability' and 'performance' became, besides flexibility, the guiding concepts of both architecture and public administration, whose activities became organized as 'projects' within 'networks'. Simultaneously, centralization gave way to decentralization and KBS and various other Swedish Governmental agencies were given more autonomy. Yet, central control increased through the Government's new focus of evaluating results and assessing performance. This general development forms the background to the study's analysis of the *Garnisonen* in which I argue that its architectural form is contingent on public administration.

Keywords

Architectural history, public administration, bureaucracy, building process, structuralism

Introduction

> There is nothing new about bureaucracies – as opposed to management. Since the Roman Empire they have tended to grow uncontrollably and to lose purpose. This is not evil. It's just characteristic. What is new is the devotion of the whole elite to the bureaucratic ethic – that is, to management – as if it were a primary skill. This is the product of corporatism. It is what happens when you rank reason and method over content.[1]
>
> - John Ralston Saul, *The Unconscious Civilization*

The red tape of architecture is most often perceived as the laws and regulations of construction and building performance, where the general perception is that the construction industry is suffering from public agencies' excessive bureaucracy. Obviously, architecture is, like most other fields, subject to rules, some that promote and some that hinder new construction. Although the increasing amount of regulations seems disproportionate their worth could not be considered unnecessary. This paper seeks to understand parts of the increasing complexity of regulations and rules through a historical study of architecture's relation to bureaucracy, and to question the simplified view that inefficiency and meaningless paperwork stand in direct relation to the amount of regulations and rules, and instead suggests that the significance of red tape is relative to specific professions work duties and professional expertise.

The general observation made in this study is that Swedish architecture and Swedish public administration were having parallel developments during this time. They were similar in both content and form, and were arguably propelled by the same needs, wishes, and line of reasoning. Although the developments of the two are similar, Governmental building construction became more and more steered by administration and other forces outside the field of architecture during the 1960s. It is primarily the importance of administration that is of interest here, and in particular, the development of the means of organization and coordinating: management.

We could disagree with John Ralston Saul about the validity in blaming corporatism for the dominance of rationalism in management – in my view the dominance transcends far beyond particular forms of (democratic or undemocratic) agreements between government, capital and labour, or left and right – but it is easy to see the dominance of rational choice theories in public and private management, as well as in our societies at large. The specific disposition of this paper is questioning the dominance and belief in the making and the assessment of formal rational arguments, which evidently is the foundation of the changes within both architecture and management during this time. And, today, the extended anticipation of this type of reasoning has created what Ralston Saul has called 'a sense of panicked urgency around the subject of privatization and cuts' in the public sector.[2] As if the only way forward was the specific 'rationality' of the market.

The material under spotlight is of the National Board of Public Building (KBS), which was a Governmental agency in charge of providing premises for the State: through the distribution of the existing state-owned building stock, by renting from other property owners, or through the construction of new buildings. Although KBS put much focus on developing its maintenance and real estate functions, I will here mainly discuss its building construction.

KBS's structure philosophy

If we would characterize KBS's research and development work during the 1960s it could roughly be divided into ways of working (process) and ways of making (technology) and naturally, in what way the two are combined. The development work culminated in the launching of an official architectural theory, the so-called 'KBS's structure philosophy' that was presented in an exhibition titled Architecture-Structure in 1968.[3] The exhibition stated that contemporary (public) architecture in Sweden put too much emphasis on functional analysis when designing new buildings. KBS argued that tenants change their need as activities evolve, and due to the fact that buildings change tenants regularly, buildings run the risk to become obsolete. Thus buildings should be made more general and flexible, and possible to adapt to new needs. KBS derived most of its building principles from this simple logic, making the 'structure philosophy' seem like a tight rational argument that actually offered palpable solutions to real problems.

In the ray of good objectives presented, two sets of concepts could be identified as the exhibition's most significant contribution. In the making of buildings one should strive for 'generality,' 'dimensional coordination,' 'classification according to component life,' and 'adaptability.' These concepts are in many ways interchangeable, yet they elucidate diverse characteristics of the structure philosophy, and, more pragmatically, they worked as keywords for KBS's endeavour towards efficiency. For instance, the idea of 'generality' for the structure and 'interchangeability' for the fittings was imbedded in the concept of 'adaptability.' And secondly, as another set of concepts, 'the classification according to component life' was specifically treated in what KBS called 'the separation of parts'. Here, KBS suggested that building construction should be divided into three scales: society-related parts; building-related parts; and activity- (or function-) related parts, which reflected the endurance of the parts going from permanent to temporary. Through this

differentiation KBS was able to conceptually deal with the 'classification according to component life'.[4]
These ideas were by no means unique to KBS, instead they became more and more frequent in the international discussion of architecture and by the mid-1970s they had become staple goods for any architect interested in flexible architecture. Governmental building agencies and research institutes in other countries also developed similar theories and practices.[5] What was unique with KBS's structure philosophy was that it was announced as an official architectural theory with clear practical implications on Governmental building construction in Sweden.

Program budgeting

Since World War II the Swedish Government had actively been trying to find ways of making public work more cost and time efficient, and it tested and developed a number of administrative systems to better coordinate and control public spending. Particularly interesting in this regard was the experimentation with the new budgeting model called Program Budgeting (*Programbudgetering*) – adopted from the American model Planning-Programming-Budgeting System (PPB) – that was tested in some 30 Swedish Governmental agencies from the late 1960s. One of them was the National Board of Public Building, KBS.[6]
The American PPB was first developed by the RAND Corporation and adopted by the US Department of Defence in 1961 by Secretary of Defence Robert McNamara. Political scientist William F. West describes how economists at RAND designed PPB as an 'antidote to a perceived lack of rationality in thinking about the increasingly complex interrelationships between means and ends' that accompanied public policy decisions. PPB should help deciding what 'contributes the most for a given cost' or 'achieves a given objective for the least cost'. The changing needs of what an agency provided (defence, building production, etc.) should be continuously assessed through 'means-ends analysis and planning' with respect to both short and long-term planning. As such, the annual budgets would 'follow plans' rather than 'leading them'.[7]
In Sweden, Program budgeting promised to remedy some of the contemporary problems such as: the Government spending to much time on details; the lack of evaluation of goal fulfilment; and lack of means assessing if money was spent as it was intended.[8] Swedish interest in the budget system led to the commission of a Governmental investigation, *Programbudgetering* (1967), with the assignment to further develop 'the rationalization work' of State organization and to investigate the possibilities of applying 'performance concepts' and 'performance thinking' in the public administration.[9]

Each Governmental agency should have an activity plan (what to achieve), which clearly stated what performances and results were expected, and divide the activities into programs according to activity goals and if necessary restructure the organization of the agency, i.e. determine where and how in the organization the work would be done. An agency's budget should thus reflect the different activity goals as each program formed separate posts in an agency's budget.[10]
KBS submitted a referral in response to the Governmental investigation that stated the implementation of Program budgeting would eventually 'lead the agency to transfer to more business-like practice' and therefore KBS 'should be converted to a government-owned business enterprise'.[11] But at large, KBS acknowledged the need for reforms of the budgetary system and saw its own efforts towards becoming a more efficient organization harmonize with the overall goals of Program budgeting. It is clear that KBS immediately recognized the compatibility of program budgeting with its own ideas, from administration to building production.[12]
KBS decided on a program structure that had six main programs, for which the activities were broken down into smaller units specified with their own expected performances and results. Additionally, all six main programs each had nine subprograms (sectors), which were divided rather traditionally according to building type and use (function).

Garnisonen office complex, 1964-72

KBS tried to use real building projects as testing ground for the development work, and on-going projects were also used to collect information for future studies. The office complex Garnisonen in Stockholm, 1964-72, is an example of one building project that was used in a dozen of KBS investigations.[13] Although the Garnisonen is unique compared to other projects by KBS – because of its size and through its significance as a test bed for KBS's new ideas during the late 1960s – the project straightforwardly manifests the agency's development work during this time, a practice that came to be exemplary for most of KBS's building projects throughout the 1970s.
Garnisonen is a particularly large building with a total floor area of 70 000 mq. The main building body, with its façade along the street Karlavägen, is 347 m long and seven stories high with repetitive bands of square, dark, brownish tin plates evenly interrupted vertically by bands of dark tinted windows, forming a monolithic block large as a fallen skyscraper. The complex as a whole consists of four main parts. Behind the main building body, and parallel to it, two other building bodies stretches from the north-western end of the complex two thirds of the block's length. The three buildings are

adjusted evenly towards the side street and tied together with service units. These units are then repeated every 50 m, about, placed in between the buildings they demarcate eight courtyards. At the eastern side of the block there is another building connected perpendicularly to the façade building. The structural framework consists of columns and beams spread out evenly through all the building units and floors of the complex. The columns are strictly repeated at every 7,2 m in length and at every 9,6 m in depth.
The building is the product of extensive studies in area utilization, office configuration and modular coordination, as well as vast experiments in working procedures, project coordination and contract writing, among many other things. It has proven to be one of KBS's most characteristic buildings and today stands as the hallmark of the agency's strucuralist architecture of the 1960s and 1970s. But how could we understand the building beyond its physical appearance and architectural style?

Programs of efficiency and scale

If we look at Garnisonen in relation to the KBS's development work, we can see that the dimensions of the building is deriving from the recommendations of KBS's *Office Buildings Investigation* which stated that 12Mx12M (M=dm) would be the ideal dimensions of a reference grid, to which a building should coincide or relate.[14] Garnisonen's column grid of 72Mx96M match the proposed reference grid and make up 6x8 units of its dimensions (6x12M=72M and 8x12M=96M). 12M as a measurement, derived from the recommendations of the Swedish Building Standardization's housing standards, were 3M was the ideal standard modular dimension from which most Swedish building systems and parts would follow.[15] Thus selecting a system with dimensions that could evenly be divided by 3 would enable it compatible with the Swedish standard. Similarly, choosing the proposed 12M as the primary grid in the building project would enable the ideal compatibleness with the rest of the specific recommendations of KBS put forward in the *Office Buildings Investigation*.
Besides the dimensional coordination, the so-called 'separation of parts' was the most important programmatic trait that guided the design of Garnisonen. As a whole, we could see the structural frame of columns, beams and floors as permanent according to the level of 'society related parts'. The building-related parts were essentially the façade cladding, windows and doors, and some interior walls demarcating the configuration of the overall design of the building bodies. And finally, activity-related parts were almost all interior walls and separations as well as furniture and loose fixings. The impetus for a separation of parts seemed to have been purely practical and economical, and as such beneficial for the builder. It was also this approach of KBS's development work that gained most support and widespread application. The three scales of parts (society, building, activity) were used within all departments at all levels of the organization. The success probably derived from the pragmatic usefulness of building components according to their endurance, but it also seemed valuable to divide large building projects into smaller units as it provided simplification of complex structures.[16]
The separation of parts was also compatible with Program budgeting and contained the very core features that made the development of programs at KBS successful. If the planning, costing, bidding, ordering and acquiring of many construction projects' building components were coordinated and centrally managed, KBS would make substantial time and cost savings. The office chair, let's say, that best met the generalized criteria of price, function and size would rationally be ordered to all KBS's on-going projects for office premises. Similarly, everything from premade doors and windows to orders of load bearing wall modules and structural beams could be systematically coordinated during all phases of production.
The feature of having programs that were larger than individual building projects was possibly the biggest change for the agency. KBS had earlier been trying to organize building production in sectors of building types that could give economic and administrative advantages, yet Program budgeting was drastic in its grouping of all construction, of for instance offices or buildings for higher education, under one budget item. This change promised the advantages of an economy of scale were everything could be streamlined. In terms of architecture it meant, at best, that planning, design, and production should be generalized. At worst, it threatened to eliminate the traditional role of the architect as designer, and instead promote another role as coordinator of already ordered parts.
In the case of Garnisonen, the architect was very much still in charge. Head architect Tage Hertzell worked closely with the teams that conducted investigations parallel to the planning and construction of the building. He designed all of the concrete modules, and was himself in charge of selecting the off-shelf products that were used in the building. Although the building project was guided by economic and management principals rather than ideas about space, Hertzell and his team regarded these as mere restrictions in the program brief which instead triggered their professional creativity.[17]

If we were to characterize the essence of the ideas put forward by KBS in the late 1960s it could arguably be: greater generality and more flexibility, tighter steering and more control – all with the aims of raising the efficiency and the productivity of the activities. As a result of the materialization of the ideas

we can see that KBS construction work got organized in larger programs in which building construction gave way to premise production and where the idea of individual buildings were less important than the totality of premises.[18] With the Governmental mandate of efficiently providing premises to the State, KBS centred all its work on quantifiable performances and results, and assessed money and time, dimensions and volumes. The performances and results of the activities became clear, plainly stating the success or failure as kronor, hours and meters. But with the assessments and measuring of performances and results come an increasing need for regulations. This is the paradoxical nature of how rationalization programs towards higher efficiency as well as organizational reforms such as decentralization (and privatization) do not always decrease bureaucracy, but instead relocate (and strengthen) public control to other bodies of the Government, making regulations appear more complex and inconsistent, or simply, as the red tape of architecture.

Closing remarks

What I have described as being the rational logic behind architecture could also be seen as neglected contingencies in the interpretation of architectural form. My objective in presenting these non-architectural aspects is that they are fundamental in our comprehension of architectural form and architecture practice, but not single headedly dominant. Instead, no matter what context or starting point, architecture remains both rational and sensuous, both science and art. Terry Eagleton is making a lucid argument of the connection between the reason and sense, saying '[…] aesthetic cognition mediates between the generalities of reason and the particulars of sense; the aesthetic partakes in the perfection of reason but in a "confused" mode. Aesthetics is thus the "sister" of logic…at the level of material life'.[19] The aesthetic of KBS's ideology, or for that matter, the ideology of public management, is in Eagleton's line of reasoning not simply derivable from rational principles – which dominated the ideas at KBS, or more generally, ideas of public administration – but instead sensuously interpreted from this ideology.

Eagleton is also pointing to the importance of such an understanding of aesthetics in our view of the past, as 'history, like the body, is a matter of sensuous particulars, in no sense merely derivable from rational principles.' Even if this paper, on the contrary, is pointing at the importance of comprehending bureaucratic conditions and ideologies in relation to the production of architecture, it is also clear that architecture, seemingly pre-emptied of its formal capacity, could both be designed and interpreted through a particular aesthetic. And perhaps this is why architecture remains affective despite the expanding dominance of reason and method over content.

1 John Ralston Saul, *The Unconscious Civilization* (Toronto: The Free Press, 1997), 100.

2 Ibidem.

3 Architecture-Structure was produced by the Swedish Architecture Museum and first displayed in an empty bank building in central Stockholm, after which it travelled to two other venues in Sweden during 1969. KBS, *Arkitektur-Struktur*, exhibition catalogue (Stockholm: Kungl Byggnadsstyrelsen and Swedish Architecture Museum, 1969).

4 KBS, *Arkitektur-Struktur*, 1969. The terms quoted here are from the exhibition catalogue's English summary.

5 Most notably, and perhaps obvious, KBS's structure philosophy is reminiscent of John Habraken's 'support structures' in which building parts are divided according to life span and function as either supports or infills.

For a more in-depth discussion on KBS relation to the international development and transmission of structuralist ideas during the 1960s, see Erik Sigge, "Architecture-Structure, 1968: A Manifesto for a Swedish Philosophy of Architecture," Efe Duyan (ed.), in *Theory for the Sake of Theory II* (Istanbul: Dakam Publishing, 2011) 52-65.

6 SOU 1967:11-13 *Programbudgetering* (Stockholm: Statskontoret, 1967). Planning Programming Budgeting system is in the American literature most often abbreviated PPB. I will here use Program Budgeting for the Swedish version (adaptation) of PPB, and as a direct translation of the Swedish *Programbudgetering*.

7 William F West, *Program Budgeting and the Performance Movement: The Elusive Quest for Efficiency in Government* (Washington DC: Georgetown University Press, 2011), 13-18. The first implementation of PPB was under the presidency of John F. Kennedy. Later in 1965, president Lyndon Johnson expanded the use of PPB and applied it to the entire Federal Government but formally abandoned already in 1971. For a full account of the PPB development, see West, *Program Budgeting*. The RAND Corporation was a think tank established through an army air force contract with Douglas Aircraft in 1946 to lead the company's research and development work. RAND grew and in 1948 became an independent non-profit organization 'dedicated to objective and rigorous policy analysis' (West, *Program Budgeting,* 13). For a recent account of the history and legacy of RAND see for instance Alex Abella, *Soldiers of Reason: The RAND Corporation and the Rise of the American Empire* (Orlando: Harcourt, Inc., 2008).

8 Swedish State institutions had been implementing foreign ideas of system analysis since WWII and in particular in the Swedish Ministry of Defence. The Defence R&D unit FOA had close contacts with the RAND Corporation, at least from 1961, and would have been familiar with the American PPB from its early development at RAND. See Arne Kaijser & Joar Tiberg," From Operations Research to Future Studies: The Establishment, Diffusion, and Transformation of the Systems Approach in Sweden, 1945-

1980" in Agatha C. Hughes & Thomas P. Hughes (eds.), *Systems, Experts, and Computers: Systems Approach in Management and Engineering, World War II and After* (Cambridge, MA: The Mit Press, 2000), 385-412.
9 SOU 1967:13, 124.
10 Ibidem, 14-18.
11 KBS, Dnr A 171/67, "Byggnadsstyrelsens yttrande över betänkandet Programbudgetering SOU 1967:11-13. Sammanfattning 1, 2 och 3" (1967), 3.
12 In February 1968 the State Treasury formally approved program budgeting and KBS issued an investigation to quickly come to terms with the adaptation of the new system at the agency. Half a year later, KBS released an investigation in which it specified the new structure of the organization and briefly explained how program budgeting would work at KBS. The opted changes could probably best be understood as a modification of the agency's current organization, structure and administrative procedures in line with the guidelines of the State Treasury. KBS, *Programbudgetering: Styrsystem för byggnadsstyrelsens verksamhet* (Stockholm: KBS, 1970). Byggnadsstyrelsen was selected, among some 20 other Governmental agencies by the Kungl Maj:ts decision on 9 February 1968, to enter into experimentation with program budgeting.
13 Three reports stand out as the most significant reports during this time, all of which used Garnisonen as a case study. The investigation *Building Process and Agency Planning* from 1966 focused on building processes and organization and was largely a result of KBS's long efforts of finding efficient working methods where the planning of building projects should ensure high predictability and control throughout the building process. *Office Building Investigation 1966*, released in 1967, was an investigation to find rational systems for constructing new office buildings, whereas the last of the three reports, *On Buildings for Higher Education*, also from 1967, dealt with the same type of standardization and rationalization as the office building report but in relation to the agency's work with educational facilities. The latter two reports were aimed at finding particular recommendations for specific building types (sectors) of KBS's activities, but both had their starting point in obtaining knowledge of generalized and standardized solutions that could prove adequate for more than one building, or else, if possible, all building projects. KBS, *Byggprocess och verksplanering*, KBS report n. 10 (Stockholm: Kungl Byggnadsstyrelsen, 1966). KBS, *Office Buildings Investigation 1966*, KBS report n. 12E (Stockholm: Kungl Byggnadsstyrelsen, 1967), original Swedish title was *Kontorhusutredning 1966: Utredningar avseende mått, kvaliteter och tekniska lösningar för kontorshus*, published as KBS report n. 12. KBS, *Om byggnader för högre utbildning*, KBS report n. 16 (Stockholm: Kungl Byggnadsstyrelsen, 1967).
14 KBS, *Office Buildings Investigation 1966*.
15 *Byggstandardiseringen* (BST) was name of the Swedish Building Standardization committee.
16 It even became widespread outside of KBS, firstly in the architectural offices working with KBS and among other consults engaged in Governmental building construction, but also in the schools, in handbooks and in investigations of various kinds.
17 Interview with Tage Hertzell (and Gunnar Landberg and Allan Westerman) on 28 January 2014.
18 As a matter of fact, KBS announced that 'construction of buildings [*hus*, literally: house] was a means to provide the premises that were needed'. The building contribute to create an environment which is 'an extraordinary important aspect, but not a motif for construction.' KBS, *Byggnadsstyrelsen 1968*, an imprint of *Arkitektur* 9 (1968), 12.
19 Terry Eagleton, "The Ideology of the Aesthetic," in Poetics Today 2, vol. 9, The Rhetoric of Interpretation and the Interpretation of Rhetoric (1988), 327-38.

3.5.4 Provisional Permanence. The NATO Headquarters in Brussels

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Abstract
In the course of the twentieth century, national governments have become increasingly subordinate to intergovernmental organizations such as IMF, EU or WTO. Embodying a political culture based on compromise and bureaucracy, the headquarters of these organizations rarely possess significant representational qualities. However, one might also consider them as 'machines for solving international conflicts' (H. Stierlin). Such instrumental perspective sheds another light on these strongholds of globalization, highlighting their qualities on the operational plane. To this effect, this paper looks into the headquarters of a prominent example of such an organization, namely the NATO. After London and Paris, NATO moved to Brussels in 1967. This relocation pattern not only reflects fluctuations in the international power balance but also reveals a permanent process of introspection within NATO itself. The decision to transform the new facility – a temporary structure in attendance of a permanent building on a more prestigious location – into a standing headquarters in 1972 is a clear instance of this. Initially dubbed Little Siberia by reason of its remote location and austere aspect, internal memos from the NATO archives show a growing appreciation for the provisional site. The extreme rapidity of construction and moving was almost mythologized while the premises' utilitarian aspect conveniently supported NATO's 'no-frills' self-image. Its non-hierarchical lay-out further seemed to suggest equality and harmonious collaboration whereas the self-contained nature of the building and its off-centre location reinforced the organization's extra-territorial character. Thus, as we will argue, apart from economical and pragmatic reasons, the decision to upgrade the provisional structure might also have derived from the growing insight that it not only embodied but also fostered values of crucial importance in facing the challenges of the Cold War.

Keywords
International organizations, NATO, groupe structures, Brussels

Installation in France

Founded in 1949, the North Atlantic Treaty Organization (henceforth NATO) is an intergovernmental military alliance whereby its member states agree to mutual defence in response to an attack by any external party.[1] It was the first unified multi-national command structure set up in peace-time. Its military headquarters (called SHAPE: Supreme Headquarters Allied Powers Europe) were established in Rocquencourt (near Versailles), while its political branch, the North Atlantic Council, held its regular Ministerial meetings in London. Already at the Lisbon summit in February 1952, NATO engaged in the first of long series of reorganizations. To enhance its operational performance, the Council was transformed into a body of Permanent Representatives (national delegations) and their supportive staff, presided by a Secretary General.[2] The inefficient geographical divide between the military and political branches was also addressed. Whereas London seemed the natural bridgehead between Europe and America, Paris kept one trump card in reserve: it possessed ready-made office space at the Palais de Trocadéro (opposite the Eiffel Tower), where vast (albeit temporary) office infrastructure had been built on the occasion of the sixth session of the UNO in 1948.[3] As a consolation prize, the very first Secretary-General would be British (Lord Ismay). Although the arrival of yet another international organization confirmed Paris in its status of capital of the 'free West', there was much ado in the French press about maintaining a provisory structure on such a prominent location. *Le Figaro* even headlined '*Il faut délivrer Paris de la lèpre de Chaillot!*' This dissent can retrospectively be considered as metaphorical for France's mitigated feelings towards NATO.

In April 1954, NATO decided to construct a building of its own at the Porte Dauphine on a plot of land donated by the French state. Designed according to an A-shaped plan ('A' for 'Alliance' or 'Atomic'? as *Libération* joked) by an international team of architects headed by Jacques Carlu, the structure housed in fact two self-contained buildings: one housing the assembly rooms, a bank, a post-office, a newspaper shop and a fully equipped cinema, and another, highly secured one, with the Council room, various committee rooms and approx. 1000 offices.[4] This enormous amount of office space derived from the fact that all the national delegations were now united under one roof instead of being scattered all over Paris – an improvement that significantly accelerated and intensified the consultative process. Quite surprisingly, the monumental, glazed façade towards the Porte de Dauphine (subsequently redesigned as a giant roundabout) had no ceremonial function; it only served as a backdrop for a series of flagpoles as the principal entrance to the building was located in the courtyard (between the two legs of the 'A'-shape). This ill-resolved tension between transparency, secrecy and communication with the public domain seems to have been the least of NATO's concerns, however. Indeed, apart from functional requirements, cost and speed of construction, the organization regarded the structure first and foremost as a practical instrument in the pursuit of its goals: 'A utilitarian building has been produced (…), a manifestation of fifteen nations' resolve to work in harmony on the task of defending their common heritage'.[5] No wonder that appreciation for it was mitigated. The *Times* correspondent commented for example on its 'unadventurous' character both with regards to construction and design, and stated that it shared with many other French public buildings the characteristic of only being superficially modern. Moreover, compared to the recently opened UNESCO building, the fact that an organization of such symbolic importance as NATO could not erect a more challenging and revolutionary building was felt as a missed opportunity. There was not much time to ponder about such issues though as on 10 March 1966, President De Gaulle announced his intention to terminate the assignment of French forces to international commands, requesting the removal from his territory of all foreign military units and facilities.[6] This meant that both SHAPE's and NATO's headquarters needed to be relocated.

Transfer to Belgium

Typically for international diplomacy, the relocation of both the military and civilian branches of NATO engendered ample background manoeuvring. Nevertheless, quite quickly, consensus grew that Belgium was the best option. Apart from the geo-strategic location of the Brussels area as well as its increasing statute as European capital, Belgium's reliability to the alliance also played in its favour.[7] One of its top politicians, Paul Henri Spaak, had been one of the Treaty's architects and later Secretary-General (1957-61), while the then Minister of foreign affairs, Pierre Harmel, was a leading figure in international diplomacy. The vote in Parliament was far from unanimous however: with more than one third of the votes against the installation of SHAPE and NATO, the debates reflected the growing animosity towards militarism in the public opinion.[8] Nonetheless, once approved, the relocation was put through at an impressive speed. Although the allied commanders had lobbied for a site closer to Brussels, the Belgian authorities decided that SHAPE should be located at least 50 km from the capital as it constituted a major wartime military target. In order to limit costs and speed up the project, a 200-hectare army summer training camp near Mons was proposed instead. Thus, it was hoped, could the installation of SHAPE contribute to the region's economic redress after the closing of the coalmines. In less than nine months, the entire site was transformed into a fully operational military headquarters, including a hospi-

tal, a shopping centre, two chapels, an array of sports and leisure facilities and a school for 2000 pupils. This feat received great acclaim in the international press, quoting General Lemnitzer who called the operation 'a miracle of achievement'. [9]

Then, the more delicate issue of housing the civilian headquarters came to the fore. Just like the French authorities fifteen years before, the Belgian State proposed a provisory solution in attendance of a more prestigious building. One option consisted in renting the recently completed Madou Tower at the Porte de Namur. However, just like in Paris, where the local municipality had imposed strict rules on the architects, the issue became a matter of borough politics as the Ixelles city council feared for a similar scenario as in the Leopold area, where the European administration was squeezing out al residential and commercial activity – all the more since NATO insisted on becoming the sole tenant of the building. Alternative locations in less densely populated areas were therefore examined, which led to the idea of erecting a new headquarters on the 1958 World Fair grounds – quite ironically, right on the site of the former French pavilion. In attendance, a make-do structure would be erected on the former military airfield of Evere, along the road linking the national airport with the centre of Brussels.

The design of the provisional facility was entrusted to a temporary association of two respected firms namely Groupe Structures (architecture and planning) and Traction et Electricité (infrastructure and engineering).[10] Developed in only a couple of weeks, the plans of the temporary facility read as a diagram of the alliance's principal components and processes.[11] (Figure 1) The heart of the complex was formed by the 'Situation Centre', a communication room linking the facility with all other NATO stations around the globe (building M), the array of 14 conference rooms (building L) and the Secretary General's office (on the first floor of building O). Together they commanded a sort of supply chain staffed with 2000 office workers, each processing, discussing or filing bits of information in one of the 1320 offices of the 15 national delegations (buildings A – E), the Military Committee (formerly in Washington, buildings F-H) or the International Secretariat's supporting services (buildings I, J). These highly secured (accessible only for NATO staff) areas were connected by an East-West circulation axis, linking the secured zone with the 'public' zone (i.e. accessible for accredited visitors) comprising a large restaurant, a bank and postal office, a travel agency, a library as well as the press centre and broadcasting studios. This entire little city was sealed of from the outer world by means of a fence and accessible only though the security gate on the Boulevard Leopold III.

Not only the design, but also the construction process was organized in an almost industrial fashion. Totalling a built-up area of 30,000 mq, the facility was built in less than six months' time thanks to a rigid day-by-day planning and heavy prefabrication. For example, the precast panels arrived at the site in the morning, were checked by the site architect on the truck itself, and installed right away, leaving no room for hesitation or mistakes.[12] Just like for all major NATO projects, the rough work was done by an international consortium of contractors (EGTA-Nederhorst-Lucks, Strabed and Heinen & Fils) while many more firms from various countries contributed to the interior finishing. As it was rightfully noted in the architecture periodical *La Technique des Travaux*, such a degree of team spirit and professionalism in public command was rare in Belgium.

Building at such a speed comes at a cost however. By contrast with the Parisian headquarters, the premises at Evere were of an almost martial austerity. To save on the foundations and rule out elevators, the facility was entirely spread out on ground level, while the concern for standardization resulted in only two types of office space (3,5m x 3,75m and 4,20m x 4,50m), uniformly laid out around a series of interior courtyards. Contrary to the Parisian building, where the offices giving out on the Bois de Boulogne were the most sought after, there were no privileged spaces in Evere with the exception of the Secretary-General's office on the 2nd floor above the entrance, from which, the Atomium could sometimes be seen. It comes as no surprise, then, that the move to Brussels was not really looked forward to by many NATO staff members.[13] Dubbed 'little Siberia' for reason of the cold and forbidding appearance of the sparsely built up area at the time, the Belgian authorities (unconsciously?) even emphasized the isolated,

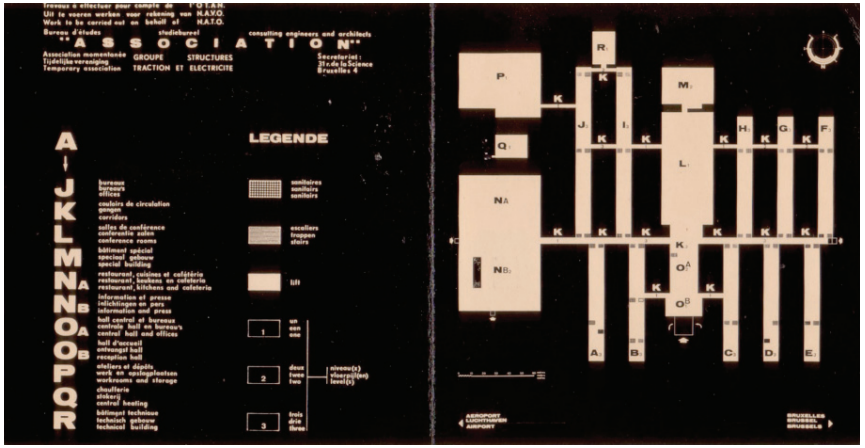

Figure 1. Schematic plan of NATO premises, 1967. *Source:* Private collection of the author.

extra-territorial character of this international island by assigning it a proper postal code (1110).

Transformation into standing headquarters

On the occasion of the inauguration of the new premises on 16 October 1967, the correspondent for the *International Herald Tribune* wrote: '[…] the Belgians are already putting to good use the bureaucratic proverb that "nothing is more permanent than the temporary". With its prefabricated concrete panels, the complex is certainly solid enough for a long stay. The interiors are far more attractive than the outside.'[14] With hindsight, these were prophetic words: only two years later, the NATO council effectively buried the plans for a new building at Heyzel, deciding instead to transform the provisory facility into a permanent headquarters.[15] In the first place, the price tag of building anew, estimated at a stunning 2.5 billion Belgian francs (approx. 60 million Euros), was difficult to defend in a context of increasing pacifism in the public opinion. Still a hefty expenditure, modifying and extending the existing premises for one fifth of this sum seemed a more reasonable alternative. Further, car access to the Heyzel became an issue as traffic coming form the airport and the residential areas West of Brussels (where most of NATO personnel had settled) needed to cross the Willebroek channel via an already congested bridge.[16] By contrast, the remoteness of Evere – considered a major disadvantage at first – provided for excellent accessibility. Moreover, many staff members had quickly become attached to the relative tranquillity of the site, the isolation of which allowed for watertight security without hampering any third parties.[17] Finally, in 1970, 375 extra offices and 2000 mq of additional conference rooms were created to cater for the increase in personnel, due in part to the arrival of yet another NATO branch, namely the Military Agency for Standardisation.[18] Additional conference rooms were also provided, together with more extensive facilities for the press and a sports centre for the staff and their families. Finally, one large conference room was also upgraded and refurbished as a 'prestige room' for ministerial meetings, while wall-to-wall carpeting and some greenery were installed to upgrade the barren interior environment. In order to not disturb the routine activities and respect the organic unity of the ensemble, the additional office capacity was concentrated in two longitudinal bars on the north side of the existing building. The resulting 200 m wide façade significantly augmented NATO's presence along the Leopold III Boulevard, determining its visual identity up till the present day. (Figure 2)

Architecture and NATO Rhetoric

As the NATO historian Ian Q.R. Thomas has observed, in the context of the Cold War, words and metaphors were crucial weapons. As he states, throughout NATO's existence, rhetoric has always formed a substantial factor in its cohesion, as a mechanism or instrument of unity.[19] We may therefore wonder if, at all, architecture (in its capacity of communicating ideas and meanings through built form) had a role to play in the NATO discourse. The inauguration address by the then NATO Secretary-General Mario Brosio on 16 October 1967 is revealing in this regard. Brosio stated:

> After the Casteau miracle, we are now faced with a new wonder achieved within an extraordinarily short time by the firms of your own and other friendly countries. […] I like to see this spirit of co-operation and mutual understanding as a token and pledge of the feeling we can expect to see develop between NATO and your country […] NATO's new location gives further cause for optimism. The transfer of NATO is no mere removal operation; it will also be the source of improvements in the future working of our organization. [20]

As we have seen, NATO's successful transfer to Belgium, involving the transportation of 300 tons of documents and approximately 15,000 people (staff, families and relatives included) without interrupting the activities of

Figure 2. NATO premises after alterations in the early 1970s. *Source:* NATO Archives (used with permission).

the organization, remains a feat that is unequalled in the history of international organizations and that has provided us with textbook examples of rationalist design, standardization and prefabrication. Yet, in Brosio's mind, progress was not only to be expected from technology and innovation, but first and foremost from cooperation between people across disciplines, ranks and nationalities. This emphasis on the new headquarters as a product of the Alliance's core values of unity, solidarity and cooperation must be understood in the light of the slumbering crisis within the organization. On the one hand, its future was uncertain as the Atlantic Treaty expired in 1969, leaving each partner free to withdraw without further consequences. On the other hand, NATO faced wide-spread scepticism as it was felt that it had fulfilled its original purpose and had become somewhat obsolete. Moving into the new premises at Brussels thus went hand in hand with a process of self-reflection and reorientation. Indeed, as one journalist noted, after all the splendours of Paris, NATO's taking up residence in a precast concrete structure located in a developing industrial area outside town, was symbolic of the *retour aux sources* the organization was going through.[21] This transitory ritual was completed during the very first meeting of the Council in Brussels in December 1967, with the unanimous adoption of Belgian Foreign Minister Harmel's *Report on the Future Tasks of the Alliance*.[22] While it stressed the continuing importance of the Atlantic partnership's twin identity, it pleaded for a more political role of NATO as a complement to its predominantly military means of action. This might explain why in a report on the new facility in the *NATO Letter* (the organization's official monthly magazine), emphasis was put on its non-hierarchical and 'democratic' layout as a symbol of equality and harmonious collaboration, while the so-called 'Main Street' – the central hallway bisecting the entire building from East to West, connecting its various parts – was presented as a crucial feature in facilitating encounter and consultation between military and civilian staff members.[23]

Thus, in NATO's rhetoric, the new building not only constituted a metaphor for the Alliance's strength to overcome logistical and technical challenges, it also became considered as an instrument in preparing its future *modus operandi*. Seen from this perspective, economical and pragmatic reasons left aside, the decision to upgrade the provisory premises at Evere to a standing headquarters may thus as well have had to do with a certain attachment to the temporary facility and an understanding that it not only embodied but possibly also fostered values of crucial importance in facing the challenges of the Cold War.

1 On the origins, evolution and working of NATO, see James R. Huntley, *The NATO Story* (New York: Manhattan Publishing, 1969); Jean de la Guérivière, *Voyage au coeur de l'OTAN* (Paris: Seuil, 1996); Andreas Wenger, Christian Nuenlist, and Anna Locher (eds.), *Transforming NATO in the Cold War: Challenges beyond Deterrence in the 1960s* (London: Routledge, 2007).

2 Note "Reorganization of NATO," 17 March 1952. Facsimile reprint in *On the Move*, unpublished booklet edited by NATO Transition Office and NATO Archives, p. 11. For a succinct account of NATO's early institutional reforms, see Jenny Raflik, "La France et la genèse institutionnelle de l'Alliance Atlantique (1949-1952)," *Relations internationales* 134 (2008), 55-68.

3 On the presence of NATO and SHAPE in France, see Jenny Raflik, "Lorsque l'OTAN s'est installée en France," *Relations internationales* 129 (2007), 37-49.

4 Jacques Carlu (1890-1976), 1913 Prix de Rome winner, is best known for his redesign of the former Palais de Trocadéro in the monumental classicist style of the late 1930s on the occasion of the 1937 World Fair. He also designed the temporary structure that originally housed the UNO in 1948 and subsequently became NATO's home between 1951 and 1959. In the same period, he was also responsible for the extension of the United Nations building in Geneva. Between 1959 and 1971, he presided the Architecture section of the Académie française. It is probably for reason of his prominence and experience with international organizations that he became entrusted with the task of designing the permanent NATO building in Paris. For contemporary coverage in the architectural press, see "À Paris: après le palais de l'Unesco, le palais de l'OTAN," *La Construction moderne* 1 (1958), 33; "Le palais de l'OTAN," *Tuiles et briques* 40 (1959), 10-7; "Le nouveau siège de l'OTAN, Porte Dauphine à Paris," *La Technique des Travaux* 3 (1960), 66-76. On Carlu, see the website of l'Institut français d'architecture: http://portaildocumentaire.citechaillot.fr/CARH/PDF/carlu.pdf.

5 "Nato's New Home. Press kit n. 2, 3 December 1959," NATO Archives.

6 Walter Schütze, "La France et l'OTAN," *Politique étrangère* 2 (1966), 109-18; Martin Garret, "The 1967 withdrawal from NATO – A Cornerstone of de Gaulle's Grand Strategy?" *Journal of Transatlantic Studies* 3 (2011), 232-43.

7 The diplomatic processes behind the relocation of SHAPE are described in detail in "Le Transfert du Shape et le siège de l'OTAN en Belgique," *Courrier hebdomadaire du CRISP* 357 (1967), 2-26. On the Belgian role in the Alliance, see Rik Coolsaet, "La Belgique dans l'OTAN (1949-2009)," *Courrier hebdomadaire du CRISP* 1999 (2008), 1-46.

8 Mark van den Wijngaert, *Oost West, West Best: Belgie Onder de Koude Oorlog, 1947-1989* (Tielt: Lannoo, 1997), 57-60.

9 The master plan was conceived by the

temporary association ALPHA-Sobemap-Electrobel. A map of the ensemble was published in *NATO Letter* 12 (1966), 13.
10 Groupe Structures was founded by four former students of the Sint-Lucas architecture institute in Brussels in 1949 and became particularly active in the field of public housing, adopting prefabrication techniques imported from the USA. In the 1960s, Groupe Structures became the favourite architectural firm of the Brussels economic and political establishment, realizing a great number of office buildings that changed the capital's skyline. We have not (yet) been able to verify why Groupe Structures was entrusted with the task of designing the NATO headquarters. Allegedly, as suggested by Leo Ravestijn, project leader at Groupe Structures at the time, it might have had to do with both the partners' talent for lobbying as well as with the simple fact that their firm was probably the only one in Belgium with sufficient capacity to accept such a job. On Groupe Structures, see Sven Sterken, "Architecture and the Ideology of Productivity. Four Public Housing Projects by Groupe Structures in Brussels (1950-1965)," *Footprint* 2 (2012), 25-40. *Traction et Electricité* was one of the major players on the Belgian electricity market. After World War II, the company diversified its activities and started to provide consultancy for large building operations. The scale of the firm and its operations can be derived from the fact that its participation in the construction of the NATO seat constitutes only a minor footnote in the company's history. It later merged with *Electrobel* to form the holding *Tractebel*. See René Brion and Jean-Louis Moreau, *Tractebel: 1895-1995. Les métamorphoses d'un groupe industriel* (Antwerp: Mercator, 1995).
11 For a detailed account of the technical aspects of the new premises, see "Les installations du siege temporaire de l'OTAN à Bruxelles," *La Technique des Travaux* 5 (1968), 155-66. For an 'official' reading of the new building, see the note "Background for the press", 12 October 1967, NATO Archives, Brussels.
12 As reported by Leo Ravestijn, Alsemberg, 28 March 2014.
13 As reported by Pierre Deschamps, a former staff member, cited in "On the Move" 110.
14 Ronald Koven, "An Optimistic NATO Opens Shop in Belgium," *International Herald Tribune,* October 17, 1967. David Spanier, "Changes in NATO Aims Forecast," *International Herald Tribune,* 17 October 1967.
15 Note "Conversion of temporary HQ into a permanent HQ," April 20, 1969 (NATO archives).
16 M.J., "Le problème du franchissement du canal de Willebroek", *La Libre Belgique*, February 22, 1967.
17 Alfred Deroux, "Le maintien de l'OTAN à Evere: une économie de deux milliards", *Le Soir,* June 19, 1969.
18 Source: various notes in Series AC/267-D/6, NATO Archives; "Bâtiments temporaires de l'OTAN à Bxl: aménagement en siège permanent," *Traction et électricité* 7 (1970), 4.
19 Ian Q.R. Thomas, *The Promise of Alliance. NATO and the Political Imagination* (Lanham: Rowman & Littlefield, 1998), x.
20 Speech given by Secretary-General Mario Brosio, October 16, 1967. Facsimile in "On the Move," 82-83.
21 David Spanier, "Changes in NATO Aims Forecast," *The Times*, October 13, 1967.
22 Pierre Harmel, "The Future Tasks of the Alliance," NATO website, Official Texts Section, http://www.nato.int/cps/en/natolive/official_texts_26700.htm; see also Vincent Dujardin, "Go-Between: Belgium and Détente, 1961-73," *Cold War History* 1 (2007), 95-116.
23 Anne Sington, "NATO Settles Down to Work in Brussels," *NATO Letter* 12 (1967), 18.

3.5.5 The Jewish Agency for Israel - the Constructions of a Civic Frontier in Tel Aviv (1955-66)

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Abstract
This paper will analyze the headquarters of the Jewish Agency for Israel (JAI), built in 1956 in Tel-Aviv's newly formed civic center by architects Arieh Sharon and Benjamin Idelson. The JAI was a major para-state institution responsible for the direction and integration of Jewish colonization in Palestine and Israel from the late 1920's onwards. More particularly, the institution played a major role in shaping the Israeli regional colonization discourse predicated on decentralization and idealized frontier territories. As architectural historian Zvi Efrat has argued, from the mid 1950's, this elongated five-story building in non-polished concrete became exemplary of a grey functionalist brutalism for para-state institutions. The paper will argue that this building was part of a series of headquarters of the colonizing institutions, erected in Tel-Aviv between 1952-68, which marked the contradictory impact of state power in the Israeli contested metropolis. Through this case study the paper will explore two inter-related aspects of Israeli para-state institutions. First, I will analyze the building's technocratic greyness as a new urban vernacular that was promoted by para-state institutions to oppose and further legitimize Israeli's native colonial fantasy of rural frontier architectures.
Second, I will explore how the Israeli architectural discourse from the early 1960's, in particular Ram Karmi and Aba Elhanani's writings on brutalism, framed this institutional architecture in terms of Israeli native imaginary. The brutalist non-polished building skin was interpreted as evocative of a material 'immediacy' and equated with a Jewish assimilation of Palestinian labor and native rootedness. The paper will question the way this naturalizing discourse legitimized state institutional architecture despite its technocratic urban rationale. Moreover the JAI Tel-Aviv headquarters will enable the study of the manners in which para-state institutional architecture shaped the scales and vernacular expressions of Israeli colonization and forged the post-independence discourse on urbanization, productivization and locality.

Keywords
Zionist institutions, monumentality, brutalism, regionalism, historiography

From the Jerusalem fortress to Tel Aviv's concrete building-block

The institutional framework of the regime of Labor Zionism included from the early 1920s and through the 1930s a series of co-operative societies – directed under the Jewish Trade Union (Ha'histadrut) which were responsible for nesting the Jewish agricultural settlements and urban centers in an economic system of credit, distribution and social aid. [1] Notwithstanding their anti-urban bias and higher ideological investment in the colonization and construction of the agricultural frontier, these societies served as central architectural patronage, promoting during the 1930s the metropolitanization of Tel Aviv through a localized version of international modernism. Their urban social housing projects and administrative seats were in this regard, expressive of what Nitzan-Shiftan interpreted as Tel Aviv's alignment with labor Zionism anti-bourgeois, anti-diaspora and anti-Levant agenda.[2] As such, they also configured Jewish civic institutions within the 'functionalist' and technologically driven semiotic predicament of interwar modernist architecture.[3]

Parallel to these institutions, the Jewish National Fund (JNF) from the early twentieth century and the JAI from the late 1920s played more dominant roles as pre-state administering organs of the Jewish settlement (*yeshuv*). While the former was responsible for land acquisition, appropriation and allocation, the latter was responsible for fund raising, immigration and settlement policies. Under this heading the JAI promoted from 1942 an anticipatory reflection on territorial development and planning on a national scale and became after statehood one of the major agents promoting Israeli decentralized planning discourse.[4]

The design competition for the National Institutions Building (1927) responded to their central status by allocating the JAI and the JNF a unique and iconic urban complex in the east of the Rehavia neighborhood in Jerusalem.[5] Eugene (Yohanan) Ratner (1891-1965) winning entry, completed in 1936, housed the JAI in the principal volume of a tripartite fortress-like volumetric composition organized around a central void.[6] The JAI section formed the focal point of this formal composition. Facing a *court d'honneur* and reached through a raised entrance framed by a series of columns and a canopy, the JAI complex entailed a ceremonial remoteness distinct from a casual everydayness.[7]

However, the building's formal and material qualities (its thin and relatively polished stone coating, rectilinear volumetric arrangement and small fenestration) were also taken to signify, in Israeli first architectural history written by the architect, and architectural critic Aba Elhanani (1918-2008), the positive teleology of local Jewish and Israeli architecture. From a more confused Jewish architectural vernacular based on the eclectic orientalist idiom of the 1920s the building's self-assured yet moderate modernism, was understood to be striking the balance between a sense of modesty and 'institutional dignity.'[8] By interpreting the JAI Jerusalem headquarters as a precursor of Israeli local modernism and of a fine-tuned institutional design, Elhanani retrospectively framed the building not only as the physical precedent of the Tel Aviv headquarters, but moreover as a model capturing the terms by which institutional expression was assessed during the first two decades after independence. These terms, I argue, which were intrinsic to the historical efforts of Jewish Israeli architects to frame the interwar and post-independence modernism as an organic architecture of the 'place', preceded the vernacular discourse whose emergence Nitzan-Shiftan assigns to the critiques of the pre-state and statist moment.[9]

With the post-independence, the JAI erection of a secondary seat in Tel Aviv implied on the one hand a second phase of internationalization of Israeli architectural language through the introduction of a local version of Brutalism. On the other hand, the building also exemplified the local urban condition in which this internationalization occurred and resonated. Designed between 1955-60 by Arieh Sharon (1900-84) and Benjamin Idelson (1911-72) and inaugurated in the end of 1961, the JAI Tel Aviv headquarters is representative of the architects' association between: 1954-64, formed after Sharon withdrew from the prime minister department of planning (1952). This partnership enjoyed the fruits of Sharon's long engagement with labor Zionism cooperative societies starting in the early 1930s and was focused on academic and hospital campuses, as well as other Labor-Zionist cooperative headquarters.[10]

The massive, pre-state, interiorized configuration in stone cladding was substituted in Tel Aviv by a north-south, doubly oriented six-story longitudinal cube. Stretching as a single autonomous volume over 75 m long and barely 12.5 m wide, the building's principal southern façade along Kaplan Street occupied the entire width of an urban-block. It formed a neutral yet hierarchic skeletal system of concrete grid with thin louvers. In contrast, the lateral edges were relatively opaque. Divided by a vertical row of windows corresponding to a central corridor at each office floor, they rendered legible the repetitive functionalist interior arrangement. While this pragmatic configuration was typical of administrative architecture from the late 1940s the JAI unique volume and scale entailed a higher level of reduction both in terms of the program and of the urban form.[11]

The non-washed Brutalist concrete 'finish', the asbestos *brise-soleil* and aluminum fenestration – approaching the proportions and material qualities of the Ministry of Health and Education in Rio (1936) – were not an established

stylistic fact which preceded the design. Sharon and Idelson suggest them towards the end of 1958 after they noticed an increase in the technological capacities of envelop execution in institutional buildings in Israel.[12] The building's primary floor-slab framework is divided in regular intervals by concrete partitions barely 3 inches-thick. As in Rio these form a thick and gridded facade of vertical fields.[13] Closer to the outer edge of the horizontal concrete framework, three half-inch-width horizontal asbestos louvers nuance the primary structural grid with an airy blaze.[14] However, differently from the Rio model, where the vertical concrete partitions sharply distinguished the elevated building body from the more spatially flexible and ornate ground level sections, the JAI headquarters grid drew the horizontal floor slabs to the fore. Reaching from ground to top level, this grid entailed a more neutral and visually receding building body forming a unified street picture.

As Efrat noted, Israeli Brutalism, emerging within state institutional design, was distinct in approach from the socially critical 1950s British Neo Brutalism.[15] Alluding to the Rio precedent – by maintaining its clean cut and thin rendering of surfaces – 1950s and early 1960s Israeli works seem to have aligned themselves with a new expression of a climatic architecture emerging in the global south and in this regard, also kept their distance from the 'as found' aesthetics of the architectural 'ruin' which is commonly attributed to the Sao-Paolo Brutalism.[16]

Behind this nonhierarchical façade resided the JAI major departments: economy, settlement, social integration, water planning and security.[17] In addition to a modular variability of office spaces – corresponding to two and four window modules – the program stipulated a boardroom serving between 35 to 50 people, which the architects located at the upper recessed floor.[18] Turning to an open terrace this hall remains non visible in relation to the main façade. The only programmatic variant affecting this façade is the entrance lobby located towards the building's and the city's eastern edge.

Stretching over 10 modules (along the building's main axis), the lobby consisted of the institution's dining hall and an adjacent, transversally transparent small waiting area bounded on its two sides by the vertical circulation.[19] Institutional stature was further expressed through small gestures located on the margins of the architectural configuration. Round concrete columns implied a representative aspect as they replaced the rectilinear structure that serves throughout the building. A black-metal linear wall relief commissioned from the Israeli artist Bezalel Schatz decorates the backdrop of the dining hall.[20] Primitively figurative, Schatz' relief assembles Jewish, agricultural and kinship motifs into an abstract composition. While dining halls became a typical programmatic entity in large administrative buildings during the 1950s and the 1960s the integration of such a relief – reminiscent of contemporary kibbutzim dining halls art, which were understood as the 'kibbutz house' – seem to denote an alignment of the institutional community with west European (Ashkenazi) Israeli Jews' major ceremonial space in the agricultural hinterland.[21] Distinct from the 'universalist' abstract aesthetic code by which, from the late 1950s, artists aligned with labor Zionism were understood to fantasize their westernized identity in the Israeli 'place', Schatz' work is emblematic of another, more rear-guard temporality of Israeli integrated art, in which an ethnically laden representation of the collectivist agricultural frontiers emerged.[22]

In section this lobby is further distinguished by two flights of steps reaching from the street level to an exterior podium covered by a thin concrete canopy. Three white metal poles on which hang the national flag delineate the southern edge of this podium. They non-discretely frame a view from the institution towards the city's historic hinterland. While the relief alluded to an ethnically segregated interior institutional space, the raised street entrance with this series of flagpoles (as well as the building façade) gestured towards a more neutral statist bracketing of the institution's territory.

The Tel Aviv eastern frontier – urban and discursive fabrics of national greyness

Differently from the JAI ceremonial court in Jerusalem, the Tel Aviv headquarters on Kaplan Street encountered as well as devised a less distinct and somehow ordinary institutional setting. Located beyond the eastern limit of Patrick Geddes' 1925 plan for Tel Aviv and sought as the city's cultural and governmental center, the Kyria ended being from the early 1950s an eclectic amalgam of institutions, programs and building typologies failing to accomplish a clear sense of civic center. It consisted of a military base (Yehoshua), major Zionist civic societies, co-operative associations and corporate firms as well as the city's cultural institutions.[23]

Morphologically, these ranged from the more reductionist and repetitious large scale perimeter-block buildings – which delimited the historic wholesale market – to the more ornate seat of the Agricultural Bank located at the intersection of these roads on the eastern limit of the Geddes' plan.[24] On Kaplan Street this same range occurs between the sophisticatedly clad Journals' House (1948), the Farmers House (1952) and Bnei Brith Association (1963) and the more ordinary immediate neighbors of the JAI headquarters across the street.[25]

The Kyria district is located at the mid-south-north section of the East Tel-Aviv Plan. Elaborated under city mayor Israel Rokach and city engineer Ya'acov Ben-Sira Shifman from 1931 to 1949, the eastern extension sought the

annexation of the non-Jewish territories to the east of Geddes' plan to allow the integration of some 100,000 inhabitants. [26] Within this plan, the Kyria district presents the least accomplished urban vision and design. More clearly outlined in terms of the roads, parcelization and land use were the southern section of the wholesale market and the northern section above the Kyria. In this latter and more consequential portion, Ben Sira reworked an enlarged and denser version of Geddes' residential picturesque grid which was based on mega-(urban)-blocks.[27] However tenuously attained was the Kyria's urban form it was nevertheless emblematic of this plan's major trust. This consisted of a revision of the city's regionalist agenda, which was primarily legible through a series of east-west urban entrance arteries, stretching over the pre-state non-Jewish villages and connecting Tel-Aviv to the adjacent eastern Jewish cities.

Delimited on the east by the German Templer colony Sarona and the Palestinian villages of Summayl (al-Mas'udiyya) and al-Jammasin al-Gharbi, the Geddes plan followed a south-north development axis, which implied a shorter section for the city's regional extension along the northern limit of the Yarkon River. With the desertion and expulsion of the inhabitants of these villages during the 1948 war and with the appropriation of their lands by the JNF, the city's eastern territorial expansion entered its phase of realization.[28] From a north-south longitudinal direction of growth, Ben-Sira's 1949 plan shifted inland to an eastern orientation along the city's larger previously 'non-urbanized' frontier.

The Geddes' plan envisioned – among other means – a mediation between the city and its region by integrating agricultural practices within the interior gardens of the mega-block, an idea which was not realized with the metropolitanization of Tel Aviv during the 1930s.[29] This vision was superseded in the eastern plan by a more hygienic conception of the green spaces and a privilege of the outer east-west arteries delimiting the mega-block. The latter – extending and enlarging Geddes' transversal roads – entailed an efficient territorial connectivity between Tel Aviv and its hinterland which affirmed the city's regional-metropolitan status.[30] This status further resulted from the high presence of state institutions along the new east-west arteries. In this regard, the Kyria became the most representative manifestation of Tel Aviv statist regionalism – asserting the shift from a small-scale regional garden city, to the state metropolitan center.[31]

Located to the east of the Geddes' plan civic center, the Kyria programmatically and morphologically transformed the city core. Delimited by rectilinear residential urban-blocks and housing the city's cultural institutions, the 1925 center was envisioned as a civic crown ('*acropolis*') from which Geddes' urban promenades radiated.[32] By contrast, the Kyria, developed as a loosely delimited institutional ensemble. Not a site to dwell in, it entailed a fleeting encounter with its civic institutions which was determined by a higher motorized pace along its main roads. The JAI headquarters' minimal formal gestures and highly repetitive grid was the clearest version of such a metropolitan center. Similarly to the machinist architecture bounding the whole-sale market, it was the closet Tel Aviv realized a Westernized image of a capitalist city a la Hilberseimer's High-Rise city project.[33]

Tel Aviv's eastern territory, with its institutional seats and ensembles, was at the center of the late 1950s and 1960s evolving architectural discourse in Israel as it crystallized around a series of published symposium and public debates. Through these, Elhanani (who was one of their central protagonists) introduced to the local profession a version of post-war North American and European sensibilities related to urban design, monumentality and civic ordinariness.[34] While not stressing the inherently bureaucratic leaning ascribed by Henry-Russell Hitchcock to post-war large-scale projects, Elhanani expressed a similar idea about creativity and authorship. [35] Promoting a 'diversified' urban design and an urban vernacular architecture, he sought to further the ongoing efforts (which we encountered earlier in his reading of the JAI's Jerusalem headquarters) to brand Israeli architectural modernism through the legitimacy of its assumed 'locality'.[36]

However, while his 'architecture without architects' assumed 'local techniques', accommodation to the 'regional climate' and an 'honest' synthesis between the expression of materials, modes of assemblage and the architectural program, the examples that he provided, disclose a less intuitive model. [37] The JAI and its immediate surroundings fleetingly appears in the 1966 architectural debate on the 'importance of architectural mediocrity,' instigated in the Ha'aretz newspaper after Elhanani's positive review of the new municipality building, and in a symposium devoted to high-rise buildings in Tel Aviv that he initiated for the Tvai quarterly.[38] Similarly to the JAI, the municipality building, designed by architect Menachem Cohen and inaugurated in 1964, was part of a series of high-rise administrative buildings in Tel-Aviv experimenting with the theme of Brutalism and the *brise-soleil* motif. Adopting the Brazilian model and overtly metropolitan in character, these buildings were at odds with Elhanani's image of a local style, organically growing against cosmopolitan trends. In this respect, these debates and Elhanani's reviews in particular, seem to have been setting the terms for a transition between a first generation of modernist architects, designing for state institutions, and a second generation which expressly affirmed itself through a more idiosyncratic version of Brutalism and an orientalist architecture in the post 1967 'unified' Jerusalem.[39] In so doing, Elhanani's writings offer a more nuanced perspective – similar to the one that Nitzan-Shiftan

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sets up as a project for future revisionist historiography of the 1950s – to think of the ascription of 'locality' to the 'technocratic' statist architecture. [40]
In contrast to the post-1967 moment, the 1950s and 1960s versions of Tel Aviv's Brutalism prompted Elhanani to draw a 'non ideal', 'heterogeneous' model of urban scape in which architectural banality defies sensorial irritations. Similarly to the municipality building, the JAI's highly repetitive façade design, rational nature and programmatic clarity were seen as serving an effective establishment of the city's spatial limits and 'place'. As such, they delineated the contours of a positive and pragmatic ordinariness, assuring the conditions for an institutional communication and expression without threatening the necessary anonymity of a shared civic space.[41]
As architectural historian Zvi Efrat has shown, large-scale Israeli projects of social housing and construction of a social support system under conditions of economic austerity (1949-59) entailed a contentious architectural mediation between the needs to communicatively devise the seats of state and para-state powers and an imposed anti-aesthetic code of modesty.[42] This mediation, according to Efrat, defined the 1950s and early 1960s version of Brutalist institutional design as 'grey', serial and non-localized. In this version, structural grids and textured systems of *brise-soleil* served to mark enclaves of state power which was systematically projected and represented across the multiple forms and scales of Israeli settlements. [43]
Complementing Efrat's analysis of the architectures of state power, and Nitzan-Shiftan's explorations of their urban dynamics and binding historiographical projects, this paper analyzed the JAI building as a symptom of a structural effect underlying the institutional architecture in the east of Tel Aviv and the historical discourses that it prompted. Not so much, as Efrat suggests, a ready-at-hand model, established in advance, beyond the contingencies of place and with an assured communicative efficiency, this paper argued that institutional greyness was designed and discursively framed to mediate the contradictory terms of statist representation in concrete locales. The JAI served as an agent in this narrative, both as it commissioned the urban emblems of such representations and as it appeared in the annals of Israeli architecture as the protagonist of a localized modernist institutional expression. More particularly, by analyzing the JAI building, this paper framed Israeli serial and 'grey' Brutalism within the conditions of its emergence in Tel Aviv's last frontier territory. It stressed how this territory – and the contemporary discourses which reflected on its development – became central to the Israelization of Tel Aviv, as the city accommodated diverse representations of the state's selected frontiers and branded these representations as an 'ordinary' and 'organic' expression of the city's 'vernacular' landscape.

1 Labor Zionism commonly refers to the Zionist socialist movement that administered Jewish colonization in Palestine from the 1920s and after 1948 was partially absorbed into the state apparatus and ruled until 1977. Central among this regime cooperatives were the Mashbir (agricultural produce distributer), the Agricultural Union and the construction and infrastructures company Solel Boneh. Recent revisionist historiography has stressed the sectorial ethnic character of this social system which privileged European Jewry (Ashkanzi Jews) with higher citizenship rights, benefits and proximity to what became after independence a para-national system of governance. Gershon, Shafir, and Yoav, Peled, *Being Israeli the Dynamics of Multiple Citizenship* (New York: Cambridge University Press, 2002), 37-74.
2 In addition to this series of institutions labor Zionism cooperative societies also built between 1931-6 20 cooperative workers housings, in Efrat, *The Israeli Project,* 78. Alona Nitzan-Shiftan's argument on labor Zionism 'triple negation' is developed in: "Contested Modernism – Alternative modernism, Erich Mendelsohn and the Tel Aviv Chug in Mandate Palestine," in Haim Yacobi (ed.), *Constructing a Sense of Place* (Burlington: Ashgate, 2004), 17-52.
3 The discussion and promotion of this style was central to the Tel Aviv circle of modernist architects (Ha'chug) in which Arieh Sharon (architect of the JAI Tel Aviv headquarters) played a major role. Another arena, which was used by the Tel Aviv architectural circle, was the architectural journal *The Building in the Orient,* that it edited in the second half of the 1930s. In addition to Nitzsan-Shiftan "Contested Modernism" a critical assessment of this moment and its historiography is developed in Daniel Bertrand Monk, "Autonomy Agreements: Zionism, Modernism and the Myth of a 'Bauhaus' Vernacular," in *AA Files* 28 (1994), 94-9.
4 With independence the JAI planning department (the technical department) was transformed into the prime-minister department of planning, which was then directed by architect Arieh Sharon (1949-52). After 1952 and under conflicts of interest between different ministries and critics against what was viewed as formal leaning in the planning reasoning of Sharon's team, the JAI retrieved a responsibility for the planning of the agricultural villages. Nir Man, *The Kyria in the Years of its Foundation*, *1948-1955* (Jerusalem: Carmel, 2012), 259. A detailed account on the institutional configuration of planning agencies in the first four years of independence is found in Ruth Kark, "Planning, Housing and Land Policy, 1948-52, the Formation of Concepts and the Configuration of Governmental Frameworks," in Ilan. S. Troen and Noah Lucas (eds.), *Israel: the First Decade of Independence* (Albany: State University of New York Press, 1995), 461-94.
5 The district is located in the vicinity of the old city, and was planned by architect planner Richard Kaufman during the 1920s.

David Kroyanker, *Jerusalem Architecture* (Jerusalem: Keter, 1996), 163-4.

6 Ratner is known to have promoted the shift from the eclectic style of the 1920s to the international modernism of the 1930s as well as for his role as the second director of the Technion School of architecture and an important military strategist.

7 The transcendent function of formal architectural syntax discussed in the context of neo-classical architecture is found in Alexander Tzonis, and Liliane Lefaivre, *Classical Architecture, The Poetics of Order* (Cambridge: MIT Press, 1986), 273-88.

8 The building represents the: 'right direction towards which Israeli architecture should move'. Aba Elhanani, *The Struggle for Independence of Israeli Architecture in the 20th Century* (Tel Aviv: Mi'srad haביṭaḥon, 1998), 26. Elhanani was Ratner's student at the Technion school of Architecture during the 1930s. Elhanani was born in Warsaw and immigrated to Palestine in 1931. He was during the 1930s Ratner student at the Technion School of Architecture in Haifa.

9 Nitzan-Shiftan "Contested Modernism," 53, 55.

10 Beside the major hospital campuses built in the 1950s and 1960s Sharon and Ideslon partnership was responsible for the designs of a series of institutional seats for the following cooperatives: the Workers' bank (*Ha'poalim),* the Yachin Hakal (Israel largest citrus company), the Solel-Boneh (construction co-operative) and the Ha'mashbir headquarters and major storage facilities in Tel Aviv. A testimony for Sharon's role as the major architect of Mapai (labor Zionism major party ruling in the first three decades after independence (1949-77) is found in his autobiographical book, *Kibbutz + Bauhaus: an Architect's Way in a New Land* (Stuttgart: Kramer Verlag, 1976).

11 Similar configurations are found in Sharon and Idelson's Workers' Bank and the Ichilov Hospital (both from the early 1960s). Alexander Klein's Government offices in the Givat Ram district, Jerusalem also follows this layout. However, these examples attenuated the monotony of the office building block either by its separation from a larger-scale ground floor base, entailing a more flexible distribution and a legible human scale) or by breaking the office slab to a sequence of volumes which animate the street scape and circulation.

12 The Rio building design was the result of a collaboration between: Lúcio Costa, Carlos Leão, Jorge Moreira, Oscar Niemeyer, Affonso Reidy and Ernani Vasconcelos, with the involvement of a painter, Cândido Portinari, and a landscape architect, Roberto Burle Marx and Le Corbusier. Letter from Idelson concerning alterations of the tender contract, 29 July 1958, Box 965.00.431, Arieh Sharon Collection, The David J. Azrieli Central Archives and Israeli Research Center for Architecture. Idelson's note can be attributed to the his and Sharon's knowledge of the Hebrew University Administration Building in the Givat Ram district, Jerusalem, designed by Karmi-Karmi-Meltzer and completed in 1958 where similar façade grid and finishes were used.

13 The vertical fields are 1.6 m inter-axis wide over 3 m high. This grid proportions became by the mid 1950 a replica present in several administrative buildings (the Trade Union Headquarters by Carmi, the Workers Bank by Sharon and Ideslon and the Faculty of Economy and Social Sciences in Givat Ram Campus, Jerusalem, by Dov Carmi.

14 In the northern façade the same division of fields entails a flatter solution with no louvers, indicating both a low rationale in the accommodation of shade, an economy of budget as well as a representational intention preserved for the main façade.

15 Efrat, *The Israeli Project*, 190-1.

16 This latter model is typically interpreted in relation to the Faculty of Architecture and Urbanism designed by Vilanova Artigas, in Adrian Forty, *Concrete and Culture* (London: Reaktion Books, 2012), 120-25. See also: Richard Williams, "Brazil Brutalism: Past and Future Decay at the FAU-USP," in Mark Crinson and Claire Zimmerman (eds.), *Neo-avant-garde and Postmodern: Postwar Architecture in Britain and Beyond* (New Haven: Yale Center for British Art, 2010), 103-26. For an account of the Rio model within the context of an emergent environmentalist discourse on architecture see Daniel Barber, "Le Corbusier, the Brise Soleil and the Socio-Climatic Project of Modern Architecture, 1929-1963," *Threshold* 40 (2012), 21-33.

17 The JAI relocation to the outside the Yehoshua, military camp in the Kyria was part of a larger history of struggle on the status of the Templer's Colonies land between the city municipality and between eh government. The JAI headquarters were designed to group together separate offices that Ben-Gurion had allocated to the institution within the precinct of the Yehoshua camp at the first half of 1948. This can be inferred from a communication between the city mayor Israel Rokach and Prime minster David Ben-Gurion, in which Rokach argues against the transferal and appropriation of offices spaces within the army camp by the JAI in particular, Man, *The Kyria in the Years of its Foundation*, 45-6.

18 Two modules for administrators and four for directors. Box 965.00.431, Arieh Sharon Collection, The David J. Azrieli Central Archives and Israeli Research Center for Architecture.

19 Typical of the 1950s offices floor layouts, this space is duplicated at the upper floors broadening the central corridor and providing space for informal encounter. A similar organization is found for instance in the Tel Aviv Trade Union headquarters (1949-53), the Tel Aviv Municipality Building (1955-1966). The JAI lobby transversal transparency seems also indicative of the architect's anticipation for a higher level of architectural definition in the interior of the urban block, going beyond what turned into an accidental profusion of parking spaces.

20 The commission of this design may be attributed to Moshe Gordon, the director of the JAI publishing house, who is involved in the exchanges between Arieh Sharon and Schatz over the localization and definition of the wall relief, Box 965.00.431, Arieh Sharon Collection, The David J. Azrieli Central Archives and Israeli Research Center for Architecture. Bezalel Schatz (1912-1978) – the son of Boris Schatz who founded the Bezalel Academy of Arts and Design in Jerusalem (1906) – was involved from the late 1950s in the design of several important institutional commissions among which were wall reliefs for Zim (Israeli Boat company), the Tel Aviv court house wall reliefs (1965) and the President's Residency gate design (1970). Another example of an urban kibbutz-dining hall is found on the same urban-block, further to the north of the JAI headquarters, in the headquarters of the National Kibbutzim Association, designed by architect Shmuel Mestechkin (1965-68).

21 In the vicinity of the JAI headquarters, dining halls (turning later into private cafeterias) are found in building such as the Association of Journals, The Trade Union Headquarters, the Hadar Dafna House and the National Kibbutzim Administration A similar use of integrated art in an urban administration's dining hall is found in the latter building which was designed by Mestechkin.

22 A critique of what Chinski frames as Labor Zionism art discourse and fantasy of a non-local western 'place' is found in Sarah Chinski, "Silence of the Fish: The Local versus the Universal in the Israeli Discourse on Art," *Theory and Criticism* 4 (1993), 105-22.

23 Man, *The Kyria in the Years of its Foundation*, 49-51.

24 This institution, designed between 1948-1952 by Michael and Shulamit Nadler served as a major subvention organ for the development of the different types of frontier settlements from villages and kibbutzim to mid-scale industrial towns.

25 Retrospectively designed by: Michael and Shulamit Nadler, Shmuel Rozov and Yitzhak Yehoshua Goyerzman.

26 For recent account of the history of this plan see: Catherine Weill-Rochant, *L'Atlas de Tel-Aviv, 1908*-2008 (Paris: CNRS, 2004),117-24 and Nathan Marom, *City of Concept: Planning Tel-Aviv* (Tel Aviv: Babel, 2009), 92-176.

27 Geddes mega-block consisted of an assemblage of three to four urban blocks around an interior garden and local institution operating at the scale of the neighborhood.
28 The current Ibn Gabirol Street corresponds to the historic limit separating Geddes' 1925 plan from Ben-Sira eastern plan.
29 For Geddes's idea of the Tel Aviv megablock, see, Volker, M. Welter, "The 1925 Master Plan for Tel Aviv by Patrick Geddes," in Maoz Azaryahu and S. Ilan Troen (eds.), *Tel-Aviv, the First Century: Visions, Designs, Actualities* (Bloomington: Indiana University Press, 2012), 299-326.
30 This status is moreover characteristic of the urban fringe which is located further to the east, along the roads of Menachem Begin and the Ayalon highway, which defined the outer edges of the 1949 eastern plan.
31 In this regard, this paper aims to complement Shfitan two precedent readings of Tel Aviv's participation in the expression of Zionist pre-state and statist's national visions. Nitzan-Shiftan, "Contested Modernism – Alternative modernism," and Id., "The Architecture of the Hyphen: The Urban Unification of Jaffa and Tel Aviv as a National Metaphor, in *Azarahu and Troen* (2012), 373-405.
32 Weill-Rochant, *L'Atlas de Tel-Aviv,* 109-10.
33 With the development of the district northeast through the 1960s and 1970s and the introduction of a more sculptural and infra-structural versions of brutalism this radiating character was substituted by a more idiosyncratic monumental architectural expression focused on the autonomous architectural object. This later section was analyzed by Aba Elhanani as the least accomplished section of the Kyria (1998), 231-2.
34 The late 1950s and mid-1960s were characterized by a diversification of the Israeli architectural journals – central among these were the Journal of the Association of Engineers and Architects edited by Ja'acov Ben-Sira Shifman and the more independent Tvai journal (outline), founded in 1966 by Aba Elhanani. As architectural historian Zvi Elhyani has recently noted, Tvai entailed a new configuration of the architectural discourse based on its alignment with urban design, industrial design and the plastic arts. Zvi Elhyani in *Historical, Aba Elhanani: Tvai-Kav* (Exhibition Catalogue, in Hebrew). (Tel Aviv: House of the Architect, 2009). However while extending beyond the narrower 'professional' scope of the journal of the Association of Engineers and Architects, I argue that both journals, in which the Ben Sira and Elhanani played dominant roles were promoting a similar architectural agenda.
35 Hitchcock version of architecture of bureaucracy was developed through a series of articles published between the late 1940s and the mid-1960s. It's first formulation, developed in reference to the practice of Albert Kahn and SOM was republished with an introduction by Joan Ockman in *Hunch*, *Bureaucracy12* (Rotterdam: The *Berlage* Institute, 2009), 147-51.
36 Though Elhanani's references in his journalistic writing from the 1960s are mostly left implicit, his version of an urban vernacular seems to have been shaped by Jose Luis Sert's accent on a diversified formal urban design (as was present in Sert teaching at Harvard) and the Italian school of morphological-typological studies. In the Israeli context, Elhanani's writing is read as a contribution to Yohanan Ratner's interpretation of Jewish and Israeli modernism. Ratner's arguments on this question are collected in Sosnovsky Silvina (ed.), *Yohanan Ratner the Architect and His Work* (in Hebrew) (Haifa: Technion Center for the Research on the Architectural Heritage, 1992). In addition, Elhanani's version of modernist local 'ordinariness', as discussed in the debate on architectural mediocrity, sought to oppose contemporary abstract morphological research (paramount in Israeli in the works of Alfred Neumann, Zvi Hecker and Eldar Sharon) and the more plastic sculptural brutalism (which was developed by architect Ram Karmi).
37 Aba Elhanani, "On our Contribution to Contemporary Architecture," originally published in the *Journal the Association of Engineers and Architects* (1960), republished in Efrat, *The Israeli Project* (2004), 96-7.
38 A major part of the Ha'aretz public polemic appears in Elhyani, 2009. The symposium on monumentality, featuring alongside other architects working for municipal and government planning agencies and sociologist, also section from parallel symposium and publications on the same topic from Hong Kong and the US *Tvai* 2 (quarterly), Tel Aviv, April 1966. An argument on aspects pertaining to the Israelization of Tel Aviv's urban landscape as they can be assessed in the case of the Tel Aviv municipality building, rely beyond the premises of the building's style on the context of its joint commission with the municipality's urban plaza which was envisioned as part of a series of memorials for the memory of fallen soldiers in the war of 1948. In Sharon Rotbard, *Avraham Yaski*, 93-105.
39 The emergence of a vernacular architectural discourse after 1967 is at the center of Nitzan Shiftan dissertation, *Israelizing Jerusalem.*
40 Nitzan-Shiftan, "Contested Modernism," 63.
41 In Aba Elhanani "On the Importance of Mediocrity (in Architecture)," *Ha'aretz*, 8 July 1966 republished in *Elhyani*, 2009.
42 Efrat's discusses several institutional commission episodes, which displayed this problematic. Most emblematic are the negotiations between Israel first Prime Minister David Ben-Gurion and between Moshe Soroka, director of the Histadrut health care system over the need to accommodate construction solutions, finishes and expression in the Negev hospital to the conditions of economic austerity (406-8). See also his discussion of the project for Israeli International Congress Center, built in Jerusalem from 1949 to 1960 (732-3, vol. 2).
43 Efrat suggests that this mediation is mostly legible within the building's arrangement in the plot and in relation to the street, the design of the open areas and the building's envelop as a fabric presenting the interior organization: Efrat, *The Israeli Project,* 109. However he stresses how the principle of statisme was given form through an institutional design, which was primarily indifferent to the urban localization and configuration (739-40).

3.6 Revolutionizing Familiar Terrain: the Cutting Edge of Research in Classical Architecture and Town-Planning

ROUNDTABLE CHAIRS:
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During the past decade, while a significant amount of literature has been generated regarding new readings of classical monuments and ancient town plans, much less attention has been paid to disseminating and sharing advances in research methods and new techniques for documenting classical architecture and urbanism. The objective of this roundtable is to begin a collaborative discussion on the way architectural historians have harnessed pioneering strategies in the field, laboratory or within library and archival contexts. This roundtable invites panelists who situate innovative techniques and cutting edge practices at the core of their architectural research. For example, studies that address the application of remote sensing in the development of excavation strategies would be especially welcome. Likewise, digital modelling, mapping and virtual reality (VR) have the capacity to revolutionize the way we represent and visualize ancient architecture, but how can we successfully deploy these tools as pedagogical aids? An equally significant topic for discussion is how traditional archival material has, over the past decade, been morphed into 'new' sets of data that can reveal information otherwise invisible to researchers in ancient architectural history.

3.6.1 Residency Patterns and Urban Stability: A Theory for Republican Rome

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Abstract
Republican Rome was the first city to house, feed, and sustain a population of one million people, and it did so without a municipal police force. My work explores the extent to which we may reconstruct socially defined settlement patterns within the city of Rome during the Republic (C6-C1 BCE). Comparative studies in early modern and contemporary urban planning show that spatial control of urban sub-cultures has allowed for the segregation of conflicting communities and thereby defined their interaction. Yet this social balkanization alone cannot prevent violence in the city. The maintenance of 'urban tolerance' requires a metropolitan police system to reinforce those well-defined urban spatial boundaries. How, then, are we to explain the relative urban concord that marked life at the caput mundi throughout most of the Republic? While considering the urban design programs not operative in the megalopolis, I draw from indications for urban planning, archaeological and ancient documentary evidence for the city's residential patterns, and historical data on the social complexion of Rome's vici in the last century of the Republic. These sources converge to predict a residential pattern of trans-urban social distribution of both rich throughout the city and poor rather than a concentration of the disadvantaged. Comparative studies of neighborhood culture and criminology in pre-modern and developing communities reinforce my hypothesis of social integration throughout Rome's cityscape. In accepting the theory that urban form serves as an imprint of cultural practices and at the same time defines social behavior, I conclude that residential trans-urban heterogeneity at Rome may have contributed to the stability and relative security of urban life within the caput mundi up until the final decades of the Republic.

Keywords
Rome, premodern, urbanism, town planning, integration, security, position statement

Did Rome's urban plan segregate or integrate élite and non-élite? My work reconstructs socially defined settlement patterns within Republican Rome, the first city with a population of one million.[1] While operating under the hypothesis that urban form serves as an imprint of cultural practices and at the same time defines social behaviour, I suggest that residential trans-urban heterogeneity contributed to the stability and relative security of urban life at Rome up until the final decades of the Republic (C1 BCE).

No conscientious urban program of magistrates or emperors ever defined the city's residential plan.[2] The grid plan had been known in Italy since the seventh century BCE and was widely recognizable as the structural principal of Roman military camps and colonies, but Rome itself resisted such stark formality. The city grew organically, according to the geographical contours and cultural topography of the site. One first-century historian adjudged Rome a city ill-planned: a ramshackle megalopolis crammed with lodgings – without regard for plan or zoning.[3]

Modern urban theories prove valuable for exploring behavioural patterns and exposing our own preconceptions regarding urban form. In the modern era, however, pathways of mechanized transport defined patterns of urban land use, and the heavy motorization of society redefined urban and suburban development. Zoning was conscientiously introduced in the context of the automotive transition – often specifically geared towards the railroad and the middle class commuter car.[4] The applicability of modern planning theories is limited. Rome's 4000 hectares sustained one million residents. Transport was animate: slow, uncomfortable, and inconvenient.[5] Hoof-and-foot traffic determined individuals' behaviour within the city. The lower members of society had to travel the most and the farthest. Premodern technological limitations further restricted the acquisition, preparation, and storage of food (highly perishable, limited quantities). Considerations of residential topography must take into account walkability.

The sweeping impact of the 'Spatial Turn' has enhanced the exploration of geographically and temporally isolated urban case studies. Work in the spatialisation of class has produced mostly uniform results. The patriciates of early modern Florence, Venice, Milan, and Paris were distributed across their cityscapes.[6] Differentiation occurred within the micro-context of streets, rather than urban districts. Some cities featured moderately higher concentrations of élite residences at the urban core. On the whole centres 'remained socially heterogeneous in character.'[7] Patrician residences were also found in all other parts of the city. Any social segregation was on the part of the élites; the lower classes were everywhere. This sort of socio-spatial patterning may be found in Rome: the presence of a massive population predicts trans-urban distribution rather than a concentration of the disadvantaged.

Ancient evidence corroborates this reconstruction. Four sources for ancient land use – the Regionary Catalogues, the *Forma Urbis*, comparative urban structures, and *vici* culture – reveal trans-urban patterns that help us model Rome's settlement complexity.

The Regionary Catalogues (C4 CE) report various Roman landmarks according to fourteen urban administrative regions. Capping each section is a quantification of local structures: neighbourhoods, houses, rental units, warehouses, granaries, etc. The Catalogues allow the historian to compare the structural composition of Rome's Fourteen Regions.[8] The ratio of houses to rental units per region falls within a consistent range across all regions. Greatest at the very centre of the city, the density of both types of residence dissipates towards the periphery. Residence per hectare heavily concentrates in the core. In most cases, the need to live in immediate proximity to the city's political, administrative, commercial, and service centre drove residential choice and did so at a great sacrifice to personal space. The increased availability of work and access radially to all other parts of the city resulted in dense residential concentration in Rome's centre. Altogether, the Regionary Catalogues manifest no trans-urban residential differentiation.

Did overall land-use strategies remain stable? The *Forma Urbis Romae* (203-211 CE), a massive blueprint of the city, maps the ground plans of Rome's architectural structures: from the major public monuments to private stairwells.[9] As with the Regionary Catalogues, the purpose of the plan is unknown, and structural typologies remain somewhat contested. Only 10-15% of the map survives; this limitation especially highlights the diffusion of lower-end residential units, or *tabernae*, throughout the entire city. The *taberna* was a multi-use space for the vending of products and, presumably, the shopkeeper's residence. *Tabernae* were essential to the growth and operation of Rome: supporting the redistribution of products, *tabernae* sustained the economic and social life of a free (and freed) urban population. Through *tabernae*, society's lower orders were 'integrated fully and in a complex way into the social structure of the whole city'.[10] The *Forma Urbis* demonstrates that this integration was as much spatial and geographic as it was economic and social: '*taberna*-world' enveloped the entirety of the city.[11] These were not the élite, nor were they the dispossessed homeless. They were the Romans providing services and selling goods, and they were everywhere.

The spotty nature of the archaeological record and the lack of systematic study of residential evidence from Rome hamper solid conclusions regarding the actual distribution of residencies at Rome. Cross-comparisons with other Roman cities, where full remains have been more thoroughly investigated and analyses better theorized, bring into sharper focus the image that has emerged. At Pompeii, Herculaneum, Ostia, and Empurias, shops, mansions, workshops, and small houses stood side-by-side in every part of the city.[12] The interpenetration of residential and commercial spaces integrated these units in structure and function. Residents from a broad range of statuses – including the élite – were in immediate contact with commercial activity and engaged in it directly or indirectly. Though shops clustered along street frontages and urban nodes, the overall heterogeneity of land use may have facilitated social competition and sustained the city's hierarchy. Élite houses spread throughout the city, so patrons were not in immediate competition with one another. We may predict a similar pattern at Rome, supported by *vici* culture.

Anchored at religious shrines, which were dedicated to immediately local divinities, neighbourhood action was oriented externally: in the open and towards the street.[13] Nearly all references to the operation of the *vici* (neighbourhood cults) prior to Augustus' reformations refer to episodes of citywide violence. Popular leaders were able to incite political agitation at a grassroots level with municipal consequences by using *vici* to mobilize localized gangs all at once throughout the city.[14] They were dangerous because their power was not based in an isolated part of the town: it suffused the city *vicatim* (neighbourhood by neighbourhood). Augustus' systematization (7 BCE) corralled political potential and subordinated neighbourhood allegiance under his unique control. His formalization of the urban unit re-established security on both the local and the municipal level and aligned every one of Rome's crossroads with his personal authority. The manipulation of *vici* indicates the residential omnipresence of non-élite. That Rome was the sum of its *vici* belies any notion of social distrification within any significant urban area. The lower orders of Roman society, like the *vici* they inhabited, were everywhere.

Evidence for residential patterns in Rome is scant, but converges to suggest that Rome was a city without residential planning. Future studies in the spatialisation of Roman social networks combined with additional discoveries related to urban infrastructure will help flesh out Rome's urban pattern. The expansion of Rome – from hilltop villages to the largest megalopolis in the preindustrial West – without the convenience of rapid transport to mobilize individuals or resources and based on a social system of patronage, predicts a multiple-nucleus social pattern, if any model at all. This reconstruction of social patterns does not accommodate any notion of a distinctive 'plebeian district'.

Rome's one million residents lacked a police force.[15] Various cities of imperial China featured equivalent populations, where urban peace was preserved

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through regular census taking, districting, and the vigilance of a metropolitan police force on regular and continuous patrol. Case studies of Qing-dynasty Beijing, Ottoman Constantinople, Paris (mid-C17 – C18), and Edo (C18 – C19) likewise demonstrate how a bureaucratized police force, visibly and audibly present throughout the city, was essential to the articulation, maintenance, and enforcement of structured zones in highly differentiated urban plans.[16] In the 1970s, empirical data suggested that spatial control of urban sub-cultures allowed for the segregation of conflicting communities and defined interaction, yet this social balkanization alone did not prevent violence. Recent work challenges social segregation as an effective means of preserving urban safety. Concentration and isolation of disadvantaged members of the community leads to increased lethal violence.[17] Urban tolerance requires a police force reinforcing well-defined urban spatial boundaries.[18]

How was peace generally maintained in a megalopolis where residents relied primarily on mutual self-help and the system of *clientela* for their personal wellbeing? Did Rome's trans-urban social integration promote environmental crime prevention strategies? While the spatialisation of patronage may improve our understanding of residency patterns, further studies in the sociology of integration within and across the city will demonstrate whether Rome's lack of social zoning may have deterred violence and provided Republican Rome a blueprint for trans-urban stability.

1 Elio Lo Cascio, "Le procedure di recensus dalla tarda repubblica al tardo antico e il calcolo della popolazione di Roma," in *La Rome impériale: démographie et logistique, Actes de la table ronde - Rome, 25 mars 1994* (Rome: École française de Rome, 1997) 3-76; Walter Scheidel, "Roman population size: the logic of the debate," in L. de Ligt and S. J. Northwood (eds.), *People, Land, and Politics: Demographic Developments and the Transformation of Roman Italy 300 BC-AD 14* (Leiden: Brill, 2009), 17-70.

2 O. F. Robinson, *Ancient Rome: City Planning and Administration* (London: Routledge, 1992); Diane Favro, *The Urban Image of Augustan Rome* (Cambridge: Cambridge University Press, 1996).

3 Livy, *Ab Urbe Condita* 5.55.

4 See, for example, Peter Hall, "Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century," in Gary Bridge and Sophie Watson (eds.), *The Blackwell City Reader* (Chichester: Wiley-Blackwell, 2002), 477-89.

5 Likewise, James Packer, "Housing and Population in Imperial Ostia and Rome," *Journal of Roman Studies* 67 (1967), 87.

6 John Dunne and Paul Janssens (eds.), *Living in the City: Elites and their Residences, 1500-1900* (Turnhout: Brepols, 2008).

7 Ibidem, 22.

8 For the acceptability of the *Catalogues'* figures for comparisons across regions, see Glenn Storey, "Regionaries-Type Insuale 2: architectural/residential units at Rome," *American Journal of Archaeology* 106 (2002), 411-34, especially 417.

9 For a general introduction to the *Forma Urbis*, its promises and problems, see David Kolle et al., "Fragments of the City: Stanford's Digital Forma Urbis Romae Project," in Lothar Haselberger and John Humphrey (eds.), *Imaging Ancient Rome: Documentation – Visualization – Imagination* (Portsmouth: Journal of Roman Archaeology, 2005), 237-52; and David Reynolds, "Forma Urbis Romae: The Severan Marble Plan and the Urban Form of Ancient Rome" (PhD Diss., University of Michigan, 1996).

10 Nicholas Purcell, "The City of Rome and the *Plebs Urbana* in the Late Republic," in J. Crook, Andrew Lintott, and Elizabeth Rawson (eds.), *Cambridge Ancient History* 9 (Cambridge: Cambridge University Press, 1994), 667.

11 Likewise Reynolds "Forma Urbis Romae," 155.

12 R. A. Raper, "The Analysis of the Urban Structure of Pompeii: a sociological examination of land use (semi-micro)," in David Clarke (ed.), *Spatial Archaeology* (London: Academic Press Inc., 1977),189-219; Felix Pirson, *Mietwohnungen in Pompeji und Herkulaneum: Untersuchungen zur Architektur, zum Wohnen und zur Sozial- und Wirtschaftsgeschichte der Vesuvstädte* (Munich: Dr. Friedrich Pfeil, 1999); Steven Ellis, "The Distribution of Bars at Pompeii: Archaeological, Spatial and Viewshed Analyses," *Journal of Roman Archaeology* 17 (2004), 371-84; Andrew Wallace-Hadrill, *Houses and Society in Pompeii and Her-*

culaneum (Princeton: Princeton University Press, 1994); Mark Grahame, *Reading Space: Social Interaction and Identity in the Houses of Pompeii. A syntactical approach to the analysis and interpretation of built space, BAR Int. Series* 886 (Oxford: Archeopress, 2000); Damian Robinson, "The Social Texture of Pompeii," in Rick Jones and Sara Bon (eds.), *Sequence and Space in Pompeii* (Oxford: Oxbow Books, 1997),135-44; Hanna Stöger, *Rethinking Ostia: A Spatial Inquiry into the Urban Society of Rome's Imperial Port-Town* (Leiden: Leiden University Press, 2011); Alan Kaiser, *The Urban Dialogue. An Analysis of the Use of Space in the Roman City of Empuries, Spain* (Oxford: British Archaeological Reports International Series, 2000).

13 For an overview of *vici*, see J. Bert Lott, *The Neighborhoods of Augustan Rome* (Cambridge: Cambridge University Press, 2004); Michel Tarpin, *Vici et Pagi Dans l'Occident Romain* (Rome: École française de Rome, 2002); Andrew Wallace-Hadrill, *Rome's Cultural Revolution* (Cambridge: Cambridge University Press, 2008), 264-75.

14 Particularly M. Marius Gratidianus (praetor 85 BCE), C. Manilius (tribune 67 BCE), and P. Clodius Pulcher (tribune 58 BCE).

15 Wilfried Nippel "Policing Rome," *JRS* 74 (1984), 20-29; *Public Order in Ancient Rome* (Cambridge: Cambridge University Press, 1995); Christopher Furhmann, *Policing the Roman Empire: Soldiers, Administration, and Public Order* (Oxford: Oxford University Press, 2012).

16 Alison Dray-Novey, "Spatial Order and Police in Imperial Beijing," *Journal of Asian Studies* 52 (1993), 885-922.

17 For example, Ruthe Peterson and Lauren Krivo, "Racial Segregation, the Concentration of Disadvantage, and Black and White Homicide Victimization," *Sociological Forum* 14, n. 2 (1999), 465-93.

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3.6.2 The Pompeii Quadriporticus Project 2013: New Technologies and New Implications

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Abstract

The Pompeii Quadriporticus Project (PQP) recently completed its fourth and final campaign of architectural study of one of Pompeii's largest monumental buildings, the so-called Gladiator Barracks. To complete our work, the PQP deployed a suite of cutting edge digital technologies, several applied for the first time in an archaeological context. In this paper, we focus on the results of these techniques for archaeological fieldwork as well as highlighting some of the broader interpretations of the development and function of the Quadriporticus gleaned over the last four years. The first technology explored are portable spectrometers used to analyze different mortars, including a comparison of the process and results of using an inexpensive 'Do it Yourself' device versus our use of precision instrumentation in collaboration with the Oxford University Rock Lab. Our interest was to see if a 40 USD device could reveal sufficient distinction among mortars to help refine our interpretations made through visual analysis. A second analysis was made using the National Endowment for the Humanities (NEH) funded DM web-resource to compare, annotate, and link archival images, allowing our team to stand in the same place where a photograph, drawing, or painting was made and compare its content to what could be seen today as well as the observations in our database. The purpose of these digital techniques is to advance our understanding of the development of the Quadriporticus and to determine how its presence and changing form altered the landscape of Pompeii. Therefore, this paper also briefly discusses the 250-year history of the building's evolution, its connections to and disconnections from the urban infrastructure, and the architectural design underlying its original conception and construction. In the end, our research reveals that rather than suffering a vulgar transformation into a barracks for gladiators, the Quadriporticus instead played an increasingly central role in the civic life of Pre-and Roman Pompeii.

Keywords

Pompeii, quadriporticus, digital, spectrometry, metrology, column

Pompei has long been fertile ground for the development and testing of new theories, methods, and technologies in the study of classical architecture and urbanism. Stratigraphic and typological methods for studying vernacular architecture were well known (if not equally applied) in the late nineteenth century,[1] while the forms of classical cities were influencing civil engineers and urban planners already at the turn of the twentieth century.[2] Questions about the social texture of ancient cities were applied to Pompeii, with formal zoning eventually being excluded[3] in favor of a more formal analysis of city block shape, relying on chronology to offer explanation.[4] Most recently, spatial studies have become the norm, whether combining sizes and accouterments of different building types[5] or modeling movement within those buildings or across the city.[6] These most recent developments have relied ever more heavily upon digital technologies at the base of such analysis. Since 2010, the Pompeii Quadriporticus Project (PQP) has whole-heartedly embraced these 'spatial and computational turns', redirecting their power back towards one of the oldest (but under utilised) methodologies: masonry analysis.

In this statement, I intend to argue for the value of a few of these new digital technologies in the service of studying classical architecture and cities. It is my assertion, and has been the PQP's experience, that the efficiency of digital technologies is revolutionizing the way we study the past even if (so far) that revolution represents a change in scale rather than in kind. For some, however, an advance in efficiency proves that these technologies are a gimmick, a shiny way to do the same thing without fundamentally altering the process or the results.[7] They point to paper record sheets merely translated into database forms, drawings simply shifted to screen from drafting board, and notebooks only different for being typed rather than handwritten. Others lament the separation from the physical, from the diverse tactile experience of many tools and from the more leisurely – they would say thoughtful – pace such implements demand. Moreover, they would argue, technology filters our experience through a digital representation of reality rather than the reality that stands before us, transforming people into button pushing automatons. These opinions, in my opinion, have it precisely backward.

In a four-year examination of the Quadriporticus building at Pompeii, our team has studied, photographed, drawn, and graphed the chronology of 397 wall faces of the city's fifth largest monumental structure.[8] We have digitally recorded in three dimensions[9] the architecture to a precision currently unnecessary (even counterproductive),[10] modeled its basic chronology in Geographical Information Systems, and peered below ground level with ground penetrating RADAR.[11] We've taken aerial imagery from balloons and drones, applied portable spectrometers in mortar analysis, and used web-based tools to compare archival images to our research materials and to the building itself. We've done all this in approximately 4000 hours in the field, which is ¾ the time committed by an excavation project in a single season.[12] The point of reciting the PQP's technological resume is not simply to demonstrate the efficiency claimed, but also to set the stage for a discussion of the interpretive benefits that such efficiency provides.

The work just described – the ability to do more work in less time than was ever previously possible[13] – has the obvious practical benefits of being less expensive and (hopefully!) in reducing time to publication. The richness and the variety of the information produced by digital technologies also means, paradoxically, that *less* work needs to be done. Specifically, fewer invasive and destructive techniques, such as excavation, need to be deployed. Combining detailed masonry analysis with ground penetrating RADAR and archival research, the PQP needed the dating evidence of only three small trenches outside of the Quadriporticus to give a strong absolute chronology to the building. Excavation cannot be replaced, but I believe the PQP's work is showing that it can profitably be a supplementary rather than primary method in the study of ancient cities and their architectures.[14]

There are two more areas where efficiency in the process of traditional fieldwork is leading to richer architectural histories. The first is the ease by which digital recording methods document the hundreds of intermediate interpretive steps that translate between the unordered database and the historical argument that is a final phased plan. The PQP's methodology requires a complete atomization of the architecture into its smallest analytical components – stratigraphic units, wall faces, and wall segments – which are subsequently reordered and reconnected through stratigraphic principles (e.g., bonding, abutting, cutting, overlying, etc.) and analogical evidence (e.g., symmetry, elevation, typologies, etc.).[15] Our method leans heavily on technology to manage this vast disordered landscape, documenting our observations and the relationships between them. Within this system, it is relatively simple to connect segments of architecture bonded together into largest possible contemporaneous constructions, which we call Wall Construction Units (WCUs). Moreover, it is equally possible to programmatically document the decisions that combine or separate these WCUs. Although these are the critical choices that define the final shape of a building's history, these mid-level interpretive choices are rarely discussed and almost never published.[16] Digital technologies not only make it easy to document these crucial intermediate interpretive steps, to 'show your work,' but also through their efficiency provide time to do that work while in the field, in front of both the research data and the architecture itself.[17] Efficiency can put top-level interpretation and synthesis back in the field, where it ideally belongs.

Similarly, the ability to run analyses in the field, to try out research data

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against the questions one hopes to ask of them while that data is still incomplete is a real benefit. For example, visualizing our largest bonded units of construction (WCUs) while still in the field forced us to reexamine observations that would have led to impossible or improbable architectures, such as units that abut themselves. This rapid feedback between observation and interpretation was only possible because data were born digital and the cost to test them did not compete with the act of observation.[18] Moreover, this feedback also occurs between methodology and technology, offering a chance to improve these instruments, and eventually develop those practices that are different in kind and not only in scale – the "Digital Archaeological Practice" turn.

Above I said that critics of using technologies in academic work have their opinions precisely backward. I make this argument because one of the presumptions underlying the luddite's argument is that the efficiency found in data collection will only be used for more collection. It has been the experience of the PQP that efficiency can be used to free the researcher from the slowest acts of recordation – that also tend to be the least meaningful interpretive acts – so that they have more time to commune with the object of inquiry, more time to mull over the implications of interpretations, and more time to explore alternative interpretations. The last point is especially important, as it essentially reduces the consequences of being wrong, allowing failure to be a valuable component of the interpretive process. This operates in two ways. First, the exploration of alternative ideas strengthens the conception of one's primary thesis. Second, the examination of alternate ideas strengthens the argument supporting the primary thesis by demonstrating why other theses are insufficient. Another luddite presumption is that technology creates a digital barrier between person and object. Our work with DM has shown how examining the building itself became enriched when its representations, both digital and digitized, were introduced for comparison. Finally, many of the newest digital technologies are not only efficient, but also produce the richest results and rejecting such technologies means rejecting best practices in the field.1 In sum, my position is that technology is a benefit to the archaeology of architecture and urbanism, so long as we use the efficiency it offers to add more time to synthetic and interpretive discussions.

I am indebted to Sebastian Heath who made this point at the Digital Archaeological Practice Workshop (Feb 6-7, 2014, University of Massachusetts Amherst). http://www.umass.edu/classics/5CWorkshop.htm.

1 Kevin R. Cole, *Reading the Walls of Pompeii: A Diachronic Analysis of Urban Development in the Vicinity of the Forum and the Negotiation of Public and Private Space* (Diss., University of Virginia, 2009), 12-18.

2 Francis Haverfield, *Ancient Town Planning* (Oxford, 1913), 63, with discussion by Laurence 1994, 12-19.

3 Ibidem; R. A. Raper, "The Analysis of the Urban Structure of Pompeii: A Sociological Examination of Land Use (Semi-micro)," in David Clark (ed.), *Spatial Archaeology* (London: Academic Press Inc., 1977), 189-221.

4 Herman Geertman, "The Urban Development of the Pre-Roman City," in John J. Dobbins and Pedar W. Foss (eds.), *The World of Pompeii* (New York: Routledge, 2007) 82-97; Id., "The Layout of the City and its History. The Dutch Project," in Joanne Berry (ed.), *Unpeeling Pompeii* (Milan: Electa, 1998), 17-25. See also the topographic theory by Mau 1899 (supra n. 70) 32-3, and elaboration in Eric Poehler, "The Organization of Pompeii's System of Traffic: an Analysis of Evidence and its Impact on the Infrastructure, Economy, and Urbanism of the Ancient City," (Diss., University of Virginia, 2009).

5 Andrew Wallace-Hadrill, *Houses and Society in Pompeii and Hercuaneum* (Princeton: Princeton University Press, 1994).

6 On the use of formal spatial analyses at Pompeii, see Michael Anderson, "Disruption or Continuity? The Spatio-Visual Evidence of Post Earthquake Pompeii," in Eric Poehler, Miko K. Flohr, and Kevin Cole (eds.), *Pompeii: Art, Industry and Infrastructure* (Oxford: Oxbow Book, 2011), 74-87; Mark Grahame, "Public and Private in the Roman House: Investigating the Social Order of the Case del Fauno," in Ray Laurence and Andrew Wallace-Hadrill (eds.), *Domestic Space in the Roman World: Pompeii and Beyond* (JRA Suppl. 22) 137-64; Alan Kaiser, "The Urban Dialogue: An Analysis of the Use of Space in the Roman City of Empires, Spain" *British Archeological Reports International Series 901* (2011); Marina Weilguni, *Streets, Spaces and Places. Three Pompeian Movement Axes Analyzed* (Diss., Uppsala University, 2011). Ray Laurence (*Roman Pompeii: Space and Society*, New York: Routledge, 1994, 115-21) and David J. Newsome ("Traffic, Space and Legal Change around the Casa del Marinaio at Pompeii (VII 15.1-2)," *BABESCH* 84, 2009, 121-42) have attempted to connect their Space Syntax analyses to the adjacent streets, or to model a section of the city, respectively. Kaiser has followed suite in more recent publications: *Roman Urban Street Networks* (New York: Routledge, 2011); "What Was a Via? An Integrated Textual and Archaeological Approach," in Poehler, Cole and Flohr (eds.), *Pompeii: Art, Industry and Infrastructure*. Most recent studies are attempts to use more sophisticated approaches to Network Analysis, as Eric Poehler, "Modeling Pedestrian Movement. A Network Analysis of Pompeii," in A. Wilson and Miko Flohr (eds.), *The Economy of Pompeii,* forthcoming, and Agent Modeling, as "Measuring spatial visibility, adjacency, permeability and degrees of street life in excavated towns. Excavated

towns viewed outside archaeology," in Ray Laurence and David Newsome (eds.), *Rome, Ostia and Pompeii: Movement and Space* (Oxford: Oxford University Press, 2011).

7 For one of the more thoughtful expressions of the concerns about technology, see Bill Caraher "Slow Archaeology," *The Archaeology of the Mediterranean World*. http://mediterraneanworld.wordpress.com/2014/02/17/toward-a-slow-archaeology-part-1/, http://mediterraneanworld.wordpress.com/2014/02/18/toward-a-slow-archaeology-part-2/, http://mediterraneanworld.wordpress.com/2014/02/24/more-slow-archaeology/.

8 On the Pompeii Quadriporticus Project, see: http://www.umass.edu/classics/PQP.htm

9 For discussion of our 3D recording campaigns, see Eric Poehler and Steven Ellis, "The 2011 Season of the Pompeii Quadriporticus Project: The Southwestern, Southern, Southeastern and Northern Sides," *Fasti On Line Documents & Research* 249 (2012), 2-3; Poehler 2013, *Photogrammetry on Pompeii Quadriporticus Project*, http://mediterraneanworld.wordpress.com/2013/10/24/photogrammetry-on-the-pompeii-*Quadriporticus*-project/.

10 The precision of laser scanning is such that even a very small area can contain hundreds of measured points. This can create ambiguity when trying to make measurements from point clouds as a place to be measured from might contain many measured points. Thus, one must admit a level of accuracy that is some measure lower than the level of the technology's precision. This is an important consideration for any metrological interpretations made from such measurements. Without recording the exact points used – among millions – precision becomes the enemy of repeatability.

11 The PQP conducted two ground penetrating RADAR surveys in 2010 and 2011 in collaboration with the University of Southampton's geoprospection service and the British School at Rome. Poehler and Ellis, "The 2011 Season," 3-4; Id., "The Pompeii Quadriporticus Project: The Eastern Side and Colonnade." *Fasti On Line Documents & Research* 284, (2013) 12.

12 These numbers are based on the following calculations: PQP, 40 hours per week for three weeks per season. Each season we had the following equivalencies of students and staff: 2010: 7.5; 2011: 6.5; 2012: 12.5; 2013: 11.5. The total hours worked in the field by the PQP is approximately 4560. Our sister excavation project works 40 hours per week for five weeks, with a conservative estimate of 30 students and staff members per season. The total hours worked in the field by the Pompeii Archaeological Research Project: Porta Stabia is approximately 6000.

13 Measures of the efficiency of the iPad can be found in Poehler and Ellis, "The 2011 Season."

14 There is nothing new about the non-invasive / non-destructive ethos. For example, the Archaeological Research Facility at the University of California, Berkeley has named its website "Then Dig" after the famous illustration by David Clarke: http://arf.berkeley.edu/then-dig/about-this-site/.

15 For more on how the PQP uses masonry analysis, see Eric Poehler and Steven Ellis, "The 2010 Season of the Pompeii *Quadriporticus* Project: The Western Side." *Fasti On Line Documents & Research* 218, (2011) 2; Poehler and Ellis, "The 2011 Season," 3-4. For the origin of our conception of the method, see Steven Ellis et al., "Integrating Legacy Data into a New Method for Studying Architecture: A case study from Isthmia, Greece," *Internet Archaeology* 24 (2008), http://intarch.ac.uk/journal/issue24/index.html

16 In important exception is John Dobbins, "Problems of Chronology, Decoration, and Urban Design on the Forum at Pompeii," *AJA* 97 (1994), 629-94.

17 Poehler and Ellis, "The Pompeii Quadriporticus Project", 3-4.

18 While there is natural interpretive work that is part of normal excavation documentation, such as sketches and matrixes, the time to transform all the records, sketches, and matrixes into a fully described plan of a phases is prohibitive.

3.6.3 Reconstructing Rhythm: Digital Modelling and Light at the Parthenon

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Abstract

Imagine a building with a footprint of 70 x 31 m, a maximum height of 14m, and a design that includes two stretches of blank, windowless, monochrome masonry walls, each measuring 59 m x 10 m. The building you have just envisioned is the Parthenon. Most analyses of the visual impact of the Parthenon have focused on factors such as siting, scale, the rhythm of the colonnade, and the sculptural program. The aesthetic significance of the exterior walls has received little attention because large portions of the building have been lost, and along with them effects that were immediately visible when the building was intact. This paper argues that judicious application of computer modeling can lead to important, new insights on the visual impact of one of the most studied buildings in the world. Our presentation will focus on a collection of images derived from a model of the Parthenon created using means common in current architectural practice: Revit, a parametric building information modeling system, and Kerkythea, a rendering engine designed to produce photo-realistic images of digital models. These programs allow accurate simulations of the movement of the sun, and are frequently used to examine lighting effects in architecture. Applied to the Parthenon, these programs reveal that the play of light and shadow on those two long, blank walls was a dramatic feature of the original structure. The significance of this aspect of the design is reflected in the fact that, whereas much of its entablature and pediments were elaborately decorated and painted, the columns and walls were made entirely of Pentelic marble embellished only with subtle mouldings. The exterior walls of the Parthenon thus provided a blank canvas on which the movement of the sun created shifting displays of light and shadow that were given shape and rhythm by the exterior colonnade.

Keywords

Parthenon, rendering, digital modelling, colonnade, shadows

Previous analyses of the visual impact of the Parthenon have tended to focus on the siting, scale, materials, and sculptural decoration of the structure.[1] The location of the Parthenon (on top of one of the highest hills in Athens) and its sheer size (it is one of the largest temples ever built on the Greek mainland) have understandably attracted a great deal of attention. The impression created by siting and scale was heightened through the use of bright white Pentelic marble as the primary building material. Continuing interest in the Parthenon's sculptures has been driven in part by the amount of figural decoration placed on the building and the survival of much of that decoration. Much of that sculpture is extant, though appreciation of its visual impact has been hampered by the current separation of structure and sculpture.

The collective effect of the array of optical refinements built into the Parthenon has also attracted a considerable amount of scholarly attention.[2] Those refinements include curvature in the stylobate, inward tilt in the exterior colonnade and *cella* walls, and *entasis* in the columns. These refinements meant that almost every individual block of marble in the building needed to be cut to a unique size and shape and thus entailed a high degree of planning and expense. No consensus has ever been reached with respect to the visual effect of these refinements, but it has regularly been argued that they give the structure a lightened feel and connect it in a seemingly organic way to the curving bedrock on which it is built.

The elaborate polychromy that characterized both the Parthenon and its sculpture has attracted growing interest in recent years. It has become evident that virtually the entire superstructure above the level of the architrave was gaily painted in garish shades of red and blue with an admixture of other colors such as green. The sculpture received both paint and gilding. Other parts of the building are likely to have received similar treatment; for example, there is good evidence that the doors to the *cella* were decorated with ivory and gold.[3]

All of these approaches to thinking about the Parthenon either draw directly on visible remains or can be studied through the use of static reconstructions. We recognize the importance of these approaches, but would argue that they neglect what was in all likelihood a vital dimension of the visual impact of the Parthenon – the play of light and shadow on the colonnade and on the huge, blank, exterior walls. The significance of this aspect of the design is reflected in the fact that, whereas much of its entablature and pediments were elaborately decorated and painted, the columns and walls were made entirely of Pentelic marble embellished only with subtle mouldings. The exterior walls of the Parthenon thus provided a blank canvas on which the movement of the sun created shifting displays of light and shadow that were given shape and rhythm by the exterior colonnade.

As one might expect, a number of scholars have commented on how the bright white marble of the Parthenon would have contrasted with the dark shadows in the recesses of the building, but more sophisticated analyses have been generally wanting.[4] This can doubtless be attributed to the fact that large portions of the building have been lost, and along with them effects that were immediately visible when the building was intact.

It is precisely here that computer modeling enters the scene, as a powerful tool to enhance our understanding of the Parthenon. This approach to studying the Parthenon results in dynamic rather than static reconstructions that open new interpretive vistas. The model we have constructed was created using Revit, a parametric building information modeling system, which allows the creation of building elements with precise dimensions and produces accurate simulations of the movement of the sun, frequently used to examine lighting effects in architecture.

The dimensions used were drawn from the measurements recorded by Penrose in his 1851 discussion of the optical refinements of the Parthenon.[5] Penrose provides detailed measured drawings of the portions of the building that existed in the 1850s, with plans, elevations, and sections, as well as profiles of many of the moldings. Wherever possible, the model follows Penrose's measurements precisely, although in certain cases some standardization was necessary. For example, the spacing between the columns matches that given by Penrose, while the columns themselves have been standardized based on an average of his measurements. Other details that were not relevant to this study were also omitted, including most of the articulation of the East and West pediments.

The resulting model, while it lacks some of the fine details of the Parthenon as originally constructed, comes much closer to duplicating the overall massing and form of the building than any other available resource. The precision of the model and level of control over lighting simulations make it possible to reproduce with a high degree of accuracy the play of light and shadow on the building over time scales ranging from minutes to years.

In order to make effective use of the model as an interpretive tool, it is useful to bear in mind that motion was a major factor in individuals' experience of the Parthenon. The primary entrance to the Acropolis was located approximately 100 m west of the Parthenon, but the main entrance to the building was located on the east side of the structure. Moreover, the altar to Athena, the focus of religious activity on the Acropolis, was situated approximately 20 m north of the northeast corner of the Parthenon. As a result, the direct line of vision for visitors entering the Acropolis led to the northwest corner of the Parthenon, and they were driven to move along the

north side of the building toward the east. This movement was echoed and reinforced by the sculptured frieze, the figures on which flow north from the southwest corner of the building and then east along its north side. That frieze almost certainly reproduces a procession that took place once each year as the centerpiece of a weeklong festival held in honor of Athena, the city's patron deity, the Panathenaia, which entered the Acropolis from the west and moved along the north side of the Parthenon.

The visual impact of the Parthenon was thus highly fluid – individuals circulated around the building and experienced the structure from a variety of distances and angles. This imparted a sense of life and motion to the building, something that can be partially experienced by visitors in the modern-day.

What cannot be directly experienced, due to the current state of the structure, is how the play of light and shadow heightened the vibrant energy of the Parthenon and imparted a sense of motion and fluidity that reinforced other key elements of the design and decoration. This produces a significant interpretive lacuna that computer modeling can handily fill. For example, one can reconstruct the experience of watching the shadows move across the face of the columns over the course of a specific day, or the experience of walking around the building at noon on the day of the Panathenaic procession. It is in this way possible to re-imagine the Parthenon in ways that were difficult if not impossible until very recently.

Our primary intent in this project is to create and make available a dynamic reconstruction that facilitates exploration of the visual impact of the play of light and shadow on the Parthenon. Although the model is capable of producing single, static shots of the building at a given point in time from a given place on the Acropolis, it is much more effective when it is used to generate time-lapse animations. Interpretation of the results will require careful thought that will unfold over the course of time and that will be driven largely by other users of the model.

We can for the moment offer some preliminary thoughts.

(1) Light and shadow work very differently on the south and north sides of the building. The south side received a great deal more light and the exterior colonnade regularly cast elaborate shadows on the *cella* wall. From certain viewing angles those shadows reproduce the shape of the exterior colonnade so that the *cella* wall shows a shadow colonnade that processes from west to east over the course of the day (Figure 1). The *pteron* of the north colonnade, on the other hand, received little direct sunlight for much of the year (and was likely, as a result, regularly used as a shady refuge).

(2) The perceived depth of the *pteron* on both colonnades changes dramatically depending upon the angle of the shadows cast by the exterior colonnade on the *cella* wall. When the shadows are perpendicular to the *cella* wall, the *pteron* appears to be quite deep and a second, complete exterior colonnade is projected onto the *cella* wall (Figure 2). This visual effect responded and extended to a particular feature of the Parthenon, which is dipteral on the east and west ends (it has hexastyle prostyle colonnades behind both ends). The existence of a shadow colonnade projected on the cella walls, a colonnade that aligns perfectly with the hexastyle prostyle colonnades on the short ends of the building, created the visual effect of a true dipteral building. One might suspect that this effect is not entirely unintentional, in part because there is some reason to believe that the Periclean building program on the Acropolis was influenced by the massive, Ionic, dipteral temples found in the Ionian Greek world (e.g. the Temple of Artemis at Ephesus).

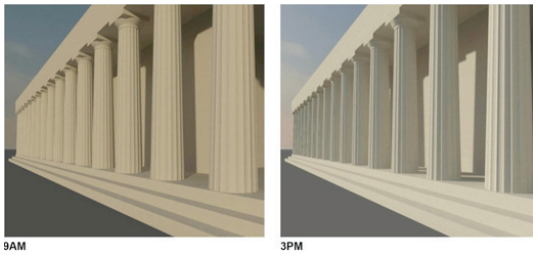

Figure 1. South Colonnade at Winter Solstice

Figure 2. South pteron at Winter Solstice

These observations suggest that the model described above will be a rich source of insight into previously neglected aspects of one of the world's most famous buildings.

1 See, for example, Jeffrey Hurwit, *The Athenian Acropolis: History, Mythology, and Archaeology from the Neolithic Era to the Present* (Cambridge: Cambridge University Press, 1999); William Martin Leake, *The Topography of Athens,* 2 vols. (London: J. Rodwell, 1841); and Jenifer Neils, *The Parthenon: From Antiquity to the Present* (Cambridge: Cambridge University Press, 2005).

2 See, for example, William Dinsmoor, *The Architecture of Ancient Greece* (London: Batsford, 1950).

3 Peter Schultz and Spencer Pope, "The Chryselephantine Doors of the Parthenon," *American Journal of Archaeology* 118 (2014).

4 See, for example, John Papworth, "An Essay on the Principles of Design in Architecture, with Nine New Plates illustrative of Grecian Architecture," in William Chambers (ed.), *Treatise on the Decorative Part of Civil Architecture*, 2 vols. (London: Priestly and Weale, 1826).

5 Francis C. Penrose, *Investigation of the Principles of Athenian Architecture; Or, The Results of a Recent Survey Conducted Chiefly with Reference to the Optical Refinements Exhibited in the Construction of the Ancient Buildings at Athens* (London: Nicol, 1851).

3.6.4 The Urban Development of Late Hellenistic Delos

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Abstract

This presentation outlines the methodology of my project on the urban development of late Hellenistic Delos, which is funded by the Marie Curie Intra-European Fellowship Scheme. The project focuses on the residential neighbourhoods of late Hellenistic Delos to address the ties between economic change and urban growth. By analysing the urban development of the island in relation to economic activities, public administration and private initiatives, the project examines these neighbourhoods as microcosms of the broader developments that Delos underwent during the Hellenistic period – when the island became a commercial base connecting the eastern and western Mediterranean. The urban form of Delos, as of any other city, did not result merely from a single planning initiative but from consecutive decisions and actions of both private and public sectors. However, this obvious fact often gets lost in the specialized analyses of ancient cities. To address this shortcoming, my project develops a 3D model of the city of Delos presenting the built environment and systematising as well as analysing the multi-layered processes of urban growth over time. The field of urban studies in the Hellenistic period is currently dominated by two major trends. On the one hand, research has concentrated on aspects of town planning, characteristic urban architecture and physical infrastructure. On the other, work has tackled cities' organisation, economy and political administration, including the crucial role of benefaction. My project aims to relate urban form to economic developments and in doing so contribute to the field of urban studies in the Hellenistic world. In addition, it aims to contribute to the development of computer applications for the study of ancient urbanism in that it uses digital modelling and virtual reality as a means to advance its research objectives.

Keywords

Delos, Hellenistic period, rapid urbanisation, economic growth, computer applications, port

The urban development of late Hellenistic Delos

This presentation outlines the methodology of my project on the urban development of late Hellenistic Delos, which is funded by the Marie Curie intra-European Fellowship Scheme. The project focuses on the residential neighbourhoods of late Hellenistic Delos to address the ties between economic change and urban growth.

By analysing the urban development of late Hellenistic Delos in relation to economic activities, public administration and private initiatives, the project examines these neighbourhoods as microcosms of the broader developments that the island underwent during the Hellenistic period, when the island became a commercial base connecting the eastern and western Mediterranean. The urban form of Delos, as of any other city, did not result merely from a single planning initiative but from consecutive decisions and actions of both private and public sectors. However, this obvious fact often gets lost in the analyses of single authors and even teams. To address this shortcoming, the project will develop a 3D model of the city of Delos presenting the built environment and systematizing the multi-layered processes of urban growth over time as well as inventing and visualizing counterfactual urban narratives. In doing so not only will this project bring to light as yet unstudied aspects of the urban development of Delos, it will also enhance our approach to urbanisation in two important respects. First, it will allow us to develop an alternative model for approaching Greek and Roman cities; second, it will make a vital contribution to the development of computer applications for the study of ancient urbanism.

The field of urban studies in the Hellenistic period is currently dominated by two major trends. On the one hand, research has concentrated on aspects of town planning, characteristic urban architecture and physical infrastructure.[1] On the other, work has tackled cities' organisation, economy and political administration,[2] including the crucial role of benefaction.[3] Whereas studies on Roman urbanism have combined these two key approaches by relating urban form with economic developments, public administration and private initiatives,[4] there has been no similar effort for the study of the Hellenistic city. The proposed project would be the first to analyse the Hellenistic urban fabric not merely as a result of a single planning initiative but of consecutive decisions and actions of both private and public sectors.

More recently, projects on the Hellenistic city aim to address the dynamic character of urban space in classical antiquity and the socio-political factors that inform it (e.g. Research Project, *Die hellenistische Polis als Lebensform*[5]: http://www.poliskultur.de). These studies examine the multivalent character of urban form as well as the socio-political structures and institutions in ancient cities. However, they still focus on the idealized concepts of the Hellenistic and Roman urban environments, such as monumentality, planification and axiality, and do not examine the ways in which activities in the micro-scale of the city shape its macro-scale. My project will complement these studies by offering a multidisciplinary approach to urban growth in the Hellenistic world. In particular, I will be able to evaluate the ways in which uncontrolled factors, such as micro- and macro-scale economic and social developments, fit in our understanding of urbanism in antiquity. Drawing on current developments and debates in the fields of Hellenistic economy[6] and contemporary urban studies,[7] the project will address the relations between the forces that shaped urban growth (economic activities, public administration, private initiatives, cultural and religious diversity) and major components (architecture, landscape, infrastructure) of the urban form on Hellenistic Delos.

A study that relates urban form with economic developments, public administration and private initiatives requires detailed information on the organisation, economy, and administration of a city as well as a good state of preservation of its physical remains. The Hellenistic city of Delos is a unique site for such a study: its buildings are in an excellent state of preservation; and it has an outstanding epigraphic record which is complemented by historical sources.[8] Delos, home of the sanctuary of Apollo since the archaic period, underwent a period of rapid economic development after 167 BC, when the Romans put the island under Athenian dominion and turned it into a commercial base connecting the eastern and western Mediterranean. Due to its advantageous geographical position, Delos attracted traders from Greece, Macedonia, and the Hellenistic East as well as dealers from Rome since the third century BC. Between 167 BC and the sacks of 88 and 69 BC by the troops of Mithridates and the pirate Athenadoros, the island – though primarily addressing the regional market of the Cyclades – became an intermediary step in Rome's commercial relations with the Hellenistic east.[9] The accelerated urbanisation – attested by the formation of new neighbourhoods – and the maelstrom of redevelopment in the existing urban and port areas of the island – as seen in the massive constructions of jetties, docksides, warehouses and markets[10] – were the result of this economic development and the unprecedented demographic growth and cultural diversity that it generated.

The project focuses on the main residential neighbourhoods[11] to examine the urban development in relation to the economic activities as well as the public and private initiatives. By analysing the transformation of their built environment in relation to manufacturing activities, shopping and storage facilities as well as the construction of public buildings, the project examines the neighbourhoods as microcosms of the broader changes Delos underwent during the late Hellenistic period.

3. QUESTIONS OF METHODOLOGY

The examination of the residential neighbourhoods as microcosms of the economic and urban developments that Delos underwent during the Hellenistic period will be achieved in the following ways. First, the project will examine the organisation and function of the neighbourhoods in relation to the public buildings (such as gymnasium, stadium and theatre), manufacturing installations, storage facilities and shops situated in them as well as their relation to the port facilities. This will be achieved by the analysis of the epigraphic evidence related to the construction of public buildings and of the manufacturing activities, shops and storage facilities in relation to the development of the neighbourhoods. These analyses will lead to an assessment of the ways in which economic activities as well as public and private initiatives affected the evolution of the neighbourhoods over time. In doing so, the project will evaluate the character of the rapid urban development on Delos in relation to the economic changes of the period.

Second, the project will develop a 3D digital model that will present the existing state of the neighbourhoods' structures – incorporating data from past and on-going fieldwork, – will use quantitative methods and statistical analysis tools to address the research questions of the project and propose a reconstruction of the neighbourhoods. The model not only aims to systematize the archaeological information and reconstruct the built structures, but also to tackle the research questions addressed in the project: the ways in which new structures were related to pre-existing ones, how their internal organisation evolved, as well as the relation of the neighbourhoods to the topography of the site, the port facilities and the older neighbourhoods. The model will offer the unique opportunity to visualize architectural change in relation to social and economic factors over time. In this way the project aims to create the model as a showcase for the ways in which a variety of archaeological information can be visualized in order to facilitate research questions in this field.

All parts of the analysis aim to understand and analyse the ways in which a variety of forces – social, economic, political, among others – shape the ancient built environment over time. In doing so the project will enable us to recognize the relation between urban form and economic developments, public administration and private initiatives in the Hellenistic city of Delos.

Finally, although this project focuses on a specific case study of urban growth, its ultimate goal is to offer an alternative approach to the understanding of urbanism in antiquity. The rapid urbanisation of Delos may be compared with far more accelerated developments of growing commercial centres of Asia and the Gulf Region. Urban studies today recognize what may be termed as 'a disciplinary paralysis' to sufficiently describe, let alone influence, the accelerated urbanisation in developing regions of the world and the rapid redevelopment in existing urban areas. This project has the advantage of focusing on an early phenomenon of rapid urbanisation, during a period that is well attested in the written and material records. By examining the evolving agents, relationships and consequences of the rapid urbanisation on Delos this project will identify a model of urban growth that to date has been overlooked in the study of ancient cities that have focused on the idealized concepts of the Hellenistic and Roman urban environments, such as monumentality, planification and axiality. This alternative model of urban growth is indeed the dominant one for contemporary urban studies. Analysing a historical paradigm of such a model can only bring better understanding of the factors that shape the modern city today.

1 For example: Roland Martin, *L'urbanisme dans la Grèce antique* (Paris: Picard, 1977); E. J. Owens, *The City in the Greek and Roman World* (London: Routledge, 1991).

2 For example: Alain Bresson, *L'économie de la Grèce des cites (fin VIe-Ier siècle a. C.)*., 2 vols. (Paris: Armand Colin, 2007-2008); Mogens Herman Hansen and Thomas Heine Nielsen, *An Inventory of Archaic and Classical Poleis* (Oxford, New York: Oxford University Press, 2004).

3 For example: Klaus Bringmann (ed.), *Schenkungen hellenistischer Herrscher an griechische Städte und Heiligtümer 2. Historische und archäologische Auswertung 1. Historische Auswertung. Geben und Nehmen. Monarchische Wohltätigkeit und Selbstdarstellung im Zeitalter des Hellenismus. Mit einem numismatischen Beitrag von Hans-Christoph Noeske* (Berlin: Akademie Verlag, 2000).

4 For example: Michael Heinzelmann, "Bauboom und urbanistische Defizite – Beobachtungen zur städtebaulichen Entwicklung Ostias in der hohen Kaiserzeit," *Acta Instituti Romani Finlandiae* 27 (2002), 103-21; Nicolas Monteix, *Les lieux de métier: Boutiques et ateliers d'Herculanum* (Rome: École française de Rome, 2010).

5 The results of this research project that was funded by the *Deutsches Forschungsgemeinschaft* are published by Verlag Antike in the series *Die hellenistische Polis als Lebensform* (http://verlag-antike.de/va/reihen/SPP), e.g. Albrecht Matthaei and Martin Zimmermann, *Stadtbilder im Hellenismus* (Frankfurt am Main: Verlag Antike, 2009).

6 For example: Zosia H. Archibald, John K. Davies, and Vincent Gabrielsen (ed.), *The Economies of Hellenistic Societies, Third to First Centuries BC* (Oxford, New York: Oxford University Press, 2011).

7 For example: Vittorio Gregotti, "Micro-interventi urbani," *Casabella* 550 (1988), 2-3; id., *Architettura e postmetropoli* (Turin: Einaudi, 2011); Rem Koolhaas, Chuihua Judy Chung, Jeffrey Inaba, and Sze Tsung Leon, *Great Leap Forward: Harvard Design School Project on the City* (Cologne: Taschen, 2002).

8 On the city of Delos see: G. Reger, "De-

los," in Mogens Herman Hansen, and Thomas Heine Nielsen (eds.), *An Inventory of Archaic and Classical Poleis* (Oxford, New York: Oxford University Press, 2004), 738-40.
9 Jean Hatzfeld, "Les Italiens resident à Délos," *Bulletin de Correspondance Hellénique* 36 (1912), 5-218; N. N. Zalesskij, "Les Romains à Delos (de l'histoire du capital commercial et du capital usuraire romain)," in F. Coarelli, D. Musti, and H. Solin (eds.), *Delo e l'Italia, Opuscula Intsituti Romani Finlandiae II* (Rome: Bardi Editore, 1982), 21-49; Gary Reger, *Regionalism and Change in the Economy of Independent Delos* (Berkeley and Oxford: University of California Press, 1994).
10 Hervé Duchêne and Philippe Fraisse, *Le paysage portuaire de la Délos antique: Recherches sur les installations maritimes, commerciales et urbaines du littoral délien*, *Exploration Archéologique de Délos*, vol. 39 (Athens: École française d'Athènes, 2001).
11 The Quartier du Théâtre, the Quartier de l'Inopos, the Quartier de Skardhana and the Quartier du Stade.

3.6.5 Classical Architecture, Town Planning and Digital Mapping of Cities: Rome AD 320

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Abstract
This contribution discusses ongoing research for 'Rome AD 320', an online three-dimensional model of Rome. Specifically, it uses this project as a context for examining wider pedagogical issues: the question of authenticity in the digital reproduction of buildings and monuments; and the role of interactive media in creating place-based learning environments for the study of antiquity. The revolutionary potential of computer modeling is clear. However, while the visual arts in general have incorporated digital media works as mainstream, issues arose during the 'Rome AD 320' project that questioned the accuracy of the 3D translation process within architecture. In art historical terms, the cult of authenticity is essential to safeguarding the image. To what degree should the reproduction of architecture in 3D models accord with this debate? For example, should attempts be made to maintain a degree of the aura of colour over the temptation to blur texture, in order establish a more complete digital reproduction? Furthermore, given that digital media is increasingly prevalent in formal educational settings, other questions arise as to how to incorporate interactive learning that uses different modes of behaviour while monitoring and safeguarding academic standards. In other words, the educational content must not only be factually accurate but also highly compelling so as not to soften the impact of the interactive application. The 'Rome AD 320' project includes an informational, historical narrative that enlivens the digital model and considers the motive of the visitor/beholder experience. This approach helps shape the development of 3D modeling as an educational medium. In order to establish the best pedagogical practices for the digital sphere, objectivity is necessary in the way in which images are looked at differently and are conflated in the virtual space.

Keywords
Computer-based visualisation, interactive application, digital modelling, ancient Rome

Introduction

"Rome AD 320" is an interactive application of ancient Rome created by a Dublin based creative media team Noho (for which I am Subject Matter Expert), due to go 'live' online in the coming months as an cultural application.[1] The "Rome AD 320" uses the Rome Reborn model and dataset as its core, on which we have built the application and accompanying videos. In adapting the Rome Reborn model for their purposes Noho adhered to the good practice initiatives outlined in the London Charter for Computer-Based Visualization of Cultural Heritage:[2]

> The Charter defines principles for the use of computer-based visualisation methods in relation to intellectual integrity, reliability, documentation, sustainability and access….the outcomes of research that include computer-based visualisation should accurately convey to users the status of the knowledge that they represent, such as distinctions between evidence and hypothesis, and between different levels of probability.[3]

In the next phase of the application we intend to make the para-data outlined in guidelines such as the London Charter available with the application or with associated online material.

The Rome Reborn project was carried out originally by Bernard Frischer and colleagues at UCLA (CVR Lab). The project's aim was to generate new digital interpretations of how Rome's city centre was viewed and experienced in antiquity. The Rome Reborn team decided that AD 320 was the best moment in time to model the city as Rome had reached the peak of its population, and major Christian churches were just beginning to be built. After this date, few new civic buildings were built. Much of what survives of the ancient city dates to this period, making reconstruction less speculative than it must, perforce, be for earlier phases.[4]

The compiling of data to create the model was a first step and reliable well-known 2D engravings such as Giovanni Battista Piranesi's *Veduta di Campo Vaccino* (1772) were used to assist with the visualization and interpretation of Roman monuments.[5] Digital modelling has acknowledged advantages as it can overcome difficulties of varied-scale reconstructions in engravings, as digital models are at a scale of 1:1. The project chose the Roman Forum as its centre and sought major monuments in key adjacent locations. The initial findings were reported in a polemic conference and subsequent *JRA series* 61 2006. At Bernie Frischer's request, Noho have since taken this model forward from his *Rome Reborn* project and built on it to create "Rome AD 320". Bernie Frischer approached Noho, whose work on 'Medieval Dublin' made significant advances in the field of virtual museums and narrative design.[6] Noho faced a challenge in managing such a large dataset and creating HD rendered sequences from it. Noho's render farm, plus 3rd party render farms, had to be upgraded to deal with the massive 3D scenes. Noho added people, trees, smoke and water, increasing the already very high render-times. Some models were adapted for use within the application and a small amount of additional modeling was done to supplement the Rome Reborn model in consultation with Bernie Frischer. Trinity College Dublin's GV2 lab supplied Noho with some pre-recorded motion capture and Noho's team supplemented this with their own motion capture using an early Microsoft Kinect.

Figures were also added in, rather like staffage in eighteenth century engravings, for example, the Colosseum was filled with spectators viewing two gladiators fighting in the centre.[7] Other dynamic changes took the form of running water, which was added into the Tiber heightening the sense of reality, and the movement of light across the model in a day-to-night effect which is also linked to a timeline. The timeline had successfully been used in an earlier digital model of Medieval Dublin. There, timelines were used to illustrate change over hundreds of years, which set a precedent while in "Rome AD 320" the timeline spanned one single day.

The "Rome AD 320" project was therefore derived in part from other aspects of Noho's previous experience in visualising historical cities such as Dublin, Limerick, Derry-Londonderry. *Medieval Dublin: From Vikings to Tudors* is an interactive experience covering life in Dublin from AD 800 to 1540. *Medieval Dublin* was developed as an educational tool to communicate Dublin's rich medieval history to schoolchildren in an engaging, visually appealing way. It was based on a map of medieval Dublin with a modern street-plan of the city superimposed over it, providing a context for much of the Viking and Medieval town.

In "Rome AD 320," a storyline was added to provide additional context and a new dimension to the experience. It enabled the viewer to navigate the city from different perspectives at different times of the day, creating an intimacy that is often difficult in the sphere of computer visualisation. Furthermore, the significant visual advances in documenting classical architecture and urbanism in terms of the digital modelling, mapping and virtual reality are apparent from this enhanced model. In the current project, the addition of the narrative clearly enlivened the 3D-model of Rome, capturing a snapshot of activities that might have occurred during a day in "Rome AD 320." The revolutionary potential of narrative adjoining three-dimensional digital reproduction is a key observation when set against most recent scholarly publications.[8]

The core interactive content is reflected in the day-to-night timeline. Other

nuances are 11 hotspots, which contain narrative and scientific data. Each model performs on a plinth with 360 degree rotation and has cutaway features, such as the *Domus,* for example which shows the public reception areas of the Roman house. There are also numerous sub-hotspots that provide additional information. At the Pantheon, for example, the sub-hotspots cover the dome, entrance, oculus and interior. Supplementary content includes a 'newspaper' with articles that provide background to Rome at the time. Another active dimension is a magnifying glass, which enables the viewer to take a closer look at monuments and streets at eye level. There is also a 'street-tracker' tool to allow for orientation. Each of the characters in the narrative have biographies which broadens out the perspective of the social milieu and stratosphere of ancient Rome.

Supplementary data and narrative

The creative narrative is focused on four characters from different social backgrounds. The daily activities and concerns of these characters are connected in a manner that enlivens the content and improves the educational experience of the digital model. The telling of a good story is essential to hold the attention of the audience and in this instance, the connections are made here by the humble spiny murex mollusc, which provides a captivating idea that links the four characters together.

The characters move about the city throughout the day, during which learning points about numerous well-known buildings such as the Pantheon are articulated. In this sense the story illustrates how famous monuments were incorporated into daily life in ancient Rome.

The four digital characters generate four different strands of activity, beginning with a wealthy senator, Marcus who is concerned to preserve the old order and halt change with the onset of Christianity. He brings these ideas to bear in the Senate. As he walks through the city, he passes empty temples full of cobwebs as no one visits them any longer, and he reflects on change in traditional cultural *mores*. The Senator's wife, Livia, is installed at the centre of the household, which is shown to be her domain. Everything inside the walls of the *domus,* from directing slaves to the children's schooling, falls under her control. An alternative way of living is viewed through the lifestyle of the merchant Gaius and his wife, who live in an *insula*. Gaius is a confident, opportunistic salesman who hopes to make a name for himself, and to make his fortune. The merchant's niece, Julia, is visiting Gaius in Rome. She is excited to be in Rome and is awestruck by the splendor of the city and intimidated by the many different people. She is seeking to escape her rural fate through marriage.

The telling of such a story by interweaving the characters and their daily affairs sought to personalize and bring to life the experience of ancient Rome, making it more accessible and more impactful for a wider audience.

Visualization techniques

From the outset, the digital model should be understood as a visualization of what is known about the Rome, and should be viewed as a point of departure for architectural history studies, on the understanding that complete accuracy is not attainable, and that it exists at lower level of resolution as a tool for interpreting data. That monuments can be reconstructed with a degree of accuracy in virtual time is well-established, but individual surfaces, decoration and lighting of marbles and refraction of light, is not possible to determine. It should also be pointed out, in parallel, that archaeological results are almost always derivative, therefore, in this case and in the situation of visualisation more generally, what is offered here is transparency about the visualisation data and the decision-making process leading to the story-telling process. It is understood by the model-makers that scientifically responsible model building and interpretation creates real potential and leads to the provision of a tool which can aid visualization and positively assist in alternative visual studies. The aim is to serve students of architectural history, architecture and classics in providing visual information on circulation through ancient buildings and movement through the virtual world in real time. This creates an extended experience to enable the visualization and viewing of such models with a high level of accuracy.[9]

It is hoped once the desktop app has been released to iPad and tablets, to spend time improving the model with new data and to add better crowd simulation software and video vignettes to each hotspot. The use of this technology to reconstruct other ancient cities will aim to provide necessary discussion to advance this formal media further in an academic and scientific manner.

Audience feedback

The target audience is scholars, undergraduates and school pupils across a range of different levels who were trial-tested and feedback generated. There were positive results at school level with students engaging in the detail as well as partaking and enjoying in the overall narrative story-tellling. In the context of third level undergraduates, the most interesting discovery seemed to be the ability to create different perspective and aspects of circulation and illumination of models. For the architectural historian this visualisation has proved a valuable insight and the segmentss can be used

in part towards a blended learning experience.
As an evalutor on the project, my role has been to assess the experience, to create the narrative and inform and improve the methodology of the digital platform and to stimulate and relate this to the learning potential of digital media and ancient cities more generally. The educational content relies on being highly compelling and at the same time factually accurate, without softening the impact in the interactivities and at the same time being able to support subjects such as ancient history and art and architecture in depth. Therefore telling a good story is essential in order to hold audience attention and to provoke their participation.
Questions have arisen as how to improve the content of the resources and at the same time monitor and maintain academic standards which are in peril of the oftentimes repetitive nature of existing internet sources. Pedagogical approachs to matter and material content can be, on one hand thematic, and on the other chronological when approaching the digital platform to increase learning potential. The newspaper slot serves as an extra tab or layer of information. The timeline is a significant tool that broadens out the knowledge base. Computer-aided instruction and the scenarisation or scene-setting through stories and narrative is one direct approach for learning communities which has been successfully applied in the case of "Rome AD 320."

Development and evolution of visitor experience

Visual Arts have incorporated digital animated mediaworks into the main sphere. Yet several issues arise to contribute further to the discussion and to highlight some of the pros and cons of modelling, most significantly, the accuracy of the translation process from two dimension to three dimensions. In art historical terms, discussions related to the cult of authenticity are relevant, as to safeguarding the image and towards the degree of accuracy in the digital record, and, how colour and texture are captured digitally is increasingly pressing.[10]
Furthermore there are questions as to the importance of requiring degrees of accuracy in this instance and whether two tiers of information and reconstruction are acceptable for the digital realm. There exists a lengthy history of denouncing reproduction of painting through photography in the work of John Berger and Violetta de Mazia, for example.[11] The reproduction of digital imagesshould accord to this debate and degrees of the aura of colour, over the temptation to blur textures should be further explored in order establish a more complete digital image reproduction.
The imaging Augustan Rome conference in 2006 was a good beginning in the strategic approches to modelling.[12] It has provided an important benchmark for the subject and pointed out strengths and opportunities as well as the weaknesses of attempting to come too close to accuracy, while losing the audience. The implementation of the London Charter for Computer-based Visualization of Cultural Heritage is a significant step in safeguarding digitizing standards.

Conclusion

Digital media is increasingly prevalent in formal educational settings. Questions arise as to how to achieve place-based learning which is both interactive and uses modes of behaviour in blended learning, and at the same time serves to teach ancient art and architecture in depth. To many it depends on predetermining the audience.Consideration of the motives of the visitor/ beholder and their experience should perhaps help to shape the development of the medium in the future as segments in blended learning. Objectivity is key, as is the way in which images are looked at differently and conflated in virtual space.
The devising of a project like this takes a necessary step towards being one of a suite of indispensible digital tools for schools and universities in terms of investigating new visual research in visualisation studies. New directions for research must also be related to viewpoints and data capture. For the model, the view of the Imperial Forum was taken from the vantage point of the Palatine hill. This in itself is an important departure, as modelling can be used to better understand the relevance and importance of ancient viewpoints. The impact of the view of the city from the galleries of the Colosseum or from the podium of the temple of Venus and Rome should be considered as significant ancient vantage points. Research into the importance of vantage pointsand Imperial imagery andthe adjacent visual aspects of the triumph of Roman spectacle should be developed against the backdrop of these kinds of a digital models. Diana Favro stated in volume *JRA* 2006: 'What did Romans see; when they looked at the city? How did their shared experiences and ways of thinking influence how they perceived images?'[13]
With this in mind, considerations are necessary in terms of best practices for pedagogical approachs for assisting visualisation studies, and in terms of the contextualisation of the perception of matter and material content and 'immersive environments'. As the user group approaches the digital media platform to increase learning potential from both thematic and chronological perspectives, computer aided instruction becomes central to the scenarisation of these learning communities and engagement through projects such as this, will enhance overall experience and our gaze. To quote Favro: 'the eyes of the beholder not only see, but are seen in turn.'[14]

1 Noho are a video and computer graphics studio that designs and produces video, web and mobile media for museum clients. This paper has been compiled together with the assistance from Breffni O' Malley and Niall O'hOisin and will include some plug-ins during the presentation. The team handles everything from educational videos to interpretive touchscreens and mobile apps. I have contributed to the "Rome AD 320" project as a Subject Matter Expert.
2 Hugh Denard, "A New Introduction to the London Charter," in A. Bentkowska-Kafel, D. Baker & H. Denard (eds.), *Paradata and Transparency in Virtual Heritage Digital Research in the Arts and Humanities Series* (Ashgate: London, 2012), 57-71.
3 http://www.londoncharter.org, 2.
4 http://romereborn.frischerconsulting.com
5 John Wilton-Ely, *Piranesi, The Complete Etchings* (San Francisco: Alan Wofsy Fine Arts,1994), Plate 148.
6 http://www.medievaldublin.ie
7 Noho used motion capture on KINECT to create this. In reality the gladiators are one large Austrian 3D animator, fighting himself.
8 P. Connolly and H. Dodge, *Rome City The Ancient City, Life in Classical Athens and Rome* (OUP: Oxford, 2003).
9 See http://www.londoncharter.org, 3.
10 W. Benjamin, "Globalisation and Its Discontents," in Donald Preziosi (ed.), *The Art of Art History, A Critical Anthology* (OUP: Oxford, 1998), 431-47.
11 V. de Mazia, "The Lure and Trap of Color Slides in Art Education," *Vistas* 3, n. 1 (1984-86) and also John Berger, *Ways of Seeing* (Penguin Books: London 1972), 129-43.
12 Lothar Haselberger and John Humphrey, *Imaging Ancient Rome Documentation, Visualisation Imagination, Journal of Roman Archaeology Series* 61 (2006), 163-82.
13 Diana Favro, "Virtual Reality re-creations and Academia," in Haselberger and Humphrey, *Imaging Ancient Rome,* 321-334.
14 Ibidem.

3.6.6 Digital Modelling in the Sanctuary of the Great Gods on Samothrace

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Abstract
In antiquity, the fame of Samothrace emanated from its cult of the Great Gods, whose rites of initiation, the mysteria, promised protection at sea and the opportunity for moral improvement. The secret rites were never divulged, but their power to transform is well attested by the innovative architecture that sheltered the rituals. A dozen extraordinary monuments are each distinct within the history of Greek architecture and each deftly positioned within the terrain to heighten the experience of the initiate. Earthquake, erosion, and spoliation, however, have obscured the intensively orchestrated design of the Sanctuary, and two-dimensional media do not adequately communicate the unusually complex terrain of the temenos. We therefore have mined the innovative potential of three-dimensional digital modelling to document, analyze, and communicate the complex spatial relationships that bind place, architecture, and ritual in this famous yet elusive mystery cult. In particular, 3D modeling highlights incongruities in elevation that are elided in traditional plan and even perspective drawings. Digital modeling has also allowed us to resolve issues that have long been debated, such as the visibility of the Winged Victory monument. We have chosen to work within a modeling (Lightwave) rather than a gaming platform in order to explore the precise path of the initiate through a series of videos. Having produced a high resolution digital surface model (DSM) focused on the architectural environment of the sanctuary, our current efforts are centered on expanding our knowledge of the existing terrain by producing a high-resolution digital terrain model (DTM) using both total station and geographic positioning system (GPS). The terrain model seeks to capture the current condition of the site to serve as the basis for a geomorphic predictive analysis tracing the ancient landscape history of the sanctuary.

Keywords
Samothrace, 3D modelling, mystery cult, Ancient Greek architecture, architectural phenomenology, digital humanities

3. QUESTIONS OF METHODOLOGY

In the mystery cult of the Great Gods on Samothrace, secret rites of initiation form the central sacred experience; the efficacy of the cult centres on the interaction of place and actions, including things that were said, seen, and performed.[1] Beyond veiled references to search and celebration, we have very little knowledge of the rites. With respect to place, however, we have a wealth of environmental, topographical, and architectural information that has not yet been fully brought to bear, from a phenomenological standpoint, on the experience of initiation. We mine the innovative potential of three-dimensional modelling for documenting, analysing, and communicating the complex spatial relationships that bind place, architecture, and ritual in this famous yet elusive mystery cult.

Three-dimensional modelling, sacred space, and archaeological inquiry

From an architectural standpoint, the digital model has served as an invaluable platform for integrating architectural and topographical data. Given the rugged and highly degraded terrain as well as the destroyed state of the buildings in the Sanctuary, our first priority was to o create an accurate spatial environment. Using a Leica TCR 805 with Carlson Data Collector (2008-14), we have captured a combination of individually shot points (over 60,000) and point clouds that fixed each building within the *temenos*. We then set this data within a satellite-derived elevation model of the island, over which we draped a Google Earth aerial image. Through the survey, we discovered and corrected significant errors in the 2D plan of the site. Moreover, we confronted several problems in the topographical relationship of buildings that had been glossed over in the 2D plan, including the awkward elevation reconstruction of the Altar Court, Theatre, and central torrent, and the impossibility of reaching the Hieron, given the new reconstruction of the Hall of Choral Dancers.

The 3D immersive environment offers a new way of exploring, from a phenomenological perspective, some of the initiates' experience by recreating their journey through the Sanctuary. Setting the date of the model to 26 July 200 BC to establish the direction of the sun and the position of the stars, and placing a camera at eye level, we rendered videos tracing the initiate's path through the Sanctuary, each responding to a particular question: What was the experience of entering the Sanctuary at night? How steep and circuitous was the descent? How restricted, physically and visually, were the monuments in the central valley? Why are the buildings of the Eastern Hill turned out toward the approaching procession? How visible was the famous Winged Victory from her perch within a deep niche above the Theater? From this new perspective, it is abundantly evident that buildings on the Eastern Hill were

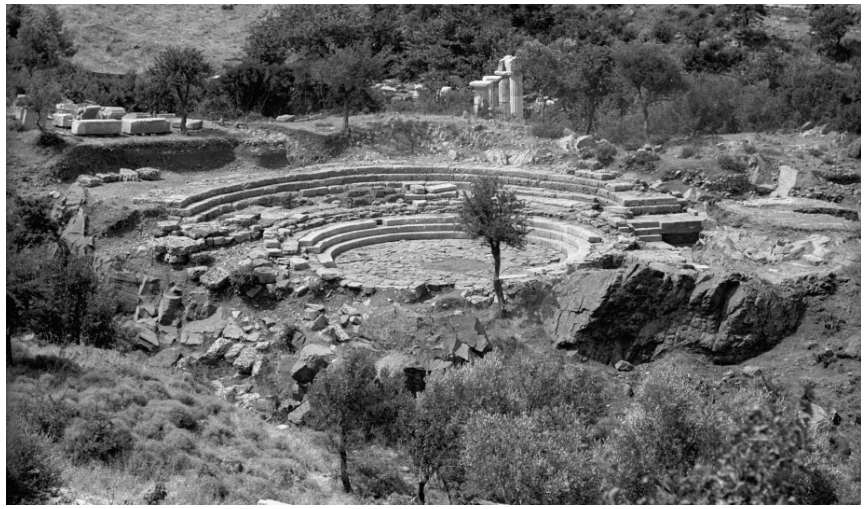

Figure 1. Sanctuary of the Great Gods, Samothrace. View of the Theatral Circle from the east. *Source:* photograph by J. R. McCredie.

Figure 2. Digital model of the Sanctuary of the Great Gods, Samothrace. View of the Theatral Circle from the east.

strategically placed to confront the pilgrims as they entered the sanctuary and to mask the cult buildings in the valley below. The Winged Victory, whose visibility has long been debated,[2] anchors and commands the view both from the central valley and the Stoa terrace.

All who visit Samothrace are acutely aware that the downward, chthonic

descent into the heart of the Sanctuary was an integral part of the initiation, but they are less aware that the descent occurred at night or that leaving the Sanctuary involved the reciprocal ascent. By tracing the experience of the initiate in a real-time environment, we can factor time of day into the construction of sacred experience. The model is particularly effective at simulating the passage between stations within the Sanctuary, e.g. the plunging descent into the Theatral Circle or the long promenade in front of the Stoa. In taking a phenomenological approach to understanding the pilgrim's experience, the model allows for an alternate way to approach a place whose efficacy depended in large measure on secrecy.

The pedagogical value of 3D modelling

We aim to communicate the historical, religious, and architectural importance of the Sanctuary of the Great Gods to a wide audience of students, scholars, and interested public. Both the remoteness of the site and the difficulty of visually communicating its significance conspire to limit access to the Sanctuary, despite its importance as an international shrine and a centre of architectural innovation. For those lucky enough to visit the site, the remains are evocative but difficult to apprehend. The video walk-throughs of the model on our website (www.samothrace.emory.edu) offer a portal through which viewers may enter the Sanctuary. From a pedagogical perspective, 3D modelling creates an immersive environment that traditional modes of architectural communication (drawings, photographs, and small-scale built models) cannot achieve. Like traditional modes of architectural communication, a digital model is an interpretive device, governed by the same abductive reasoning and subject to modification as new information or interpretations emerge. However, it communicates more immediately by working through the subjective senses and imagination as well as the intellect.

Challenges, possibilities, and future directions

Having focused in the first phase of this project on the architectural environment of the sanctuary, our current efforts are now centred on the geomorphological processes that shaped the Sanctuary and its architecture. We are refining our high-resolution digital terrain model (DTM) by collecting further data using a combination of total station, terrestrial scanner, and geographic positioning system (GPS). The DTM will shape the production of estimated paleotopographic surface models digitally reconstructing the landscape during the periods in which we witness the greatest architectural change in the *temenos*.

Surveying the rugged island terrain, with its deep ravines and heavy tree canopy, has been challenging. Terrestrial scans allow for a richer articulation of the surface, but they do not exclude vegetation and generate an enormous volume of data that can be cumbersome to manipulate. Lidar offers a time-efficient, highly effective means of eliminating tree canopy,[3] but the price tag for aerial scans remains high and access on Samothrace limited. Instead, we plan this summer to work with the photogrammetric program Photoscan by Agisoft to capture three-dimensionally the complex natural features as well as foundations and retaining walls. Photogrammetry offers the added advantage of a photorealistic surface image in addition to a high-resolution wire mesh frame. As an added value, this data establishes high-resolution baseline documentation of the current condition of the buildings and the site, vital for long-term site management.

At present, the model represents the sanctuary at the apex of its development. We have begun to create a diachronic sequence of models representing the sanctuary at pivotal periods in its development. The scale of the Sanctuary at the time Philip II and his future wife Olympias (parents of Alexander the Great)[4] were initiated is strikingly modest. And the Roman imperial period, we can trace how, despite at least two devastating earthquakes, the Samothracians managed to patch together the Sanctuary and continue to function.

We continue to evaluate our modelling decisions as we move forward. With respect to verisimilitude, we have weighed the achievable degree of architectural detail against the time it takes to model each building, and the size and manipulability of the file. We elected to leave representations of sculpture highly abstract, to avoid the "uncanny valley." We derived the textures for each building from ancient fabrics at the site, but we have only applied colour to the plaster interiors for which we have substantial evidence. Having completed an architectural colour study based on surviving evidence from the site and contemporary *comparanda* (especially Macedonian tombs), our next step will be to apply colour consistently to the monuments. A further challenge is consistency. Introducing distressed conditions (e.g. in the paving of the Theatral Circle or Sacred Way) simulates a more realistic environment, but it creates a hybrid presentation. Ultimately we are working toward a cleaner pedagogical tool with a separate, fully reconstructed environment overlaying a photogrammetrically documented actual state representation of the site and buildings.

Interactivity and animation are now central components of many modelling projects. We have elected to work within a fixed environment (using Lightwave and 3DsMax), from which we have rendered videos tracing journey of the initiate, at eye level, along the defined sacred paths within the Sanctuary.

However, we continue to debate the possible advantages of an interactive environment based on a gaming platform such as Unity3d. The chief advantage is flexibility: each user can move freely within the model to investigate a wider array of questions. Such a platform opens the possibility of visualizing the sanctuary through an avatar, as well as adding an animated human component. The downsides to interactivity include the level of detail that can be supported, access to the interactive features of the model, and sufficient control of the environment to use it in a meaningful way.

We are at the beginning of our inquiry. 3D spatial modelling allows for a far greater range of simulations than we have yet attempted, ranging from experimentation with actions, times of day, and auditory (but unfortunately not olfactory) effects. We plan to model aspects of construction and destruction as a way of understanding the architectural history of the Sanctuary as a dynamic process.[5] This approach continues to offer the opportunity to see the Sanctuary of the Great Gods with fresh eyes, by opening a new avenue of inquiry for understanding a cult whose rites were sworn to secrecy but whose transformative power drew pilgrims from across the Mediterranean.

1 For the site and cult generally, see Karl Lehmann, *Samothrace: a Guide to the Excavations and the Museum* (Thessaloniki: 1998); K. Lehmann and P. W. Lehmann (eds,), *Samothrace. Excavations Conducted by the Institute of Fine Arts of New York University* (New York: Pantheon Books and Princeton: Princeton University Press); Susan G. Cole, *Theoi Megaloi: The Cult of the Great Gods at Samothrace* (Leiden: Brill, 1984).

2 Heiner Knell, *Die Nike von Samothrake. Typus, Form, Bedeutung und Wirkungsgeschichte eines rhodischen Sieges-Anathems im Kabirenheiligtum von Samothrake* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1995); Marianne Hamiaux, "La victoire de Samothrace. Construction de la base et reconstitution," *Monuments et mémoires.* Publiés par l'Académie des inscriptions et belles-lettres (Fondation Piot) 85 (2006), 5-60.

3 See, e.g. J.-A. Martínez-del-Pozo, V. Mayoral-Herrera, and P. Ortiz-Coder, "Creating and Analysing Digital Terrain Models for Archaeological Research," in C. Corsi, B. Slapšak, F. Vermeulen (eds.) *Good Practice in Archaeological Diagnostics: Non-invasive Survey of Complex Archaeological Sites* (Cham: Springer, 2013), 227-42; K. M. Johnson and W. B. Ouimet, "Rediscovering the Lost Archaeological Landscape of Southern New England Using Airborne Light Detection and Ranging (LiDAR)," *Journal of Archaeological Science* 43 (2014), 9-20.

4 Plutarch, *Life of Alexander* 2.2; P. W. Lehmann and D. Spittle, *Samothrace. Excavations Conducted by the Institute of Fine Arts of New York University,* vol. 5 (Princeton: Princeton University Press, 1982). B. D. Wescoat, "Skopas and the Sanctuary of the Great Gods, Samothrace," in D. Katsonopoulou and A. Stewart (eds.), *Paros*, vol. 3, *Skopas of Paros and his World:* Proceedings of the Third International Conference on the Archaeology of Paros and the Cyclades, Paroikia, Paros, 11-14 June 2010 (Athens: 2013), 247-68.

5 Note, e.g. the array of more anthropologically based approaches to archaeological modeling in the June 2014 issue of the *Journal of Archaeological Method and Theory*, http://link.springer.com/journal/10816 (accessed May 2014).

4. THEORETICAL AND CRITICAL ISSUES

4.1 Histories of Environmental Consciousness

SESSION CHAIR:
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Contemporary environmental strategies in architecture are usually framed as responses to recent concerns with ozone depletion, global warming, or energy shortages. But environmental concerns have a much more complex relationship with the history and politics of modern architecture and urbanism. This session enlarges the historical and theoretical context of environmental awareness, debate and praxis in architecture, with the aim to historicize sustainability and enlarge the historical perspective on current debates – and as such it can be perceived as an extension of the SAH 2010 session Counter Histories of Sustainability (also chaired by P. Pyla). The session invites papers that investigate the relationship between environmental concerns and architectural culture in the mid-twentieth century, before the popularization of environmentalism in the 1970s. The topic of this session does not pertain to concepts of Nature or biological analogies that influenced architecture through time, but rather it focuses specifically on post-World War II strategies that emphasized the prevention of environmental destruction on a local, regional or global level. Some such practical or theoretical strategies in architecture focused on low technologies of building and appropriations of particular knowledge systems, materials and techniques. Others forged partnerships with industrial production and advanced technologies. Others still put their emphasis on large-scale managerial control of natural resources, becoming entangled with the politics of colonial or post-colonial modernization. And others concentrated on small-scale experiments with single buildings, becoming entangled with other sets of politics. Taken together, all these approaches – and their contradictions – constitute an important history of environmental consciousness in architecture.
Papers that present critical analyses of particular case studies (such as low

or high tech utopias, discourses on appropriate technologies, or versions of 'green' architecture) are most welcome. Papers should analyze the social, cultural, and environmental repercussions of the cases presented. Also welcome are papers that cut across geographical locales to offer broader reflections on environmentalism, historicizing terms like Ecology, Nature, Environment, and related concepts of 'environmental balance', 'natural resources', and so on. In what ways did social reformist visions in architecture become aligned with arguments for curbing industrial pollution or for preserving environmental 'quality'? How did particular strategies for urban amelioration or mass housing, become intertwined with environmental fears?

4.1.1 Environmental Counter Narratives in India c. 1960

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Abstract

Post-independence India's conception of nature as risk-resource system fuelled its project of modernization. Dams were construed as techno-scientific operations in systems designed to circumvent disaster. The corresponding cultural project of architectural modernism borrowed anti-colonial politics' essentialist strategy, foregrounding a search for identity and taking its cue from climate and vernacular technology. Although driven by resource-dearth, Indian modernists wrought scarcity into an aesthetic language: louvers, *chajjas*, verandahs, and lattices came to dominate Indian modernism's vocabulary. For Charles Correa, climate provided raw material for a new, yet ancient, aesthetic language. His early conceptual project – the Tube House (1962) – a unit designed to be low cost and easily multiplied, used deep louvers, a courtyard, and shaded windows to regulate the internal climate. The prototype has been called 'ahead of its time', as if it were a proleptic part of sustainability; however, the pro-ject was rooted in a different set of political and aesthetic lineages that came into play in a parallel project, a museum commission that he won right out of MIT. The Sabarmati Ashram, built on the site of Mahatma Gandhi's home in Gujarat, in homage to the leader, sat at the intersection of three distinct intellectual lineages – Gandhi's politics, Tagore's aesthetics, and Nehru's techno-science. This paper uses Correa's Sabarmati Ashram project to interrogate the threads of environmental consciousness nested within the decolonization paradigm to argue that although these threads look like sustainability, they belong to a different history, and although they seemed to be a counter-narrative to big science and big dams, they were wrought of the same anti-colonial political origins. Although the Gandhi/Nehru/Tagore lineage was politically contradictory and certainly never resolved, this paper will look for architectural and aesthetic references to limn the alternate possibilities for what environmental consciousness may have been before the 1970s.

Keywords

Correa, dams, environment, India, infrastructure, nature

In the 1930s as the freedom movement in India gained traction and the colony began to see and itself as a nation, various intellectuals began to articulate what decolonisation could mean. They started to formulate economic plans to replace the extractive economy of the British Empire with a just system, in which erstwhile colonial subjects would have access to their own geography and territory. The colonial extractive regime viewed nature as a site of exploitation, one that could be instrumentalized for the purposes of global industrial production. Nature in this framework was to be the subject of mechanical mastery. The colonial version also entailed detailed knowledge systems of natives: decolonisation and selfhood meant not just the freedom to dominate nature, but also the freedom from being dominated 'as nature'. Ironically, in this iteration the post colonial model of nature was not radically reimagined, rather it slipped into the colonial extractive framework, much in the same way that the post colonial government slid into the imperial governmental complex colloquially referred to as Lutyens' Delhi, designed by Edwin Lutyens and Herbert Baker in the 1930s as the new capital of British India.[1]

In this paper I look at how nature and environment were re-conceptualised by modernisation and modern architecture in the first two decades of India's independence. I look at early architectural and infrastructural projects, which consciously set themselves against the Lutyens neo-classical architecture to participate in emancipatory decolonization. These projects resonate with the enthusiasm and possibility of these early years of freedom and latch onto the processes of modernisation and the institutions of the state. I argue that although architecture's formal concerns for nature, climate, and environment and look different from large scale planning projects, their concern is couched in similar economics of resource scarcity, rather than the politics of ecology as it emerged in the 1970s. I look at Charles Correa's 1962 Tube House as a project that has tended to remain relevant, to argue that it was very much a product of its own time and that the seemingly benign elements of climate-conscious and nature-responsive technology represented neo-colonial attempts to re-enter the global south as it decolonised.

Along with being a site of exploitation, in India nature also constituted an inexplicable set of divine forces, incalculable in how monsoons failed or cyclones destroyed crop cycles. When Jawaharlal Nehru wrote of nature, it was this divine nature that he counteracted with his rational and individual modernity, to instead evoke its power as a secular force on par with man, rather than the gods.[2] This was another crucial task for modernisation: to transform nature from the incalculable domain of the divine to the mathematical set of risks of best understood by science and managed with technology; to control nature rather than be controlled by it.

The context for this secular and nationalist reimagining of nature was the continuing famines and food shortages that plagued the colonial administration.[3] The most recent of these, the Bengal famine caused by a cyclone in 1942, was fresh in the minds of the new government; one could argue that the management of rivers – flood control, irrigation, navigation, power – were foundational functions of the state, and thus spurred the ideology of big dams and landscape engineering projects as apolitical and technological progress.[4] The network of big dams in this system can be construed as a coordinated operation to prevent natural disaster and facilitate the modernisation of agriculture, where the failure to feed a population could have meant the collapse of the state through hunger riots and eventually revolution.[5] In this iteration nature is discursively constructed as a set of events and potentialities, a system of risks, external to politics and society. Consequently the model of divine/edenic nature as an abundant and exploitable resource was complicated in that it was also a set of risks and opportunities that needed management through techno-science.

Among the early dams Bhakra-Nangal and the Damodar Valley Corporation (DVC) are formative. Bhakra-Nangal, together with the new state capital in Punjab, Chandigarh represented one system – the modern city supported by the infrastructure state. The dam provided irrigation, hydel-power, and flood control to the countryside, while the city administered the resulting commodities. The DVC, on the other hand, was based on the model of the Tennessee Valley Corporation and enthusiastically spanned three administrative regions, the Central, Bihar, and Bengal provinces. It began to flounder because the engineers did not possess extensive data on soil and weather as was required to plan a landscape-engineering project at this scale. Further, although natural phenomena did not constrain themselves to political boundaries, administering the project was politically contingent, and the DVC grew increasingly unwieldy, having to create its own administrative territory, which overlapped and continually clashed with that of the three states it was in.

Public intellectual and psychoanalyst Ashis Nandy has argued that the big dam was a psychotherapeutic intervention into the selfhood of the nation state. It was the necessary public work through which the state actualized itself and made itself visible to the public. Nandy writes of an engineer K. Bhattacharjee, who wrote against the DVC as the project wore on. Bhattacharjee pointed out various flaws like the loss of arable land without a corresponding gain, the neglect of local knowledge systems in favour of the mega-project, and so on and so forth. Nandy argues that Bhattacharjee unwittingly became an early environmentalist, one who didn't really have the language of the environmental movement to make the critique he wanted to make. His critique, however, approached the limits of science, although it

did not quite reach a clear articulation of them. Instead, what Bhattacharjee reached, were the limits of the dissent.[6] After all, the dam was the iconic object that embodied and materialized the desire of the state and the state's vision of itself. Any critique was a critique of the nation and an attack on the process of self-determination – and these high stakes rendered any form of opposition impossible.

Indian architectural modernism, with its monumental use of concrete and stone, largely aligned with the state's developmental narrative; dams and factories provided the new aesthetic inspiration. To understand what the dam meant to modern architects, consider the image of scaffolding that appeared in the 1986 exhibition, 'Vistara', of the Architecture of India (Figure 1).[7] The massive scaffolding for the Bhakra dam, which was used to convey the modernists' alignment with development, made visceral the labour that went into constructing this icon of modernity. In the image otherwise invisible construction labour became a monumental sign of the state's devices with which to dominate the natural world.

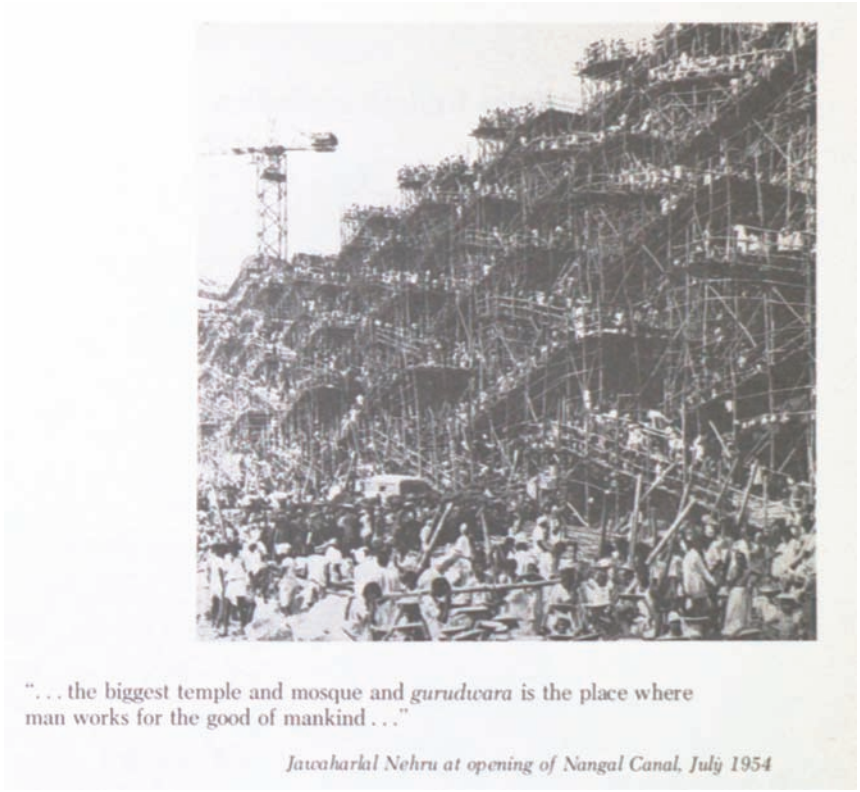

Figure 1. Scaffolding for the Bhakra Dam. *Source:* Carmen Kagal, Vistara: *The Architecture of India*, Exhibition Catalogue, Festival of India in USA (Festival of India, 1986).

In the enthusiasm of independence, both dams and passive energy houses seemed politically neutral. However both came to India through channels of technology transfer and foreign aid and expertise directed towards combatting underdevelopment. The Damodar Valley Corporation project conceptualised and designed by American TVA engineers came out of the Keynesian model that helped the United States recover after the great depression.[8] Similarly urban and developmental solutions to Third World crises emerged from the post-war processes of reconstruction as they were conceived of in the west. Practitioners like Charles Abrams who worked at the Joint Center for Urban Studies of MIT and Harvard visited South Asia and strategised self-help housing and incremental growth, which he documented and proposed in his book, *Man's Struggle for Shelter in an Urbanizing World*.[9] Otto Koenigsberger, the German architect and urban planner, is another figure through who lived and worked in India developing principles through which modern architecture could acclimatise in the economy and environment of the tropics. Through these various institutional mechanisms that ecological and socio-economic concerns came together in architecture.

The concern for ecology that emerged from events in the 1970s has often anachronistically read words like climactic response, resource management, and overpopulation as code for sustainability and environmental consciousness. These words however, were couched in the economics of scarcity and post-war eugenic anxieties as described by Koenigsberger and Abrams, rather than current politics of sustainability. Environmental historian Ramachandra Guha has argued that the economics of scarcity forced some of the earliest environmental movements, which he calls the environmentalism of the poor.[10] These emerge from an economy of unequal resource distribution and economic injustice, especially in the countryside.[11] Dams that served an abstract public usually did so at the expense of the very real people who lived and worked around the rivers. Guha argues that Third World environmentalism has continually been embedded in social justice.

It is in this context that the work of Charles Correa gains traction. His projects continually address socio economic concerns in how they address deeply environmental questions like scarcity, over population, and economic injustice. The flipside is that Guha's Third World environmentalists posed a challenge to the ideology of development itself, which is not true for architecture. Modernism, and very much Correa's modernism, has aligned with the developmental goals of the state and his projects benefitted from the unequal urban rural geographies of modernization. In fact Correa's seminal conceptual project – the Tube House (1962) (Figure 2) came from the cru-

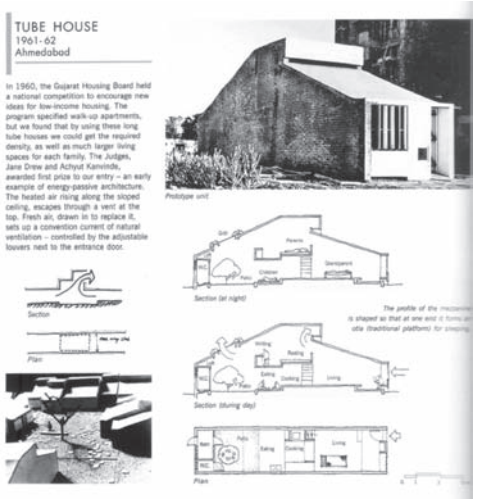

Figure 2. Tube House (1962). *Source:* Charles Correa, *Housing & Urbanisation* (Urban Design Research Institute, 1999).

cible of underdevelopment and modernisation, more so than from the traditions of climate-design that he cites as his inspirations.

The Tube House unit, designed to be low cost and easily multiplied, used deep louvers, a courtyard, and shaded windows to regulate the internal climate attempted to precisely address the problems caused by urban modernity. In May 2013 Uncube Magazine dedicated an issue to Correa, who was interviewed by Rob Wilson who called the prototype 'Economy Chic' and 'ahead of its time', as if it were a proleptic part of sustainability; however, the project was rooted in a different set of political and aesthetic lineages.[12] Couched in the economics of scarcity rather than politics of sustainability, this design is an important marker of various events and ideas of its time. In fact, in as much as the project reflects the socio-economic concerns of the 1950s, it is also a product of the forces of nationalism, against Nehru's model of an ideal modernity.

The tube house was the prize winning entry for a competition for low-cost housing held by the newly Constituted Gujarat Housing Board (GHB), which itself emerged from the contradictory and often tense processes of decolonization. At independence Nehru had indicated that British administrative divisions would be realigned along linguistic lines, but this proposed future realignment presupposed language to be an organic or natural system along which administrative boundaries could adhere.[13] Nehru, who had supported this previously, in time came oppose it as a regressive and an anti-modern move along the lines of identity politics which could potentially derail the political ideal of the nation-state as an imagined community, rather than an organic or historical one.

When, after a violent struggle, Maharashtra and Gujarat came to be separate states, Gujarat was forced to created its own public institutions to manage the trenchant complications that came along with modernisation: urban influx and migration, growing populations, poverty, and so on and so forth. Concerned with these resolute problems, the housing board announced the competition for low cost urban housing. Most likely advised by the towering intellectual and industrial Gujarati figure, Vikram Sarabhai, they recruited Jane Drew, who at the time was working in and on the new city of Chandigarh, and Achyut Kanvinde, the Harvard educated architect from New Delhi, to adjudicate the winner. And so the competition itself was the product of two opposing forces of the post-independence state: the first, Chandigarh, Nehru's new city, unfettered by the past, and the second, the birth of Gujarat, and with it the undercurrent of identity politics, which still resonate in local and central power struggles.

The irony of identity politics is that they were crafted by the freedom struggle as a strategy so as to give the subcontinent a legitimate (read essentialist) façade, after all South Asia had neither a unifying language, nor was it a single nation, like the European countries in which the ideology of nation-states were forged. Although intellectuals like Nehru and Gandhi saw through the ruse of Indianness, they relied on it as a tactic; the tactic turned into a real identity and its legacy has persisted in often-destructive ways.[14] Identity has been crucial to the corresponding cultural project of architectural modernism, which borrowed anti-colonial politics' essentialist strategy, foregrounding a search for identity and taking its cue from climate and vernacular technology. Although driven by resource-dearth, Indian modernists wrought scarcity into an aesthetic language: louvers, chajjas, verandahs, and lattices came to dominate Indian modernism's vocabulary. In this way environment and identity got entangled into each other.

For Charles Correa, climate provided raw material for a new, yet ancient, aesthetic language. Correa recalls the competition to have asked for chawl-type housing blocks by which he implies that the state itself lacked imagination as to how to address the issues it faced and I would posit that there is the constant realization that the issues faced are in excess of than the institutions designed to address them. He dismissed their requirements so as to design what he truly thought to be a concerned and layered solution for the problem of low-income housing. The tube house was the result. The house is designed to be a single-family residential unit. The 60 feet deep and 12 feet wide unit has blank walls so that units can be stacked against each other in plan. The strength of the house in in its section - the roof plane and floor plane modulate space to create differentiated living spaces. The roof opens at three points to create cross ventilation and the drawing is usually published with arrows to indicate the climatic value of the form.

Correa recounts the competition saying that Jane Drew loved the project to the extent that she visited Bombay so she could deliver the news of his victory personally. Her admiration for the project is not surprising since the building was a cross between Corbusier's Unite d'Habitation apartment and

Maxwell Fry's and Drew's principals of tropical housing. The project spoke precisely to the concerns of the jury in its modernist and rational response to the environment and the city that remained 'traditional' in its spatial arrangements. The house, however, functioned better as a diagram than as a project, and although never deployed as architecture, the diagram was repeatedly incorporated into Correa's residential work; it lives on in these various housing projects.

When Correa talks about his own work he bypasses the modernisms of CIAM, and Otto Koenigsberger, to talk about the Mughals who designed keeping climate in mind. In a 1980 lecture entitled 'Form Follows Climate' the omission of tropical architecture in favour of Mughal climatic devices functions to create a nationalist pseudo-history for itself.[15] This is even more pronounced in his introduction to the exhibition of Indian Architecture help in 1986. The architectural exhibition was part of a larger festival of India that, which attempted to present a sort of organic unity to the aesthetic production of the country. In this introduction Correa drew a broad outline of the mythological man (*purusha*), an ahistorical conceptual humanity, which persisted underneath the changing contexts of history. Towards the end he invoked the contemporary concern for ecology as the opening of another context in which the essence of man would remain constant, saying, 'In the West, the myths of technology and progress are being replaced by a concern for environment, for ecology. Man's thoughts, actions - and architecture - will change to reflect this, and a new *vistara* (panoramic view) will open up.'[16] Ecology became one more facet of the eternal human. The exhibition presented Indian architecture in terms of roots and modernity, where both were placed in dialectical tension with one another. While 'roots' catalogued inner cities, villages, and 'traditional' spatial forms, the 'modernity' section paid homage to Corbusier and Chandigarh, and went on to display post-independence architecture.[17] Here nature is interpreted as human nature, and environment is but a peculiar historical formation of it.

This pseudo-history eliminated the work of architects and urbanists like Patrick Geddes, Otto Koenigsberger, Charles Abrams, and other intellectuals who built numerous cities and institutions across the country. Correa's climate architecture is embedded in the technological history of modernism more than the ancient and early modern history of India. The relationship between climate and form is entwined in modern technology, and in modernism's ahistorical resurrection of tradition. The concern for climate, of which Correa's tube house became iconic, really emerged from the work of American and European experts who worked their way into the global south in the fading years of colonial rule, to find new ways for capital to enter these new underdeveloped nations.[18]

In conclusion, when looked at from the outside, environmental thought in the developmental regime was tangled into contentious identity politics and nationalist aesthetics. In fact when Nehru spoke at the conference for tropical architecture in 1955, he claimed it as a truly anti colonial built form.[19] Climate responsive architecture seemed rooted into India and produced from its geography in an unimpeachable way. However although climate responsive architecture looked different from its contemporary, big dams, it really emerged not like an autochthon from the soils of India, but rather, from the developmental processes of technology transfer and imported expertise. Climatic response was the necessary invention of experts when the excesses of modernity encountered the scarcity of the Third World, and the projects that came forth from it need to be understood in terms of those categories.

1 Correa has highlighted the political absurdity of the new state inhabiting the aesthetics of the old one. He says, 'In New Delhi, Edwin Lutyens was specifically commissioned to create an architecture that projected the imagery of a 'superior civilization'. Today we're using those very images to control our own people! And whenever our government needs a new building, the Public Works Department follows the 'Lutyens style' – builds an extension of the 'farmer's house'. Surely after 60 years of independence, we should find our own way? That was Corbusier's message. Whatever the drawbacks of Chandigarh – and there are many – it is 'not' the 'farmer's House'. Corb showed us that we could open a door into another landscape of our own making.' See Charles Correa, and Rob Wilson, "A Usable Art," *Uncube Magazine n. 11*. Accessed April 26, 2014. http://www.uncubemagazine.com/magazine-11-9567961.html#!/page17.

2 One example of Nehru's attempt to render nature secular is displayed in this quote, 'The diversity and fullness of nature stir me and produce a harmony of the spirit, and I can imagine myself feeling at home in the old Indian or Greek pagan and pantheistic atmosphere, but minus the conception of God or Gods that was attached to it.' In Jawaharlal Nehru, *The Discovery of India* (Oxford, New York: University Press, 1989), 28.

3 This was not the only model of understanding natural resources. The Gandhian model for example was extremely critical of modernity and industrial exploitation, proposing a totally alternative relationship with nature that was re rerouted through the care of the body. Gandhi, to borrow Adorno's phrase, argues for a non-instrumental, non-alienated relationship with nature.

4 Rohan D'Souza, *Drowned and Dammed: Colonial Capitalism, and Flood Control in Eastern India* (New Dehli: Oxford University Press, 2006).

5 During this first decade, the 1950s, India was plagued by continual food shortages resulting from several monsoon and crop failures. At this time it was reliant on external food aid from several countries including the Eisenhower administration. The donation of grain helped relieve the first world glut in production that was wreaking havoc on grain prices, while allowing them leverage in international relations and diplomatic situations.

6 Ashis Nandy, "The Scope and Limits of Dissent," in *The Romance of the State: And the Fate of Dissent in the Tropics* (Oxford, New York: Oxford University Press, 2003), 182-207.
7 Carmen Kagal, *Vistara: The Architecture of India, Exhibition Catalogue, Festival of India in USA* (Festival of India, 1986), 115.
8 D'Souza, *Drowned and Dammed,* 186.
9 Charles Abrams, *Man's Struggle for Shelter in an Urbanizing World* (Cambridge, MA: MIT Press, 1970.)
10 Guha argues that communities at the edges of modernity saw their relationship with their livelihood eroded by incursions into their resources. These communities, in attempting to secure their own futures and the futures of their children, became unwitting environmentalists. See Ramachandra, Guha, *Environmentalism: A Global History* (New York: Pearson, 1999)
11 Neil Smith has argued that a differential and uneven geography is both foundational to, and the product of, capitalist penetration and growth. The dam-house dyad represents an uneven geography where the countryside bears the conceptual and real burdens of the infrastructure and landscape engineering, while the city remains the site of the difficulties of modernization, and receives energy passive, growth oriented technologically benign housing.
12 Rob Wilson, "Economy Chic," *Uncube Digital Magazine* 11 (2013).
13 These British administrative boundaries were the ones that proved trenchant in the building of the DVC.
14 Partha Chatterjee argues that the strategy of Indian identity politics in the freedom movement came back to haunt the nation-state in its divisive. Partha Chatterjee, *The Partha Chatterjee Omnibus: Comprising Nationalist Thought and the Colonial World, The Nation and Its Fragments, and A Possible India* (Oxford University Press India, 1999), 203.
15 Although Correa himself does not claim that he is constructing a history of his own work, see Charles Correa, "Form Follows Climate" presented at the Pidgeon Lectures (1980). https://www.pidgeondigital.com/webuser.talk.view.action?talk.id=2052.
16 Correa wrote the introduction to *Vistara: The Architecture of India* 9.
17 Arindam Dutta argues that the exhibition places roots and modernity in dialectical opposition, with the hope that they spatially offer a cyclical history of modernity and India in the hope that the arrangement might reveal an underlying truth or civilizational reality that is ungraspable from the narrow view of the present. See Arindam Dutta, "Politics of Display: India 1886 and 1986," *Journal of Arts and Ideas,* nn. 30-31 (1997): 115-45: 136.
18 Vandana Baweja has argued in her dissertation that Koenigsberger's work constitutes a pre history of the sustainability movement. Baweja argues that tropical architecture constitutes a neo-colonial project in which experts developed frameworks through which foreign aid could enter the country to deal with the problems of underdevelopment. See Vandana Baweja, "A Pre-history of Green Architecture: Otto Koenigsberger and Tropical Architecture, from Princely Mysore to Post-colonial London" (PhD. diss., University of Michigan, 2008.)
19 Jawaharlal Nehru, "Inaugural Address" in National Institute of Sciences of India (ed.), *Proceedings of the Symposium on Scientific Principles and Their Application in Tropical Building Design and Construction, Held at New Delhi, December 21-24, 1952*, Bulletin of the National Institute of Sciences of India, n. 6 (New Delhi: National Institute of Sciences of India, 1955), XIVXV.

4.1.2 We Want to Change Ourselves to Make Things Different

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Abstract
In a letter to Stewart Brand, in December 1968, editor of the *Whole Earth Catalog*, the inventor Steve Baer recalled: 'I have now attended two engineering conferences. I was both impressed and disappointed. They seem to be wonderful opportunities to get at problems and push right through them – you have people with such a variety of experience that questions are answered almost as soon as they are raised. The disappointment has been hearing speakers cut off a question by saying that, although it is an interesting question, it is a philosophical question.'
The Alloy conference that Steve Baer organized in the Spring of 1969 intended to remedy this defect. A range of inventive and diverse minds were invited to an abandoned tile factory in New Mexico for three days. Divided into sections and events – energy, structure, evolution, materials, man, magic, language, meals, play, projections, music – the Alloy conference was attended by engineers, inventors, architects, among others Jay Baldwin, Dean Fleming, Lloyd Kahn, Sim van der Ryn, Paolo Soleri, Stewart Brand. This was the cream of left field thinkers behind the *Whole Earth Catalog* and the alternative architectural movement. Their intention was to replace the homogeneous thinking of the universities and industrial consultants by combining a range of approaches – practical, scientific, spiritual and traditional – to resolve the major environmental problems of the day. A feature of the discussion was a deep sense of soul searching: 'We want to change ourselves to make things different.' The Meeting had the weaknesses of its strengths: many diverse ideas without a dominant focus. The paper uses the Alloy conference to test the efficacy and ambition of alternative thinking of the 1960s with respect to the environment, which cast a long shadow in the careers of thinkers, architects, engineers and designers who would play important roles in the 1970s.

Keywords
Alloy, education, resources, energy, new alchemy, Farallones Institute

In a letter to Stewart Brand, editor of the *Whole Earth Catalog* (WEC) the engineer-inventor Steve Baer recalled in December 1968:

> I have now attended two engineering conferences. I was both impressed and disappointed. They seem to be wonderful opportunities to get at problems and push right through them – you have people with such a variety of experience that questions are answered almost as soon as they are raised. The disappointment has been hearing speakers cut off a question by saying that, although it is an interesting question, it is a philosophical question.[1]

The Alloy conference that Steve Baer organized, 'a kind of underground design conference' as he described it in the same letter was intended to remedy this defect.
A range of inventive and diverse minds were invited to an abandoned tile factory in La Luz, New Mexico, 'between the Trinity bomb-test site and the Mescalero Apache reservation,'[2] for 3 days 'from March 20 to 23, 1969. As he wrote:

> I would like to see a meeting where both concrete and abstract things are discussed. I don't think that this can come from the universities or industry because every time they function they shift and you get something too homogeneous to be either interesting or strong.[3]

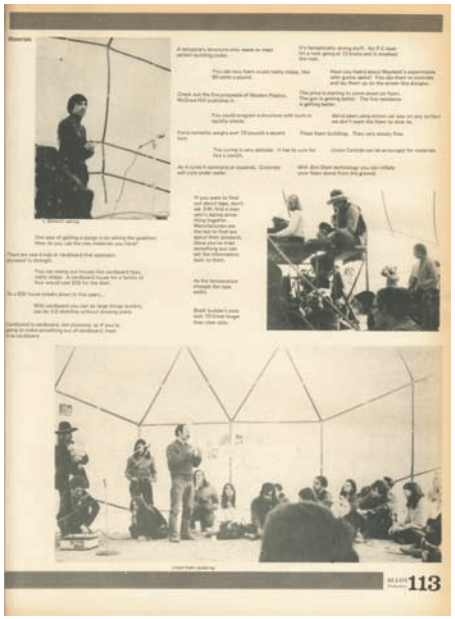
Behind the idea of getting a variety of heterogeneous thinkers together was the hope that some sort of alchemical fusion would create a new kind of knowledge, based both on experience and imagination.
Divided into sections and events – energy, structure, evolution, materials, man, magic, language, meals, play, projections, music – the Alloy conference was attended by engineers, inventors, architects, educators, events' organizers: among others Jay Baldwin, Dean Fleming, Lloyd Kahn and Stewart Brand. The event was also illuminated by performances by members of the commune at Libre, Bill Pearlman's theater group at Santa Fe and the Whole Earth's Truck Store. There were 150 people from all over the US. To shelter all these people, a small encampment sprang up consisting of a series of domes and other lightweight structures.

> Who were they (who are we?). Persons in their late twenties or early thirties mostly. Havers of family, many of them. Outlaws, dope friends, and fanatics naturally. Doers, primarily, with a functional, grimy grasp on the world. World thinkers, drop outs from specialization. Hope freaks […] They camped amid the tumbleweed in weather that baked, rained, greyed, snowed, and blew a fucking dust storm.[4]

Their intention was to replace the thinking of industrial consultants and the architectural profession by combining a range of approaches – practical, scientific, spiritual and traditional – to resolve the major environmental problems of the day. Stewart Brand wrote to Steve Baer: 'Institutions, as they are, are wasteful of creativity, to put it kindly… I'm unconvinced that creativity is an unmitigated boon.'[5] The event was meant to create a shock; the metaphor Stewart Brand uses is that of rattling the cage. A feature of the discussion was a deep sense of soul searching: 'We want to change ourselves to make things different' says Steve Baer[6].
To what extent were these aims realized? What, if anything, came out of the conference of lasting benefit? I have triangulated the evidence of the 8-page report of the conference, published in the WEC*7* with the notes and the correspondence in the Stewart Brand and *Whole Earth Catalog* archives at Stanford University.
The participants at the conference were among the leaders behind the WEC and the alternative movement. Stewart Brand, a Stanford-educated biologist and an ex-Army paratrooper, photographer, writer, events' organizer joined the Ken Kesey group and Merry Pranksters in the mid-1960s.[8] In 1966, at age 28, he launched a nationwide campaign to convince NASA to release for the first time a photo of the entire planet taken from space. He made buttons reading 'Why haven't we seen a photograph of the whole earth yet?' and sold them. The representation of the planet Earth will be used often by Brand as a cover and back cover of the various editions of the WEC and the globe became part of the iconography of American environmentalism. In the *Whole Earth Catalog* that he launched in 1968, Brand used a combination of journalistic approaches to

Stewart Brand (ed.), *Last Updated Whole Earth Catalog* (Menlo Park, CA: Portola Institute, 1974) 112. *Source:* Courtesy Stewart Brand.

4. THEORETICAL AND CRITICAL ISSUES



Stewart Brand (ed.), *Last Updated Whole Earth Catalog* (Menlo Park, CA: Portola Institute, 1974) 113. *Source:* Courtesy Stewart Brand.

reach a wide audience of urban and non-urban readers. As described in *Architectural Design*, Brand's catalogue united 'individual bits and pieces with a loose editorial matrix of laconic style and wry humor, a mixture of biological, metaphysical and communications jargon written with an earthy, mid-western twang.'[9]

Steve Baer was an early pioneer in alternative energy, with a particular interest in solar energy design. With his wife Holly and partner, Barry Hickman, he wanted to formally bring together other innovators and outlaws like himself. He was one of the first to publish a how-to-do-it guide for geodesic dome construction with his 1968 *Dome Cookbook*. Baer founded a design company, Zomeworks, in Albuquerque, NM, to experiment, design, and deliver solar energy systems.[10] Over the coming years, Zomeworks and the *Whole Earth Catalog* were linked through a long-standing sympathy of ideas, sustained by the funds with which Stewart Brand was able to support the company.

A former student of Buckminster Fuller, Jay Baldwin was a designer, who began working in the field of alternative technology. He adapted a library bus into a travelling workshop which was continuously improved and developed to the point where it could be used to help communities construct large projects.

Dean Fleming, who still lives and paints in a Buckminster Fuller geodesic dome in an artist community he founded in Libre, Colorado, was also there.[11] Lloyd Kahn, a carpenter captivated by domes since having heard a conference given by Buckminster Fuller in 1966 – helped build 17 domes at the Pacific High School to be used as classrooms or dormitories.[12] He reviewed books and items for the Shelter section in the WEC and later on (in 1973) was very successful with his own publication *Shelter*[13].

Steve Durkee was one of the founders of the Lama foundation in 1967, where Steve Baer helped to build two domes.[14] Dave Evans, trained at Stanford as a designer was also there. He was a significant innovator on computing technology, later working for Apple. The photographer and film director Robert Frank was invited to make a film of the event.[15]

The meeting had the weaknesses of its strengths: many diverse ideas and strong personalities coming together without a dominant focus. Nonetheless Steve Durkee stressed the powerful interconnecting element:

> Try to understand that although we are different we are all trying to do something. People won't stick with it. This is the tough point. This is the hinge. What are we really doing together? Is it connected? Where is it connected? How it is connected.[16]

As Steve Baer commented: 'No one wants to be an audience… It can't get out of control because it already is out of control.'[17]

The event itself was characteristic of the alternative movement in architecture since it was not only a talking shop: domes were built. The layout of the report published in *LWEC* – pages 111-7 – documented this double aspect, both talking and making. The text also, in small poetic unattributed statements reflects spontaneous dialogue rather than expanded dissertation. Based on archival sources at Stanford University, we can now understand the process of composition of this layout and identify the speakers. Stewart and Lois Brand took detailed notes on a small notepad. These notes were worked up into an eight-page report in the March Supplement of *Whole Earth Catalog* in 1969 and were reprinted in the *Last Updated Whole Earth Catalog* in 1974.

In order to make his account as vivid as possible, Brand heavily edits while still keeping the stenographic quality. Words and images create a collage in which the unattributed comments are welded together into a collective discourse. Each page has a different theme. Let's take for instance five of the *LWEC*'s pages. Page 112 is about the event with a picture of the site, a detail of an adapted truck (with someone asleep) and some of the children around a table, involved in some kind of exercises. Pages 114 and 115 are more speculative with comments on geometry ('You can't patent geometry but you can patent linkages'), industrial production and solar energy. Some examples will give the flavor of the exchanges:

> Steve Baer: 'You can stamp out houses like cardboard toys, really cheap […] A cardboard house for a family of four would cost $35 for the shell'; Voice: 'Have you heard about Maybeck's experiments with gunny sacks? You dip them in concrete and lay them up on the screen like shingles.' Steve Baer: 'What sort of research do we do to use the technology in order to improve our own minds?'[18]

On page 116, there is a strong undercurrent of concern about the ecology: 'You're just saying that there is in reality no guarantee that life will continue. The right to live is a fiction. It's a pretense at a political reality'. Steve Baer in a letter to Dave Evans in January 1968: 'I will talk about energy in a different manner than is customary. Perhaps not very competently. The energy you use, some of it, is quite obviously directly under your control. For instance, the energy your body burns…'[19] On page 117, there is a lot of discussion on 'Evolution' and 'Cybernetics':

> The main design element of evolution is variability. The times are weird and a lot of the old forms are hanging on stiff and tight. All of us are going out and trying different things. Each community has its own notions of how to do its own civilization. The more communities the better. […] Evolution and cybernetics are going to come together. This is the edge of knowledge right now, and it's right at the heart of education, and the schools don't know it. [20]

Stewart Brand, practical as ever, was not prepared to allow the time spent in New Mexico to go to waste: 'Cataloging Alloy. We're coming. We'll bring some Truck Store. We'll be in the midst of preparing the march Supplement, so we'll bring our Composer and Polaroid.'[21] Not only did he establish the office of the *Whole Earth Catalog* at the center of the event, he also made certain that it was his publication which presented the debate to his wide readership. The dome, built by Steve Baer, was used both for the meetings and as a WEC office.

Surprisingly, there was quite a lot of talk about money but solely as a means of transferring energy and ideas. It is important not to be naïve about the idealistic nature of the alternative movement. Stewart Brand inherited from his father the funds with which he launched the *Whole Earth Catalog*. The flow of money parallels the flow of ideas. Much of what went on in the alternative movement can be considered as a closed loop of information: like-minded people within collectives talking to themselves. But Brand's aim was in opening these conversations to a much wider audience. The 2.5 million copies of the *WEC* sold between 1960 and 1972 not only created an open-loop of information beyond the alternative communities, but also the funds to develop countercultural projects, many of them ecological in nature. The Point Foundation was established by Dick Raymond and Stewart Brand to distribute the profit of the *WEC* and supported, among others : New Alchemy, Lama Foundation, Farallones Institute, and Zomeworks. In 1973, for example, Steve Durkee received US$1000 for research at Lama Foundation, Zomeworks received US$2000, as did the New Alchemy Institute.[22]

The problem was how to generate and distribute resources without being reliant on industry, the universities, and government agencies. Stewart Brand noted:

> How are you going to get money? The thing is that it's fluid. It has to pass between bodies. It doesn't have to be held onto. We're in a transitional world… I've tried to prepare the best water for money to float on.[23]

It was clearly important to be able to describe the flow of money in acceptable countercultural terms. Dave Evans pursued: 'We're after profit. But we're after the kind of profit we're getting here. Think about what the word profit means for five seconds. Is it just capitalism or does it mean an energy thing?' Actually this last sentence was cut by Stewart Brand in the *Whole Earth Catalog*, perhaps anxious at the Marxist overtones of the word 'capitalism'. Or perhaps, he was more realistic than Dave Evans about the beneficial aspect of the free market.

What was the lasting benefit of Alloy?

First, the meeting of people, the shared activities, the intense discussion, the insolation from the rest of the world created a strong sense of identity among the people who participated. Secondly, it was Steward Brand's particular skill in the use of symbols that allowed radical ideas to reach a much wider audience. The cover of the March 1969 WEC *Supplement* showed a multi-ethnic group of young people playing volleyball. For the ball, Brand substituted the trade mark image of the globe, a potent metaphor for communicating the idea that saving the planet depends on all of us.

Brand promoted a number of popular events designed to attract large numbers of young people. For example, *Pacific Sun* in 1978 documented, the two days of celebration at the Whole Earth Jamboree, where a huge balloon representing the Earth was a central attraction, passed from hand to hand. The event was attended by more than 8000 people. A journalist described the scene:

> The central area, surrounded by booths, had a carnival atmosphere.… The booths featured solar and wind energy, alternate sewage disposal, housebuilding tips, books and information and food and drink. Even political groups like the American Indian Movement, Greenpeace and the Waterfront Preservation Association from the Waldo Point houseboat community were represented[24].

Brand was able to develop energy by getting people to work or play together. He claimed that it was the army which taught him leadership:
(The army) gave me the thing that's almost impossible to get anywhere else, which is leadership training. It turns out leadership is a skill… I was taught that it's no good giving an order if you don't explain why the thing you want to have happen should happen…[25]
As Lois Brand noted, at the Alloy conference:

> Whenever you work energy rather than a system, it's going to create change and make it better. Evolution and cybernetics are right at the heart of education. The way the things go together is defined in the center of connectedness. In the biological sense, there's a whole information thing going on, a cultural evolution.[26]

Thirdly, the publication in the March *Supplement* of the *WEC* and its reprint in the *LWEC*, played an important role in setting the agenda for discussing ecological issues within the countercultural movement and its sympathizers. The blending together of serious scientific discussions with poetic introspection, and open debate in a festival context with music, food, and games was adopted as a model.
Fourthly, the success of the *WEC* enabled Brand to invest in small research projects by the participants of the Alloy conference. As one example, the New Alchemy Institute (Cape Cod) had an advanced program of research founded in part by the Point Foundation. This organization was exemplary in various ways in its mixture of scientific knowledge and the conviction that a different lifestyle was necessary. In 1969, environmental scientist John Todd, aquaculturist William McLarney, and writer Nancy Jack Todd, co-founded the New Alchemy Institute (NAI) to carry out research into the biology of self-sustaining food production systems. Their aim was to demonstrate how a small farm could be made almost self-sufficient without damaging the environment. As with many other groups in the alternative culture of the 1960s and 1970s, the creation of the NAI in 1969 was prompted by a reflection on the damage caused to the land, to the food chain and to people's lives by the use of chemicals in agriculture, the consequences of industrialization and patterns of consumption leading to monocultures and the exhaustion of the soil. But the aims of the New Alchemy Institute were not purely scientific. The Todds believed that: 'Science works with natural models to heal and remedy what humans have wrought instead of working to dominate or exploit Nature.'[27]
Unlike many other groups, the institute was successful in outliving the period of the counterculture and created a number of satellites, some of which are still practicing. This was in part due to the professional management of the project and in part to its success in inspiring others and converting them to the cause. Another distinctive feature was the willingness to search for funding and to integrate, to a limited extent, with the market.
Thanks to the success of the *WEC* and events such as Alloy, some members of the alternative movement were given official positions in California. During his term as governor (1975 to 1983), Jerry Brown appointed Jay Baldwin as head of the new Office of Appropriate Technology, with Stewart Brand as a consultant. As Chief Architect of the State of California, Sim Van der Ryn developed the Energy Efficient Office Building Program. This program was the first energy conservation architectural initiative to be undertaken by a government office. The link between Baldwin and Brand – founders and editors of the *Whole Earth Catalog* – and Governor Brown explains, in large part, how countercultural ideas penetrated the political realm. But Brand was suspicious of the effect of state intervention. He was asked to give his opinion by note to the chair of an education committee in the House of representative, John Brademas, in 1970.[28]

> I am delighted by the spirit behind your Environmental Quality Education Act and depressed by every measure in it. I'm a former ecology student, and I can report that ecology as a science is pretty boring … Ecology as a movement, as a religion, is tremendously exciting, and everyone can get a place of the fervor.
> However, this voluntary mass education could be poisoned by federal "help"… In my experience, the whole apparatus of application, approval, and funding commonly introduced dishonesty into an operation that can never be eradicated… [29]

Only by the kind of voluntary, well organized but spontaneous gathering, such the Alloy conference, could real benefit be achieved.[30]

1 Steve Baer, letter to Stewart Brand, 4 December 1968, Stewart Brand papers, Stanford University. Department of Special Collections and University Archives (hereafter SBP), M1237, Box 30.
2 Stewart Brand (ed.), *Last Updated Whole Earth Catalog* (Menlo Park, CA: Portola Institute, 1974) 112.
3 Baer, letter to Stewart Brand, 4 December 1968.
4 Stewart Brand (ed.), "Report from Alloy," *Supplement Whole Earth Catalog* (March 1969), is reprinted in *Last Whole Earth Catalog* (Menlo Park, CA: Portola Institute, 1971) and in *Last Updated Whole Earth Catalog* (Menlo Park, CA: Portola Institute, 1974) 111-7. I will consider this 1974 version. The quote is page 112.
5 Stewart Brand to Steve Baer, 4 December 1968, SBP, M1237, Box 30.
6 Steve Durkee, quote from the notepad written by Stewart Brand, March 1969, SBP, M1237, Box 30.
7 See note 4.
8 For example, Brand organized the Trip Festival; The Awareness festival; Whatever It Is; Psychedelic light shows.
9 See the double page presentation of the *Whole Earth Catalog* in *Architectural Design* (April 1970) 169-170.
10 '… his acerbic criticism of federal energy studies, modern engineering text literary style, and the like. If a real philosopher were a real engineer, he would write like this'. Stewart Brand, *The Next Whole Earth Catalog* (1980), 191.
11 Amy Azzarito, "Libre, Colorado, and the hand-built home," in Elissa Auther, Adam Lerner, *West of center: Art and the Counterculture Experiment in America, 1965-1977* (Minneapolis: University of Minnesota Press, 2012) 94-108. See also "Libre," *Architectural Design* 44 (1971) 727-42.
12 Summerhill School was founded in 1921, in Suffolk, England, by Alexander Sutherland Neill (1883-1973). Neill established the school based on the democratic principle that every member of the scholastic community from staff to parents to students should have an equal voice in determining the school's curriculum and functioning.
13 Lloyd Kahn (ed.), *Shelter* (Bolinas, Ca: Shelter publication, 1973).
14 "Lama Foundation," *Architectural Design* 44 (1971) 743-52. Steve Baer's *The Dome Cookbook* (Corrales, N.M.: Lama Foundation, 1968), was published by the Lama Foundation.
15 Robert Frank, *The Complete Film Works*, vol. 3, Disc 1: Hope Freaks at Alloy, New Mexico (Göttingen: Steidl, 2008).
16 Brand, "Alloy," 116. For more on Alloy and technology see Lionel Devlieger, "Alloy, la retraite dans le desert," *Faces: journal d'architecture* 71, (2012) 56-9; on the environmental aspect of the Alloy conference, see Andrew Kirk, *Counterculture Green: The Whole Earth Catalog and American Environmentalism* (Lawrence, Kansas: university of Kansas Press, 2007).
17 Steve Baer, quote from the notepad written by Stewart Brand, March 1969, SBP, M1237, Box 30. In the same document, Steve Durkee added: 'The mike is a ploy to create structure. It doesn't have to be plugged in'.
18 Steve Baer and 'a voice', quotes from the notepad written by Stewart Brand, March 1969, SBP, M1237, Box 30.
19 Steve Baer to Dave Evans, January 1968, SBP.
20 Brand, "Alloy," 117.
21 Stewart Brand, letter to Steve Baer, SBP.
22 "Point," 31 May 1973, SBP, M1237, Box 31. US$1000 in 1973 is equivalent in 2014 of US$5266.
23 Brand, "Alloy," 116.
24 Mark Whittington, "Jamboree – a return to the '60s," *Independent journal*, 28 August 1978, 12.
25 Stewart Brand, interview with Katherine Fulton, Stewart Brand papers, Stanford Special collections, Box 24, Folder 13.
26 Notes taken by Lois Brand, SBP, M1237, Box 30.
27 Carl H. Hertel reviews of Nancy Jack Todd and John Todd's book *Bioshelters, Ocean Parks, City Farming: Ecology as the Basis of Design* (Sierra Club Books, San Francisco, 1984) in *The Quarterly Review of Biology* 60, n. 4 (1985), 6-7.
28 John Brademas, letter to Stewart Brand, 14 April 1970. SBP, M1237, Box 30. Senator Gaylord Nelson was the driving force behind the establishment of Earth day in 1970. Seeking to put the environment within the political mainstream, Nelson proposed a national environmental 'teach in', where students and teachers on college campuses would discuss environmental issues. Nelson also introduced a bill in November of 1969, The Environmental Quality Education Act that mandated the development of environmental education programs in schools and provided educational grants to environmental organizations. The bill was passed in 1970. "Environmental Teach Ins and the Environmental Quality Education Act," (Washington DC: G. Nelson, 1969); Online facsimile.
29 Stewart Brand, letter to John Brademas, chairman Committee on Education and Labor, US House of Representatives, April 1970, in response to a letter from 14 April 1970. SBP, M1237, Box 30.
30 Brand did go on to suggest seven areas for state funding ranging from Buckminster Fuller's World Game to contingency planning for environmental disasters, an international oceanographic project, and ecology action groups.

4.1.3 Zoo Landscapes and the Construction of Nature

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Abstract
Since the 1950s zoos have taken up the mission to make their audience aware of conservational issues. The ideological shift towards conservational goals as well as public concerns about living conditions of captive wild animals influenced the concepts of zoo design. Zoos had to integrate popular imaginations about naturalness and scientific research on ecological issues, an ambivalent mixture between science and aesthetics.
During the 1950s and the beginning 1960s planners have worked on a new master plan for the Zoological Garden of Basel in Switzerland. The old buildings of the nineteenth-century's city zoo were demolished and replaced with animal houses styled according to post-war modernism. Veterinary and behavioural research as well as new materials like concrete, glass and tiles supported the conditions for conservational tasks like health and fertility. Nevertheless, the zoo's environment should appear as a surrogate of Nature to enhance the public's awareness of conservational concerns and ecological relations.
The artist Kurt Brägger modelled illusionistic natural habitats with the help of a semiotic program, which transferred geomorphological structures of the regional landscape of Basel into the zoo. A dramaturgy of sight-lines and lightning effects led the visitors through the park to immerse the recipients into a coherent landscape experience. The new landscape design and the souterrain buildings of the 1960s relied on contemporary theoretical studies about walking experiences and phenomenological space. Conservational claims and ecological rhetorics were closely related to behavioural research on the relational space of territory and social behaviour. All these ideas influenced the design of Nature for both kind of users, for visitors and animals. The represention of zoological research contrasted the immersive effects of the popular themed exhibition space. Hence, the built environment of the zoo condensed and combined contradictory ideas of progress, conservation and reassurance.

Keywords
Zoological garden, architecture, environmentalism, landscape, sustainability

Hygienic exhibition spaces
'Bathroom style' is the general description for zoo architecture of the 1950s. Today's zoos invest high amounts of money to get rid of these tiled animal houses, which contrast the promised illusion of entering nature.[1] Back in the 1950s, these buildings corresponded to veterinary standards for artificial environments. But design concepts of zoos also depended on personnel constellations, local conditions and social processes. Thus, designs of zoological gardens in Western Europe differed in interpreting nature and in methods of transferring natural habitats into architectural space. The Zoological Garden of Basel is an ideal example to describe the transition of the spatial environmental concepts and the understanding of nature in terms of science and aesthetics. The personnel constellations, the cooperation between biologists, architects and an artist, resulted in the unique design for the Zoological Garden of Basel.
The renovation project for Basel Zoo started on favourable terms in 1949: the City of Basel and private donations financed the planned building projects because the zoo was well accepted as a part of the identity of Basel. Furthermore, economic growth in Western Europe led to profound changes in the Swiss economy and social life. The Swiss practised sustainable agriculture combined with a long tradition of sustainable forestry until the beginning of the 1950's when mass production changed consumption traits and accelerated industrial impacts on the regional environment.[2] Like many other city zoos that were founded in the nineteenth century, Basel Zoo was located close to the city's ring road. Residential areas of the expanding city surrounded the site and restricted scope for site expansion. The number of zoo visitors rose especially after the Second World War, which is why the architects and the zoo director had to plan improvements for visitor circulation. Rising visitor attendance made the zoo provide for aesthetic standards accommodating to places of recreation of the 1950s. The main goal of the re-design was obviously expressed in the first general plan of 1949 by the architect Willi Kehlstadt: providing hygienic conditions to meet the biological needs for breeding animals as well as the aesthetic needs for visitors' relaxation. The new general plan promoted an easily obtainable overview for visitors whom could circulate along clear patterns and never be confronted with litter or especially zoo animal faeces. Hygienic animal-abode conditions seemed to guarantee breeding success and reduced risks involved in keeping lesser-known species such as Okapis. Expensive exotic animals created a demand for expensive buildings to provide adequate housing conditions representative of the scientific value of the animal exhibited. Zoos were expected to serve as scientific and cultural institutions. Fisher comprehended the most important functions of modernist zoo architecture:

> Many innovations in zoo architecture stem from an increasingly humane approach to the management of captive animals. Only in the twentieth century did zoos really face that [...] the care of animals involves financial, hygienic, nutritional and psychological obligations similar to those involved in the care of children.[3]

The 'humane approach' implied respect for the physical and psychological needs of the animals. Zoologist Adolf Portmann stressed that the new design of Basel Zoo was based on new animal psychology and health care insights.[4] Conceiving spaces based on the animal's perception caused the design of new spatial systems which corresponded to behaviour and movement patterns of the animals. Portmann suggested banning visual analogies of picturesque landscape scenes based on 'romantic' anthropomorphism, and artificial rockwork from the zoo because this décor betrayed the visitors and subverted the serious ambitions of the institution[5]. Instead, moats and glass were used to replace grills to provide barrier-free views for the visitors.

Implementing the plan, several architects from Basel built modernist animal houses and aviaries, which worked as role-models for other European animal houses.[6] But in terms of conservation and environment, landscape architecture became more important. The animal houses for rhinos, pygmy hippopotamuses and carnivores designed by Rasser and Vadi were modern viewing structures with indirect lighting from sky-lights and floor-to-ceiling windows. The windows offered views into garden spaces and outdoor enclosures. This spatial arrangement clearly defined interior spaces and linked them with the landscape garden. The buildings paralleled exhibition pavilions and the windows, matched local residential buildings designed by Rasser and Vadi. Natural components like soil, wood and plants were considered as dangerous however, because they supported the spread of bacteria and parasites. In addition, wooden planks absorbed faeces, so that the smell in the houses was extremely unpleasant for the visitors. Instead, abstract concrete forms substituted the spatial components of the original habitat of the species. The imported Indian Rhinos initiated a breeding approach for threatened species. The Rhino House and the Carnivore House reflect the ideological turn of zoological gardens towards being institutions of conservation management.

The umbrella organisation of zoological parks the International Union of Zoo Directors joined the International Union of Preservation of Nature in 1949 (IUPN).[7] The IUPN changed its name into International Union of Conservation in 1956, marking the conceptual transition from passive preservation to active conservation management.[8] Zoos started taking on an active role in conservation by enhancing breeding activities. In addition, breeding was necessary because zoological institutions strove to become independent from animal imports because animal supplies were at risk, which was due to decolonisation of African states.[9] Zoo architecture provided an environment that was prepared to control animal behaviour and physiology and was therefore, essential for optimising the production of offspring.

To sum up, the conception of animal-houses not only adopted human housing forms and exhibition architecture but also followed ideas of economic growth and mass production of the 1950s.

Landscapes in between

Although Basel Zoos' modernist buildings met the needs of breeding animals and presented them to the public, it was still expected to serve as a place for an encounter with nature. Thus, the architect Arthur Dürig, who had advised the building projects since 1951, abandoned the general plan of 1949.[10] Dürig believed building these massive architectural structures would have destroyed the park as a refuge for the citizens of Basel. Alternatively, conserving and reactivating the landscape garden were cheap and an effective means to present the zoo as a coherent ensemble. Landscape architectural measures changed the appearance of the zoo and set it apart from many other zoo designs of the 1950s and 1960s.

Dürig commissioned the artist Kurt Brägger in 1952 to model the outdoor enclosure of the elephant house. Brägger's design was publicly appraised and he therefore continued working for the zoo and interrupted the modernist designs by integrating naturalistic scenes. In 1961, Brägger served as the zoo's head designer and laid out a new general plan. The sculptor disregarded conventions of gardening and combined plants selected for their visual characteristics. These combinations followed a kind of semiotic program connoting physiognomic landscape characteristics of humidity or dryness. Trees, shrubs and slopes obstructed what were previously unspectacular views of the enclosures screening the exhibits from the visitors who would then solely focus on sounds and smells. Moats separated the visitor space from elevated enclosures which created the impression that the animals were on a stage. Apart from infrequent pruning, traces of artificial plant care were diminished. The garden was designed to grow self-sufficiently and appear as a natural landscape. Brägger imitated conglomerate rocks made of concrete and modelled landscape scenes according to the morphology of regional river shores.[11]

However, Lilian Pfaff links Brägger's work to the ethological studies of the zoo director Heini Hediger, who promoted that zoos should become more natural.[12] Hediger coined the zoos` mission as 'Emergency exits to Nature',

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and defined the zoo as a place for social hygiene or for recreation in nature.[13] Comparing Hediger's sober interpretation of nature with Brägger's aesthetic interpretation, I argue, reveals how contemporary Swiss design principles developed differently during the 1950s. The concepts of social biology and also of landscape architecture that Hediger promoted in Zurich, differed much from those of Basel Zoo. The landscape of Zurich Zoo was conceived as second nature with symbolic references to the original habitats of the exhibits' inhabitants in African or Asian regions. Hediger based 'transposition of nature' on a rather abstract, topological concept of territory, not on visual imitation. Nevertheless, Hediger's research on behaviour achieved breakthrough innovations for husbandry. The veterinarian Ernst Lang, Hediger's successor as director of Basel Zoo, propagated hygienic and nutritional optimisation, that US American zoo managers also mainly practised and propagated.[14] Whereas the systematic layout of the new stables built in the 1950s followed these rationalised practises of husbandry, Basel Zoo consisted of spaces that appeared to be natural with illusionary atmospheres. For the animals, small improvements were implemented by structuring the enclosures more complexly. Building naturalistic landscape sceneries aimed at taking the visitors to another, timeless place, which differed from the new circulation patterns of the city. The landscape garden transferred the visitors into a micro-world substituting the deficit of synaesthetic experiences of urban spaces. The garden was not meant as a simulation of nature, but, from the perspective of its designer, it enhanced the visitor's capacity to perceive natural surroundings.[15] The visitors were supposed to accept the place as a coherent landscape which belonged to the animals, instead of feeling like they were visiting a zoo with captive animals.[16]

This visual model was similar to other models of preservation in the 1950s. Preservationist concentrated on aesthetic values of nature, rather than on its sustainable management. Preservationist had a static concept of nature: preserving existing landscape in national parks often ignored the essential transitional character of natural landscapes. The concept of preservation of wild nature was not important for the design of an artificial landscape garden. The planners knew they would be constructing places of nature on an otherwise urban site. In addition, they preserved parts of the built environment of the zoo as cultural heritage.[17]

Brägger only used local plants and geomorphology already familiar to the visitors. Buildings from previous building periods were preserved and reminded visitors of the zoos long tradition. Thus, the landscape architecture was definitely a soothing architecture, displaying familiar images of local landscape formations. Preserving old buildings and garden views sustained the zoo's function as a comforting place of memories and identification.

Brägger's aim was that the recipients should not just stroll around the park and houses, they were encouraged to get actively involved by focussing on the influence of the landscape and especially on the appearances and sounds of the animals. The garden was an artwork, which the visitors could accept by 'suspension of disbelieve'.[18]

Brägger deduced from theories of landscape gardeners like Pückler-Muskau or Hirschfeld instructions for the design of naturalistic spaces. The design concept was therefore rather traditional but also complex. The zoo, as a scientific institution and a recreation area for leisure, followed a combination of experimental and modern strategies. In contrast to the layout of modernist structures, observations and manipulations of movement did not rely on conditioning from subliminal effects. The manipulations aimed at reactivating visitors` memories of forms and moods of landscapes. Condensed in a park, the artistic simulation of landscape sceneries fostered a conscious, synaesthetic perception.

The sociologist Lucius Burckhardt published articles about Bräggers zoo buildings in the architectural magazine Werk and underlined its status as an artwork.[19] Later, Burckhardt mentioned Brägger`s garden design as a role model for future landscape architecture. The unique design of the garden corresponded to Burckhardt`s studies on synaesthetic landscape perception. According to Burckhardt the recipient designed landscapes in his mind during the process of walking.[20]

By including theories of landscape gardens, Brägger's design went beyond the scopes of passive, contemplative visual perception. As in 'Experience Field for the Development of the Senses' that Kükelhaus presented at the German Pavilion of the Expo in Montréal in 1967, garden design was a pedagogic approach.[21] Hence, the didactic message of the zoo landscape aimed not merely on learning about animals but moreover learning about human senses.

This conservative approach of landscape design was a reaction towards the growing Swiss economy, clearly visible in the cities of Basel and Zurich. Basel Zoo`s picturesque landscape design contrasted to scientific preparations of animal houses and the plans preparing the park for mass-consumption. The audience and donors preferred environmental aesthetics in form of visual congruency, as a transfer of landscape physiognomy and specific moods, with which at least the educated public was acquainted.

Landscaped buildings

Brägger continued his design activities by producing layouts for the new Ape House and the Vivarium, which contained several aquariums, terrariums and a cooled exhibiting space for penguins. Both designs were integral to

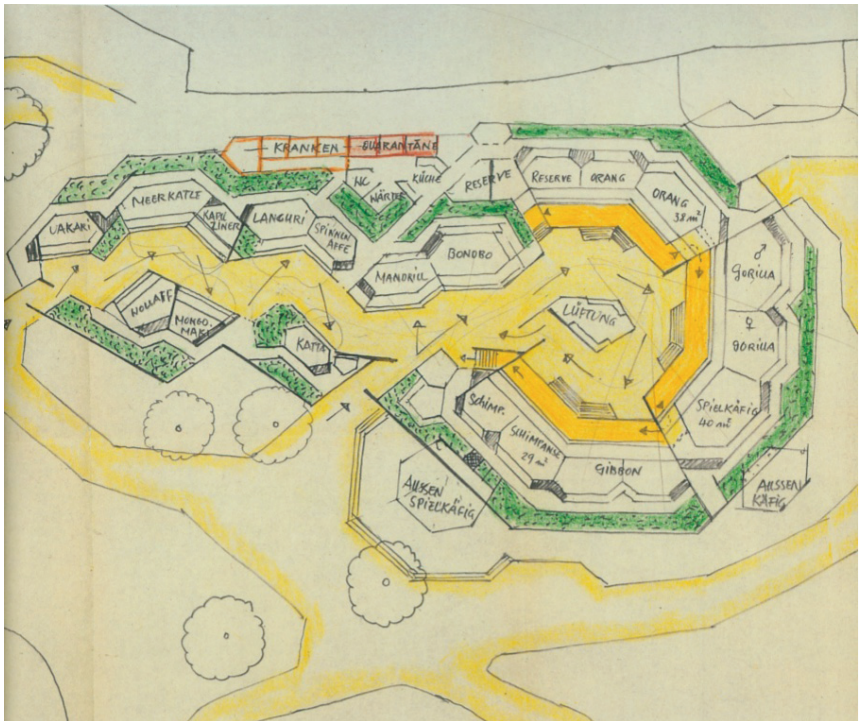

Figure 1. "Ape House, Floor plan, Zoological Garden of Basel," draft by Kurt Brägger. *Source:* Archiv Nachlass K. W. Brägger, Riehen

the new master plan that Brägger drew-up in 1961. Entering the buildings, the visitors were to experience the same spatial quality as during their promenade through the landscape garden, including the circulation patterns and sight-lines. The Ape House followed the terraced slope of the northern border of the zoo, whereas the vivarium, situated close to the main entrance, appeared like it was sunken in a pond. The small building sites made it necessary that the projected buildings had to follow the morphology of the terrain. Large parts of the building structures were laid out as souterrain spaces while the upper levels were camouflaged with slopes and vegetation. The project of the Ape House started in 1963 and the house opened in 1969 (Figure 2). The architect Frank Sidler, who had worked for Frank Lloyd Wright's office at Taliesin West, improved Brägger's layouts because Brägger's artistry didn't offer technical solutions. Whereas the modern buildings on rectangular ground quickly guaranteed orientation, in the Ape House, the spatial structures followed polygonal patterns (Figure 1). Walls and corridors opened viewing axis and screened them also. The visitors changed

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Figure 2. "Ape House, Gorilla Enclosure,Zoological Garden of Basel," photograph by anonymous. *Source:* Archiv Nachlass K.W. Brägger, Riehen

from one viewpoint to the next, usually an ape or monkey exhibit. The process of movement changed view angles and offered sights of other exhibits. Although the arena-like shape of the ape house provided views for a large amount of visitors, the viewpoints were individualised by leading the visitors step by step along the walls. This manipulation of movement differed from the way the modernist animal houses of the 1950s regulated the movement of the public. Instead of pacing past exhibit galleries, the visitors to the Ape House would focus on one of the spaces Brägger called chambers (Figure 2). Polygonal forms, interpreted by visitors as organic structures, lined the movement along natural pathways and imitated a promenade through a natural landscape. Brägger sculpted climbing structures for the apes with iron bars and hand-modelled concrete, with surfaces and structural forms resembling tree trunks. The architectural structures and the furbishing enriched movement possibilities for both the apes and the visitors.[22]

More complex than the Ape House was the construction of the Vivarium. Architect Martin Burckhardt realised the plans Brägger drew in 1961. Similar to the Ape House a polygonal one-way path led visitors through the Vivarium

rising slightly from the dim souterrain to surface-level of the outdoor pond, and guide them to the exit on the first floor that released them into daylight. Brägger furnished the aquariums as organic appearing spaces, modelling rocks out of epoxy.[23] As a sculptor, however, Brägger was not particularly interested in living conditions of fish and therefore, gave them no hiding places to escape the eyes of the spectators. Contemporary architecture implying organic structures as an abstract imitation of natural forms, were adapted to Brägger's promenade patterns.

Conclusion

In conclusion, the analysis of the landscapes of the Zoological Garden of Basel illustrates that the zoo was a site of scientific and artistic approaches of construction of environments. The example of Basel Zoo shows the conflict between two different versions of designing and simulating natural space: on the one hand, the model of environmental aesthetics, which is based on visual compositions and which aims at the subjective perception of the visitor. On the other hand, scientific principles interpret the environment in context of methods of mass production and contemporary building types. At the beginning of the 1960s, with the construction of the high-buildings designed by an artist, both models, scientific and artistic, are combined at Basel Zoo. The use of polygonal forms replaced the use of cubic structures, therefore, architects could combine the abstract topological version of space with Brägger's illusionist, atmospheric places. The artistic approach led to a zoological park which was recognised in the 1970s as the only zoo with a concise simulation of environment. US-American zoo designers of the 1970s integrated bio-systematic data to design parks according to environmentalist models.[24] Nevertheless, their aesthetics followed the same lines of eighteenth century landscape aesthetics. In the 1950s, the micro-cosmos of Basel Zoo reflected social developments between mass production and co-occuring needs for memorable places. The leading ideas on zoo design changed from modern animal houses as installations, to landscape design which immersed the viewer and promoted polysensual spatial experiences of unique places. In the design of Basel Zoo, aesthetics of environmental preservation and conservational management were combined. This ambiguous combination well illustrates characteristics of environmental, holistic design theories of the 1960s, which, on the one hand, oscillate between environmental aesthetics, and, on the other hand, sustainable land use by technical innovation.[25] The complex tasks of zoo planners, such as providing latest methods of husbandry and regarding the visitors` demands for relaxation, forced the stakeholders to combine theoretically conflicting ideas and led to experimental innovations.

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4.1.4 Experiments on Thermal Comfort and Modern Architecture: The Contributions of André Missenard and Le Corbusier

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Abstract
The early scientific researches into the thermo-regulative response of the human body during the 1920s and the 1930s normalized thermal conditions in working and educational environments to improve user's performance. The European and American contexts of housing promotion and industrial development during post-war extended this approach to different environments.
Geographers, physiologists and engineers encouraged manufactured indoor atmospheres that could overcome human shortcomings resulting from environmental and biological conditions. Climate, indoor atmospheres and human body were interlinked to develop the ideal environment for modern society. Paradoxically, these original notions and researches have been used to promote both bioclimatic and weatherized architectures along the second half of the twentieth century.
The French engineer, researcher and industrialist André Missenard was a prominent contributor to the study on the thermo-physiology of comfort as well as its experimental application to engineering and architecture. As a collaborator of the architect Le Corbusier, his influence not only attempted technical fields, but to the whole notion of the ideal environment for modern society. Consequently, Le Corbusier's works during the post-war became a collective laboratory on hygro-thermal control, where passive and active systems were constructs of what Missenard called 'artificial climates'.
Based on an original research at the Foundation Le Corbusier archives and the French National Library, this communication presents the design method of the Grille Climatique and the buildings for the Millowners Association (Ahmadabad, India) and the House of Brazil (Paris, France) as study cases. As a result, the paper discusses the influence of physiology and environmental technology in the early approaches to thermal environ-

ments in architecture, what afterwards supported both bioclimatic and mechanical viewpoints.

Keywords
Architectural atmospheres, comfort, temperature, Modernism, Le Corbusier, Missenard

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The emergence of thermal comfort

The development of microbiology in the 1870s generalizes hygienistic precepts which link living environments and human body. The scientists' preoccupation with microbes is the origin of a new range of environmental prescriptions for urban and building design. Sunlighting and pure atmospheres become determining factors in the creation of the *Homme Nouveau* and lead an avant-garde architecture that, based on Hippocratic hygiene laws, develops a whole way of life to heal illness and to preserve society's health. More than a landmark, microbe discovery and hygienism are examples of the interest in the concept of milieu in science and culture at that time.[1]

Generally speaking, two scientific approaches are derived from this notion during the first half of the twentieth century: the study of the human body's thermo-regulative response to the environment and the rationalization of human atmospheres to create perfect environmental conditions. Both of them interlink climate, indoor atmospheres and human body involving a wide range of professionals, such as physiologists, physicists, industrialists, geographers and architects.

The opinion of architectural practitioners converges regarding the hygienic, health-promoting and regenerative powers of certain types of architectural structures and environmental systems. Therefore, this promise of a perfect future, designed for the *Homme Nouveau*, makes some of the goals of modern architects permeable with those from racial science and eugenics. As historians like Turda[2] or Cassata[3] note, this set of practices and scientific beliefs coincide around the common point of the biological improvement of the body.

André Missenard and the artificial climates

In this context, the French engineer and industrialist André Missenard (1901-89) develops his particular approach built upon climatic determinism theories, which link climatic conditions and human behaviour in both a biological and moral sense. In contrast to other engineers, he is critical towards the gradual rising of indoor temperature and the thermal homogeneity created by the conditioning systems, which he considers based on a false approach to thermal comfort. Thus, for Missenard, the aim should be 'to place human beings in the most suitable conditions for their health and their activities. In short, to soothe them in the original and unadulterated sense of comfort'.[4]

Following this idea he proposes to join together 'all these concerns, and the realisation of the desirable atmospheric and calorific conditions for the human body, constituting a technique'[5] that is different to the mere heating, ventila-

tion or air-conditioning of indoor spaces. He names it the *Science des climats artificiels,*[6] based on the idea of building artificial climates that create optimal conditions for human life according to a purely physiological angle. Besides, these atmospheres should stimulate a biological reaction that invigorates the human body and mind making them more resistant and efficient.

Missenard's purposes are not focused on sick people anymore but on the whole of society. Consequently, he suggests that 'for the great majority of human beings acclimatised to their habitat, the most rational solution, although seemingly paradoxical, would be to change their natural climate the least possible'.[7] Accepting the cultural deformation of thermal comfort to achieve the best working and intellectual performance, his proposal is based on colder environments that evolve in their temperature according to the outside variations. The human body, he says, must be continuously exposed to controlled thermal contrasts as a sort of 'thermo-regulation training' procedure, but these variations cannot be higher than 8° C8. Thus, the role of transitional spaces becomes crucial for the thermal experience of architecture.

Books like *L'homme et le climat* or *A la recherche de l'homme* give evidence that his aims are much broader than providing thermal comfort, displaying hygienic rules or installing heating systems. Missenard advocates the environmental education of the human body to overcome its shortcomings resulting from biological conditions (i.e. life expectancy, fertility rate or work performance).[9] Consequently, his approach to architecture leads to an understanding of the built environment like an entire therapeutic ambiance.

The book *L'homme et le climat (1937),* reflects, for the first time, on a panorama of his ideas. Due to the influence of Missenard on the collective of architects, it is of no surprise that Le Corbusier (1887-1965) owns a copy of the book where he writes down copious comments[10] that link Missenard's theories with his concerns about built environments. In particular, his notes appear to look for scientific support for his global project of the modern city, the *Ville Radieuse*. Hence, his annotations focus on sunlight, ventilation, health or physical activity, which are also compiled in a parallel index of the book. [11]

Vice versa, personal letters show the relevance that Missenard gives to his meetings with Le Corbusier and Alexis Carrel at the *Fondation Française pour l'Etude des Problèmes Humaines* as well as to Le Corbusier's theories and works. He seems to admire the master 'I have met few architects as concerned about these issues [thermal matters on architecture] as Le Corbusier',[12] even if they do not always agree 'it is worrying that the large bays of Le Corbusier, 'incorporating landscape in housing', give the dangerous illusion of an open air life'.[13]

An environmental method: climatic grid and Millowners Association building

After coming back from Chandigarh in November 1951, Le Corbusier writes to Missenard asking for his advice due to the challenge that this big commission entails in a different climate.[14] The letter expresses his intention of developing a method to generate works that can operate in any particular set of climatic conditions. Besides, the architect reveals the wider aim of exploring new ways to deploy other procedures for regulating the architectural environments. In Le Corbusier's words, 'the regulations concerning this new capital imply decision-making in terms of hygiene laws (of any nature other than our conformist regulations that had resulted from all the agreements)'.[15]

In a really intensive process of several letters and meetings they establish, with the aid of Iannis Xenakis (1922-2001), the *Programme d'études des Conditions Climatiques Optima et des Moyens Architecturaux de correction.*[16] Xenakis specifies four variables for the 'climatic ambiance' (temperature, relative humidity, wind velocity and temperature of walls) in order to determine 'the optimal and theoretical variations of the environment, to conserve or to increase the *"rendement VITAL",* by considering variations over days and seasons'.[17]

The different names of the grid during the process also give evidence of the influence of Missenard on the atelier's thought. On 20 December 1951, Xenakis draws a grid called *Grille d'hygiène climatique,*[18] but the term hygiene is removed afterwards.[19] At the same time, Samper's drawing of the Secretariat testing the grid criteria is called *Esquisse générale de la grille pour le conditionnement climatique du Secrétariat.*[20] The final chart is drawn up in a document dated 31 January 1952,[21] where it is finally named *Grille climatique*. It is defined as

a material way of visualization allowing to enumerate, coordinate and analyse climate data from a defined location (latitude) in order to guide architectural research towards solutions related to human biology. It is necessary to regulate and to effectively correct the excesses of excessive climates and

Figure 1. Climatic grid based on Chandigarh's climate (FLC5623). *Source:* © Fondation Le Corbusier-ADAGP

to create, through architectural devices, the conditions capable of ensuring well-being and comfort.[22]

In the chart, three titles are placed along the horizontal axis, which are changed afterwards when the chart is applied to the project of the 110 mq Houses. The first, *Conditions d'ambiance* (later *Données climatiques*) is composed of the original four factors: air temperature, relative humidity, direction and velocity of winds and sunlight and thermal radiation of constructions.

The second column is entitled *Corrections en vue du confort et du bien-être* (later *Corrections à apporter*), which replaces that of *conditions optime* and the search for the *meilleur rendement vital* of the first version. The information is supposed to be fulfilled by a *'physico-biologiste'*[23], which seems to be the real program that triggers the architect's intervention.

The third column bears the title *Architectural solutions* (later *Procédés architecturaux*) and signals, by the presence of a stamp with the letter D (for drawing) and a numeric code, the existence of a solution duly studied. The sixteen explanatory diagrams refer to different environmental solutions which are personally signed by Le Corbusier.[24]

After this prolific period, the *Grille Climatique* disappears from the works of the atelier. Even if Le Corbusier supports it: 'In Chandigarh, this *Grille Climatique* has not been taken into account and I regret it bitterly […] although this grid has been lost, I am ready, if I am asked, to draft a new one'.[25]

Nevertheless, all the studies and strategies are prominent in the background of the architects when they are designing either the Indian projects or the previous projects. This is the case of the Millowners Association building (Ahmedabad, 1956), in project phase from 1951 to 1953, whose materialization is directly influenced by the grid strategies. This is evidenced by comparing the early proposal of Doshi in March 1952, which only responds to programmatic issues with an almost purist shape, and the plans of the second proposal on October 1952.[26]

The first environmental control device, as usual in Le Corbusier's works after the 1940s, is a façade materialised by a reinforced concrete *brise-soleil.*[27] Both the East and West orientations have their walls closely conditioned by the solar path angles.[28] The East-side's blades are 1.10 m deep and they are open to the sunlight, the breeze and the panorama of the river. On the contrary, the West-facing blades are 2.00 m deep and they are given a diagonal orientation of 45°, which prevents the exposure to direct sunlight and noise. In Le Corbusier's words 'the building is open to the winds. The East and West facades have their *brise-soleil* calculated according to the latitude of Ahmedabad'.[29]

The building is open to the passage of air, leaving the private areas enclosed with specific walls adapted to their particular conditions. When the enclosures are East or West-facing, they regulate the exposure to sunlight through windows with curtains as well as air circulation with the *aérateurs* placed every 1.42 m.

The location in opposed walls and the narrow proportion of *aérateurs* ensure cross-ventilation for air renewal and heat dissipation of the spaces, a point that Le Corbusier and Missenard consider essential in achieving the ideal atmospheres. Paradoxically, the high clear-height (3.66 m) of the spaces, typical of both Indian and Mediterranean vernacular architecture to mitigate the heat effect, is argued by the architect as only requiring the installation of ceiling-fans, which replace the expensive air-conditioning system.[30]

Other strategies of the grid are applied. Firstly, vegetation is incorporated in jardinières integrated in the *brise-soleil* in order to reduce sunlight gaining the slabs on the one hand, as well as to collaborate in the evaporative cooling on the other. Last of all, thermal stability is accomplished by using both garden and pond roofs, as well as by North and South blind brick walls of high thermal inertia.

Artificial climates in action: the *Maison du Brésil*

The entire set of environmental methods and techniques that Missenard deploys during the 1950s is supported by his studies of the physiological reactions of the human body to thermal environments. In particular, during the 1930s, he pays special attention to: the effect of wall temperature on thermal comfort, which leads to the resultant temperature graph (1930) and thermometer (1934); the evaporation heat loss of the human body and the consequences of dust, ionisation and magnetic fields on air quality. As a result of his research, he suggests 18-19° C dry-bulb temperature and 50% relative humidity for healthy people in relaxed conditions, which means a resultant temperature of 16-17° C, as well as a low air velocity in order not to mix dust bacteria with the breathable air.[31]

As the head of Ets Missenard-Quint he uses the know-how in central heating systems of the company to promote thermally active surfaces as a modern way to develop artificial climates. These procedures combine perfectly with the qualities that he promotes for the ideal environments, but also with the spatial ones of modern architecture.

For developing their installations, Ets Missenard-Quint makes use of Missenard's patent for a radiant floor heating system that integrates heating pipes in the concrete slab. However, they also have the right to work with the patent of the English company Richard Crittall & Co.,[32] which is at the same time licensed to use Missenard's patent out of France. It is also a

hydronic system of radiant panel-heating installed inside the surface layer of ceilings and walls. Both patents are proposed for the projects of the company but paying attention to the difference between them: 'the extension of the term "radiant heating system" […] was applied to the ceiling heating systems, whose calorific emission consisted mainly in radiation, as it was preserved when the heating surfaces became a vertical wall, even the floor whose transmission by convection is pretty much equal to the one by radiation'.[33] Nevertheless, Missenard's patent appears to be less expensive and is the only one that they installed for Le Corbusier's works.

In the case of the *Maison du Brésil* (Paris, 1953-9), the collaboration follows the previous working experiments for the *Maisons Jaoul* (Neuilly-sur-Seine, 1951-5) and the *Unité d'habitation* (Rezé, 1949-56), where the issue of thermal comfort is dealt by applying Missenard's patent. However, what seems to be a mere continuation of previous works[34] for them becomes a clue to understanding their partnership.

For this project, Missenard's team proposes a scheme based on two heating techniques. Firstly, for most of the spaces of the building they preview a heated slab system to produce the base temperature for all the building except for the theatre, where an air-heating system is proposed. Air-convectors complement this system in spaces that have particular requirements, mainly partitioned rooms on the ground floor as well as the first and last floors.[35]

The project description and the plans of Ets Missenard-Quint seem to reflect a more complex approach to the heating system, becoming a basic materialization of Missenard's theory of thermo-regulation training.[36] At first, the rooms and common spaces of the private floors are only heated up to 18° C, but the corridors are not heated, which leads to a lower temperature for the transition spaces.[37] Then, the ground floor temperature is designed to have a mean temperature of 15° C for the hall and the small entry box, which constitutes the threshold inside-outside, is not heated. Last of all, the theatre is heated up to 18° C but with an air heating system that allows intermittent use.[38]

All this richness in thermal atmospheres does not seem to be evidenced in previous Le Corbusier's projects. Moreover, with proposals like the air-exact in the late 1920s, he rather promotes homogenous environments for all kind of buildings. The new viewpoint is explained by Missenard's physiological approach in his more theoretical books.

It is also interesting to note the relevance that flooring materials take at this point. They are not only important from an aesthetic viewpoint but more in a sensory approach to the space. Only environmental techniques like the radiant heating system allow for the building of complex spaces like the ground

Figure 2. *Maison du Brésil* in wintertime. *Source:* Ignacio Requena Ruiz, 2010.

floor hall, with its curved walls and glazing that changes the conventional interior-exterior definition.[39] As a result, the exquisite composition of the flooring in parallel strips of black slate sheets contributes to the thermal atmosphere of the place and at the same time gives visual relevance to the thermal source.

For the ventilation and heat dissipation in summertime, the architects conceive two strategies based on their Indian experience. The ground floor is equipped with eight *aérateurs*, whose positions in the *pan-de-verre* façades are apparently chosen to favour cross-ventilation, especially all along the main hall. Nonetheless, the rooms have one *aérateur* in the façade, which is the air circulation vent, and a second *aérateur* that connects with a vertical air-duct up to the roof chimney rigged with a fan.[40] This scheme, which was previously developed at the Secretariat of Chandigarh, is imposed by the disagreement of the *Cité Universitaire* with the cross-ventilation running through common spaces, corridors and kitchens because of the fire risk.

As in other housing works of that period, the loggia *brise-soleil* is almost an axiom to regulate the temperature and day-lighting of the indoor atmo-

sphere in summer and winter, as well as an in-between space that expands the possibilities of the space.

Conclusions

The current paper presents, how Missenard's approach to living atmospheres and environmental determinism can be traced in Le Corbusier's late works. The two study cases presented are examples of the influence in modern architecture of the early development of the notion of thermal comfort and the integration of environmental techniques in the architectural design.

In my opinion, these study cases show modern architecture as a the carrier that disseminates a common scientific and political positioning on the thermal qualities of the living environments for the *Homme Nouveau*. This paper throws light on how the collaborative work of Missenard and Le Corbusier can be representative of this process.

As the research reveals, neither for Le Corbusier nor for Missenard appear to be differences in applying passive or weatherising strategies to develop indoor atmospheres. For them, both procedures aim to create artificial climates and can be adapted to the climatic and economic conditions of each location.

Finally, the archival evidences reveal that the main environmental idea lying behind their work is to re-place inhabitants in their natural conditions, which they support as the best to developing their biological capacities. Even having similarities to the current environmental approach in the use of passive strategies and thermal comfort, Le Corbusier and Missenard's work focuses on the biological improvement of the human body rather than in the thermodynamic efficiency of buildings or systems.

Acknowledgments

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1 For example, in the French context, the physiologist Claude Bernard (1813-78) or the writer Emile Zola (1840-1902).

2 Marius Turda, *Modernism and Eugenics* (Hampshire: Palgrave Macmillan, 2010).

3 Francesco Cassata and Erin O'Loughlin, *Building the New Man. Eugenics, Racial Science and Genetics in the Twentieth-Century Italy* (New York: Central European University Press, 2011).

4 FNB - Fédération Nationale du Batiment, *Hommage au Président Félix André Missenard: En l'honneur de son élection à l'Académie des Sciences* (Paris: Sedit, 1976), 17.

5 André Missenard, "Le Conditionnement des Locaux. Conceptions et Réalisations Modernes," *La Technique Moderne* 7 (1934), 1.

6 The first time he proposed this term was in André Missenard, *L'Homme et Le Climat* (Paris: Librairie Plon, 1937).

7 Ibidem, 233.

8 André Missenard, "Le chauffage des habitations du point de vue physiologique et hygiénique," *La Presse Médicale* 81 (1938), 16.

9 This idea was inscribed in a global eugenicist thought that believed that education, selection and environmental conditioning will improve our specie.

10 Le Corbusier's personal copy of the book is preserved at the archives of the Fondation Le Corbusier (hereafter FLC), where I could study completely.

11 Le Corbusier's personal copy of the book is still preserved at the archives of the FLC.

12 André Missenard, "Hommage à Le Corbusier," *Industries Thermiques et Aérauliques* (1966), 72.

13 André Missenard, *A la Recherche de l'Homme, Evolution* (Paris: Librairie Istra, 1954), 2.

14 He is so aware of the importance of climate for the Indian projects that during the trip in November 1951 he gathers information on the Indian climate by meeting with Jehangir Ratanji Dabadhoy and Homir Jehangir Bhaba, founder and physicist of the Institute of Fundamental Research of Bombay. Cf. Le Corbusier, letter to Pran Nath Thapar, 9 December 1951, FLC P2-17-183.

15 Le Corbusier, letter to André Missenard, 3 December 1951, FLC, E2.16.14.

16 Xenakis, "Programme d'études des Conditions Climatiques Optima et des Moyens Architecturaux de correction," 16 December 1951, FLC, P2.1.1.

17 Daniel Siret, "Grille Climatique, 1951," in *Le Corbusier Plans*, vol. 11 (Paris: Echelle-1 y Fondation Le Corbusier, 2005).

18 Le Corbusier, letter to Jane Drew, 20 December 1951, FLC, G2.11.26.

19 Le Corbusier, letter to Jane Drew, 21 December 1951, FLC, P2.1.9.

20 Samper, "Esquisse générale de la grille pour le conditionnement climatique du Secrétariat," 21 December 1951, FLC2642.

21 Atelier Le Corbusier, "Grille climatique," 31 January 1952, FLC P2.1.3.

22 FLC, P2.1.3.

23 For the first attempt, Missenard draws up the notes personally. Cf. Missenard, "Corrections désirables dans les locaux," 16 January 1952, FLC, P2.1.27.
24 They are consigned in the group of drawings FLC 5627.
25 Le Corbusier, letter to Varma, 22 May 1956, FLC, P1.10.306.
26 Doshi's early proposal i.e. Plan, 10 March 1952, FLC6788. Second project i.e. Façades, 31 October 1952, FLC, 6900.
27 Daniel Siret, "Soleil, lumière et chaleur dans l'architecture moderne: Excursions dans l'oeuvre de Le Corbusier," *L'Émoi de L'historie* 34 (2012), 177-93.
28 Ignacio Requena Ruiz, "Arquitectura adaptada al clima en la obra de Le Corbusier: La Casa de Brasil en París," *Palapa Revista de Investigación Científica en Arquitectura* 3, n. 1 (2013), 35-53.
29 Le Corbusier, "*Le Corbusier et Son Atelier Rue de Sèvres 35. Oeuvre Complète 1952-1957,"* Willy Boesiger (ed.), vol. 6 (Zurich: Les Èditions d'Architecture, 1977), 144.
30 The explanation does not focus on this project but on all the Indian projects. FLC, P1.10.306.
31 Missenard, *L'Homme et Le Climat*, 162.
32 The systems of the English company are also applied by engineers like Carl Rosenqvist, who collaborates with Alvar Aalto. Their official letter layout gives evidence: *"Concessionnaire des Brevets Internationaux de Chauffage par Rayonnement. Licence Crittall"*. Bernard Morel, letter to André Wogenscky, 27 February 1953, FLC, N4.1.38.
33 André Missenard, *Le Chauffage et Le Rafraichissement Par Rayonnement* (Paris: Eyrolles, 1959), 25.
34 The system seemed to be integrated into Le Corbusier's procedures, so there is no photo in the FLC archive that reflects the construction process.
35 Ets Missenard-Quint, "Maison du Brésil. Devis descriptif des travaux," 25 July 1957, FLC K1.5.277.
36 The plans of the heating systems for the ground floor (K1.9.12) and the room floors (FLC K1-9-16) as well as in the heating system description (K1.5.277), gives evidence of this.
37 FLC, K1.5.277.
38 Ibidem.
39 Roberto Gargiani and Anna Rosellini, *Le Corbusier. Béton Brut and Ineffable Space, 1940-1965. Surface Materials and Psychophysiology of Vision* (Lausanne: EPFL Press, 2011), 524.
40 FLC, P1.10.306.

4.1.5 The United Nations Headquarters and the Global Environment

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Abstract
The realization of the United Nations Headquarters between 1946 and 1952 marked the onset of a complex relationship between environmental management and global development in the postwar period. Designed by an international committee of architects, the headquarters were a vexed monument to world peace. At the same time the work of the fledgling institution reflected its incipient stance on environmental and economic concerns of a global order. The 1949 United Nations Conference on the Conservation and Utilization of Resources promoted international cooperation in allocating scientific research to resource disparity as a means of keeping the peace. Scientists, engineers, and technical experts offered strategies for prosperous member states to address resource deficiencies within developing tropical and arctic regions, which were presented as the last frontiers of cultivation. Lewis Mumford remained highly circumspect regarding the UN Headquarters' representation of a new global order, questioning its unconscious symbolism of the 'managerial revolution' and monopoly capitalism. Indeed, Mumford pitted the degradations of mechanization against his theory of organic synthesis, in which science and the machine support life processes rather than diminishing them. By contrast, in his presentation of the UN headquarters Le Corbusier presented the organic in terms of an exact biology facilitated by new technology. Purportedly to address the diverse climactic origins of the UN delegates, the envelope of the UN Secretariat was designed to function as a manipulable environmental control system accommodating the global population housed within, thereby fostering harmonious relations. Internationally published and widely imitated, the details of this thin, flat, smooth surface of modernism embodied enmeshed aesthetic and technical ambitions. Drawing from contemporary discourses on technology and the organic, this paper will scrutinize the ways in which the UN invoked science to address environmental management at a global and a highly proximate level.

4.2 Architecture and conflict, c. 300 – c. 1600

SESSION CHAIR:
LEX BOSMAN
Universiteit van Amsterdam, Netherlands

In conflict and war architecture is often damaged or destroyed, but many situations of conflict have, on the other hand, also led to the creation of new buildings. In the Middle Ages and the Renaissance, when high-ranking individuals or large groups of people had to be convinced of power, authority or friendship for instance, various strategies could be employed. Visibility was (and still is) of course an enormous advantage of buildings, leading those who held power to turn to architecture in instances where no other means were available to convince people of their authority. This pattern continued throughout the Middle Ages and the Renaissance. Power might of course be expressed, but not all rival parties would necessarily accept such expressions of superiority, and techniques of persuasion were called for. Architectural concepts and forms could be incorporated in the building project to avoid alienating those to be won over, and to facilitate their allegiance in situations of changed personal and institutional relations. In many cases the inclusion of particular groups and individuals was closely connected to policies of exploiting, rather than erasing, their identities.
This session will explore the various architectural means employed by participants in situations of conflict or rivalry during the Middle Ages and the Renaissance. Cases may be at local or regional level, but may include architecture that was aimed at a larger audience, as in a national or international theatre of operations. We invite papers considering questions of the following kinds: the aims of patrons with their architecture; how the element of time could be used to their advantage or would turn against them; if the architectural choices made in such situations would support either new or more traditional architectural features; whether or not patrons favored specific architects for various projects to ensure that the intended message would be expressed in the right way. Both individual buildings and groups of buildings can be discussed in papers. In some cases buildings may be the starting point in a paper, whereas other papers may investigate the position and ambitions of patrons.

4. THEORETICAL AND CRITICAL ISSUES

4.2.1 The Palace Hall of Chrysotriklinos as an Example of Emulation and Contestation in the Early Byzantine Period

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Abstract
The sixth-century Byzantine imperial hall known as the Chrysotriklinos, or Golden Triclinium, from its construction formed the heart of the Byzantine Great Palace in Constantinople, and served a central role in the complex court ceremonial for investitures, festivals and, crucially, embassies during a period when the Eastern Roman Empire faced an existential threat first from Sasanian Persia, and later from the Islamic Caliphate. From the references to the Chrysotriklinos in Byzantine texts, notably the tenth-century Book of Ceremonies, it seems clear that the building consisted of a domed, octagonal central space, surrounded on each of its faces by vaulted side-halls. This configuration has usually been associated with central plan Roman palace halls and Early Byzantine martyrium churches such as the sixth-century octagonal church of Sergius and Bacchus in Constantinople. However I will contend that its form may, plausibly, lie in the contestational emulation of Sasanian domed palace halls which were known to Roman emissaries, in a similar process to what Canepa has described as the agonistic exchange of symbolic motifs between Rome and the Sasanian court. Emulations of ceremonial, artistic motifs and, I will argue, centrally-planned palace reception halls, contributed to the assertion of the monarch's legitimacy of rule. This ascription of symbolic significance to palatine building forms – octagonal and triconchal halls – would later influence the architecture of the Papal and Carolingian palaces. In this paper, I will attempt an architectural reconstruction of the Chrysotriklinos and will discuss the symbolism of the forms and spaces, in relation to the rituals recorded as having taken place within and around the hall, in order to reveal how space appears to have been 'performed' in this complex in the sixth to tenth centuries, through which the position of the emperor as world ruler was asserted.

Keywords
Byzantine, Sasanian, architecture, Chrysotriklinos, emulation

Introduction
At the heart of the Great Palace of the Byzantine emperors in Constantinople,[1] from at the latest the end of the sixth century, was located the palace hall known as the Chrysotriklinos,[2] The reconstructed central-plan form of this hall, as far as it is possible to determine, raises the question of the extent of continuity of 'Roman' architectural typologies and motifs in the Early Byzantine period – can we understand it as a late example of a Roman *triclinium*, or as something rather different, an overlapping of secular and sacred space, as found in King Roger's later *cappella Palatina* in Palermo?[3] Here it will be argued that, beyond the customary distinction between Roman and post-Roman, 'classical' and 'Christian' architecture, the building might also be considered in the context of a long period of political, military and cultural contestation and emulation between Rome and Sasanian Persia from the period of the Tetrarchy through to the seventh century. In Persia, Rome found a second state which it had to acknowledge as its equal,[4] possessing comparable military and economic resources, and quickly adaptive to Roman advantages.[5] Periods of intense warfare were followed by long periods of uneasy truce observed along the common fortified frontier, which was maintained through trade and diplomacy,[6] and occasionally cooperation when faced with a common threat.[7] Persia adopted Hellenistic iconography and Roman customs, while the Byzantines adopted Sasanian artistic formulae, notably in their metalwork and textiles.[8] But could the same exchange have existed in the field of architecture? Could the abrupt innovation noted by Brenk in Late Antique Roman palaces be explained in part by this contestation?[9]

The Chrysotriklinos was built, according to Middle Byzantine sources, by the Emperor Justin II (r. 565-78) in the late sixth century,[10] and was 'splendidly decorated' by his successor Tiberius (r. 578-82).[11] The sixth-century Byzantine writer Corippus describes it as radiant with reflected light.[12] At some point, it was decorated with religious icons – these certainly existed after the rejection of Iconoclasm by the Emperor Michael III (r. 842-67). According to Theophanes Continuatus, a manuscript covering the period 813-961 CE,[13] the Chrysotriklinos was restored by Constantine VII (r. 913-59), who installed silver doors and a silver table, and decorated the hall with mosaic images of a rose-garden enclosed by a silver border.[14] It also appears in the tenth century *Book of Ceremonies* of the Emperor Constantine VII, a compilation of processions and receptions in the palace from the fifth to the tenth century, as the central, literally dazzling hub in a court life that had developed an elaborate protocol, especially for the reception of foreign ambassadors.[15]

4. THEORETICAL AND CRITICAL ISSUES

Lavin and Cameron have characterized the Chrysotriklinos as modeled on ecclesiastical architecture, however it will be argued that this is functionally implausible, and that instead its form derived from the need to house carefully staged receptions and banquets within a mutually understood symbolic language.[16] In this role it would have contributed to the cultural exchange and diplomatic relations between Rome and Persia. The question of a contestational emulation of architectural forms and motifs in early Byzantium is a relatively new field for inquiry,[17] however, there is considerable scholarship on artistic exchanges between East and West, notably by André Grabar, Ettinghausen, Cutler, Walker and Canepa.[18] Such a conscious integration of prototypes may, Ettinghausen argued, be described as 'syncretic'. Walker introduces the notion of emulative adoption of artistic motifs, through which a rival claim to hegemony might be asserted, with or without a bracketing off of incomparable elements,[19] while Canepa has identified reciprocal 'agonistic', that is to say contestational, emulation between Rome and Sasanian Persia extending back as far as the period of the Roman Tetrarchy.[20]

However, the above studies do not discuss architectural emulation at the time of construction of the Chrysotriklinos in the sixth century, a period of intense rivalry which witnessed the most frequent embassies between the two empires.[21] During this century, Byzantine architecture took on a distinctive form, as is evidenced most notably by Hagia Sophia, the character of which has been described by Mango as 'non-Classical.[22] The attempt to explain this shift in sensibility in terms of a 'decline', or of an accommodation to the new Christian dispensation is, I would argue, inadequate.

The form of the Chrysotriklinos, from references in the *Book of Ceremonies*, was of central plan, with an octagonal central space, and an emphasized eastern apse in which the throne was placed, facing the entrance.[23] While it has been proposed that the form derived from ecclesiastical prototypes, like the octagonal church of Sts Sergius and Bacchus, built in the mid-520's as a palace chapel by Justinian I according to a recent study by Brian Croke,[24] the form was employed in the Late Antique period for at least four functions: tomb, martyrium-type church, baptistery, and triclinium.[25] Known examples of the latter are the so-called 'Temple of Minerva Medica', a fourth-century pleasure pavilion within the Licinian palace,[26] the so-called summer and winter triclinia in the Villa dei Quintili,[27] both located on the outskirts of Rome in imperial estates, and the great octagonal hall in the Palace of Galerius in Thessalonica. Such Roman *triclinia*, like their Sasanian equivalents, combined the functions of official reception and dining.[28]

What meanings and associations was the form and decoration of the Chrysotriklinos intended to convey? Krautheimer notes the very imprecise nature of mediaeval architectural motifs, transmitted not through rigorous typology but through symbolic image. [29] Thus, for example, an octagonal building form has no intrinsic meaning, but rather one acquired through traditional ascription, or through its association with specific iconography, such as the astrological scheme in Nero's *domus aurea*. As Canepa and Krautheimer have demonstrated, objects and building forms could also acquire specific meanings that migrated across cultural boundaries.[30] In the context of the intense contestation between Rome and Persia in the sixth century, it is significant that the royal palaces of both empires contained domed reception halls. Canepa has recently compared the iconography of the Chrysotriklinos with a seventh-century description of a Sasanian palace hall which he takes to be the domed hall in the temple-palace complex at Ādur Gušnasp (Takht-e Solayman) in Iran, which combined the cult functions of a fire-temple with halls for lavish imperial banquets.[31] He cites a contemporary account of the Byzantine emperor Heraclius' entry, in 624 during his invasion of the Persian heartland, into what was perceived by the writer as a palace hall:

> When [Heraclius] entered… he found the foul image (*eidolon*) of Kosrow, and his image in the spherical roof of the palace as if he was enthroned in heaven. And around him were the sun and moon and stars, which the pagans worship as gods, and sceptor [sic] – bearing angels stood around him. There the enemy of God had contrived with machines to sprinkle down rain like a thunder-shower and noise to clamor forth like thunder.[32]

Even if the description of the throne probably referred to the great Takht-e Taqdis – most likely located at Dastagerd, now in Iraq – rather than to the palace at Ādur Gušnasp,[33] the resemblance to the recorded iconography in the Chrysotriklinos is striking. In both cases, the representation of a god is located above the imperial throne, thus juxtaposing god and ruler in the eye of the viewer. While Canepa suggests that the depiction in the throne hall of Kosrow was of the god Ohrmazd, the Chrysotriklinos possessed from its post-Iconoclasm phase and possibly before, an icon of Christ in the main apse above the imperial throne, signifying the emperor as God's *vicegerent* on earth.[34] The juxtaposition of the figure of the emperor and the icon of Christ accords with Walker's description of the 'Christomimesis' that characterized Byzantine palace ritual in general – the Christian emperor as the representative of Christ on earth.[35] Like the Byzantine emperors within the

Chrysotriklinos, the Persian monarch Kosrow II would have sat on a golden throne below, or in immediate relation to, the image of his god, and beneath a celestial dome, an iconography that Lehmann notes is common to both imperial Roman and later Western and Eastern representational regimes.[36]

Similarly, in both halls a domed ceiling with clear astrological connotations is suspended above the reception hall. Lehmann associates the above account with the Throne of Kosrow II, noting that Arabic and Western accounts of it corroborate its details, corroborating that the throne sat beneath a dome with astrological iconography.[37] Similar to the one that existed in Nero's circular dining room in his *domus aurea* according to the description of Suetonius, the dome above the Throne of Kosrow appears to have revolved, creating a sound like thunder, and emitting drops of 'rain' that may have been perfumed water,[38] and which anticipates the automaton throne in the Byzantine hall of Magnaura (see below).[39] A similar arrangement may have been located at Ādur Gušnasp. While Huff has argued that the central domed space was a fire temple, it may have possessed a second function.[40] Certainly the earlier Sasanian palaces possessed a domical crown hall aligned with the central axis of approach. Elaborate feasts are known to have been held at Ādur Gušnasp - this may have been the principal function of the central and lateral iwans, facing the spring-fed lake.

In short, despite the absence of definitive evidence, there are striking parallels in accounts of the form and spatial performance within Western and Eastern imperial palaces. Kedrenos' mention of thunder and rain machines associated with the Throne of Kosrow recalls Liudprand's tenth-century account of the *deus ex machina* that raised the Byzantine emperor Constantine VII above his court within the hall of Magnaura, to the accompaniment of mechanical birdsong and roaring lions, a device that had precedents in Abbasid Damascus and, as Kedrenos' account suggests, may have originated in Iran.[41] Such emulations can be interpreted as symbolic assertions of the ruler's legitimacy. While Grabar and Ettinghausen have demonstrated a contestational emulation of Sasanian and Abbasid motifs in Byzantine art from at least the period of Theophilus (r. 829-42), textually attested in his palace at Bryas, but probably also evidenced by his triconchal reception hall, the Chrysotriklinos may be interpreted as possessing a similar cosmic symbolism to the Sasanian palace halls discussed above, and thus the period of cultural emulation may be extended to a much earlier period.

The general relationship of the spaces of the Chrysotriklinos has been well-adduced by Featherstone on the basis of references in the *Book of Ceremonies*, and may be summarized here.[42] The building possessed eight vaults or apses (καμάραι),[43] surrounding a central octagonal chamber around which a great cornice ran and above which the tambour was pierced by sixteen lantern windows, presumably between the springing piers supporting the domical roof, as in Hagia Sophia. Thus, it would appear that an octagonal base supported a dome with sixteen segments, and sixteen windows, so that the intervening piers would have had to act as buttresses for the dome with additional corner buttresses and massive arches. This means that, plentiful light would have entered the interior reflecting off the gold mosaic dome, as evoked by Corippus' description.[44] Further light probably entered through windows in the eight radiating vaults, while the scalloping of the dome that strengthened and lightened the roof would have further scattered the light. Connecting to the Chrysotriklinos were the offices of the chamberlains, the private quarters of the imperial family, a treasury and chapel.[45]

Rituals and receptions

The spatial layout of ceremonies that took place in the Chrysotriklinos strictly followed court rank, as receptions at the Sasanian court appear to have done, despite the scanty records.[46] In both cases, the ruler was flanked by his court, arranged in order of ascendency. Central to court life was the holding of banquets, such as those for the New Year (*Nowrouz*) in Persia, and Easter in Constantinople. These gave further opportunity for the expression of rank, and for the impressing of ambassadors. In the Chrysotriklinos, dining couches would have originally been set up within the radiating vaults in Roman style, permitting the central space to be used by servants and for entertainments[47] which, we know from the tenth century account of Liudprand of Cremona, would accompany receptions.[48] On special occasions, feasts in the Chrysotriklinos would take the form of a theatre of display in which the furniture and fittings would perform a significant role.[49] Aside from the gilt *Pentapyrgion*, an elaborate piece of furniture, polished silver plates were affixed to the cornice above the arches of the vaulted chambers, thus adding to the glimmer of light.

The Chrysotriklinos could accommodate large receptions – there are up to 120 guests mentioned or implied in a banquet for the retinue of the princess Olga of Rus in 957, described in the *Book of Ceremonies*,[50] which might imply that each vaulted space would need to accommodate at least 12 guests – an impossibility within apses like those in the Sergius and Bacchus church – while the central space may have also been ringed by diners, the emperor's table occupying the centre.[51] By comparison, at the Sasanian

temple-palace at Ādur Gušnasp, the location of the sacred fire of the King of kings and warriors, feasts would take place, within the central Iwan in front of the axially positioned central domed hall, and two flanking Iwans facing a sacred lake.[52] The imperial throne would be positioned in the central Iwan, surrounded by other subsidiary thrones in strict order of precedence.[53] The ritual of dining is only dimly related in the tenth-century *Shahnama* in which it is associated with the activities of hunting and poetic recollection of feats of arms.[54] In the sixth century, dining formed an important function for the reception of ambassadors, who would be served off plates decorated with scenes of the victorious emperor or King of Kings,[55] while being entertained by eulogies, singing and popular entertainments.[56]

On more ceremonial occasions such as the formal audience of the Emperor with ambassadors, the Chrysotriklinos could be reconfigured. Curtains were drawn across all the lateral vaulted chambers, except probably those at right angles to the entrance axis and the end apse where the imperial throne was placed. Thus, the western curtain was raised for the entrance, supported on two silver stands. During the interview, the ambassadors would have been permitted to advance through the centre of the hall to meet and converse with the emperor, while their retainers were held at the west end of the hall, separated by the three gold platters which appear to have formed a kind of screen. On such occasions, the members of the Byzantine Court would form a consistory: the high officials of the *koubouklеion* forming a semi-circle around the emperor, then other high officials of the court, senators, patricians and *strategoi*, flanking them in their ceremonial robes.[57] The members of the court would thus form a representation of the hierarchy of the empire itself, much as the Sasanian example alluded to above must have done. Thus, the central room would be turned into an octagonal hall with eastern apse, and the spatial movement would, as in the Sasanian palaces, become axial, from the entrance court to the vault of Tripeton, then through silver-clad doors to where the room is screened off by a curtain which, when raised, led the supplicant towards the imperial throne and eastern apse, effectively advancing from darkness to light.[58] Thus, this elaborate axial sequence, designed to humble the supplicant and elevate the position of the monarch, is comparable to those in Sasanian reception halls, and the Arabic palaces derived from them,[59] and parallels the common language of imperial costume and aristocratic ornament, figured silk curtains, costumes,[60] throne, 'celestial' ceiling and visual association of the ruler with deity.[61] As Canepa notes:

> The practice of appropriating the other culture's ornamental material, like the appropriation of its ritual and ideological material, helped define the sovereigns' relational identities and situate each in a larger *kosmos* of power.[62]

At the period of greatest contestation, there is also what Canepa calls a flowering of 'Sasanizing' ornament in building decoration, notably at Hagios Polyeuktos, and Hagia Sophia,[63] In this context, the central question is why in the sixth century a new crown hall is built as a domed central plan hall, when the previous known Byzantine reception halls – the Augusteus and Consistorion – were basilican in plan?[64] As noted in the introduction, previous central plan halls were usually either *triclinia*, *martyria*, or tombs. It is only in Sasanian palace architecture that the central reception hall is a domed central-plan structure. Was there a turn in the sixth century to Sasanizing forms as an intentional citation?[65]

Despite the inevitable lack of conclusive evidence, descriptions of the rituals and receptions held in the Chrysotriklinos suggest a highly introverted building, one possessed of a character quite unlike Roman garden-oriented *nymphaea* and *triclinia* – instead the Chrysotriklinos more closely resembled the internalized reception halls of Sasanian Persia, but also possessed the centripetal spatial organization of central plan temples and churches, reflecting its syncretic symbolic association with both the old Emperor Cult, and through Christomimesis, with ecclesiastical spaces. In both the Sasanian imperial banquets at Nowrouz and the receptions recorded in the *Book of Ceremonies* in the Chrysotriklinos, the guests' experience was synesthetic, combining the aspects of ritualized movement, seeing (the ruler, each other, entertainments, the lavish furnishings and the added spectacle of the building itself), hearing (acclamatory recitations, singing and organ), and even smell (incense censered through the spaces, and the 'perfumed oils and sweet-smelling essences and unguents' with which the guests were anointed).[66] It is argued then, that there is a marked parallelism in the spaces and performances of royal ritual in the two courts. In the late sixth century, a time when the two empires were locked in a struggle for supremacy, each court's 'spatial performance' would have been readily understandable to the other's emissaries, in the display of what Canepa has termed 'a global, cosmopolitan visual culture of royalty'.[67] Positioned both between the traditions of Western and Eastern architecture, and the classical and mediaeval worlds, the Chrysotriklinos, like most of its Sasanian counterparts, has disappeared, but nevertheless constitutes, through the textual sources, a highly significant, and historically contextual demonstration of the operation of citation in Early Mediaeval architecture.

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1 On the Great Palace, see in particular J. Ebersolt, *Le Grand Palais de Constantinople et le Livre des Cérémonies* (Paris: Ernest Leroux Éditeur, 1910); C. Mango, "*The Brazen House. A study of the vestibule of the imperial palace of Constantinople*", *Arkaeologisk-kunsthistoriske Meddelelser af det Kongelige Danske Videnskabernes Selskab* 4, 4 (Copenhagen, 1959); E. Bolognesi Recchi-Franceschini, "The Great Palace of Constantinople. An introduction to the main areas of activity, ground levels and phases of development," and "The Great Palace Survey: the First Season," in W. Jobst (ed.), *Neue Forschungen und Restaurierungen im byzantinischen Kaiserpalast von Istanbul* (Vienna: Verl. d. Österr. Akad. d. Wiss., 1999) 9-16; *idem*, "Il Gran Palazzo," *Bizantinistica* Serie Seconda Anno II (2000) 197-242; J. Bardill, "The Great Palace of the Byzantine Emperors and the Walker Trust Excavations," *Journal of Roman Archaeology* 12 (1999), 216-30; "Visualizing the Palace of the Byzantine Emperors at Constantinople: Archaeology, Text, and Topography," in F. A. Bauer (ed.) *Visualisierungen von Herrschaft*, *Byzas* 5, (2006) 5-45; J. Kostenec, "The Heart of the Empire: the Great Palace of the Byzantine Emperors" in K. Dark (ed.), *Secular Buildings and the Archaeology of Everyday Life in the Byzantine Empire* (2004) 4-36; K. R. Dark, "Roman Architecture in the Great Palace of the Byzantine Emperors at Constantinople during the Sixth to Ninth Centuries," *Byzantion* 77 (2007) 87-105 and J. M. Featherstone, "The Great Palace as reflected in the *De Ceremoniis,*" in F. A. Bauer (ed.) *Visualisierungen von Herrschaft*, *Byzas* 5, (2006), 47-61.

2 On the Chrysotriklinos, see J. M. Featherstone, "The Chrysotriklinos seen through *De ceremoniis*," in L. M. Hoffmann (ed.), *Zwischen Polis, Provinz und Peripherie: Beiträge zur byzantinischen Geschichte und Kultur* (Wiesbaden: Harrassowitz Verlag, 2005), 845-52; Id., "The Great Palace as Reflected in the *De Ceremoniis*," in F. A. Bauer (ed.), *Visualisierungen von Herrschaft, Byzas* 5 (2006) 47-61; Id., "Di j e[ndeixin: Display in Court Ceremonial," in A. Cutler and A. Papaconstantinou (eds.), *The Material and the Ideal: Essays in Mediaeval Art and Archaeology in Honour of Jean-Michel Spieser* (Leiden: Brill, 2007) 75-112; Id., "De Cerimoniis and the Great Palace," in P. Stephenson (ed.), *The Byzantine World* (London/New York: Routledge, 2010), 162-74. Given references to Justin II having built the Chrysotriklinos, we can attribute a *terminus ante quem* of 574, the last year of his reign.

3 On the Cappella Palatina at Palermo, see E. Kitzinger, "The Mosaics of the Cappella Palatina in Palermo: an Essay on the Choice and Arrangements of Subjects," *The Art Bulletin* 31, n. 4 (1949), 269-92; S. Ćurčić, "Some Palatine Aspects of the Cappella Palatina in Palermo," in Dumbarton Oaks Papers vol. 41, (1987), 125-44. See also Averil Cameron, "Élites and Icons in Late Sixth-Century Byzantium," in M. Mullett and R. Scott (eds.), *Byzantium and the Classical Tradition*, *University of Birmingham Thirteenth Spring Symposium of Byzantine Studies 1979* (Centre for Byzantine Studies, University of Birmingham, 1981) 205-234: 217-18. 'If some of the building and decoration of the Chrysotriklinos was actually by Justin's successor, Tiberius II, as is possible, that does not matter, for the design and decoration were surely conceived as a whole. what is important is that during these crucial years of development, imperial ceremony received a new physical setting whose whole conception and décor expressed the idea of the emperor in his throne-room as a microcosm of God in heaven. The room itself was modelled not on previous palace architecture, but on ecclesiastical; its closest architectural parallels are churches and its pictorial decoration consisted of scenes from the life of Christ.' Here Cameron cites I. Lavin, who himself is citing Ebersolt. See Irving Lavin, "The House of the Lord: Aspects of the Role of Palace Triclinia in the Architecture of Late Antiquity and the Early Middle Ages," *The Art Bulletin* 44, n. 1 (1962), 1-27: 22-23; J. Ebersolt, *Le Grand Palais de Constantinople et le Livre des Ceremonies* (Paris, 1910), 77 ff. The Chrysotriklinos is a crucial piece of evidence for her thesis, however there is no evidence that the hall followed the layout of ecclesiastical architecture, notably the church of Sts. Sergius and Bacchus, as she claims.

4 Johannes Straub, "Die Sassaniden als *Aemuli* Imperii im Urteil des Ammianus Marcellinus," in V. Vavrinek (ed.), *From Late Antiquity to Early Byzantium: Proceedings of the Byzantinological Symposium in the 16th International Eirine Conference* (Prague, 1985) 37-40: 38.

5 On military contestation between Rome and Persia, see J. D. Howard-Johnston, *East Rome, Sasanian Persia and the end of antiquity: historiographical and historical studies* (Aldershot, Hants; Burlington, Vt./ Ashgate Variorum, 2006); A. Cameron, *The Byzantine and Early Islamic Near East: States, Resources and Armies* (Princeton: Darwin Press, 1995) 227-97.

6 During periods of peace, the major centres for trade between Rome and Persia were Nisibis and Callinicum in Mesopotamia and Artaxata in Armenia. See P. O. Harper, *In Search of a cultural identity: monuments and artifacts of the Sasanian Near East, 3rd to 7th Century A.D.* (New York: Bibliotheca Persica, 2006), 59.

7 This occurred when both empires were threatened by Hunnic incursions. See R. Scott, "Diplomacy in the sixth century: the evidence of John Malalas," in J. Shepherd and S. Franklin (eds.), *Byzantine Diplomacy: Papers from the Twenty-Fourth Spring Symposium of Byzantine Studies, Cambridge, March 1990* (Aldershot Hants./Burlington Vt.: Ashgate Variorum, 1992, 1995, 2003),159-165: 163.

8 See A. Cutler, "Silver across the Euphrates: forms of exchange between Sasanian Persia and the late Roman empire," *Mitteilungen zur Spätantiken Archäologie und Byzantinischen Kunstgeschichte* (Munich: Reichert Verlag, 2005) 9-37, reprinted in Id., Image *Making in Byzantium, Sasanian Persia and the Early Muslim World* (Aldershot, Hants/Burlington, Vt.: Ashgate Variorum, 2009).

9 On innovation in Tetrarchic palaces, see B. Brenk, "Innovation im Residenzbau der Spätantike," in Id. (ed.), *Innovation in der Spätantike* (Wiesbaden: Reichert, 1996), 67-114.

10 The period of construction of the Chrysotriklinos is unclear. Averil Cameron accepts the attribution in the *Chronographia of* Symeon the Logothete to Justin II. See Av. Cameron, "The *Artistic Patronage of Justin II," in* Id., *Continuity and Change in Sixth-century Byzantium* (London: Variorum Reprints, 1981), XII. Indeed, the earliest attribution of the Chrysotriklinos to Justin II is given by the eleventh century *Chronographia of* Symeon. The attribution to Justin II has more recently been questioned by Bolognesi Recchi-Franceschini. See E. Bolognesi, "Il Gran Palazzo," *Bizantinistica* 2, 2000, 197-242: 240-1. Kostanec suggests that the structure may have been

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built under Justinian I or earlier, noting that the late tenth century Suda attributes the hall to Justin I (and thus to the early sixth century. A. Adler (ed.), *Suidae Lexicon II* (Leipzig 1931; repr. 1967), 646. See J. Kostanec, "Chrysotriklinos," *Encyclopaedia of the Hellenic World* (2008):http://constantinople.ehw.gr/Forms/fLemmaBodyExtended.aspx?lemmaID=12440 (accessed 11 January 2014).

11 The mid-tenth century chronicle of Symeon the Logothete was incorporated into the eleventh century chronicle of Leo Grammaticus, and those of Theodosius of Melitene and George the Monk. Leo Grammaticus, "*Chronographia*," in C. Mango, *The Art of the Byzantine Empire: 312-1453. Sources and Documents* (Toronto: University of Toronto Press, 1986), 128. The date of construction of the Chrysotriklinos has been the subject of some speculation, however. Bolognesi has hypothesized that it may be identified with a heptaconch wall used to hold a meeting of bishops within the pre-sixth century Hormisdas palace. However the probable location of the Chrysotriklinos, north of the Bukoleon palace and the probable site of the Pharos, is a considerable distance from the church of Sergius and Bacchus, known to have been part of that palace – over 300 m – making this suggestion unlikely. See E. Bolognesi Recchi-Franceschini, "Il Gran Palazzo," *Bizantinistica* 2, (2000), 236 ff.

12 Averil Cameron (transl. and commentary), *Flavius Cresconius Corippus: In laudem Iustini Augusti minoris. Eulogy on accession of Justin II 565* (London: Athlone Press, 1976), 89: 'There is a hall deep inside the higher part of the building, shining with its own light as though exposed to the open sky, brilliant with the bright shine of glassy metal. If one can say so, it does not need the yellow sun, or else it should be called the room of the sun, most beautiful place and the more remarkable for the aspect it has. One side looks out over the wide sea, the other backwards over the harbor… The royal pair loved this place; from it they used to watch the waves in the strait and the curving ships (no) carrying all the trade of two worlds. Here it was that the chosen emperor had risen from the soft bedcovers and was sitting in a remote corner telling his beloved wife what had been revealed to him.' In this passage, the reference to 'shining with its own light', association with the bedchamber and location near to what is likely to be the Boukoleon harbour surely indicate that the Chrysotriklinos is referred to.

13 Theophanes Continuatus: manuscript Vat. gr. 167. See I. Ševčenko (ed.), *Chronographiae Quae Theophanis Continuati Nomine Fertur Liber Quo Vita Basilii Imperatoris Amplectitur* (Berlin: CFHB 42, 2011).

14 Theophanes Continuatus, 447 ff., English translation in Mango, *The Art of the Byzantine Empire*, 208-9. This decorative treatment may reflect the orientalizing decorative taste of the Macedonian dynasty, discussed by André Grabar. See A. Grabar, "Le succès des arts orientaux a la cour byzantine sous les Macédoniens,"Münchner Jahrbuch der bildenden Kunst 2 (1951), 32-60.

15 The "Book of Ceremonies," or "De Ceremoniis Aulae Byzantinae" is a dossier of collected palatine ceremonial written during and immediately after the reign of the emperor Constantine VII Porphyrogennitus and commissioned by that emperor. In this paper I have used the English translation by A. Moffatt and M. Tall, *The Book of Ceremonies* (Canberra: AABS, 2012).

16 See Averil Cameron, "Élites and Icons in Late Sixth-Century Byzantium," in M. Mullett and R. Scott (eds.), *Byzantium and the Classical Tradition*, *University of Birmingham Thirteenth Spring Symposium of Byzantine Studies 1979* (Centre for Byzantine Studies, University of Birmingham, 1981), 205-34; I. Lavin "The House of the Lord: Aspects of the Rôle of Palace Triclinia in the Architecture of Late Antiquity and the Early Middle Ages," *The Art Bulletin* 44/1 (March 1962), 1-27, at 22-3: attribution of Chrysotriklinos to Justin II. We know only of the iconography depicted under Michael III (842-67) and Constantine VII (913-59, sole ruler 945-59). Lavin makes the assumption, without evidence, that the iconography of Michael reflects that of Justin II or Tiberius II (assuming Justin II is actually the builder of the Chrysotriklinos). Here Cameron offers some supportive evidence that icons of the Virgin, and sometimes associated with the imperial rulers, were created in the fifth and sixth century. But this is insufficient evidence that such images were placed within the hall. Similarly, we do not know whether a Pantocrator image was installed above the throne in the sixth century.

17 Garsoïan notes the arguments by 'a number of scholars' for 'striking similarities and… reciprocal influence' in the court culture of Byzantium and Iran, without specifying who is referred to N. Garsoïan, "Byzantium and the Sasanians," in E. Yarshater (ed.), *The Cambridge History of Iran*, vol. 1 (Cambridge: Cambridge University Press, 1983), 568-92.

18 André Grabar has discussed the influence of Oriental art upon that of the Macedonian dynasty (867-1056), arguing that Byzantium constituted a site for the merging of the cultural traditions of Rome, the Hellenistic world and Sasanian Iran under the new Christian state religion. Nonetheless the extent of Eastern influence interpreted is, in Grabar's account, limited to decorative motifs. Similarly, Cutler, Walker and Canepa argue for an exchange of artistic motifs between East and West. Ettinghausen previously analyzed the reverse process, by which 'Roman' motifs were adopted by the early Islamic world, again while concentrating, for the most part, upon smaller artifact. In his analysis, the architecture and ornament of the Umayyad palace of Khirbat al-Mafjar were Byzantine-derived, while the sculptural motifs were based on Persian prototypes. See A. Grabar, *L'Empereur dans l'art byzantin*, Publications de la Faculté des Lettres de l'université de Strasbourg fasc. 75 (Paris: Les Belles Lettres, 1936); Id., "Le succès des arts orientaux à la cour byzantine sous les Macédoniens," *Münchner Jahrbuch der bildenden Kunst* 3, Folge, Bd. 2 (Heidelberg: Winter, 1951), 32-60 and illustrations; R. Ettinghausen, *From Byzantium to Sasanian Iran and the Islamic World. Three modes of Artistic Influence* (Leiden: E. J. Brill, 1972), 1-2, 17-65; A. Cutler, *Image making in Byzantium, Sasanian Persia and the early Muslim world: Images and Cultures* (Farnham, England/Burlington, Vt.: Ashgate/Variorum, 2008); M. P. Canepa, *The Two Eyes of the Earth. Art and Ritual of Kingship between Rome and Sasanian Iran. The Transformation of the Classical Heritage* 45 (Berkeley: University of California Press, 2009); A. Walker, *The Emperor and the World: Exotic Elements and the Imaging of Middle Byzantine Imperial Power, Ninth to Thirteenth Centuries C.E.* (Cambridge: Cambridge University Press, 2012), 114-76.

19 See N. Westbrook, "Spoliation and Imitation: Continuity and Radical Disjunction in Byzantine Palatine Architecture," in J. Burke (ed.), *Byzantine Narrative: Papers in Honour of Roger Scott,* (Melbourne: AABS, 2006), 444-61.

20 Canepa, *The Two Eyes of the Earth* (2009), 21-2. An example cited by Canepa is the strikingly similar iconography on the relief carvings of the so-called Arch of Galerius in Thessalonica, and the depiction of the victory of Sapur I over Valerian and Philip the Arab at Naqš-e Rostam, Iran. In each case the victor is positioned receiving the subjection of the defeated enemy. On these depictions, ibidem, 62-4, 83-99. Other exchanges include the building by Khosrow I of a hippodrome, and the creation by Theodosius II of a polo-field. On the latter see R. Janin, *Constantinople byzantine: Développement urbain et repertoire topographique* (Paris: Institut Français d'Études Byzantines, 1964), 118-19. On the hippodrome at Ctesiphon, see Procopius, *History of the Wars, Books I and II*, transl. H. Dewing (London: Heinemann, 1971), 2.11.31-33.

21 Canepa discusses the comparable iconography on the Arch of Galerius and Naqṣ-e Rostam and other Sasanian rock reliefs, while Walker discusses the diplomatic and cultural aspects of the Seljuk-influenced Mouchroutas hall in the Great Palace, but

otherwise the studies focus on the exchange of artistic motifs in textiles and the minor arts. For references see footnote 17.

22 C. Mango, *Byzantine Architecture* (New York: Abrams, 1976), 114-18.

23 Moffat, *Book of Ceremonies* (2012). See in particular *Book I*, Chapters 1, 9, 13-14, 19-21, 24, 30, 32, 48, 64; *Book II*, Chapters 1, 8, 11, 15, 18, 23-25, 52.

24 On the supposed connection between the Chrysotriklinos form and ecclesiastical form, see Lavin, "House of the Lord" (1962); Av. Cameron, "Élites and Icons" (1981). On the dating and identity of the Church of Sts. Sergius and Bacchus, see B. Croke, "Justinian, Theodora, and the Church of Saints Sergius and Bacchus," *Dumbarton Oaks Papers*. 60 (2006), 25-63. For previous arguments against it being interpreted as a palatine chapel, see J. Bardill, "The Church of Sts. Sergius and Bacchus in Constantinople and the Monophysite Refugees" *Dumbarton Oaks Papers* 54 (2000), 1-11; C. Mango, "The Church of Sts. Sergius," *Byzantinische Zeitschrift* 68 (1975), 385-92.

25 On the architectural configurations of Late Antique *triclinia* and reception halls, see in particular I. Lavin, "The House of the Lord, Aspects of the Role of Palace Triclinia in the Architecture of Late Antiquity and the Early Middle Ages," *The Art Bulletin* 44, n. 1 (1962), 1-27; I. Baldini Lippolis, *La domus tardoantica: forme e rappresentazioni dello spazio domestico nelle città del Mediterraneo* (Imola, Bologna University Press 2001); Id., *L'architettura residentiale nelle cittá tardoantiche* (Rome: Carocci, 2005); L. Mulvin, *Late Roman Villas in the Danube-Balkan Region*, BAR International Series 1064 (Oxford: Archaeopress, 2002).

26 On the so-called 'Temple of Minerva Medica', see F. Guidobaldi, "Il tempio di 'Minerva Medica' e le strutture adiacenti: settore private del Sessorium costantiniano," *Rivista di Archeologia Cristiana* 74 (1998), 485-518; I. Campbell, "The "Minerva Medica" and the Schola Medicorum: Pirro Ligorio and Roman toponymy," *Papers of the British School at Rome* 79 (2011), 299-328.

27 The Villa dei Quintili was confiscated from its former owners the Quintili by the emperor Commodus in the second century CE. On the Villa dei Quintili, see A. Ricci, *La villa dei Quintilii. Fonti scritte e fonti figurate* (Rome: Lithos, 1998); M. Bellomo, and S. D'Agostin, "Excavation, restoration and conservation of archaeological sites - Villa dei Quintili on the Appia Antica in Rome," *Transactions on the Built Environment* 39 (1999), 451-60; R. Frontoni and R. Paris, *Via Appia: the Villa of the Quintili* (Milan: Electa, 2000); R. Paris, la villa dei Quintili (Milan: Electa, 2000); M. De Franceschini, *Ville dell'Agro Romano* (Rome: "L'Erma" di Bretschneider, 2005), 222-36. The reports of the circular *triclinium* were not published at the time of writing this paper.

28 On the institution of Late Antique banquets, see K.M.D. Dunbabin, *The Roman Banquet. Images of Conviviality* (Cambridge: Cambridge University Press, 2003). On Sasanian banquets and their connection with music and poetry, see A. Tafażżolī, "Bārbad minstrel-poet of the court of the Sasanian king Kosrow II Parvēz (r. 591-628 A.D.)," *Encyclopaedia Iranica* vol. 3, Fasc. 7, 757-8, available online at: http://www.iranicaonline.org/articles/barbad-minstrel (accessed 4 February 2014).

29 R. Krautheimer, "Introduction to an 'Iconography of Mediaeval Architecture,'" in Id., *Studies in Early Christian, Medieval, and Renaissance Art*, (London: University of London Press, New York: New York University Press, 1971), 115-50. See also Günter Bandmann, *Mittelaltierliche Architektur als Bedeutungsträger* (Berlin: Mann, 1998). English translation: *Early Medieval Architecture as Bearer of Meaning* (New York: Columbia University Press, 2005).

30 Krautheimer, "Iconography"; Canepa, *The Two Eyes of the Earth* (2009). See also P. O. Harper, "Thrones and Enthronement Scenes in Sasanian Art," *Iran* 17 (1979), 49-64. Harper demonstrates how Sasanian throne motifs were emulated in Central Asian art. For the more recent *Zitationtheorie*, see footnote 63.

31 The complex at Şiz, which later became known as Takht-e Soleyman (Throne of Solomon) contained both the fire temple sanctuary, royal palace, and banquet rooms for both the court and the public. See D. Huff, "Takht-e Soleyman," *Encyclopædia Iranica*, online edition, 2012, available at: http://www.iranicaonline.org/articles/takt-e-solayman (accessed on 4 February 2014). It is possible, however, that the description is not of this complex, but rather the palace of Takt-e Taqdis at Ctesiphon, which is known to have had a zodiac-decorated rotating dome. See Canepa, Canepa, *The Two Eyes of the Earth* (2009), 146-47.

32 George Kedrenos, *Historiarum compendium,* I. Bekker (ed.), CFHB 2 vols. (Bonn: Weber, 1838-39), 721, cited by Canepa, *The Two Eyes of the Earth* (2009), 148. On Heraclius' campaign, see W. E. Kaegi, *Heraclius: Emperor of Byzantium* (Cambridge: Cambridge University Press, 2003), 127, here citing R. and E. Naumann, *Takht-i Suleiman* (Munich, 1976). See also H. l'Orange, *Studies on the Iconography of Cosmic Kingship*, Instituttet for Sammenlignende Kulturforskning, Serie A: Forelesninger 23 (Oslo: H. Aschehoug, 1953, Reprinted 1982), 18-27.

33 The location of the celebrated Throne of Khosrow, mentioned both by Taalebi and in the Shanameh of Ferdowsi, is unknown, however Theophanes (Chronographia) reports that in late December 625, Heraclius captured and burnt the Sasanian palaces at Dezeridan/Darzindan, Beklal and finally Khosrow's main palace at Dastagerd. Theophanes does not mention a sack of the palace at Ctesiphon, but reports that Khosrow II had avoided it for over 20 years on the basis of a prophecy that he would meet his end there. The palace of Dastagerd, Khosrow's main seat, was associated with a section of Sasanian brick fortification with towers by Herzfeld. See E. Herzfeld and F. Sarre, *Archäologische Reise im Euphrat- und Tigris-Gebiet*, vol. 2 (1911-1920). The site identified by Herzfeld, Tall az Zindan al Athari is located a little to the east of the village of Al-Wajihiya in Iraq, at coordinates of latitude: 33.8890075 and longitude: 44.919567. On the Throne of Kosrow, see E. Herzfeld, "Der Thron des Khosró: quellenkritische und ikonographische Studien über Grenzgebiete der Kunstgeschichte des Morgen- und Abendlandes," *Jahrbuch der preussischen Kunstsammlungen* 1, n. 41 (1920), 103 ff.; F. Saxl, *Jahrbuch für Kunstgeschichten* 11 (1923), 102 f.; K. Lehmann, "The Dome of Heaven," *The Art Bulletin* 27/1 (March 1945), 1-27 at 24-5.

34 Moffatt, *The Book Of Ceremonies*, II, 1, 519.

35 Walker, *The Emperor and the World* (2012), 159-61.

36 K. Lehmann, "The Dome of Heaven," *The Art Bulletin* 27, n.1 (March1945) 1-27: 24-25.

37 On the throne of Kosrow II, see E. Herzfeld, "Der Thron des Khosro," *Jahrbuch der Preuszischen Kunstsammlungen* 41 (1920), 1-24, 103-147; Lehmann, "Dome of Heaven;" P. O. Harper, "Thrones and Enthronement Scenes in Sasanian Art," *Iran* 17 (1979), 49-64. Lehmann interprets the Throne of Kosrow as being like a baldachin, with a domed canopy covered in Lapis Lazuli and golden stars, and representations of the heavens and seasons. The throne was further associated with a mechanical clock, raising further comparisons with the Chrysotriklinos.

38 Suetonius, *The Lives of the Caesars*, ed. and transl. J. C. Rolfe (Cambridge Mass.: The Loeb Classical Library, 1979), 135-37; K. Lehmann, "The Dome of Heaven," 24-25; O. Grabar, "From Dome of Heaven to Pleasure Dome," *The Journal of the Society of Architectural Historians* 49, n. 1 (1990), 15-21.

39 P. Squatriti (transl.), *The Complete Works of Liudprand of Cremona*: *Anapodosis* 6.5 (Washington, DC: The Catholic University of America Press, 2007), 197-98.

40 D. Huff, "The Functional Layout of the Fire Sanctuary at Takht-I Sulaiman," in D. Kennet, P. Luft (eds.), *Current research in Sasanian archaeology, art and history: pro-*

ceedings of a conference held at Durham University, November 3rd and 4th, 2001, (Oxford: Archaeopress, 2008), 1-13. Huff argues that the domical space at the centre of the axial alignment of north and south approaches to the main complex of Takht-I Sulaiman was the main fire temple of the Azar Gushnap fire. The palace was, he argues, the complex to the south-west of this core, facing to the east, and with a three arched entrance façade to the west. The core of the palace was not an enclosed hall, but a great iwan, facing east. In contrast, the earlier palaces of Shapur I possessed a domed crown hall on the central axis, preceded by lateral iwans.

41 André Grabar has documented the extensive use of Sasanian-derived decorative motifs during the period of the Macedonian dynasty, beginning with Basil I and certainly up to the time of Constantine VII, which he attributes to the emulation of the Abbasid court culture in Baghdad – the Umayyad and Abbasid Caliphs had themselves emulated the artistic motifs of the Sasanians. See André Grabar, "Le succès des arts orientaux a la cour byzantine sous les Macédoniens," *Münchner Jahrbuch der bildenden Kunst* 2 (1951), 32-60.

42 *Corippus: In laudem Iustini Augusti minoris* 89, in A. Moffatt, *The Book Of Ceremonies* (2012) cf. ch. I.1; II.15. See also J. M. Featherstone, "The Great Palace as Reflected in the *De Ceremoniis*," in Bauer (ed.), *Visualisierungen von Herrschaft, Byzas* 5 (2006), 47-61; Id., "Di j e[ndeixin: Display in Court Ceremonial," in A. Cutler and A. Papaconstantinou (eds.), *The Material and the Ideal: Essays in Mediaeval Art and Archaeology in Honour of Jean-Michel Spieser* (Leiden: Brill, 2007). 75-112.

43 καμάραι can be rendered as both arch or vault and as room or chamber, which has caused problems for the interpretation of the Chrysotriklinos.

44 *Corippus: In laudem Iustini Augusti minoris* 89.

45 Like Sasanian reception halls, the Chrysotriklinos was immediately related to a religious space. Thus, in a passage in the *Book of Ceremonies*, a curtain is drawn across the vault to the left (north) of the throne apse to screen the emperor while he is robed and crowned at the vault described as 'towards the chapel of St. Theodore'. This clearly implies that from this vault, one could enter into a separate chapel. Moffatt, *The Book Of Ceremonies*, II, 24, 623-25. Elsewhere, there is reference to the *praipositoi* (chamberlains) hanging the imperial robe on the doors of the *bema*, or sanctuary. Was the chapel a separate enclosure to the Chrysotriklinos? This cannot be conclusively stated, but it is unlikely. In II, 24, the chief *praepositus* declares to the candidate to be made a *koubikoularaia* (lady of the chamber). 'See from where you assume your rank. It is quite clearly from the holy doors'. In this context, these doors are those of the *bema*, which may have been visible from the vault, and from the central space through 'the curtain of the Chapel of St Theodore'. In II, 25, the hanging of the robe at the doors of the *bema* is repeated, after which the *praepositos* exits before leading in the candidate, thus strongly implying that the chapel is within the volume of the Chrysotriklinos.

46 See P. Gignoux, "Courts And Courtiers ii. Parthian and Sasanian periods," in *Encyclopaedia Iranica*, available online at http://www.iranicaonline.org/articles/courts-and-courtiers-ii (accessed at 4 February 2014).

47 The original seating layout of banquets, given the building's sixth-century date of construction, may have corresponded to the Late Antique *Stibaudium* type, on the basis of sixth-century manuscript illustrations. Thus, see for example image of the Last Supper, *Codex Rossanensis* 042, sixth century, Diocesan Museum, Rossano Cathedral; Gospel According to St. Matthew, sixth century, folio 10*v*, BNF Suppl. Gr. 1286. A tenth-century image of the Last Supper, which may be based upon the format of earlier depictions, shows a *stibaudium*: National Library of Russia, S. Petersburg, cod. Gr. 21.

48 Squatriti, *The Complete Works of Liudprand of Cremona*, 199. Liudprand notes that at a banquet held in the Dekanneakkoubita hall, the guests reclined on cushions, suggesting the Late Antique arrangement of semi-circular ακκούβιτα.

49 For example, a gold-sheathed piece of furniture, the Pentapyrgion, which appears to have taken the form of a miniature building of five domed towers, the central one highest, would have taken a central place, possibly beneath the dome. It was built for the ninth-century Iconoclast emperor Theophilus, whose building projects were characterized by lustrous surfaces and rich materials, and its form may have been influenced by Abbasid precedents. For the reception of the Princes of Rus, it was further adorned by objects worked in precious metal and possibly enamel (ἐργομούκια) that were customarily housed elsewhere For the Pentapyrgion, see Moffatt, *The Book Of Ceremonies*, II, 15, 582; G. Dagron, "Architecture d"Intérieur: Le Pentapyrgion," *Travaux et Mémoires* 15 (2005), 109-17; Theophanes Continuatus: buildings of Theophilus, in Mango, *Art of the Byzantine Empire* (1986), 161-65; M. J. Johnson: "Pentapyrgion," in A Kazhdan (ed.), *The Oxford Dictionary of Byzantium* (Oxford: Oxford University Press, 1991).

50 Moffatt, *The Book Of Ceremonies*, II, 15, 597-8: *Banquet in the Chrysotriklinos for the Russian men with the emperor* (18 September 957), 597.

51 Moffatt, *The Book Of Ceremonies*, II, 15, 597-98. The number is based on the list of guests in the chapter, with an allowance for the retinue of Prince Vyatoslav, for which a number is not specified.

52 The external arrangement results from the hotter Persian climate. Here I am reconstructing the temple/Palace layout at Ādur Gušnasp with *two* iwans facing each other, either side of the central imperial iwan. A similar arrangement occurs at Ardashir's palace of Atashkada in Firuzabad, where multiple iwans flank the central domed hall on axis. Huff, however, acknowleges at Ādur Gušnasp one flanking iwan, to the left of the central iwan. See D. Huff, "The Functional Layout of the Fire Sanctuary at Takht-I Sulaiman (2008), 1-13.

53 T. Daryaee, *Sasanian Persia: The Rise and Fall of an Empire* (London/New York: I. B. Tauris, 2009), 11.

54 Olga M. Davidson, "Haft Kan," *Encyclopaedia Iranica*, Vol. XI, Fasc. 5, 516-19.

55 Canepa, *The Two Eyes of the Earth* (2009), 184-5, citing Corippus.

56 Moffatt, *The Book Of Ceremonies*, II, 15, 585. The issue of intervisuality at such reception feasts is an important question. Who would have seen the emperor, or at the Sasanian court, the King of Kings? Perhaps it would only be those at the most privileged seating location. I would like to thank Professor Dr. Claudia Rapp, Dept. of Byzantine and Modern Greek Studies, University of Vienna, for alerting me to this issue.

57 See, for example, Moffatt, *The Book Of Ceremonies*, 48, 244 ff.

58 As in the octagonal room of the Domus Aurea, the central space was extensively top-lit, so those entering would proceed from darkness –the vestibule – into the light. This light was almost certainly reflected off surfaces of gold-backed glass mosaic, as in Hagia Sophia, which would have transformed the ambience and scattered reflected light over the lustrous internal surfaces. On the symbolic aspects of light in Byzantium, see Liz James, *Light and Colour in Byzantine Art* (Oxford: Clarendon Press, 1996)

59 See, for example, Adur Hushnap (Takte Soleyman, 'Throne of Solomon'); Atashkadeh, at Firuzabad: D. Huff, "Formation and Ideology of the Sasanian State in the Context of Archaeological Evidence," in V. S. Curtis and S. Stewart (eds.), *The Idea of Iran: III - The Sasanian Era* (London: I. B. Tauris,2008), 31-59; the Dar al-Kilafa at Samarra: A. Northedge, "The Palaces of the Abbasids at Samarra," in C.F. Robinson, *A Medieval Islamic City Reconsidered: An Interdisciplinary Approach to Samarra* (Oxford: Oxford University Press, 2001), 29-67.

60 Canepa notes that in the sixth century, both courts commenced the practice of

Proskynesis, ritual prostration before the Lord by all including the aristocracy, and the wearing of similar elements of imperial costume, notably the diadem, by rulers of both courts. See Canepa, *The Two Eyes of the Earth*, 150-1 and 196-201.
61 Ibidem, 208.
62 Ibidem, 209.
63 This use of Sasanizing ornament is defined by Canepa to be confined to the 'highest aristocracy and imperial hierarchy.' The patroness of Hagios Polyeuktos, Anicia Juliana was a descendent of the Theodosian imperial family, and her husband Areobindus was a victorious general against the Persians in Persarmenia. – Canepa interprets her use of such motifs, and Justinian's subsequent use in Hagia Sophia to be contestational assertions of imperial status. Ibidem, 211-1.
64 There may have been other central plan palace halls in the sixth century. Several (Oaton, Octagon) are mentioned in the *Book of Ceremonies*. Furthermore, we do not know the plan of a likely sixth century (prob Justinianic) palace hall which was demolished to make way for the apsed hall of Heraclius- could this complex have included a reception hall that was approached by the well-known 'Paved Way'? The excavated archaeology was too fragmentary to speculate on the form of the building, but central plan buildings continued to be built in the sixth century, including two in the Byzantine hunting palace at Damatrys (Samandira) on the Anatolian side of the Bosphorus. For this palace, see E. Akyürek, A. Tiryaki, Ö. Çömezoğlu and M. Ermiş, "Samandıra Yazlık Sarayı," *Türkiye Arkeolojik Yerleşmeleri* 8 (2007); A. Ricci, "Life on the highlands: Constantinople's Asian District of Damatrys in Byzantine Times" (abstract), Thirty-Fourth Annual Byzantine Studies Conference, Rutgers, The State University of New Jersey, October 16-19, 2008. At the time of writing this paper, a monograpgh by Ricci on the Byzantine palaces on the Asian shore is still in preparation. The earlier Tetrarchic crown halls of Constantine at Trier, Maxentius in his villa outside Rome, and Galerius in his palace at Romuliana (Gamzigrad) were basilican in plan. Tetrarchic central plan buildings appear to have been used as either dining halls, or funerary structures. One significant exception is the tholos structure entered from the colonnaded forecourt in Diocletian"s palace at Salona (Split) in Dalmatia. It is possible that this structure was an innovation reflecting the recent military victories against the Sasanians.
65 The concept of citation has been developed with regard to Early Mediaeval Romanesque architecture in France and Germany, as a reconsideration of the important work on architectural meaning by Krautheimer and Bandmann. See for example, Hans Kunst, "Freiheit und Zitat in der Architektur des 13. Jahrhunderts – die Kathedrale von Reims," in Clausenberg, Kimpel, Kunst, and Suckale (eds.), *Bauwert und Bildwerk im Hochmittelalter: anschauliche Beiträge zur Kultur- und Sozialgeschichte* (Gießen, 1981), 87-102; Wolfgang Schenkluhn, "Bemerkungen zum Begriff des Architekturzitats. Zur Erinnerung an Hans-Joachim Kunst (1929-2007)," in *Ars* (2008), 3-13, both cited by Christian Nille, *Mittelalterliche Sakralarchitektur interpretieren. Eine Einführung* (Darmstadt: WBG, 2013). I also thank Lex Bosman for forwarding to me a paper presented given to the Studientag "Architektur als Zitat," An-Institut der Martin Luther Universität Halle-Wittenberg. Europäisches Romanik Zentrum (European Centre for the Romanesque), 19 October 2012: "Architektur und Zitat. Die Geschichtlichkeit von Bauten aus der Vergangenheit".
66 Moffatt, *The Book Of Ceremonies*, II, 15 (2012) 586.
67 It was Justin II, the supposed builder of the Chrysotriklinos, who spurned the Persian requests for continuation of subsidies for a truce which Justinian I had signed with Khosrow in 562, and action which led to war in 572. See H. Turtledove, "Justin II"s Observance of Justinian"s Persian Treaty of 562," *Byzantinische Zeitschrift*, 76 (1983), 192-230.

4.2.2 Building Identity and Community in the Post-Crusade Greece: The Architecture of Interaction in the Thirteenth-century Peloponnesos

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Abstract
A group of fourteen churches built in the thirteenth-century Greek Peloponnesos will be discussed in order to explore the mechanisms of architectural and cultural exchange between patrons, architects, masons and viewers of varying religious, ethnic and social status in a post-conquest society. Following the 1204-1205 CE defeat of the Byzantine, Orthodox Greeks residing in the region, then known as the Morea, Latin Catholic knights of northwestern European (largely French-speaking) lands established the Principality of Achaïa, divided further into several fiefdoms. Local Greek *archons* (landholders), were permitted some privileges, though tensions between the communities are recorded. However, the extant churches of the region prompt a more nuanced reading of the relationships between these supposedly opposed groups, particularly when examined over the one-hundred year duration of the Principality in light of their functional, temporal and topographic relationships. Previously these churches were divided into 'Western' and 'Byzantine' categories reflective of the cultural groups found in the Principality at the moment of conquest, I treat them as an inclusive group, showing that architecture physically and figuratively built a shared identity for the communities of the Morea, finally fusing into a singular Moreot building practice and society. I parse the negotiations and procedures involved in the design and construction of Moreot churches as well as shifting architectural aesthetics that contributed to a fluid and changing architectural embodiment of group/cultural identity. This is demonstrated through a close archaeological reading of the extant architectural remains of several larger monastic and smaller parochial churches found throughout the Frankish-controlled territory. Finally, this paper investigates and reframes scholarly models of cultural and artistic interaction that are used to explain identity and community in post-war/conquest societies such as the thirteenth-century Morea, offering a new reading of the ancient Greek term *methexis* (meaning 'communion' or 'participation') as a replacement for terms such as 'hybridity' or 'influence'.

4.2.3 Sienese Fortifications in the Age of the Guelph Commune

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Abstract

The Republic of Siena, like all medieval Italian communes, was engaged in a perpetual struggle against enemies both within and beyond its borders. Bounded by the city-states of Florence and Arezzo to the north and east, the bishopric of Orvieto to the southeast, the Aldobrandeschi fiefdom to the south and west, and the lands of Volterra to the northwest, the Sienese state encompassed nearly three hundred towns, villages, castles and monasteries. Yet at the dawn of the Trecento, after nearly two centuries of administration, diplomacy and military occupation, the commune failed to pacify and completely unite the territory, which Daniel Waley aptly described as a 'fragmented, haphazard collection of lordships and townships, having almost nothing in common except [their] fragile subordination to Siena'. The greatest security challenge remained the inherent disunity among the inhabitants, whose loyalties often lay more with an influential family or anti-government faction than with the Republic. Moreover, the threat of military incursions from neighboring states never abated and, indeed, became increasingly dangerous in the course of the fourteenth century. It was during this period of social unrest and military insecurity that the Sienese invented a new type of military architecture. Derived from the façade of Siena's new civic palace, the Palazzo Pubblico, it adhered to a standardized architectural code that projected the authority and prestige of the capital and, at the same time, obscured or even canceled pre-existing architectural idioms. Its iconographic features were as important as its effectiveness against the state's enemies. In time, the walls and gates of numerous communities were updated in the new style, which was also 'deployed' for new fortresses throughout the territory. The new military architecture not only demarcated the confines of the state, but also promoted the myth that its disparate inhabitants were peacefully united under the benevolent Republic.

Keywords

Siena, Sienese, architecture, fortifications, walls, medieval

Sienese secular architecture at the height of the republican era was remarkably uniform.[1] Even today, as one walks along the city's meandering streets and through its picturesque squares, one is struck by the many palaces and public works from the fourteenth and fifteenth centuries that seem to conform to the same architectural style. (Figure 1) Standing, for example, in the Piazza del Campo, which is dominated by the Palazzo Pubblico and bordered by the palaces of the patrician elite, one observes several brick facades that exhibit very similar mullioned windows and crenelated battlements.[2] One encounters the same homogeneity in Siena's final circuit of ramparts. Its entire length is crowned by the same type of battlements one finds atop the fourth-century facades in the Campo, with the same semi-pyramidal corbels, blind arches and merlons. Even though the circuit was erected over a very long period of time, the city authorities made certain that its articulation and ornament adhered closely to official Sienese taste.[3]

Here I shall argue that the Guelph-era gates and ramparts of the city were executed according to a standardized architectural code, which had been formulated by the commune in the early fourth century with the realization of the main facade of the Palazzo Pubblico, the government headquarters, and then systematically replicated throughout the city, including in the articulation of the defensive perimeter.[4] Moreover, I will demonstrate that the style was also 'deployed' in the fortifications of dozens of castles and towns

Figure 1. Palazzo Pubblico (1297-1348) and the Piazza del Campo, Siena. *Source:* the author

4. THEORETICAL AND CRITICAL ISSUES

throughout the surrounding territory.[5] It is my contention that Sienese-style fortifications were not only intended to function militarily, but were part of a broad strategic effort on the part of the ruling regime to imprint itself architecturally in both the city and its *contado*. By endowing the fortifications of the Republic with recognizably Sienese features, the authorities effectively demarcated the Sienese state and, in essence, distinguished it from the states of neighbouring rivals, such as Florence, Arezzo, Volterra, and the belligerent Aldobrandeschi counts to the south.

But before we can analyze the iconographical content and political function of Siena's fourteenth- and fifteenth-century walls, we must take some time to investigate why its designers chose to fabricate them in brick, which is less resistant than stone and therefore less effective against siege engines such as battering rams and catapults. The question is an interesting one, especially when one considers that other Tuscan cities almost always erected stone ramparts and gates as their primary line of defense against foreign invasion. Today, more than 90 percent of the architectural fabric of the city's historic centre consists of the same red substance. Brick is such a ubiquitous feature of the urban landscape, one might conclude that it must have always been the material of choice for local builders.[6]

There was a time, however, when Siena was totally devoid of brick. In the early years of the commune, which was established in 1125, the city bore a physical aspect that was completely different from that of the present day. The cathedral was a modest Romanesque structure, the Palazzo Pubblico had not yet been conceived, and the Piazza del Campo was still an unpaved field surrounded by a disorderly jumble of buildings. Wherever one gazed, there was neither regularity nor consistency. The city's architecture was, for the most part, austere and utilitarian – a heterogeneous mixture of wood, clay and stone structures of various types. There was no unifying aesthetic and there was no style or school of architecture that one could call 'Sienese'.[7]

In the twelfth century, wood was likely the most common construction material in Siena; but because of its perishable nature, not a single pre-modern wooden edifice survives. Yet we know that the hills beyond the ramparts were thick with chestnuts, elms and olives, which were harvested by Sienese builders and fashioned into beams for walls, floors and roofs. Large numbers of wooden dwellings were once tightly crammed along the city's streets and alleyways.[8]

Clay was another frequently used medium, and there was an endless supply beneath the city and in the surrounding valleys. Many of the poorest Sienese dwellings were gouged out of the exposed argillaceous banks along the edges of the city. The clay that was removed during their excavations was often carved into rectangular blocks that were employed in above-ground construction.[9] In fact, several of the city's oldest churches were built of the earthen material, including the long-defunct parish of San Desiderio; and so was the earliest surviving tract of city walls, which consists of regular courses of clay that was extracted from deposits nearby.[10]

Limestone made its appearance in Siena toward the start of the twelfth century, when the feudal nobility began to import large quantities for the construction of their towers.[11] These looming, rectangular shafts, of which there were at least 87 by the start of the duecento, were densely concentrated within the ramparts and rose as high as 40 meters. Essentially urban castles, Sienese towers resembled the keeps and watchtowers of the surrounding countryside, and they were emblematic of the power and status of the families that erected them. The government did not look kindly upon these warlike structures, since they contributed to the insecurity and civil disorder that plagued the city in the early communal era.[12]

With the emergence of a thriving local stone industry, the Sienese government soon started to make use of the material. After the first Florentine incursions into Sienese territory, starting in 1141, the authorities decided to enclose a large section of the Via Francigena – the most densely settled avenue outside the early medieval nucleus and the principal land route to Rome – within a new circuit of limestone walls. The project extended protection to a large segment of the population while more than tripling the surface area of the city. Several tracts of the twelfth-century masonry survive intact, especially along the northern perimeter.[13]

But then there was the advent of brick, which radically and permanently transformed the Sienese urban fabric. After first proliferating in the Arno and Elsa Valleys, terracotta made its debut in Siena in the middle of the twelfth century, approximately 50 years after stone was introduced into the city; yet it remained a rarity until the beginning of the thirteenth century. In fact, the only Sienese bricks that can be securely dated to before 1200 are those of the third circuit of walls, begun in approximately 1150 and finished in the first quarter of the duecento. This was the first structure in Siena, public or private, to be built of significant quantities of the material. The earliest tracts are faced with alternating horizontal bands of stone and brick, as one can observe in the spandrel of the late-twelfth-century double-gate known as 'Le Due Porte'.[14] During the first two decades of the thirteenth-century, however, Sienese builders abandoned using stone altogether and continued the ramparts in brick only.[15] When completed, the new fortified circuit was over two and a half kilometers in length and defined nearly two-thirds of the municipal perimeter.

It is thus certain that the communal government was wholly responsible for

launching the brick industry in Siena, which produced millions of units for the erection of the new walls. The local abundance of high-quality clay must have made brick an attractive alternative to the more costly and labor-intensive stone. Yet, the threat of invasion was probably the principal reason designers switched to terracotta, since the fortifications needed to be completed as rapidly and inexpensively as possible. In 1230, for example, the Florentines managed to penetrate the Porta Camollia and ravage the northern quarter of the city before they were repelled.

Once the brick industry was firmly established in Siena, it was only a matter of time before the material attracted the attention of patrons outside the government realm. The brick superstructures of several of the city's seignorial residences, including the gigantic tower-house of the Rinuccini, dates to the beginning of the duecento. The nobility also began to use *terracotta* for the construction of the city's earliest palaces. The Palazzo Rinuccini, built shortly after 1200, is among the oldest. Here, bricks were relegated to the least visible parts of the edifice, while the showpiece facade was executed in limestone.[16]

It is important to understand that for the first century after its introduction into the city, brick was strictly utilitarian and structural, as much for the nobility as for the commune that employed it in fortifications. But at some point in the middle of the third century, the Sienese perception of brick began to evolve, and by the end of the century it had replaced stone as the material of choice for facades and architectural ornament.

The watershed event may have occurred in 1241, when the government began to resurface the principal Sienese avenues with brick, which was laid in an elegant herring-bone pattern. Work commenced in the southern district of San Martino and by 1250 extended to Camollia, at the northern tip of the city.[17] What likely began as a modest experiment quickly developed into a comprehensive plan to repave the entire street network.[18]

Shortly after it was used for pavements, brick began to be employed in the construction of the city's fountains, evidently because of its aesthetic qualities. Fountains were highly visible structures in medieval Siena, since they were used very frequently. In a sense, they represented the dignity and authority of the commune, which went to great lengths to supply fresh water to the city's expanding population. They were thus designed to be not merely functional, but also beautiful and impressive.[19]

The commune, which had initially introduced brick as a cheap means for fortifying the city and, eventually, for paving streets and building fountains, in approximately 1262 began to distribute 370,000 bricks each year, free of charge, to the Mendicant orders and other monastic institutions for church construction.[20] By 1275, Siena was completely encircled by large brick edifices, which were distributed more or less evenly around the fortified perimeter and visible from every major approach.[21] Thus, the government actively promoted the brick medium on a massive scale, apparently as part of an emergent strategy to convert Siena into a terracotta city. It is telling that the civic leaders sought early on to regulate local kilns, imposing strict controls over manufacturing and pricing, and requiring specific dimensions for standard units. Clearly, brick had come to be closely associated with the Sienese commune, to the extent that it symbolized its prestige and authority.[22] Meanwhile, stone remained the preferred medium of the old aristocracy, for whom the material continued to speak the language of dynastic power and military strength.

In the political sphere, Siena underwent a radical transformation in 1270, shortly after its disastrous military defeat at the Battle of Colle Val d'Elsa. The city's Ghibelline regime, which had long relied upon the Hohenstaufen emperors for support, came to a violent end. It was quickly replaced by a pro-Angevin Guelph oligarchy, which empowered the merchant class at the expense of the urban nobility.[23] For the first several decades, the government convened in various temporary locations, including the ground-level *salone* of the Palazzo Tolomei.[24] But in 1310, the administration relocated to the Palazzo Pubblico, its new permanent headquarters and the largest and most ornamentally complex civic palace in Tuscany.[25] Begun in 1297, the edifice was built in several campaigns and was not completed until 1348, just before the Black Death.[26] Architecturally, the palace was the culmination of more than a century of stylistic and technical innovations, and it was unprecedented for the sophistication of its brickwork. The ground level was constructed of limestone that had been purloined from the demolished tower of a seignorial family.[27] Conceptually, the dichromatic ensemble suggested that the Guelf commune erected its physical headquarters upon the ruins of its aristocratic opponents, who were excluded from serving in high office by the Guelph constitution.[28]

Much of the articulation above was inspired by earlier buildings, but there were certain elements that were completely original to the palace. Most significantly (for our purposes), all three sections of the facade were crowned with an elegant *coronamento*, consisting of continuous horizontal bands supported by blind arches on semi-pyramidal corbels. Its primary function, notwithstanding its bellicose appearance, was more symbolic than military, for it is devoid of machicolations, loopholes and other warlike accoutrements. The motif was, without a doubt, an invention of the builder's designers, as it has no known precedents in Italy or anywhere else.[29]

By the time the Palazzo Pubblico was finished, brick had become the chief medium for virtually all Sienese construction, thanks in large part to legisla-

tive actions of the government, starting in the middle-thirteenth century.[30] In 1309, its use was legally mandated for all new domestic facades.[31] From the accumulated body of statutory rubrics, council deliberations and payment records, it is clear that the commune did not merely promote the use of brick for civic, religious and private architecture; it aimed to standardize the appearance of the entire city. The salient features of the Palazzo Pubblico, such as its distinctive *coronamento* and triple lancet windows, formed the basis of a unique and easily identifiable architectural language, which was being disseminated throughout Siena even before the palace was completed. One residence after another was built in the official style of the Sienese commune.[32] The palaces surrounding the Campo were not only required to be built of brick, but also to be perforated by mullioned windows.[33] In the case of the Palazzo Sansedoni, the windows and *coronamento* closely parallel the corresponding structures on the Palazzo Pubblico facade.[34] Scores of palaces throughout the city were built of the same material and articulated with the same design elements and ornamentation. In addition, several of the largest fountains, including the celebrated Fontebranda, were revamped or constructed *ex novo* in the civic style.[35]

The same was true of the fourth and final circuit of walls, erected between 1323 and 1471. Its entire length is essentially an iconographical extension of the Palazzo Pubblico; and so are the surviving gates, such as Porta Ovile, Porta Romana, and Porta Tufi (Figure 2).[36] It is interesting that the resemblance between the city ramparts and civic headquarters is often emphasized in early depictions of the city. In the *Libro dei Censi* of 1400, one can see that the artist clearly understood that the walls replicated the facade of the government palace.[37]

Figure 2. Exterior facade of Porta Tufi, Siena, begun ca. 1327. *Source:* the author

As the Guelph commune strengthened its hold over the economic and political infrastructure of the *contado*, eventually extending its control to the Tyrrhenian coast, it financed the construction of provincial civic palaces, rural fortifications and other public works. Sienese civic architecture was strategically deployed where it would have the greatest visual impact, along major highways and in the centres of important towns. The commune sought to intervene architecturally and urbanistically wherever it ruled, often obscuring or erasing long-entrenched regional styles with its own canon.[38] Fortifications were the most visible public structures in the countryside; and more than any other architectural form, they announced the presence of the mother city and its lordship over its subject territory.

The best preserved examples of rural Sienese-style fortifications are found along the tract of the Via Francigena south of the city, especially in the Arbia Valley.[39] At Buonconvento, for example, the ramparts were erected beginning in 1371, and the Porta Senese was completed in 1379.[40] The *coronamento* clearly signifies Sienese authority, and the so-called 'Sienese arch' above the entrance replicates those of the ground level of the Palazzo Pubblico. One could make similar arguments about the brick gates of Lucignano d'Arbia,[41] or the fortified mill at Monteroni d'Arbia, which survives almost completely intact.[42] In the Val di Chiana, there are numerous examples as well, such as the walls of Torrita di Siena, which have been partially subsumed by local residences.[43] There are dozens of additional structures scattered throughout the former Sienese state.

But why is it that the commune went to such great lengths to transform and homogenize the military architecture of both the city and countryside? Part of the answer may found in the particular circumstances of Siena's foundation and early history. Contrary to both popular myth and historiographical tradition, Siena was not established during the glory days of Roman antiquity, but rather in the sixth or seventh century by Lombard invaders. The Sienese invention of an ancient past and its early adoption of the she-wolf as the official emblem of the city could not obscure the fact the diocese of Siena was essentially a medieval contrivance, pieced together from territories that had been expropriated from six neighbouring sees – a kind of episcopal Frankenstein.[44] As late as the Guelph era, Siena and its state was still, in the words of Daniel Waley, a 'fragmented, haphazard collection of lordships and townships, having almost nothing in common except [their] fragile subordination to Siena'.[45]

Thus, by promoting a standardized and recognizable Sienese architectural style and facilitating its dissemination throughout the city and its territory, the civic government sought to advance the fiction of political unity and social harmony in a region that had always been culturally heterogeneous and politically fractured. Travellers crossing through the state were thus given the impression that the Guelph Republic was a stable political unity characterized by *pax* and *concordia,* in spite of the persistent intransigence of dozens of semi-independent seigniors and rural communities, who rebelled at every opportunity.[46]

Finally, the Sienese-style architecture that was deployed along the frontiers served not only to deter attacks from aggressive neighbouring states, but also to identify the territorial boundaries of the Republic. This was especially important in the Chianti and Val di Chiana border regions, which were repeatedly harassed by the Florentines and their allies, who persistently pressed their various claims to Sienese territory.

Yet, for Siena – in spite of its development and systematic dissemination of a unique architectural language – political and social utopia would remain elusive.

1 This essay derives from portions of my PhD dissertation, *Pro Honore Comunis Senensis et Pulchritudine Civitatis: Civic Architecture and Political Ideology in the Republic of Siena, 1270-1420* (New York: Columbia University, 2006). My research was made possible by a Mellon Foundation Fellowship awarded by the Department of Art and Archaeology of Columbia University and a Chester Dale Fellowship from the Center of Advanced Study in the Visual Arts.

2 On the Piazza del Campo and its architecture, ibidem, 254-68, 362-78; Enrico Guidoni, *Il Campo di Siena* (Rome: Multigrafica, 1971); Letizia Franchina, Marisa Forlani Conti, and Ubaldo Morandi, *Piazza del Campo: evoluzione di un'immagine. Documenti, vicende, ricostruzioni* (Siena: stampa Centrooffset, 1983); Maurizio Tuliani, "Il Campo di Siena. Un mercato cittadino in epoca comunale," *Quaderni medievali* 46 (1998), 59-100.

3 On the chronology and architecture of the Sienese fourth circuit of ramparts and gates, Max Elijah Grossman, *Pro Honore Comunis Senensis Et Pulchritudine Civitatis: Civic Architecture and Political Ideology in the Republic of Siena (1270-1420)* (New York: Columbia University, 2006), 397-411; Duccio Balestracci and Gabriella Piccinni, *Siena nel Trecento: assetto urbano e strutture edilizie* (Florence: Clusf, 1977); 17-29; Paolo Cammarosano and Vincenzo Passeri, "Siena," in *I Castelli del Senese. Strutture fortificate dell'area senese-grossetana* (Milan: Electa, 1985), 378-85; Ettore Pellegrini, *Le fortezze della Repubblica di Siena. Vicende edilizie, significato strategico, condizioni operative dell'architettura fortificata rinascimentale nel conflitto tra Francia e Impero per il controllo del territorio senese* (Siena: Il Leccio, 1992), 10-24; Fabio Gabbrielli, *Siena medievale: L'architettura civile* (Siena: Protagon, 2010), 206-21.

4 Grossman, "Architecture and Ideology in the Sienese Contado from the Age of Frederick II to the Fall of the Nine," *Center* 18, (1998), 91-6; M. Grossman, *Pro Honore Comunis Senensis*, 360-423. That Sienese civil architecture was built in imitation of the Palazzo Pubblico has been observed by several scholars, including Mario Bezzini, who claims that the palace served as the prototype for other buildings in the adjacent square, *Formazione e sviluppo di Siena medievale* (Siena: Periccioli, 1981), 36; and Lando Bortolotti, who writes that the Palazzo Pubblico 'was probably the prototype for the Gothic palaces of the great noble families and merchants [of Siena]'. *Siena* (Rome: Laterza, 1983), 41, translation of the author. Mario Ascheri writes more generally, 'Even the art and architecture of those times [the era of the Nine] was imitated and reproduced a thousand times', *Siena e la città-stato del Medioevo italiano* (Siena: Betti, 2003), 9, translation of the author. These observations may be defined as casual and are not elaborated upon. In his essay on medieval civic architecture in Tuscany, Fabio Gabbrielli was the first to state the obvious: that the Palazzo Pubblico served as a model for subsequent government and other buildings in the city. Although he downplays the novelty of the civic palace, placing it within a decades-long stylistic tradition, his basic premise is correct: 'When between 1298 and 1310 the first great building phase of the Palazzo Pubblico was realized, the repertoire of architectonic elements from which it drew was in large part that which had already been elaborated and matured in civil architecture, public and private, in the last thirty years of the duecento. With its realization, all of the elements [*stilemi*] of Sienese architecture were codified, not in the sense of their first appearance, but insofar as they were selected for the [Sienese] palazzo *par excellence*, by the edifice that would constitute the reference point, even symbolic, for the majority of fourteenth and fifteenth-century civil architecture in the city and *contado*.' Fabio Gabbrielli, "Stilemi senesi e linguaggi architettonici nella Toscana del Due-Trecento," in Amerigo Restucci (ed.), *L'architettura civile in Toscana: il Medioevo* (Siena: Monte dei Paschi di Siena, 1995), 326, translation of the author.

5 M. Grossman, *Pro Honore Comunis Senensis*, 424-501. With regard to the Sienese subject territory, Gabbrielli suggests, without further elaboration, that Sienese architectural details reminiscent of the Palazzo Pubblico may carry political meaning in towns under Sienese control. Thus, they 'may constitute a symbol of the political and cultural link with the dominant city'. Gabbrielli, "Stilemi senesi," 342, translation of the author.

6 On the establishment and development of the brick industry in Siena and the use of the material in the city's architecture, Grossman, "Urban Strategy and the Brick Aesthetic," in *Pro Honore Comunis Senensi*, 224-53. See also Balestracci and Piccinni, *Siena nel Trecento*, 63-75; Fornaci Cialfi, *Fornaci e mattoni a Siena: dal XIII secolo all'azienda Cialfi* (Sovicille: Cassa rurale ed artigiana di Monteriggioni, 1991); Roberto Parenti, "Approvvigionamento e diffusione dei materiali litici da costruzione di Siena e dintorni," in Daniela Lamberini (ed.), *Le pietre delle città d'Italia. Atti della giornata di studi in onore di Francesco Rodolico (Firenze, 1993)* (Florence: Le Monnier, 1995), 87-108; Parenti and Juan Antonio Quirós Castillo, "La produzione dei mattoni della Toscana medievale (XII-XVI secolo). Un tentativo di sintesi," in Patrick Boucheron, Henri Broise and Yvon Thébert, *La brique antique et médiévale: production et commercialisation d'un matériau. Actes du colloque organisé par le Centre d'histoire urbaine de l'École supérieure de Fontenay-Saint Cloud et l'École française de Rome (Saint-Cloud,*

16-18 novembre 1995) (Rome: École française de Rome, 2000), 219-35.
7 Grossman, *Pro Honore Comunis Senensis*, 187-211. On Sienese architecture before the Guelph era, see also Guglielmo Villa, *Siena medievale: La costruzione della città nell'età 'ghibellina' (1200-1279)* (Rome: Bonsignori, 2004); Gabbrielli, *Siena medievale*, 13-109.
8 Balestracci and Piccinni, *Siena nel Trecento*, 63-5, 165-9; M. Grossman, *Pro Honore Comunis Senensis*, 195-6.
9 Carlo Nepi, Pier Luigi Palazzuoli et al., "Per lo studio della '*facies*' rupestre della città di Siena," *Archeologia medievale* 3 (1976), 413-28; Francesca Fabiani, Marco Giamello et al., "L'arenaria pliocenica. Diffusione e modalità d'impiego nell'architettura senese," in *I materiali lapidei dell'architettura senese: l'areneria pliocenica ('tufo impietrito'). Il supporto scientifico all'intervento di restauro di palazzo Spannocchi* (Siena: Nuova immagine, 2001), 13-8.
10 Grossman, *Pro Honore Comunis Senensis*, 189, 192-5.
11 On the use of cavernous limestone in medieval Siena, Italo Moretti and Renato Stopani, *Romanico senese* (Florence: Salimbeni, 1981), 169-70; Parenti, "Approvvigionamento e diffusione dei materiali litici"; Marco Giamello, Giovanni Guasparri et al., "Lo studio dei materiali lapidei del centro storico di Siena," *Arkos* 2 (2003), 22-9.
12 On Sienese towers and tower-houses, Sonia Bonucci and Vincenzo Castelli, *Antiche torri di Siena* (Siena: Betti, 2005); Grossman, *Pro Honore Comunis Senensis*, 196-207; Gabbrielli, *Siena medievale*, 13-46. See the syntheses by Michael Braune, *Türme und Turmhäuser: Untersuchungen zu den Anfängen des monumentalen Wohn-un Wehrbaus in Toskana (1000 bis 1350)* (Cologne: Architektur des Kunsthistorischen Instituts, 1983); and Klaus Tragbar, *Vom Geschlechterturm zum Stadthaus: Studien zu Herkunft, Typologie und städtbaulichen Aspekten des mittelalterlichen Wohnbaues in der Toskana (um 1100-1350)* (Munich: Rhema, 2003).
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14 On the so-called 'third circuit' of walls and gates, built between 1150 and 1220 and extended to include Fontebranda in the early to mid-thirteenth century, Vittorio Lusini, "Note storiche sulla topografia di Siena nel secolo XIII," *BSSP* 28 (1921), 268-84; Nardi, "I borghi," 50-53; Bortolotti, *Siena*, 28-29 and fig. 16. On dichromatic striping, Grossman, *Pro Honore Comunis Senensis*, 189-90 and note 602.
15 Ibidem, 190, 229-30, and note 603.
16 On the tower-house and palace of the Rinuccini, Gabbrielli, *Siena medievale*, 46-52; Grossman, *Pro Honore Comunis Senensis*, 208-9.
17 Paolo di Tommaso Montauri. Alessandro Lisini and Fabio Iacometti (eds), "Cronaca senese conosciuta sotto il nome di Paolo di Tommaso Montauri," in Ludovico Antonio Muratori, *Rerum Italicarum Scriptores*, vol. 15, (Bologna: Zanichelli, 1931-39), 191; *Cronaca senese dei fatti riguardanti la città e il suo territorio di autore anonimo del secolo XIV*, ibidem, 53; M. Grossman, *Pro Honore Comunis Senensis*, 241 and note 811.
18 Ibidem, 241-2.
19 Ibidem, 242-3, 379-97. On Sienese fountains in general, Fabio Bargagli Petrucci, *Le fonti di Siena e i loro acquedotti. Note storiche dalle origini fino al MDLV*, 2 vols. (Siena/Florence, 1906; reprinted Siena: Periccioli, 1974); Duccio Balestracci, *I bottini, acquedotti medievali senesi* (Siena: Comune di Siena, 1984); Balestracci, Vinicio Serino et al., *Siena e l'acqua : storia e immagini di una città e delle sue fonti* (Siena: Nuova immagine, 1997).
20 Balestracci and Piccinni, *Siena nel Trecento*, 72-74; M. Grossman, *Pro Honore Comunis Senensis*, 251-2.
21 Ibidem, 239-40 and fig. 240.
22 Ibidem, 224-53; on government regulation of the brick industry, 246-51.
23 On the change from the Ghibellinism to Guelphism, ibidem, 1-5; Robert Davidsohn, *Forschungen zur älteren Geschichte von Florenz* (Berlin: Mittler, 1896-1908), II, 83-86, 161-3, 169; Giuseppe Martini, "Siena da Montaperti alla caduta dei Nove," *BSSP* 68 (1961), 89-101; Daniel Waley, *Siena and the Sienese in the Thirteenth Century* (Cambridge/New York, Cambridge University Press, 1991), 118-22. On the decisive Battle of Colle Val d'Elsa, Curzio Bastianoni, *La battaglia di Colle (17 giugno 1269)* (Colle Val d'Elsa, 1970). On the Guelph regime of the Nine Governors (1287-1355), Martini, "Siena da Montaperti," 75-128; William M. Bowsky, *A Medieval Italian Commune: Siena Under the Nine: 1287-1355* (Berkeley: University of California Press, 1981); Waley, *Siena and the Sienese*, 90-96; Mario Ascheri, "La Siena del 'Buon Governo' (1287-1355)," in Simonetta Adorni Braccesi and Ascheri (eds.), *Politica e cultura nelle Repubbliche italiane dal medioevo all'età moderna: Firenze - Genova - Lucca - Siena - Venezia. Atti del convegno, Siena, 1997* (Rome: Istituto storico italiano per l'età moderna e contemporanea, 2001), 81-107.
24 On the early meeting places of the Sienese government, Balestracci and Piccinni, *Siena nel Trecento*, 103-6; Cordaro, "Le vicende costruttive," in Cesare Brandi (ed.), *Palazzo Pubblico di Siena. Vicende costruttive e decorazione* (Milan: Silvana ed., 1983); 30-1; and Odile Redon, *L'espace d'une cité. Sienne et le pays siennois (XIIIe–XIVe siècles)* (Rome: École française de Rome, 1994), 39. On the use of the Palazzo Tolomei as the headquarters of the *Consiglio Generale* in 1275-84, Max Grossman, "A Case of Double Identity: The Public and Private Faces of the Palazzo Tolomei," *Journal of the Society of Architectural Historians* 72, n. 1 (2013), 48-77.
25 Grossman, *Pro Honore Comunis Senensis*, 286, 289.
26 For an accurate and detailed construction chronology, ibidem, 278-325. See also Fortunato Donati, "Il Palazzo del Comune di Siena," *BSSP* 11 (1904), 311-54; Aldo Cairola, "L'architettura," in Cairola and Enzo Carli, *Il Palazzo Pubblico di Siena* (Rome: Editalia, 1963), 7-68; Michele Cordaro, "Le vicende costruttive," 27-143; Fabio Gabbrielli, "La 'cronotipologia relativa' come metodo di analisi degli elevati: la facciata del Palazzo Pubblico di Siena," *Archeologia dell'architettura* 1, supplement to *Archeologia medievale* 22 (1996), 17-40; Stefano Camporeale, Gabbrielli et al., "La facciata del Palazzo Pubblico di Siena. Stratigrafia e fonti documentari," *Archeologia dell'Architettura* 6 (2001), 63-100.
27 Montauri. *Cronaca senese*, 233; Agnolo di Tura, *Cronaca senese attribuita ad Agnolo di Tura del Grasso detta la Cronaca Maggiore*, Lisini and Iacometti, *Cronache senesi* 298; Sigismondo Tizio. ms. Biblioteca Apostolica Vaticana, Chis., G.I.35 (begun 1506), II, f. 356; Grossman, *Pro Honore Comunis Senensis*, 287-8.
28 Ibidem, 335.
29 Ibidem, 347-50. Antonio Canestrelli was the first to comment on the uniqueness of the feature. Italo Moretti (ed.), *L'architettura medievale a Siena e nel suo antico contado* (1904; reprint Florence: Libreria Chiari/FirenzeLibri, 2004), 109. Others have mostly focused on its aesthetic qualities. Gino Chierici, "La casa senese al tempo di Dante," *BSSP* 28 (1921), 362-4; Vittoria de Vecchi, "L'architettura gotica civile senese," *BSSP* 56 (1949), 37; Gabbrielli, "Stilemi," 339, 342; Italo Moretti, "Aspetti dell'architettura militare senese nel tardo Medioevo," in Mario Marrocchi (ed.), *Fortilizi e campi di battaglia nel Medioevo attorno a Siena. Atti del convegno di studi, Siena, 25-26 ottobre, 1996* (Siena: Nuova immagine, 1998), 62-3; Gabbrielli, *Siena medievale*, 195.
30 Grossman, *Pro Honore Comunis Senensis*, 245-52. See, for example, Luciano Banchi (ed.), *Breve degli Officiali del Comune*

di Siena compilato nell'anno MCCL al tempo del Podestà Ubertino da Lando di Piacenza, Archivio storico italiano, III (Florence: Cellini, 1865), 93, 99; II, 101; Ludovico Zdekauer (ed.), *Constituto del Comune di Siena dell'anno 1262* (1897; reprint Bologna: Forni, 1974), I, 495-502.

31 Alessandro Lisini (ed.), *Costituto del comune di Siena volgarizzato nel MCCCIX-MCCCX*, 2 vols. (Siena, 1903), V, 409; Balestracci and Piccinni, *Siena nel Trecento*, 79-80.

32 On the dissemination of the Sienese style in the Piazza del Campo, Grossman, *Pro Honore Comunis Senensis*, 367-73. On its spread throughout the city, ibid., 411-23. For discussions of major Sienese non-religious buildings, with excellent illustrations, Gabbrielli, *Siena medievale*.

33 *Costituto del comune di Siena volgarizzato nel MCCCIX-MCCCX*, III, 37 (repeated in III, 261): 'Anco, statuimo et ordiniamo che se mai averrà che alcuna casa o vero casamento, d'intorno al Campo del mercato s'edificassero di nuovo, che tutte et ciascune finestre di cotale casamento et casa, le quali avessero aspetto nel Campo del mercato, si debiano fare a colonnelli et senza alcuni ballatoi fare […] in anno Domini MCCLXXXXVII. Inditione x, del mese di magio'.

34 On the Palazzo Sansedoni, Franklin Toker, "Gothic architecture by remote control: an illustrated building contract of 1340," *Art Bulletin* 67 (1985), 67-95; Grossman, *Pro Honore Comunis Senensis*, 371-2; Fabio Gabbrielli, "Gotico e neogotico," in Gabbrielli (ed.), *Palazzo Sansedoni* (Siena: Protagon, 2004), 153-92.

35 See note 21.

36 See note 3.

37 *Libro dei Censi*, Archivio di Stato di Siena, *Biccherna* 746. On other early depictions of the Sienese city walls, M. Grossman, *Pro Honore Comunis Senensis*, 403-4.

38 Ibidem, "The New Architecture in the *Contado*," 424-501. The literature on Sienese *contado* architecture is mostly scattered among hundreds of publications, many of which are local and difficult to find. For general information, Cammarosano and Passeri, *I Castelli del Senese*.

39 Grossman, *Pro Honore Comunis Senensis*, 447-63; Roberto Guerrini (ed.), *Monteroni: Arte, storia, territorio* (Siena: Alsaba, 1990).

40 Grossman, *Pro Honore Comunis Senensis*, 455-62; Cammarosano and Passeri, *I Castelli del Senese*, 284. Nello Carli, Gino Civitelli et al., *Buonconvento: la crescita di un borgo (1208-1555), dalle Memorie storiche di G. A. Pecci* (Sovicille: Circolo culturale amici di Buonconvento, 1989). On the start of the ramparts in 1371, Donato di Neri, "Cronaca senese di Donato di Neri e di suo figlio Neri", in Lisini and Iacometti, *Cronache senesi* 638. On the completion of the Porta Senese, ibidem, 676.

41 Grossman, *Pro Honore Comunis Senensis*, 453-5; Alfredo Liberati, "Lucignano in Val d'Arbia (Ricordi e documenti)," *BSSP* 45 (1938), 48-67; Cammarosano and Passeri, *I Castelli del Senese*, 336.

42 Grossman, *Pro Honore Comunis Senensis*, 450-3; Cammarosano and Passeri, *I Castelli del Senese*, 336; Mario Ascheri, "Monteroni ieri," in Guerrini, *Monteroni*, 145-57; Duccio Balestracci, "La terra dei mulini," ibidem, 159-69.

43 Grossman, *Pro Honore Comunis Senensis*, 474-6; Cammarosano and Passeri, *I Castelli del Senese*, 336. On the start of the walls in 1428, Paola Paolini and Annamaria Russo, *Le mura di Montefollonico e di Torrita* (Torrita di Siena: B & B, 1992), 57-8.

44 For my detailed discussion of the non-antiquity of Siena, Grossman, "History, Myth and Ideology: The Question of Siena's Origins," *Pro Honore Comunis Senensis*, 98-186. The idea that the current city was founded in the Middle Ages rather than in antiquity was first stated by Giovanni Cecchini, "Dov'era la Siena romana?," *Il Campo di Siena* 6, n. 271 (4 September 1957).

45 Waley, *Siena and the Sienese*, 108.

46 Grossman, *Pro Honore Comunis Senensis*, 23-7, 502-5.

4.2.4 'Faciendo sette et sedicion': Architecture and Conflict in Sixteenth-century Verona

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Abstract

In the aftermath of the War of the League of Cambrai (1508-17), the cityscape of Verona underwent a remarkable change. The war years had taken a heavy toll on the city, killing thousands of inhabitants and damaging large parts of the medieval structures, which made extensive restoration activities necessary and at the same time created opportunities to experiment with architecture. In the postwar period the Veronese elite were eager to adopt the latest fashions from papal Rome, hiring Michele Sanmicheli (1487/8-1559), who was trained in the environment of Bramante and the Da Sangallo family, as their architect of choice. Historians have ascribed to Sanmicheli a fundamental role in the flourishing of the arts in Verona, but remain reticent about the reasons of his sudden success from the late 1520s onwards. In this paper his buildings will be addressed from the point of view of his patrons by linking his private commissions in Verona to the power vacuum that ensued from the war, which resulted in repeated confrontations between two rivaling clans. Why did these power struggles prompt Sanmicheli's patrons to build? And how did these buildings fit into their strategies to take control of the Veronese institutions? Also, why did they prefer Sanmicheli for their projects? Two case-studies, the city residences of the Bevilacqua and Lavezzola families, will serve as illustrations of the relationship between architecture and power, and show how closely connected architecture and conflict were in sixteenth-century Verona.

Keyword

Verona, Michele Sanmicheli, politics, residential architecture

In sixteenth-century Verona conflict is at the heart of developments in areas as diverse as art, religion and politics. In this paper I will address the connection between architecture and conflict in a time of fundamental changes. The period under discussion is the aftermath of the War of the League of Cambrai (1508-17), when the cityscape of Verona underwent a remarkable change. The war had taken a heavy toll on the Veronese community, killing thousands of inhabitants and damaging large parts of the medieval city. This made extensive restoration activities necessary and at the same time created opportunities to experiment with new trends in architecture. The Veronese elite were eager to adopt the latest fashions from papal Rome, hiring Michele Sanmicheli (1487/8-1559), who was trained in the environment of Bramante and the Da Sangallo family, as their architect of choice. I will follow up on a suggestion the distinguished architectural historian Howard Burns made more than twenty years ago at a conference devoted to Sanmicheli, a suggestion which since has not received the attention it merits.[1] His contribution can be summarized as follows. Sanmicheli, a Verona native, had been an architect who worked in his hometown on an exclusive basis for families that were allied to one of its powerful factions, the so-called Bevilacqua clan. Its members – connected through kinship, friendship, and mutual interests –were known for their loyalty to Venice. This stood in sharp contrast to their antagonists, the adherents of the Nogarola clan, who were regarded with a suspicious eye by the Venetian authorities for their close ties to the imperial court of the Habsburg family.

Suggesting a connection between Sanmicheli's architecture on the one hand and the presence of faction rivalry in Verona on the other is suggesting a relationship between architecture, politics and social identity in a way that turns the architect into an active agent instead of regarding him as a mere bystander to the conflict. Still, the question how all these different elements precisely relate is difficult to assess when little is known about the rivalry that kept Verona in its thrall for most of the sixteenth century. It is therefore necessary to investigate how Burns' thesis holds up when confronting it with historical data that provide an insight into the origins and objectives of the Bevilacqua and Nogarola factions, and see if this might reveal something about the motives of the families associated with the Bevilacqua clan for hiring Sanmicheli. Did these buildings contribute to their cause; and if so, in what way? To put it differently, if Sanmicheli's patrons were indeed involved in the confrontations between the two rivaling factions, what would this mean for our perception of these objects? Therefore I will address these issues by having a closer look at two residences Sanmicheli designed for families which according to Burns belonged to the Bevilacqua clan, namely the Bevilacqua and Lavezzola families. I will approach these buildings mainly from the perspective of Sanmicheli's patrons. Patronage is often applied within architectural history only in the sense of *mecenatismo*, the Italian word for patronage in a cultural sense. But in sixteenth-century Verona the demarcation lines of modern-day scholarship did not exist and it is important to regard Sanmicheli's patrons not only as members of a cultural elite, but also as families with obvious political interests that were inextricably intertwined with their economic affairs. To improve their fortunes, families of different means, social standing, and access to power collaborated with each other, a mechanism of reciprocity in which political support was exchanged for favours and tokens of respect. It would be wrong to ignore this form of personal patronage, referred to as *clientelismo*, since architecture was a major means of social and self-definition. There were no clear distinctions between *clientelismo* and *mecenatismo* then; patrons, artists, clients, friends: people might assume different roles at different times, but they were all part of the same network of personal bonds, which were so effective in creating enduring commitments from which everyone could benefit.

Having introduced the methodological framework of this paper, I will now continue with a discussion of Sanmicheli's residences.

In Verona five *palazzi* have been attributed to Sanmicheli. These are, in chronological order, Palazzo Canossa, Palazzo Bevilacqua, Palazzo Lavezzola, Palazzo degli Honorij, and Palazzo Della Torre.[2] Our knowledge about these buildings is based on either stylistic characteristics or indirect evidence, such as requests for renovation filed to the city council and notaries acts in which property was acquired. The uncertain chronology of these palaces notwithstanding, the importance of the buildings is self-evident. Palazzo Bevilacqua and Palazzo Lavezzola are the first private residences in Verona to feature facades entirely produced in stone in a city that was renowned for its tradition of facades decorated with colorful fresco paintings. Sanmicheli was thus the first to break with this tradition, exploring the sculptural qualities of a feature that till then was nothing more but a flat surface. Moreover, Sanmicheli's residences were the first in the Republic of Venice to be modeled after contemporary examples in Rome, specifically Bramante's innovative Palazzo Caprini of ca. 1510.

Palazzo Bevilacqua, a horizontally laid-out structure with strong vertical accents, is seven bays wide and two stories high. The ground floor is separated from the first floor by a balcony, which runs along the entire length of the facade, while the first floor is topped by a monumental entablature. The ground floor is rusticated to emphasize the impenetrability of the edifice, while the loggia on the *piano nobile* is open and festive. The building is characterized by a strong antiquarian nature; for instance, the keystones

of the arched windows on the ground floor are busts of roman emperors, and the half-columns on the first floor deliberately recall the columns of the nearby Porta Borsari, a city-gate from the first century AD when Verona was still a Roman colony. Because the ground plan of the building is asymmetrical – with the entrance at the second bay on the left – and because four more keystones with busts of roman emperors have been preserved, it is assumed that Palazzo Bevilacqua has never been completed. This seems to be confirmed by a supplication in which the Bevilacqua family requests the city council for consent to both expand their residence and appropriate some public ground after they bought the neighbor's house, the residence of the Lodrone family, in order to finish it according to the original design. That design would mirror the present ground plan to create a house with two inner courtyards, but – instead of a total width of eleven bays as you might expect – it would count a total of fifteen bays.[3] The chroniclers of the Bevilacqua family, Antonio Frizzi and Valerio Seta, list Antonio and Gregorio Bevilacqua as patrons of the building, which led some architectural historians to believe the design must date from after the death of their eldest brother Gianfrancesco in 1549.[4] Most architectural historians think, however, that it should be dated somewhere in the early 1530s as it bears a close resemblance to Margherita Pellegrini's chapel at San Bernardino in Verona, the only private commission by Sanmicheli in Verona that is securely documented, which dates from 1528.[5]

Palazzo Lavezzola, a horizontally laid-out structure similar to Palazzo Bevilacqua but with a perfectly symmetrical facade, is also seven bays wide and two stories high. Although there are clear parallels to be drawn with Palazzo Bevilacqua, its use of ornaments is much more restrained and less playful. Nonetheless, the facade remains imposing with its rusticated ground floor, a *piano nobile* with large arched windows and theater masks for keystones, the bays separated by fluted half-columns on pedestals which carry an impressive entablature. Here, too, it is difficult to produce a timeline for the construction process of the building. As a result various suggestions have been made ranging from the late 1520s to the early 1550s. A supplication filed by Nicolò and Gianfrancesco Lavezzola in 1536, in which they ask permission from the Veronese council to start restructuring some old houses, might serve as an indication that a design for the new palace was already in the works by that time, and most architectural historians date the design of Palazzo Lavezzola sometime in the early to middle 1530s.[6]

Having briefly sketched an overview of Palazzo Bevilacqua and Palazzo Lavezzola's exteriors and their dating, it is now time to see how these buildings relate to the social and political context of sixteenth-century Verona, a time of conflict and power struggle, as we will see.

> It is not without huge regret that we need to inform Your Excellency about something that according to our judgment is of great importance and of the utmost importance regarding our current affairs. It seems that since a few days in this city certain old enmities between two parties have resuscitated of a sort that we'd be really surprised if these would not result into some great inconvenience and damage to matters important to Your Excellency and in particular to this city.[7]

Thus starts the letter written in February 1525 with great urgency by Paolo Nani and Marco Gabriele, the administrators of Verona, which they sent to their superiors of the Council of Ten in Venice about confrontations in the streets of the Scaliger city, a situation of rapidly increasing tension between rivaling clans that could and would escalate quickly if not addressed with immediate and adequate measures. Although no blood had been spilled yet – not even a punch had been thrown, the administrators inform their superiors – Venice should not underestimate the severity of the problem. For each faction had between fifty and sixty armed men out on the streets, trying to provoke each other into violent responses. What made matters complicated was that men belonging to different armies stood side by side, while those who usually fought together were now at opposite ends from each other.[8] But the administrators' fear was not limited to the present situation only for it extended to the possibility that soon everyone in Verona would be caught up in the violent quarrels of the clans:

> They come together during the day and at night at their houses, bringing together large crowds, forming sects and causing uproar, which in few days actually will lead to some big scandal if these gatherings are not restricted, and will then divide the whole area in two [...]. [9]

One of the main causes of concern was that members of the opposing clans were in fact also related to each other, which could lead to a vicious cycle of revenge. According to Nani and Gabriele, it was therefore important to quiet things down, forge a truce, and make peace, for which they requested the assistance of their superiors in Venice. For the time being, they put all the main culprits under house-arrest.

Who were these culprits? The administrators of Verona added to their letters a list of the most prominent adherents of the two rivaling factions, which included various members of the Bevilacqua and Nogarola families, after whom these clans were named.[10] The origins of the confrontations about which the administrators wrote their letters, however, lies not with the leaders but with their followers, ranging from petty insults to downright

murder. But the cause of their adverse relationship lies deeper and the animosity between them kept smoldering over the decades as various reports of subsequent administrators reveal. In 1558 *podestà* Gabriele Morosini wrote about recurring cases in which justice was obstructed, pointing his finger at members of the Bevilacqua and Nogarola clans, who remained unpunished.[11] And in 1566 *podestà* Alvise Grimani wrote to his superiors in Venice about how much these families valued 'the honours and offices of the citizens of Verona', remarking he could nothing but observe 'thousands of hand weapons on the piazza and in the streets, carried by servants who come to accompany their masters to their houses'.[12] The remarks by Grimani affirm that the confrontations between the Bevilacqua and Nogarola clans in February 1525 had not been incidents, but were related to the power struggle in the Veronese institutions that ensued after the War of the League of Cambrai ended, something that becomes more evident when we have a closer look at the seat distribution in the city council of Verona. The distribution of these seats was a time-consuming affair which took place every year at the end of December during a complicated voting process. Fortunately, the results of these elections have been preserved for the first half of the sixteenth century in two different types of documents. First, the city council acts (*Atti del Consiglio*) list for each year which individuals were allotted a seat. Second, some registers in a private archive (*Archivio Lando*) hold the exact vote count each elective councilor received during the ballot for the years up to 1552. From these documents we can gather a picture of the seat distribution among members of the Bevilacqua and Nogarola clans, and also of their popularity.[13] A quick glance learns that the Nogarola family was much more powerful than the Bevilacqua family, the former easily receiving enough votes each time to be elected as councilors while the latter sometimes struggled and failed to win a seat. For instance, if we look at the years around the turn of the century we see that Galeazzo Nogarola, both head of the Nogarola family and faction, gets elected again and again with major support, often surpassing one hundred votes. His antagonist Giovanni Bevilacqua, both head of the Bevilacqua family and clan, had a far less steady supporters base. His grandson Gianfrancesco – eldest brother of troublemakers Antonio and Gregorio – had similar difficulty in getting elected as representative. In fact, during the 1520s he never succeeded in obtaining a city council seat, even if he had occupied one before. Only during the 1530s did he overcome this. The election outcomes of the Lavezzola family, clients and close friends of the Bevilacqua family, show a similar development.[14] Their fortune seems to be connected with that of their patrons and friends as they too struggled to get elected in the 1520s and only overcoming this during the early 1530s. What changed?

For the Lavezzola family, the end of the War of the League of Cambrai meant access to a city council seat, by far the highest marker of social discernment in sixteenth-century Verona, which had been very difficult to obtain and even more difficult to keep.[15] After the death of Albertino Lavezzola, who was the first of his family to be a member of the city council, his sons Gianfrancesco and Niccolò struggled to replace him. Yet two strategies to keep the Lavezzola family at the apex of society proved highly effective. The first was associating themselves with the powerful Bevilacqua family, becoming friends and long-time allies; the second was acquiring plots of land at the riverbank in order to build a residence worthy of the newly acquired status. The Lavezzola brothers filed their request to restructure some old houses into their permanent residence during Gianfrancesco's first term as representative. In the years thereafter, when the Lavezzola residence was under construction and slowly began to make its mark on the cityscape and the people of Verona, we see the Lavezzola brothers become fixtures in both the city council and the highest echelon of society.

This relationship between architecture and politics is perhaps even more evident when we take a closer look at the Bevilacqua family. During the 1520s they struggled to obtain a city council seat, which is remarkable as they were among the highest-standing families in town. Although the reasons for their failure are unknown, we may assume the Nogarola faction was very successful in frustrating their ambitions. Yet the decision to restructure their residence into a magnificent palazzo according to the latest trends in architecture proved right for more than one reason. In 1532 the Bevilacqua family overcame whatever prevented them from obtaining a city council seat and they never faced a similar powerlessness again. More importantly, the brand new façade of Palazzo Bevilacqua was both a claim to and a manifestation of power, showing off a type of authority that was unprecedented for a private family in Verona, with a grand balcony overseeing the street and a long row of benches running along the plinth of the building to provide a waiting area for the family's clients. Who, then, was the main addressee of this exuberantly decorated façade? It might not be surprising that its main audience was the family who lived right across the street, the Nogarola family, their antagonists.

To conclude, the 1520s proved politically difficult for the members of the Bevilacqua clan, but these were also the years leading up to a period of perhaps their greatest successes. As the power basis of the Bevilacqua faction grew and stabilized, members of this clan hired Michele Sanmicheli to design and execute the most ornate *palazzi* of Verona, on a par only with his projects for the Republic of Venice. Palazzo Lavezzola's austere

look equals that of the Porta Palio in Verona, whereas Palazzo Bevilacqua, already reminiscent of the Biblioteca Marciana in Venice, would almost have been as large had it been finished according to the original design. It seems as if these families wanted to make a statement – to manifest themselves in the boldest way they could, and this is exactly what they did.

1 Howard Burns, "'*Vasti desiderij e gran pensieri*': i palazzi veronesi di Michele Sanmicheli," in Howard Burns et al. (eds.), *Michele Sanmicheli: Architettura, linguaggio e cultura artistica nel Cinquecento* (Milan: Electa, 1995), 54-79.
2 Cf. Paul Davies and David Hemsoll, *Michele Sanmicheli* (Milan: Eelcta, 2004), 355-6, 361-2, 374-5.
3 Paul Davies and David Hemsoll, "Palazzo Bevilacqua e la tipologia del palazzo veronese," *Annali di Architettura* 3 (1991), 58-69. The facade is 23,6 m long. It would have been more than 50 m had it been completed according the description of Gregorio Bevilacqua in his supplication to the city council, Archivio di Stato di Verona (hereafter ASVr), Antico Archivio del Commune (hereafter AAC), Atti del Consiglio (hereafter AC), registro 86, f. 100 (April 26, 1564).
4 Antonio Frizzi, *Memorie storiche della nobile famiglia Bevilacqua* (Parma,1779), 111; Valerio Seta, *Compendio historico dell'origine, discendenza, attioni, et accasamenti della famiglia Bevilacqua* (Ferrara, 1606), 255.
5 Cf. Davies and Hemsoll, *Michele Sanmicheli*, 356-7.
6 ASVr, AAC, AC, registro 76, f. 77 (28 December 1536).
7 'Non senza grandissimo despiacer ne occorre significar ad vrê' ex.tie Cosa che p Judicio ñro e' di grandissima Importantia maxime p le' occorrentie' pñte. Par che da alcuni giorni In qua siano sussitate' due parte In questa Cita p certe Inimicitie vechie d Sorte che dubitamo grandemente habi ad seguir qualche grande Inconveniente si con damno dle cose d v. Ex.tie Come ín d particulari di questa Cita', Nani and Gabriele in their letter of February 4, 1525 to the Heads of the Council of X in Venice. Archivio di Stato di Venezia (ASV), Capi del Consiglio di Dieci (CCX), Dispacci (lettere) dei rettori e pubblici rappresentanti (Dispacci), busta 192, n. 109-10.
8 Ibidem.
9 'Reducendussi Il giorno et notte In le lor Case con grande adunation di gente faciendo sette et sedicion, che veramente se non se remedia In pochi giorni seguira qualche gran scandalo, et scorrendo qualche giorno tuta la terra sara in due parte […]'. ASV, CCX, Dispacci, busta 192, 109-10.
10 According to this list, the Nogarola clan are Spinetta Malaspina, Alessandro Nogarola, Leonardo Nogarola, Pietro Alighieri, Marco Guarienti, Pase Guarienti, Tebaldo Lavagnoli, Filippo Guiotto, Giacomo Pindemonte, and Bonifacio Pindemonte; the Bevilacqua clan are Antonio Bevilacqua, Gregorio Bevilacqua, Giambattista della Torre, Raimondo della Torre, Girolamo Campagna, Gerardo Boldieri, Gregorio Boldieri, Antonio Pellegrini, Giovanni Bevilacqua Lazise, and Galeotto Bevilacqua Lazise. ASV, CCX, Dispacci, busta 192, 111-12.
11 'Della consolaria posso dire che alle fiate per dipendentie, parentele e fationi essendo quella divisa Città in due parti, per il più Nogaroli et Bevilaqua, ella possa legiermente in alcuni casi et però Vostra Celsitudine spesso ode che molti diffidando di essi dimandano delegation all'Avogaria nelli casi criminali', Gabriele Morosini, August 4, 1558, reproduced in *Podestaria e Capitanato di Verona* (Milano: Giuffrè, 1977), 18.
12 '[…] ma non si puotè però fuggir che non vi fussero milla arma di hasta su la piazza et per le strade, portate da servitori venuti per accompagnar i patroni a casa', *podestà* Alvise Grimani, 16 September 1566, reproduced ibidem, 40.
13 The maximum amount of votes each elective councilor could receive was 122 and one needed a total of approximately 70 votes to get elected to the city council (depending on how many councilors were present during the election). Between the years 1494 and 1516 each representative served a one-year term; from 1519 onwards councilors served four-year terms, after which they had to vacate one year. All data presented here was pulled from ASVr, Archivi privati, Archivio Lando, processi, reg. 5-7.
14 Cf. Burns, "'*Vasti desiderij e gran pensieri*', 69; Davies and Hemsoll, *Michele Sanmicheli*, (2004), 34.
15 Paola Lanaro, "'Essere famiglia di consiglio': social closure and economic change in the Veronese patriciate of the sixteenth century," *Renaissance Studies* 8 (1994), 428-38.

4.2.5 Political Power through Architectural Wonder. Parma, Teatro Farnese

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Abstract
In 1617 there were rumours in the Farnese Dukedom of Parma about the passage of Cosimo II de Medici, on the way along his pilgrimage to San Carlo Borromeo's tomb in Milan. This became a valuable opportunity for Ranuccio I Farnese to regenerate the innocence and serenity of his dukedom which had been seriously stained five years before by the torture and beheading he had applied to seven of his feudal lords, believing there was a conspiracy against him with the indirect support by the Gonzaga, Medici and Malaspina dukedoms. In and around the Dukedom of Parma the atmosphere was one of suspicion; forging new alliances became essential in order to restore and strengthen the affected power of Farnese. Cosimo II de Medici's passage through Parma was the great occasion to arrange a marriage between Odoardo Farnese and Margherita de Medici. There were just a few months available to prepare 'the most beautiful feast (**vision*) ever seen in whole Europe' to impress and gain the consent of Cosimo II. The city was transformed into a huge theatre perspective, a procession of wonder from outside the city in the morning and culminating inside its very core in the evening, on the stage of Teatro Farnese, with a wooden, light and suspended structure inside the bricks and massive first floor (L87 m x W32 m x H22 m) of Palazzo Farnese della Pilotta. Realized by Aleotti on the model of the Palladian Olympic, it was designed for the opening opera "In Defense of Beauty" meant to transpose Parma and the Farnese fictionally such that Discord is overcame through Beauty. Everything was ready but Cosimo II never arrived. This extraordinary project opened onto the era of Baroque wonder.

Keywords
Architecture, city, conflict, Farnese, Parma, theatre

In the Farnese theatre, built by Giovan Battista Aleotti for the duke of Parma and Piacenza Ranuccio I Farnese in 1618, the particular architectural program and historical context where it was realized are here used to highlight some issues which could be also relevant for a comparison with a contemporary societal approach to architecture, like the ones briefly resumed below:
(1) gnosiological and explorative dimension of architecture
(2) the supremacy of vision
(3) representation as a knowledge device to explore and overcome conflict
(4) geo-political competition for beauty and culture to reach consensus
(5) *civitas* more than just *urbs*

Teatro Farnese is among the few remaining theatres which inaugurated the Baroque, but it's also probably the only one suspended, hanging on large arches at the entrance of the Pilotta building, the expansive incomplete residence-palace of the Farnese in Parma.
The building is entirely constructed, both outside and inside, using one material, exposed brick, commonly used in the Aemilian area. This continuity makes it seem even more imposing. Today, the access to the theatre is the same as the original, and consists of a system of strong contrasts of light and size, which slightly remind the section of Laurenziana Library by Michelangelo Buonarroti, inaugurated in Florence in 1571.

Although undocumented, Ranuccio I had supposedly visited it during his visit at the Medici's in 1604. Florence, in particular the Uffizi, and the interior of Buontalenti's theatre, deeply impressed him, and became an architectural precedent to overcome and to promote the Farnese dukedom among others, in the competitive geo-politics of Northern Italy. In fact, Farnese theatre was designed to amaze Cosimo II de' Medici and, through wonder, gain his friendship, as it will be soon discussed.
The above scenography of contrasts begins from the street, in the dark and imposing arcade connecting the Parma river to the city centre and giving access to the palace. The monumental staircase placed under the arcades leads to the first floor and, when halfway, it opens on a brightly lit and very high octagonal dome contrasting the cavern-like lower level arcades. Once upstairs, proportions are inverted again and flattened down into the horizontality of the long barrel vaulted corridor, where, in the middle, in front of the staircase, is the large wooden entrance door of the theatre. The door is 4 m wide and 7 m high, framed by Corinthian columns, and decorated with the arms of the Farnese. Again, it leads into a very dark and small wooden foyer 8 x 8 m where two lateral doors lead to the upper floor lodges and the frontal door to the cavea. The effect is increased by the double box

structure, where wood acts like an envelope wrapping the exposed brick hall, which soars high over the wooden theatre, measuring 22,7 m high up to the set of beams and 32,7 m high to the ridge of the roof. The original proportions of the theatre hall were 87,20 m long, 32 m wide and 22,7 m high, but, originally the visible height was under the beams. This was where the wooden ceiling representing the Olympus was fixed, in continuity with the mythological narrations painted along the wood of the theatre fronts and culminating on the stage with the opera *La Difesa della Bellezza* by Alfonso Pozzo, meaning the defence of beauty.
Today, the original decorations of the theatre are no longer seen since it's bombing during the Second World War, and since it was philologically rebuilt. However, the natural wood was once completely covered with stucco and painted cardboard to simulate precious marbles.
The architectural project was unthinkable if not for the representative program *Defense of Beauty,* where beauty, metaphorically represents for the yearned alliance to be built between Ranuccio I and Grand Duke Cosimo II. Their relationships had deeply deteriorated, due to the reciprocal suspects generated by the conjure attempt against Ranuccio in 1612, when the feudals of Parma, supported by the Gonzaga and, as it seemed, by the Medici, organized a conspiracy against Ranuccio I, to be executed during the public baptism of his nephew.

The murder was avoided, but, after an inquisitorial process, Barbara Sanseverino, whose beauty was celebrated by the poet Torquato Tasso, nine more conspirators were executed in the public square.
The conspiracy was due to the aggressive politics of Ranuccio, who dispossessed feudals of their beautiful feuds, for example the Colorno and Felino, and to the general aversion of how the Farnese took for themselves Parma and Piacenza through Farnese Pope Paolo III that caused hostility and coalitions against them in the territorial neighbourhood since the beginning. In particular, the Gonzaga, settled in the near Mantua, and Charles V controlling Milan, since the beginning had been the worst enemies and in 1547 had succeeded to murder Ranuccio I's grand-grandfather, with the support, among the others, of the Medici. The year of 1547 was just two years after the creation of the Farnese dukedom by Pope Paolo III Farnese, when the area of Parma and Piacenza was in a very delicate situation to maintain equilibrium among many other dukedoms and the relationships between the French and the Holy Roman Empire of Charles V controlling Milan. Ranuccio's father, Alessandro, had already attempted to reconcile with the Medici against the Gonzaga, by the marriage agreement for his daughter in place of Gonzaga's daughter with the Medici. But after the marriage had been

celebrated, a congenital obstacle of Margherita Farnese had not permitted any consummation and at her refusal for surgery, the Medici had obtained by Carlo Borromeo permission for divorce of the marriage in order to marry the Gonzaga, which was a new offense for the Farnese.
The theatre construction configures like a political gift, a tribute in Cosimo II's honor, to attract him to visit Parma to try to manage the marriage agreement which would establish the yearned alliance with the Gran Duchy and the superiority over the Gonzaga by building a theatre, capable of incorporating the innovations of their Sabbioneta theatre by Scamozzi, and overcoming both the Gonzaga and the Medici's theatres in wonder.
The dedication *Bellonae ac Musis*, conflict and art grace, reflects the same opposition and synthesis in the two genres gathered together in the form of a tournament. The opera stage was supposed to be the triumphant conclusion of a full day of spectacular events; Cosimo II was in fact supposed to be greeted by a procession that would escort him along all the way with performances of chivalry, an affluent public banquet and parade of boats to visit the major sites of the city, to be decorated with ephemeral architectures. The stage, with a sequence of 6 acting interludes, seperated by horseback tourneys, a banquet and a *naumachia*, was aimed to reassemble the city in a higher level of fiction and to remind Cosimo II the most relevant and fascinating moments of the day, in order to seduce him further.
To better understand the program and the construction process of the Farnese theatre, it is important to notice that the representation was focused to perform just once and, particularly, addressing one person, Cosimo II de' Medici. More, the whole project orbited around one single purpose: the alliance between Parma and Florence after decades of conspiracy and suspicion. Alliance was to be reached through the agreement of marriage between Ranuccio I Farnese's son, Odoardo, and Cosimo II de' Medici's daughter, Margherita. The strategy to reach this goal was to welcome, amaze and well-dispose Cosimo II, and, in this direction, the project was supposed to articulate into three main works:
(1) Parma city welcome feast: ephemeral redesign along the way from Po river to Pilotta palace
(2) Private indoor feast: the Farnese Theatre construction
(3) Defence of Beauty: the representation of the expected alliance

In august 1617 the rumour spread that the following year Cosimo II will cross Parma on the way to Milan where he would pay homage to San Carlo Borromeo for having healed him. The opportunity to host Cosimo II and agree the alliance with Florence was a very important chance to consolidate the Farnese dukedom, in a condition of geographical isolation and internal discontent.

This project is relevant and they had only one year for preparation, really short period of time, not only to complete the program, but to realize it in the way to overcome the previous architectural precedents in the field of interior theatres like the Olympic by Palladio and the Sabbionata by Scamozzi, but especially the Teatro Mediceo, built by Bernardo Buontalenti inside the Uffizi Palace.
Bernardo Buontalenti after the death of Vasari had become the court official architect, expert in various fields, from fortification engineering to ephemeral apparatus for spectacular feasts and his theatrical installations were famous for the great effect of the blend of truth and fiction. Farnese theatre owes him the solution to paint landscapes on the walls behind the Serlian arcades over the tribunes, in order to continue the spectacle beyond the theatre hall, beyond the urban fiction of the tribune (Figure 1).
Ranuccio I seeks for a man who can compete with Buontalenti and he finds Giovan Battista Aleotti, a known and very brilliant hydraulic engineer and genial stage designer, and an expert connoisseur of architectural treatises. He had already directed the Farnese carnival the preceding year, demonstrating great skill in the design of stage machinery and had been the official

Figure 1. View of Farnese Theatre after the Second World War. The philological reconstruction is missing the original paintings. The U shape cavea offers large place to host the chivalry parades and naumachia to be played among the specators, who are dominated by the gaze of the Duke, positioned in the center on a high level. The solution to paint landscapes on the walls behind the Serlian arcades over the tribunes, continues the spectacle beyond the theatre hall, beyond the urban fiction of the tribune. *Source*: photography by Lorenzo Sivieri

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architect at the Este dukedom in Ferrara, where he had just completed the construction of the Teatro degli Intrepidi. Here he had applied three important changes that he would apply to the Farnese project: the first concerned the audience, he stretched the form to host more people and generate room to be used to host the *naumachia* and the chivalry parades. Secondly, he had enlarged the volumetric void of the stage in order to host the moving scenes and machinery he had expressly created for the special effects. Thirdly, he had introduced the *proscenium* arch in order to hide all the scenic machinery, and this new element was performing as the most representative architectural mask of the stage.
In November the three main protagonists of the project join together in Parma: Giovan Battista Aleotti responsible for the theatre, Alfonso Pozzo responsible for the opera stage "Defense of Beauty" and Enzo Bentivoglio, theatrical *impresario*, responsible for the urban feast, about which he promises to the Duke that he will 'prepare for Him the most beautiful feast ever seen in Europe before'. In fact the whole Ranuccio's project will be remembered as the inauguration of the baroque feast. Due to the short period of time, Ranuccio decides to devote to host the theatre the Hall of Arms of his Pilotta Palace, completed just couple of years before.
Works begin immediately and the three cooperate closely on the text "Defence of Beauty" which, in turn, is written day by day together with the project of the theatre, both reciprocally depending on the stage machines that Aleotti was able to design for the stage of the illusions required by the tournament.

The urban feast, in turn, re-proposes at the scale of real landscape details taken from the stage such as the processions, parades and banquet, the policromy of the costumes and dances to create an itinerant apparatus prepared as a self-propelled architecture along the city, in order to prepare and emphasize wonder, weakening the border between reality and fiction, between Parma and the Olympus which is staged during the evening inside the theatre. Aleotti expressly creates an innovative system of sliding frames centrally controlled to permit simultaneous changes on stage. By borrowing the *proscenium* arch from his previous Teatro degli Intrepidi and the triumphal arches joining the stage with the *cavea* from the Teatro di Sabbioneta by Scamozzi, Aleotti generates a very monumental unity among all the parts of the theatre (Figure 2). The unity of the reciprocal gazes among the spectators who see each other and the duke who, sitting in the center of the tribunes, over the main entrance, benefits from the main point of view on the stage and on the spectators.
The scene is set in the Olympus, at the moment of Gods' disagreement

Figure 2. View of Farnese Theatre after the Second World War. The two lateral triumph arches generates a very monumental unity among all the parts of the theatre. The proscenium arch performs like the new mask of the theatre, hiding the increasing volume of illusion machinery. *Source*: photography by Lorenzo Sivieri

of 1619 when the theatre was completed, the news about his trip often changed, earlier rumours saying that would have arrived in the beginning of spring 1618, which provoked the fear of not succeeding to complete the work, then it came out that he would reach Milan by sailing to Genova, then that he would arrive at the beginning of 1619. This condition of doubt and expectation exasperated the work because Alfonso Pozzo, as documented, was planning the beginning and conclusion of the play depending on whether it was a friendly visit or a marriage agreement. Unfortunately none of these assumptions would effectively correspond to reality, Cosimo II who would never arrive because of his medical conditions during 1618 which would significantly deteriorate and be the cause of his death in 1621. In 1622 Ranuccio I died too, but the effects of this great project bared its results ten years later, when, on the 31 December 1628, Odoardo Farnese succeeded to marry Margherita de' Medici and the feast inaugurated the Farnese theatre with the stage of a new opera, composed by Claudio Achillini and music by Claudio Monteverdi. The Farnese project nowadays is still shows its results for the city of Parma, being one of the most important visit destination of the city, together with the Antelami's baptistery, the theatre setting the secular knowledge and the baptistery setting the Christian knowledge, making the two main cultural paradigms of the age.

Both the theatre and the feast are investments addressed not only to the prompt purpose of gaining the Medici's alliance but also in the long term cultivation of the *civitas*, the city identity and the sense of belonging to the duchy, respectively the theatre conceived to host the Parma aristocracy and the feast involving the whole Parma inhabitants. In fact, traditionally the theatre, from *théa, theòs* is the possibility to move the vision on the level of the God's (ancient Greek, theatre), what is meant by the Farnese project through the large use of illusionistic machinery, and the feast, from *phaìnomai*, meaning *to reveal*, is the particular moment when deity enters the chronological and contingent human dimension producing in humanity the knowledge of a-temporality and transcendence that are daily not usually experienced.

Ranuccio's project shows how it is impossible to overcome the past and inaugurate a new political era without re-writing the history of the city through the generation of new images re-generating Parma, from the inside, from the imagination of its inhabitants.

The reconciliation feast organized in honor of Cosimo II re-plans the image, expectations and dreams of the city, making of architecture the main gnosiological tool for the understanding of the political and cultural setting. James Hillmann in *Politica della bellezza* writes that the Iron Curtain was demolished by the seduction of Western beauty in architecture, fashion, literature, etc. So the question arising is: what type of architecture, and which expectations root contemporary politics in our landscapes and imaginations, both for today and for the future?

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4.3 How It All Began: Primitivism and the Legitimacy of Architecture in the Eighteenth and Nineteenth Centuries

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By the turn of the eighteenth century, architects and writers questioned many of the foundations of Renaissance design theory and its later developments: the role of Roman antiquity as the primary provider of architectural references; the authority of Vitruvius' *De architectura* and its many editions, translations and re-workings; and also some of the very concepts that shaped this design theory, such as the idea that architecture emerged as the imitation of primitive forms of building. Challenging these authorities was not merely a matter of rejecting or reinterpreting the design principles espoused by Vitruvius or retrieved from ancient monuments. It also entailed redefining the foundations of architecture as a culturally and socially embedded artistic discipline. After all, traditional models – and primitive origins in particular – explained how architecture was enmeshed with the very fabric of society. If these authorities were challenged, new arguments had to be found explaining how architecture found its place at the centre of human culture.

In this session, we will examine one particular strain of arguments that addressed this problem: new ideas about the origins of architecture. In particular, we are interested in how the increasingly vivid debates about primitivism – the idea that any human action, institution or custom is at its purest

at the moment of inception – informed new ways of thinking about architecture, its origins, and its role in society and culture. Hitherto primitivism has been considered mainly in relation to Modernism, but it emerged in the early eighteenth century as a mode of thought about the origins, meaning and legitimacy of society and cultural practices. As such, it offers a unique perspective on the still current problem of how to endow architectural forms with cultural meaning. By advocating a return to first origins, primitivism offers an alternative to history as the storehouse of architectural form and meaning. We invite papers that address the role of the quest for origins in general, and ideas on primitivism in particular, in architectural thought and practice in the eighteenth and nineteenth century. We welcome case studies about texts, buildings or oeuvres that open up wider intellectual, social and institutional contexts. We are particularly interested in how questions about origins and primitivism introduced new ideas into architectural discourse – such as the religious and symbolical, rather than the practical and tectonic origins of architecture – and configured the relation of architecture with other artistic and scientific disciplines, such as archaeology and different kinds of historiography, natural history, linguistics and ethnology. Finally, we are curious to see how the preoccupation with primitivism translated into building practice.

4.3.1 On the Colonial Origins of Architecture: Building the 'Maison Rustique' in Cayenne, French Guiana

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Abstract

The 'State of Nature,' which emerged as a central tenet in the social philosophies of the seventeenth and eighteenth centuries contemplating the pre-civilizational struggle for existence, was marked by conflicting views: against the 'solitary, poore, nasty, brutish, and short' life of natural man described in Hobbes's *Leviathan* (1651) stood the 'noble savage' evoked in Dryden's *Conquest of Granada* (1672). How this intellectual legacy influenced those who enlisted, after 1750, naturalized discourses to explain the origins of architecture is hardly straightforward, for architects and connoisseurs alike tended to embrace the 'soft' primitivism espoused by Shaftesbury, Rousseau, and eighteenth-century sentimentalism more generally. Indeed, the presumption of humanity's innate benevolence helped to shape Enlightenment discourses on architecture's origins in habitation.

We set another kind of proposal against canonical examples such as Laugier's 'rustic hut' (which discovered architecture's first model in tree trunks and branches) or Chambers's 'primitive buildings' (which drew from the Vitruvian narrative of the creation of shelter): that is, the structures described in J.-A. Bruletout de Préfontaine's *La Maison Rustique, à l'usage des habitans de la partie de la France équinoxiale, connue sous le nom de Cayenne* (1763). The book details the establishment of plantations in the colony of French Guiana based on a slave economy, the use of local materials, and the labor of indigenous populations. The term 'maison rustique' traditionally designated farm buildings and agricultural compounds (from Estienne and Liebaut's *L'agriculture et maison rustique* (1586) to Liger's *Oeconomie générale de la campagne, ou nouvelle maison rustique* (1700), for instance). Yet our example, which eerily rehearses natural man's search for shelter and civilization, stages another genealogy of architectural origins – one that is bound to race, colonialism, and Enlightenment accounts of the civilizational process.

4.3.2 Out of the Earth: Primitive Monuments between Prehistoric and Gothic Ambitions

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Abstract

Discoveries of megalithic structures – Stonehenge, Avebury, Mane Braz, and Skara Brae among others – were closely linked to the discipline of architecture since the inception of the eighteenth century. In fact, the reformulation of their mythological origins became one of the untold narratives that connected universal forms to these monuments, which emerged from the dark worlds of primeval inhabitants and nature. Eighteenth-century debates over historical authenticity gave way to more complex arguments about the semantic meaning of stone found in archaeological sites replicated in civic and residential architecture across Europe. Figurative forms in the guise of megaliths embodied human actions in their purest appearance. These tectonic structures represented fundamental symbols of architectural endurance but also induced intellectual curiosity through their enigmatic carvings. This paper treats megalithic structures as diachronic objects whose origins were deeply rooted in religious and symbolic narratives that were translated into the construction of English buildings. Ruins became modern constructions that exploited ancient myths to prove their relevance in the eighteenth century. Culture came not in the shape of architecture but in the form of these primitive monuments, which stood for eternal artifice and nature. Eighteenth-century architects and connoisseurs translated these ancient attributes into hybridized aesthetic expressions displaced from ruins and antiquarian monuments devoted to ancient times. Specifically, English castles and residences such as Ashby, Bodiam, Penrhyn, and Wardour heralded vestiges of prehistoric ideals, literary utopias, and Gothic sensibilities towards archaeological monuments. In recalling Arnaldo Momigliano's caveat that the primitive and the civilized were no longer distinguishable, prehistoric structures, in this vein, were infused with non-linear histories based not on the sublime reception of such archaeological sites but grounded instead in primal connections to the earth.

Keywords

Early modern English castles, Gothic Revival, prehistoric architecture, megaliths, ruins

> 'Old castles, old pictures, old histories and the babble of old people, make one live back in centuries, that cannot disappoint one.'[1]
> Horace Walpole

Horace Walpole's felicitous passage about the longevity of old castles holds great relevance for the study of prehistoric megaliths that persisted throughout the eighteenth century. Early modern English castles were intimately connected to historical remnants of an ancient past that presented deceptively simple appearances. Reconstructed within seventeenth and eighteenth-century architecture, stone megaliths from Tisbury circle portrayed themselves as diachronic bodies, which ruptured the ordered continuity between the historical beginning of architecture and its proposed end. Erected by first societies, these universal symbols of civilization strangely reinforced tectonic dimensions of the picturesque and Gothic Revival in English castles, complicating their nebulous identities as primitive monuments. The grotto at Wardour Castle is presented here as a primary example that raises theoretical debates around three interconnected issues: the problems that arise from selecting given origins of primitivism, the semantic meaning of megaliths situated within premodern buildings, and stone's materiality as a troubling manifestation of diachronic history. Embodied in the use of megalithic stone slabs of the Wardour grotto, ancient narratives became increasingly obscured by the presence of eighteenth-century ruins whose antiquarian appearances escaped the closeted confines of history.

But first let us first turn to the genealogy behind English castles, which engaged prehistoric tokens for elaborate aristocratic expressions. Collected in

Grotto at Old Wardour Castle, Salisbury, United Kingdom. *Source: English Heritage*

Samuel and Nathaniel Buck's *Views of Ruins, Castles and Abbeys in England* (1726-39), 428 general views of estate properties across England documented discrete architectural details, many of which had been lost after these buildings had fallen into disrepair. Against the Bucks' survey, Lord Palmerston's 1787 journal supports the impression that castles such as Enmore were planned deliberately as antiquarian reconstructions, 'built by the last lord […] directly on the style of the castle of an ancient baron, 500 years ago. It is built of the coarse rough stone of the country with a deep moat and a drawbridge…' Reverend S. Shaw in *A Tour of England* (1789) commented that 'the castle is a true representation of those *ancient habitations*, which, amid the rivalries, animosities and dangers of feudal times, were the impregnable protection of every potent Baron before the invention of gunpowder and the use of artillery.'[2] Castles born from the Gothic Revival drew their strength from a generally patriotic attitude towards the distant past. English neo-Gothic architecture was therefore different in kind from English classical architecture, and by a similar circular reasoning, the Gothic was specifically suited to the country in which certain factors of landscape, materials, and climate had formed.[3] The 'first great flowering of English domestic architecture,' cited by K.B. McFarlane in *The Nobility of Later Medieval England* (1973), suggests a strong connection between ancient megaliths and early modern follies such as grottoes that sought to capitalize upon their eternal character. Gothic sham ruins erected after the Jacobite Rebellion of 1745 were produced as political attacks on English Catholicism. Sham ruins epitomized not only idyllic likenesses of picturesque beauty, or nostalgia, but instead emerged as 'monuments of ridicule and images of just destruction' (commemorating the defeat of Charles Edward, the Young Pretender, by the forces of George II). Gothic Revival in the eighteenth century existed as a polyphonous phenomenon. David Stewart similarly argues that many Gothic ruins were self-congratulatory monuments that espoused the downfall of England's feudal heritage.[5]

In this light, the 1792 Grotto of Old Wardour Castle heralded a well-groomed English estate that attended to the artful craft of faithfully emulating nature (Figure 1 and 2). Josiah Lane of Tisbury was responsible for inventing and constructing the artificial cave, complete with realistic elements of dripping water, complemented by lush ferns and fossils made from the remaining brick, plaster, and stone leftover from castle's vestiges. Within the grotto's composition, three of the standing stones were removed from Tisbury circle and added to the cave's structure [similar to the stone circle the Hurlers depicted at Cornwall].[6] Raiding and recycling materials from prehistoric sites, was a relatively common practice. Abandoned as a razed ornamental ruin from around 1640s, Wardour Castle became a source of building material for the adjoining follies on the estate.

The Wardour grotto exemplified an eccentric Gothic occasion where its physical configuration was visually reassembled to emulate the monstrous, foreign forms of the ancient megaliths. Irregular structures found in the grotto imitate singular slabs that were cropped, expurgated, and layered upon each other. Upon closer inspection, the collaged walls, clustered into minor sections, were piled to form tall towers, and the grotto's roof was fully enclosed by an dense ivy canopy to enhance its ageless bearings. The darkened entry, marked by low inset stairs, led to a narrow doorway, and in evoking 'gelid caverns', the grotto's walls were punctuated with random sets of openings, summoning what Robert Aubin has called 'settings for elegies and allegories' and 'cool retreats for quelling the passions.'[7] As 'shell-houses' and 'deformities', grottoes, for English theologian Thomas Burnet, possessed emblematic features that harkened back to the antediluvian past of deistic figures and nymphs such as Thetis and Calypso. His *Theory of the Earth* (1691), having borrowed a passage from Young's Night IX, designated their primeval character as subterranean and secretive: 'Seas, rivers, mountains, forests, deserts, rocks; The promontory's height, the depth profound; Of subterranean, excavated grots; Black brow'd, and vaulted high, and yawning wide; From Nature's structure, or the scoop of Time…'[8] Rocky grottos conflated vaunted aspects of the picturesque with antiquarianism, Gothic ruins, and the widespread appeal of exotic yet distant places. Along these lines, artificial geological ruins, others like the Queen's Hermitage, 'owe[d] less to Nature more to Cost,' reflecting the ascendant role of caverns as sites of social pleasure.

Primitive origins as prehistoric

The grotto at Wardour as a design involving the reuse of ancient stone encapsulates some of the theoretical challenges in comprehending the complex ethos of primitive monuments. Master narratives of conventional architectural history textbooks often commence with Neolithic exemplars, and yet, more importantly, these tectonic structures are difficult enough to interpret in their original context. Skara Brae, dating from 3100-2500 BC, as a paradigmatic case in point, signifies the primitive origins of architecture from the early dawn of man. As a minor village near the Bay of Skaill in the Orkney Islands, its first impressions of human presence were illustrated through flint dross discovered near its foundations. The original outlines were crudely demarcated as round pillars and uneven thick walls. Erected in two phases with networked covered passages, Skara Brae contained five houses of a standard architectural plan complete with two rectangular spaces, made from close-fitting flat stone slabs. One popular explanation suggests that the first layout of the village was occupied for about three hundred years at which point the

inhabitants, who were hunters and fishermen, decided to rebuild. Uncovered by a severe storm in 1850, Skara Brae's presence became palpably known to the modern world, revealing uncommon details such as a stone-built dresser placed against the back wall facing the entrance of one of the rooms. Several hundred years later, farming was soon introduced to the Scottish mainland. Cattle, sheep, pigs, and dogs as well as crops such as wheat and barley were absorbed as growing agricultural practices that came to define daily life.

Akin to Skara Brae, Avebury, situated in the midst of the richest Neolithic landscapes in England, also provides scarce information about its place among the chronological sequence of henge monuments. Containing a range of sarsen stones, Avebury originated among the thousands of boulders strewn along nearby regional valleys. Its visual setting ensured a 'balanced horizon that would be suited to astronomical observation.'[9] Clay was used to pack some of the stones into position, making difficult to explain why this material was brought from nearby streams in preference to that which naturally occurs in chalk.[10] For contemporary scholars, materials such as soil, stone, and timber to be considered as natural resources must be balanced with the variety of ways that prehistoric peoples may have engaged with the very substance of the land. Unsealing the ground in prehistory symbolised a meaningful event conceived differently from our perceptions of earth-moving today. Both of these interpretations of Skara Brae and Avebury indicate there is still much speculation around the reasons for their construction.

Theoretical uncertainty surrounding the origins of ancient architecture within the eighteenth century encounters the same impediments that besiege the historiography of prehistoric art. How did archaic myths inform the first emergence of architecture – a hazy prospect addressed by Whitney Davis who contends that the early genesis of art history's origins are, in fact, random.[11] His vigorous avowal that this blindness in conservative art history is easily identified; however, art historical origins are still 'difficult to analyze, examine, and debate.' What should historical origins feel like? Perhaps in the instance of Lascaux cave, as Davis proposes, they are comparable to boys chasing their dog stumbling upon a deep opening in the earth, as a spontaneous event. For Davis, Lascaux locates its possible 'narratability not in its own historical beginnings but in its historical beginnings *for us* as art historians [or architectural historians].'[12] The obsessive selection of Neolithic monuments remains pervasive as in the axial gallery of the Lascaux cave for the origins of architecture. Complex ambiguities around the first exemplar of any history (as a placeholder) take the assumption that prehistoric buildings are historical by nature. Thus, the production of buildings is an inherently historical process, and the historical object (or building) remains open to what Davis calls 'classifactory analyses and historicizing accounts of all stripes.'[13]

Meaning and materiality

Prevalent accounts of Neolithic structures make a discreet entry into eighteenth-century discourse where prehistoric traces played a significant role in the cultural and social construction of early modern English castles. Skara Brae and other monuments such as Stonehenge signaled an impetus towards enigmatic, dark origins rooted in the primeval nature of the earth associated with the beginning of time and the first appearance of man. Their meaning as artifacts and as residual traces remain heavily shrouded in mystery since much of the perplexing symbolism lay enshrined within ancient slabs of stone. Reappearing in the guise of English castles and manor houses, the amalgamated appearances like those of the Wardour grotto distorted the ancient meaning of stone into a mythic language of ruins that relied upon metaphor and non-linear history.

Castles as ruins, which had had fallen into disuse by the 1700s, recalled historian Arnaldo Momigliano's trenchant statement that the primitive and the civilized had become thoroughly indistinguishable.[14] Increasing differences between the privileged status of literary documents and other types of physical evidence such as charters, inscriptions, and statues were heaped into an ever-expanding hierarchy of historical references. Material fragments such as coins or archaeological facts provided a far more convincing argument for historian Francesco Bianchini, who claimed that archaeological evidence (*storia per simboli*) made a firmer basis for history than literary evidence did. Archaeological evidence – from ancient foundations, walls, to stone markers – framed simultaneously both 'symbol and proof of what happened.'[15] Momigliano and Bianchini's assumptions about the foundations of history allowed for material and archaeological facts to supersede literary sources as a means of authenticity.

In the example of the Wardour grotto, stone as physical evidence represented symbolic intentions on the part of the architect and material proof that implied political and social inclinations. As a universal material associated with the foundational origins of man, stone only reinforced these wayward associations back towards the distant past while existing within the eighteenth century. It remained a mute medium that hindered any type of facile explanations. Throughout many pre-industrial societies, stone was conceived as a vehicle that was 'symbolically meaningful, ritually powerful and deeply interwoven into not just economic and material, but also social, cosmological, mythical, spiritual and philosophical aspects of life.'[16] Affirmed by archaeologists and anthropologists, the semantic character of stone was intractable and hard to decipher in prehistoric sites. The quality of the archaeological record at such sites possesses great potential to contribute to broader issues around discourses devoted to materials and materiality.[17] Historian Aubrey Burl com-

ments that 'on the Ordonance Survey maps are hundreds of 'stone circles' many of them spacious enough to fit around a house…Every year thousands of enthusiasts walk to these lonely rings hoping to understand what they were because the circles are the wordless memorials of prehistoric people who struggled to raise the ponderous stones for reasons that are only slowly being recovered.'[18] Similar to stone circles, Neolithic flint mines in England in the regions of Sussex and Wessex could be considered monumental spaces in their own right.[19] Chosen over timber as a preferred building material in many examples of domestic architecture dating before the end of the twelfth century, stone possessed the advantages of strength in light of the developing science of siegecraft. Buildings such as Henry I's keep at Norwich restored later in the nineteenth century and the residential tower keep at Rochester built for Henry I by William of Corbeil, archbishop of Canterbury, are but two of such instances that exploited stone for its symbolic potential.

Situated at the far end of the temporal spectrum, prehistoric sites were equally understood to be mythological places of sublime reception to which many European architects were drawn. Over the Grand Tour, sites such as Wardour Castle were re-envisioned, represented, and reproduced. The visual empiricism set forth by John Macarthur demands that the innovation of the picturesque lies in how a building comes into appearance, well before the question of what the building looks like.[20] While the disjunctive relationship between the elevation and the architectural plan is not of interest here, Macarthur's emphasis on the plan as 'an instrument of seeing' and its asymmetrical nature lends itself to the inscrutability of premodern castles and ruins. The stones of Tisbury set into the Wardour grotto conflated antediluvian age with aristocratic desires and practical economy, and the ensuing visual irregularities belonging to the grotto formulated an ambiguous identity from prehistoric fragments.

Afterlives of monuments

During the eighteenth century, any cultural, religious, and symbolic circumstances encompassing megalithic structures came to override any apparent or logical explanations. Residual primitive and civilized forces merged into the structural forms of early modern castles, as immutable ruins that have survived the onslaught of time. Life histories as the 'biographies of things' such as those of megaliths require continuous reinterpretations of prehistoric structures as part of the very 'logic of monument building'.[21] Historians such as Richard Bradley point to the plausible invention of fictitious genealogies used by political elites to establish long-term continuity of their power on ancient sites. Megaliths such as Skara Brae and Tisbury continue to persist as visual references and physical remnants interlaced within conceptions of eighteenth-century residential castles like Wardour; their re-emergence as traces of a non-linear 'afterlife' reclaimed in the design of private residences draw references from England's distant past. Long-term biographies of prehistoric structures, including Christopher Chippindale's noted volume on Stonehenge, probe how subsequent societies dealt with relics of the past, and in merging aesthetic appreciation with differing approaches to material evidence, we may begin to ask how were monuments actually treated and interpreted long after they had been built.[22]

Recent archaeological attention in this regard has shifted away from the typology and use of the finished form of stone architecture and towards the symbolism and 'ritual empowerment' of both stone objects and unmodified stones. Cultural memory presents itself not as resurrecting the testimony of past events (in terms of accuracy and truth) but about 'making meaningful statements about the past in a given present.'[23] The history culture – or the 'practically effective articulation of historical consciousness in the life of a society' – became defined through symbolic practices such as secondary burials, story-telling, fertility magic, excavations, and guided tours.[24]

In the example of the Wardour grotto, the primitive origins of the eighteenth century lay secluded in earthly prehistoric forms resurrected to align with modern cultural, political and social beliefs. As a material object with formal qualities and a diachronic presence, the singular megalith represented a mode of primitivism that combined mythological assumptions with historical determination. But, nonetheless, meaning and materiality quickly became indistinguishable from one another, allowing ancient stones to escape history as taciturn entities with resonant afterlives. Writing a history with primitive objects attends not only to the far distant past but also to the more recent one, making a direct linkage between them. While diachronic histories of old castles have not completely disappeared, these artifacts, despite Walpole's impertinent counsel, still haunt contemporary civilization with their willingness to beguile and deceive.

1 Horace Walpole to George Montagu,' 5 January 1766.

2 Tim Mowl, "'Against the time in which the fabric and use of gunpowder shall be forgotten' Enmore Castle, its origins and its architect," *Architectural History* 33 (1990), 102-119, 103.

3 Simon Bradley, "The Englishness of Gothic Theories and Interpretations from William Gilpin to J.H. Parker," *Architectural History*, 45 (2002), 325-346, 325.

4 David Stewart, "Political Ruins: Gothic Sham Ruins and the '45'," *Journal of the Society of Architectural Historians* 55, n. 4 (1996), 400-11.

5 Christopher Thacker, *Masters of the Grotto: Joseph and Josiah Lane* (Tisbury: Compton Press, 1976).

6 Robert A. Aubin, "Grottoes, Geology, and the Gothic Revival," *Studies in Philology*, 31, n. 3 (1934), 409.

7 Ibidem, 410, footnote 22. See also Robert

J.G. Savage, "Natural History of the Goldney Garden Grotto, Clifton, Bristol," *Garden History*, 17, n.1 (1989), 1-40.
8 "Archaeology and Aesthetics" ed. Aaron Watson, special issue *World Archaeology* 33, n. 2 (2001), 296-314, 301. G. Daniel, *Megaliths in History* (London: Thames & Hudson, 1972); T. Clare, 1986, "Towards a Reappraisal of Henge Monuments," *Proceedings of the Prehistoric Society* 52, 281-316; J. Thomas, *Rethinking the Neolithic*, (Cambridge: Cambridge University Press, 1991); Richard Bradley, *The Significance of Monuments*, (London: Routledge, 1998).
9 Watson, "Archaeology and Aesthetics," 302.
10 Whitney Davis, "Beginning the History of Art," *Journal of Aesthetics and Art Criticism*, 51, n. 3, (1993), 327-50. See also Mark Jarzombek, *Architecture of First Societies: A Global Perspective* (London: Wiley-Blackwell Press, 2013) on the origins of prehistoric architecture as bound up with the material culture of our ancestors (such as building, clothing, food, and ritual) and a mode of survival (as mentioned by Kenneth Frampton).
11 Davis, "Beginning the History of Art," 327.
12 Ibidem, 328.
13 Arnaldo Momigliano, 'The Controversy of the 17th and 18th Centuries on the Value of Historical Evidence,' in Id., "Ancient History and the Antiquarian," *Journal of the Warburg and Courtauld Institutes* 13, nn.3-4 (1950) 295-307.
14 Ibidem, 299.
15 N. Boivin and A. M. Owoc (eds.), *Soils, Stones and Symbols: Cultural Perceptions of the Mineral World* (London: UCL Press, 2004), 2.
16 Gabriel Cooney, "Introduction: transformations at the quarry face," *World Archaeology* 43, n. 2, 145-8.
17 Aubrey Burl, *The Stone Circles of Britain, Ireland and Brittany* (New Haven: Yale University Press, 2000), 1.
18 Miles Russell, *Flint Mines in Neolithic Britain* (Stroud: Tempus, 2000). Id., *Rough Quarries, Rocks and hills: John Pull and the Neolithic Flint Mines of Sussex* (Oxford: Oxbow, 2001).
19 John Macarthur, "Irregularity" in *The Picturesque: Architecture, Disgust and Other Irregularities* (London: Routledge, 2007), 110-175, 110: '[…] on the pre-modern side, plans were figures and emblems related to the form of the building as object. With the picturesque the plan became a means of placing a viewer, testing a design idea against perception, and then subsequently extending this empiricism of viewpoint to broader understanding of the building's function.' John Dixon Hunt, *The Picturesque Garden in Europe* (London: Thames & Hudson, 2004). Ann Bermingham, "System, Order and Abstraction: the Politics of English Landscape Drawing around 1795" in W.J.T. Mitchell (ed.) *Landscape and Power*, (Chicago: University of Chicago Press, 1994), 77-101.
20 Richard Bradley, *Altering the Earth: The Origins of Monuments in Britain and Continental Europe* (Edinburgh: Society of Antiquaries of Scotland, 1993).
21 Christopher Chippindale, *Stonehenge Complete* (London: Thames & Hudston, 1994).
22 Cornelius J. Holtorf, "The Life Histories of Megaliths in Mecklenburg-Vorpommern (Germany)," *World Archaeology* 30, n. 1, (1998), 23-38, 24.
23 Ibidem, 24.

4.3.3 Viel de Saint-Maux and the Symbolism of Primitive Architecture

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Abstract
One of the sources usually disregarded by the scholarship on eighteenth century architecture is a volume of seven letters published in 1787 by an obscure architect, Viel de Saint-Maux, under the ambitious title *Lettres sur l'Architecture des Anciens, et celle des Modernes, dans lesquelles se trouve dévelopé le génie symbolique qui présida aux Monuments de l'Antiquité.* The author of these letters speculated on the grounding of (classical) architecture onto an essentially tectonic culture, disregarding completely the forest paradigm. More precisely, according to him, modern architecture must have been rooted in the megalithic assemblies which, furthermore, were religiously connoted through the medium of mysterious inscriptions.
Taking the letters as a starting point, I attempt to trace the extent to which they are imbued with the evolutional theories of the eighteenth century, as well as with various philosophical and literary sources. Among them, the monumental 9 volume encyclopedia published by Antoine Court de Gébelin (*Monde primitif* […], 1773-82), appears to have configured the very image of the primitive world as described by Viel de Saint-Maux. Furthermore, the complicated relations between ancient and modern architecture, reflected in the fantasized geographical descriptions, as well as the supposedly symbolic content of rituals and agrarian practices, can only be adequately grasped if pursued in relation either with the more notorious books of Giambattista Vico and Jean-Jacques Rousseau, or with lesser known voyage accounts such as that of Richard Pococke (*A description of the East* […], 1743-45). Extravagant and obscure as they remained, the conjectures advanced by Viel de Saint-Maux are worth being read as an attempt to revive the theoretical discourse – even if virulently contesting the Vitruvian tradition – by resorting to allegory and symbolism. It is precisely this intricacy of myth, metaphor and history encapsulated within Viel de Saint-Maux's discourse that my paper deals with.

4.3.4 Primitivism's Return: Theories of Ornament and Their Debt to Eighteenth-century Antiquarianism

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Abstract
Theories of ornament of the nineteenth century abound with primitivist arguments on the origins of the arts. One can think of the attention Owen Jones granted tattoos of 'savage' tribes, or the notion, popular well into the twentieth century, that ornamental production originated in a primal instinct for adornment. The primitivist outlook can equally be found in materialist theories of ornament advanced by German Realists, and in the vitalist approaches to ornament promoted by French neo-gothic architects. In my contribution to the session "How it All Began, Primitivism and the Legitimacy of Architecture in the Eighteenth and Nineteenth Centuries", I explore the work of ornamentalists in the nineteenth century and discuss their debt to antiquarian and philological research on the origins of the arts. I demonstrate that nineteenth-century debates on the origins of ornament that pitted mimetic and materialist interpretations against beliefs in an internal artistic volition were themselves rehearsed in the eighteenth-century challenges to neoclassical ideals. These challenges, which were leveled by such notable authors as the abbé Pluche, the baron d'Hancarville, Antoine Court de Gébelin, Jean-Louis Viel de Saint-Maux and later, by Friedrich Creuzer and Joseph-Daniel Guigniaut, were chiefly aimed at the idea, popularized by Marc-Antoine Laugier, that the origins of architecture lay in the mimicry of natural models and rested on the inclination towards self-preservation and shelter. In contrast, antiquarians put forth a vision of artistic origins that would be pivotal for the subsequent generations of architects and ornamentalists, steeped as it was in a wholly primal set of cultic beliefs, base instincts, nature worship and sacrifice.

4.3.5 Cultural Transformations and Their Analysis in Art and Science: Anthropological and Curatorial Concepts Stimulated by the Great Exhibition of 1851

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Abstract
In the history of anthropology, the Great Exhibition of 1851 has been recognized as a focal point because it forced people to think about the origins and progress of civilization. While natural history collections explored nature's development since the beginning of the century, the Great Exhibition assembled objects of human production from all over the world for the first time on a large scale. Products of so-called 'primitive' cultures were exhibited and juxtaposed under the same roof with more 'developed' cultures. History, art, and, hence, the development of civilization became physically accessible through material objects from around the world. Consequently, several ideas on anthropological collections emerged, two of which I will discuss in my paper: the Pitt Rivers Museum and Gottfried Semper's concept of a historico-cultural collection.
For Semper, the Great Exhibition represented an 'incomplete entirety' of men's artistic activity and, inspired by what he saw, he developed a concept for an ideal collection in order to compare the development of art throughout cultures. Similarly Rivers arranged the objects in his collection according to formal similarities and functional affinities. But while Rivers tends to a more evolutionist view on history, Semper's historical concept is circular or spiral-shaped in which the primitive indicates decay but still shows signs of former cultural richness. In different ways, both ideas culminated finally in architectural spaces, such as the Pitt Rivers Museum in Oxford or Semper's museums in Vienna.
My paper will deal critically with the impact of nineteenth-century anthropological discourse, how it was translated into River's and Semper's museum concepts and how these concepts represent ideas of development. My paper will deal less with architecture itself but emphasize the influences of anthropological scholarly debate at the time, their notions of origin and primitive society on collections and their architectural spaces.

4.4 Socialist Postmodernism Architecture and Society under Late Socialism

SESSION CHAIR:
VLADIMIR KULIĆ
Florida Atlantic University, USA

If postmodernism is, as Fredric Jameson famously claimed, indeed 'the cultural logic of late capitalism,' what do we make of the fact that in the 1970s and 1980s similar phenomena also flourished throughout Eastern Europe? Does it mean that late capitalism and late socialism shared some as yet unacknowledged commonality? Or that 'socialist postmodernism' was merely a western import? Was it a cultural signal of the imminent collapse of socialism? Or was socialist postmodernism an entirely different beast from its capitalist counterpart, thus opening up the possibility of 'other postmodernisms', similar to the existence of 'other modernisms' that architectural history started acknowledging around the turn of the millennium?
While art historians have long engaged with postmodernism in socialist states, architectural historians have only just started such inquiry. This session questions the definition of architectural postmodernism from the perspective of the (former) socialist world. It invites case studies of buildings, paper projects, and theoretical positions that will cast new light on how we label postmodern architecture, namely the practical and discursive critiques of modernism and modern rationality; the return of historicism, rhetoric, and representation; reliance on surface effects, fragmentation, and pastiche; linguistic and theoretical turns; populist orientation, and so on. The session ultimately aims to problematize the relationship between architecture and socialist societies in the two decades before the collapse of the Berlin Wall. Was architectural postmodernism necessarily a cultural form of political dissidence under state socialism? How was such subversion possible, if most architectural commissions were socially/state controlled? If postmodernism was imported from the West, how did such transfer occur and how were the western models appropriated and transformed? Did the legacy of Socialist Realism somehow affect the emergence of socialist postmodernism? Finally, is postmodernism even possible without postmodernity? Does its existence indicate that, after all, there was a form of socialist postmodernity, even though it is often assumed that the former socialist states failed to transform into postmodern flexible post Fordist economies and new epistemological regimes? Or was it just a statement of intent rather than an expression of the existing social conditions, something akin to what Marshall Berman called 'modernism of underdevelopment?'
Starting from the premise that the socialist world was not a homogeneous entity, this session aims to acknowledge the historical and cultural specificities which existed. Especially welcome are the proposals that posit alternative genealogies of architectural postmodernism, thus questioning the entrenched canons established in the West.

4. THEORETICAL AND CRITICAL ISSUES

4.4.1 A Dialectic of Negation: Modernism and Postmodernism in the USSR

RICHARD ANDERSON
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Abstract

In 1986 the critic and historian Aleksandr Riabushin characterized Soviet architecture's relationship to functionalism as a 'dialectic of negation'. For Riabushin this dialectic was animated by a desire to reinvigorate Soviet architecture after the widespread industrialization of building production during the 1950s and 1960s. While the modernization of the building industry was an eminent success in the provision of living space, it produced, in Riabushin's words, an 'emotional hunger' for an 'expressive language' of architecture. Riabushin and other Soviet critics recognized that this desire for a communicative architecture marked a significant vector of convergence between the architectural cultures of the Soviet Union and the capitalist world. But this potential convergence of cultural norms posed a series of ideological questions to Soviet architectural theory: How were the shared interests of Western and socialist architects in history, context, and expression to be understood? How might the concept of 'postmodernism', as defined in the context of capitalist architectural culture, relate to Soviet architectural design of the 1970s and early 1980s? Perhaps most importantly, how could Soviet architects define their relationship to the capitalist West when they recognized that they shared a crucial set of concerns with their 'bourgeois' colleagues? Riabushin offered one response with his 'dialectic of negation', for this dialectic turned on the negation of bourgeois ideology as well as the negation of mechanistic functionalism. This paper introduces the problems raised by the concept of postmodernism for Soviet architectural theory. It discusses the translation of Jencks's *The Language of Post-Modern Architecture* into Russian in 1985 as well as several theoretical and practical case studies.

4.4.2 When Tomorrow Was Cancelled: Critique of Modernism in the 1970s

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ANDRES KURG
Eesti Kunstiakadeemia, Estonia

Abstract

Several accounts of cultural history have viewed the decade of the 1970s in the Soviet Union as a reaction to the idealistic 1960s: the Prague Spring events had crushed the techno-utopian hopes for a reformed socialist society and the energy driving the social changes was redirected to the private realm. In a similar way, in the architecture profession the 1970s have been seen as dominated by a critique of mass housing and mass production, yet it was also a period of an active search for alternatives, that at the same time did not abandon modernist rationality. This included not only an exploration of emerging new technologies and their use, but questioning the so-far prevalent models of interaction between design and society. It could be proposed then that popular notions in the architectural discourse of the decade – socialization (*obshchenie*), environment, social plan – became ways to imagine not only differently organized surroundings but also a differently, more democratically, organised society. This paper traces the shifts from the utopian language of the 1960s to a more situated and historically conscious approach of the 1970s on the example of a group of architects working in Moscow Architecture Institute and associated with the NER group: Ilya Lezhava, Alexei Gutnov, Zoya Kharitonova, as well as Mikhail Belov. In particular, we seek to examine an entry by Belov, Lezhava and others, to the UIA competition in 1978, a 'Town Hall' project, finally disallowed to participate by the Soviet Architects' Union. We argue that the engagement of this circle of architects with the existing Soviet city was still motivated by socialist values and a desire to extend its framework, yet in many ways it also represented a reaction to the globally emerging forces of postmodernization, echoed in the Soviet Union foremost on the cultural and everyday level.

4.4.3 The Friedrichstadt Palace

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Abstract
The revue theatre Friedrichstadt Palace in East Berlin, which was built 1981-1984 according to a design by Manfred Prasser, epitomizes some of the fundamental contradictions within the 'first socialist state on German soil'. The building was one of the East German rulers' most conspicuous concessions to the vanities of Marxian superstructure and a well-received attempt to add a touch of color to their notoriously dull and grey capital city. The Friedrichstadt Palace not only hosted popular TV shows such as *Ein Kessel Buntes* (A Pot Full of Colors) that aimed at distracting from the monotonous East German everyday life, but also its gaudy design with abundant historic references marked a break with the functionalist aesthetic of earlier public buildings. The Friedrichstadt Palace exemplifies an East German version of post-modernism. Emulating Western European and American entertainment architecture, the socialist leaders intended to boost the GDR's image in the West and respond to their own citizens' desire for pop culture and consumerism.

4.4.4 Neither Style, nor Subversion: Postmodern Architecture in Poland

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ALICJA GZOWSKA
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Abstract
Contrary to the predominant view of Polish postmodernism as a revolutionary change concurrent with political transformations of 1989, we argue that it was an evolutionary process operating within late socialism. The implementation of postmodernism in architecture and urbanism was a slow absorption of selected forms and ideas often integrating contradictory notions and technologies (e.g. historicizing elements deployed in the mass-produced panel housing).
Polish postmodernism during the 1970s and 1980s was a fragmented and dispersed set of ideas and practices that were negotiated and appropriated by diverse groups (architects, the church and communist propagandists), rather than a coherent body of theory and practice. The notion of postmodernism, vague and elusive itself, in Polish context become further complicated by political conditions. The attempts to apply Venturi, Jencks or Krier's ideas were not always an expression of disappointment in the realities of Polish socialism or a longing for the idealized capitalist West. In some cases, postmodern concepts were interpreted as a bridge between contradicting systems. The complex nature of Polish postmodernism also must be understood by taking into account the strong architectural traditions of national Romantic Regionalism, as well as the legacies of Socialist Realism. Those autochthonous factors modeled the selective character of Polish postmodernity, contributing to the hybridity of the results.
Our aim is to explain how the social and political circumstances of late socialist Poland led to the adaptation, filtration, appropriation and a process similar to creolization of contemporary foreign ideas. This paper is based on research and interviews we conducted with architects in 2013 for a book on Polish postmodernism released in December 2013.

4.4.5 Sources of Postmodern Architecture in Late Socialist Belgrade

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Abstract
The paper explores the emergence of architectural postmodernism in Belgrade (Serbia) and its sources, that is to say, the web of different socio-political, artistic and intellectual tributaries to the new architectural outlook. The focus on sources terminologically and methodologically relates to the classic formulation of Nikolaus Pevsner's book *The Sources of Modern Architecture and Design* from 1968. If, according to Pevsner, printing and clocking-in or, rather, mass communication and mass production sourced the aesthetic production he wrote about, which were the streams that bespoke a river and the basin beyond modern architecture and design, that we want to explore in this particular conference session on postmodernism in late socialism? I will examine several timelines which I argue to be indicative of profound changes that effected the emergence of postmodernism in Belgrade architecture: socio-economic, discursive and aesthetic. The paper will focus specifically on the architectural discourse which culminated in 1980s with a series of translations of key texts by Christian Norberg-Schulz, Robert Venturi and Charles Jencks, and exhibitions and events in Belgrade galleries, such as Group of architects MEČ show at the Student Cultural Centre (1980), and a series of collective exhibitions held at Salon of the Museum of Contemporary Art, namely "Solar Architecture" (1980), "Earth Architecture" (1981) and "Water Architecture" (1983). The paper asks how at that time of economic stagnation and socio-political disillusionment, uncertainty about the future and imminent crisis of the socialist system as a whole, the architectural discourse of postmodernism emerged and detached itself from realities of economy, construction, technology and production, and transferred into domain of arts and culture.

Keywords
Postmodernism, architecture, Belgrade, Socialism, sources, culture

Introduction
My contribution to the EAHN 2014 session looks at the key points and sources of a new architectural discourse which emerged in 1980s Belgrade. Based on my previous research on the subject, I examine the manifestations of change in architectural discourse related to the wider cultural context and the social processes of postmodernism and post-socialism.[1] With a historical distance of 35 years, I see in the 1980s – a period of disillusionment in the Second World, and of uncertainty about its future – the seeds of the post-socialist present. Could postmodernism under socialism be interpreted as one of Jacques Derrida's spectres of the event, as it were, a premonition of the future that we are living in today?[2] The Belgrade aesthetician and theorist Miško Šuvaković contends just that, when he writes: 'Post-Socialism is the *postmodern condition* of former Real Socialist societies/states' and continues to describe it as 'a transitional period between bureaucratic Socialist Realist society and late liberal market capitalism', which is 'characterised by the paradoxical conjunction of different and heterogeneous social systems and forms of production and the consumption of culture'.[3] The 1980s were also the peak of high postmodernism in the First World, as expressed by Fredric Jameson in his now classic thesis of 'postmodernism, or, the cultural logic of late capitalism'.[4] In his analysis, Jameson left a possibility of a (utopian) enclave, an alternative to the system in its advanced, late stage or, as he later termed it, 'the future as disruption'.[5] Could it be argued that in the Second World, postmodernism was such an enclave, a disruption of the system engendered within an advanced state of bureaucratic sclerosis?

Sources and intersections of postmodernism in Belgrade
Analogous to the paradoxical conjunction described by Šuvaković, one can distinguish in 1980s Belgrade two fundamentally different systems of architectural practice: large design bureaus and construction companies in the public and/or state sector geared to mechanised mass building production, and small private entrepreneurial practices engaged in the design, production and consumption of new culture and lifestyle. The housing blocks in the modern city of New Belgrade can be seen as representative of the former type of practice[6] – blocks that were to become manifestations of the crisis of the 1980s with illegal and spontaneous interventions by the inhabitants.[7] The latter type of private practice catered for cultural events, interiors and fit-out of the privately owned café-bars which started springing up at the time, and the design of decorative objects – lamps, furniture and the like. Between two extremes, a wider range of other types of architectural practices also co-existed in the period, such as design bureaus such

as 'Projektbiro' led by the up and coming architects Mihailo Mitrović, Radivoje Tomić and Jovanka Jeftanović established in 1954; and interdisciplinary offices which combined research and design, such as IAUS – Institute for Architecture and Urbanism of Serbia (est. 1954), JUGINUS – Yugoslav Institute for Urbanism and Housing (est. 1957), Centre for Housing (1970-1986) at the Institute for Research of Materials (IMS) or CEP – Centre for Urban Development Planning (est. 1974). Professional journals from the period present articles and projects belonging to disparate registers, often simultaneously promoting conflicting conceptual standpoints and theoretical notions. Where did the alternative architectural practices source ideas and inspiration come from, and how were its cultural valences forged? For the purposes of this session's discussion, I propose a provisional net of interrelated source points:

Popular culture and socialist youth organisations
Postmodern sensibility and formal experimentation were first manifested on a large scale in 1980s Belgrade popular music and media connected to youth organisations, in student culture centres and on TV and radio programs. A surge of creativity and the energy of street culture burst into youth organisations and clubs, arts scene, publications – magazines, 'fanzines', comic books – popular music and alternative theatre and dance scenes, merging together the self-made new look of the youth in the street with their radical haircuts, make-up and fashion with the New Wave, Punk or Mod music scenes.

Intellectual basis in Phenomenology
The wide range of phenomenological literature translated into Serbian from the late 1960s had effects that correspond to the relation between phenomenology and the rise of the postmodern architectural culture brilliantly described by Jorge Otero-Pailos.[8] The translation of Christian Norberg-Schulz's *Existence, Space and Architecture* (1971) into Serbian in 1975 might be considered an important foundational source.[9]

International networks and meetings
Following the first International Architecture Exhibition in Venice (1980), translations of texts and books by Charles Jencks on postmodernism from 1981 and of Robert Venturi's *Complexity and Contradiction in Architecture* in 1983, postmodernist discourse started to become prevalent in the mid-1980s amongst local practitioners and theoreticians. The *Terza Mostra* in 1985, and its *Progetto Venezia* competition exhibition attracted 500 entries from 33 countries, including 11 from Yugoslavia, and a number of new wave architects from different regions of the country prominently participated in the international competitions such as the 'Shinkenchiku' Design Competition, in leading exhibitions in Venice and Paris, and had their work published in international journals and catalogues. In 1984, the Association of Belgrade architects organised in the Students Cultural Centre in Belgrade the exhibition of Italian architects engaged in the project for the *Isola Tiberina* '*La Nave di Pietra,*' with lectures by Aldo Rossi, Paolo Portoghesi, Franco Purini and Alessandro Anlselmi.

Cross-Yugoslav networks and meetings
All-Yugoslav competitions, cross-regional exchanges, exhibitions and contacts between actors in different centres of the country were regular and reported upon by architecture journals, such as *Čovjek i prostor* published by the Association of Architects of Croatia in Zagreb or the monthly bulletin *Komunikacija: Notes on Urbanism, Architecture and Design* published in Belgrade by the architectural design and town-planning firm CEP. Cheaply double side printed on a single A1 paper and folded into an A4 format, *Komunikacija* was distributed by post, for free, to a wide professional and academic network all over Yugoslavia. Its founding editor-in-chief, the architect Miloš Bobić (1946-2007), conceived it as an array of widely different yet complementary ideas, concepts, textual content and projects coming from modernist and postmodernist camps, and from all generations, students to doyens of the profession. CEP organized yearly symposia and ideas competitions for young architects with exhibitions in the Belgrade Arts Pavilion, attracting large audiences of varied profiles from all over Yugoslavia.

Context
The 1980s were a period of economic stagnation and socio-political disillusionment, of uncertainty about the imminent crisis and collapse of the system as a whole. 1980 is particularly significant as the year of the death of Josip Broz (1892-1980), Marshal Tito of the Peoples Liberation Movement in the Second World War, the lifelong President of the Republic and the leader of the League of Communists of Yugoslavia. This event is deemed to have set in motion the disintegration of the multinational federation, the break-up of self-managed socialism as a political and economic system, and the end of the Yugoslav idea. In the 1980s, the apparatus of social modernization, which had been cumulative, mutually reinforcing, rapid and dynamic in the whole post-war period despite the political and ideological monopoly, had come to a grinding halt, and macroeconomic performance figures started to decline and subsequently regress.[10] The highly decentralized and complex system of governance became largely unworkable with rising national/eth-

nic fragmentation, particularism of interests and lack of consensus on major questions of federal unity and regional inequalities. It was in this context of suspended crisis that possibilities for change opened up.

Intersections

In the 1980s, a number of heterogeneous aesthetic practices, all of which had developed as distinct from the dominant mass production mode of socialist modernism, met and intersected under the broad-rimmed hat of postmodernism.[11] Galleries and discussion panels became the meeting points and media for intersecting discourses of different generations of architects whose work had never quite fitted into the modernist mainstream. The University of Belgrade professors Aleksandar Deroko (1894-1988), Bogdan Bogdanović (1922-2010) and Ranko Radović (1935-2005) joined the postmodernists and endorsed their work, often writing introductory texts in catalogues or speaking at openings of their exhibitions, co-exhibiting or participating in discussion panels, thus giving the new movement historical and discursive depth. Deroko had nurtured a multifaceted artistic career since 1920s, as an aviator and traveller, painter and architect, folklorist, conservator and medievalist, writer and publicist. From the 1950s Bogdanović had been expressing his ideas and standpoints through writings, drawings and unique works of memorial architecture, deriving his distinctive formal language from deep layers of urban history, myth, cult, ritual, even, cosmology. Radović promoted postmodern ideas through academic and public lectures, urban and architectural designs, exhibitions of drawings, architectural essays, criticisms and pioneering educational TV programs on architecture, and his lecture course 'Contemporary Architecture' had a cult following both in state and open university programs.[12] With his unrelenting communicative energy, sense of humour and multifarious talents, Radović effectively singlehandedly extended the modernist concept of architectural praxis to a postmodernist concept of architecture as a discursive field.

Exhibition space as an alternative architecture site

Distinct from the hitherto prevalent practice-led discourse, the nascent architectural discourse of postmodernism detached itself from the social realities of economy, construction, technology and production and transferred itself into the fields of art and culture. Economic recession, the decline of the construction industry and a general bureaucratic sclerosis created a climate for experimentation within independent practice. Unlike the mainstream architects of the same generation (born about 1950-5), who regularly entered state sponsored competitions for overly ambitious large scale schemes that rarely progressed beyond the design stage, the postmodernists were often successful in having their projects realised in the real time and space of late socialism. The exhibition 'The Group Portrait: New Architecture of Belgrade,' at the Salon of the Museum of Contemporary Art in 1982, showed this contrast clearly: on the one side, elaborate competitions schemes out of tune with the socio-cultural and economic context of the 1980s, based on largely outdated programmes, such as oversized green field housing schemes, city or 'reyon' cores, large and technologically demanding auditoria in youth or cultural centres; and, on the other side, the only realized work in the show, a small scale, low budget, temporary installation, 'Forum', by the postmodernist group of architects MEČ.

The Belgrade architect Mustafa Musić (b. 1949) explained in a recent interview how he entered into the alternative scene of cross-disciplinary and cross-generational exchange that marked the rise of postmodernism. In spite of the offer of secure employment after he graduated as one of the top students in his class at the University of Belgrade Faculty of Architecture in 1975, he chose the path of private practice. In fact, by deciding to remain unemployed, it was only natural, says Musić, 'that this choice brought (him) closer to other "unemployed" people – artists, philosophers, critics'.[13] In 1980, with the fellow architects Dejan Ećimović (1948-2002) and Marjan Čehovin (b. 1950) he co-established the group of architects MEČ.[14] Although the name sounded like *'match',* implying an avant-garde radicalism, MEČ in fact avoided confrontation on the modernist terrain of architectural competitions. Instead, they exhibited theoretical projects, that is to say paper architecture in white cube galleries and temporary outdoor architectural installations. Using the medium of the exhibition as the transmitter of ideas and concepts, with the principal aim of constructing a theoretical-methodological apparatus, the group exhibited their work at the Student Cultural Centre (1980) and members participated in a series of collective architectural exhibitions, such as Solar Architecture (1980) and Earth Architecture (1981) at the Salon of the Museum of Contemporary Art.

By taking an alternative approach to the discipline through drawing rather than building, exhibition, discussion panels and lectures, rather than participating in the state-managed socialist construction process, their joyous and playful spirit, manifested in colourful drawings and temporary installations, showed the possibility of resisting the hegemony of high modernist, state sponsored architecture. One of the key events of the period illustrative of the period is the exhibition 'Anthology: The Post-Modern in Belgrade,' curated by the painter and publicist Dragoš Kalajić and held at the Salon of the Museum of Contemporary Arts in 1982. (Figure 1) Alternatively subtitled on the inner title page of the catalogue as the 'Exhibition of Dragoš Kalajić's Thesis', the

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Figure 1. 'Anthology: Post-Modern in Belgrade,' exhibition catalogue cover. *Source:* Antologija: post-moderna u Beogradu (Izložba teze Dragoša Kalajića). Belgrade, Salon Muzeja savremene umetnosti, 1982.

Anthology was loosely connected with the institutional framework of the Museum, as noted in the *impressum*: 'In an effort to show diverse ideas and interpretations of contemporary art, and in accommodating in the museum's program and space also authored exhibitions, the Museum of Contemporary Art at the same time retains its right to a differing opinion'.[15] Kalajić had already put forward a general theory on the postmodern era in a rather lengthy article he published in the Belgrade art magazine in 1976, but with the 'Anthology' he clearly aimed at demonstrating the praxis, that is, the scope and range of the cultural practice of postmodernism in Belgrade. The show itself presented 23 artists – two of them long dead and thus retroactively deemed post-modern – and 42 works in a wide variety of media, aesthetic and disciplinary registers: painting, photography, Polaroid®, Super 8 mm film, slide projection, LP recorded music, concept magazines, architectural and urban design, advertising and installation. In sum, the thesis on postmodernism assembled incongruent individual works that coexisted in an array of undecided plurality.

At the centre was the installation 'Table (of a Dancer, of a Marksman, of a Philosopher)' by the architect Musić. Hand-crafted in simple, cheap materials, 'all from your ordinary socialist shop',[16] the tables, as their names indicate, had a distinct figural quality. By simple means, they primarily transmitted architectural ideas that defined the difference that postmodernism in the gallery was trying to present against modernism in urban space, such as: figural vs. literal; quotidian and ordinary vs. aspiring to perfection; cheap/handmade vs. state budget funded/mechanised construction; small scale/flimsy/unstable vs. massive/muscular/structural; spirited/frivolous/ludic vs. symbolic/solemn/powerful; and the like.

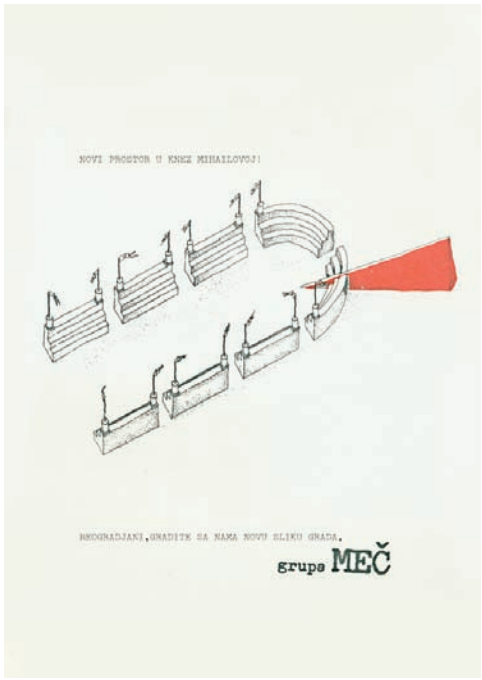

Figure 2. 'Forum', poster of the installation by MEČ, 1982. *Source:* Courtesy Mustafa Musić

The temporary street installation 'Forum' by MEČ is also revealing of the notions which were becoming apparent with the emergence of postmodernism. 'Forum' was part of the larger event, named 'City in Reincarnation', celebrating the birthday of the late president Tito throughout central Belgrade in May 1982, two years after Tito's death – the event, as it were, commemorating the ninetieth birthday of the living dead. (Figure 2) MEČ symbolically represented the *forum* with twelve broken column bases, placed on top of a white stadium-shaped structure formed by a simple white painted stepped rostra made in the carpentry shop of the National Theatre in Belgrade. The red triangular piece piercing through is a reference to El Lissitzky's poster 'Клином красным бей белых' (1919). The most reproduced and best known image of the installation is a colour photograph with an American flag in the foreground. The flag documents the place from which the photograph was taken, the American Reading-Room, a location of urban legend, whose association with dissidence lasted from the time it opened in 1945 all through the Cold War years, though this connotation was fading away in the seemingly apolitical 1980s. More to the point, the American flag and the Soviet avant-garde red triangle reflect ambivalence between representation of the Cold War divide, or a free association of two political frames of reference. The 'Forum' acts both as metaphor and as document of the urban reality of the late socialist city. Documentary photographs from the period demonstrate
that the installation was simultaneously used as a forum, while passed by, unobserved and ignored, by Belgrade citizens.

Final point

In sum, I would argue that the ambivalent contexts and disparate notions coexisting side by side in the period of 1980s demonstrated a growing opposition to the predominant direction of the modernist paradigm, even if it itself was constantly re-directed and modified over five decades since its first iteration in Belgrade architecture and planning in the 1930s.[17] With increasing public and expert criticism of the modernist model of the functional city in the period 1979-1984, studies of alternative urban models were carried out in the Belgrade Urban Planning Bureau,[18] as well as in the 1986 'International competition for the improvement of the urban structure of New Belgrade' co-organised with the International Union of Architects.[19] By the mid 1980s, postmodernism effected a *coup de grace* at the very heart of socialist modernism, that is, the central zone of New Belgrade. The construction of the housing Block 24 in the period between 1984-89 marked a definitive suspension of the modernist planning paradigm of functional segregation in New Belgrade's centre, and the first sustained attempt at a reinterpretation of the traditional perimeter urban block within the modernist urban structure.[20] With Block 24, the chapter on postmodern, that is, post-socialist city of today had been opened – and, as Vladimir Kulić indicated in the review of this paper, it is the complex implications of such relations that need further discussion.

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2 Jacques Derrida, *Specters of Marx: The State of the Debt, the Work of Mourning and the New International* (1993). Translated by Peggy Kamuf (New York and London: Routledge, 2006), 214.

3 Miško Šuvaković, "Remembering the Art of Communism. Analysis of Contradiction: Approaches and Transgressions," *Third Text* 23-1 (2009), 23.

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5 Fredric Jameson, "The Future as Disruption," in his *Archaeologies of the Future. The Desire Called Utopia and Other Science Fictions* (London: Verso, 2005), 211-33.

6 Ljiljana Blagojević, "The Residence as a Decisive Factor: Modern Housing in the Central Zone of New Belgrade," *Arhitektúra & urbanizmus: journal of architectural and town-planning theory* 46/3-4 (2012), 228-49.

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8 Jorge Otero-Pailos, *Architecture's Historical Turn: Phenomenology and the Rise of the Postmodern* (Minneapolis: University of Minnesota Press, 2010).

9 Kristian Norberg-Šulc, *Egzistencija, prostor i arhitektura* (Belgrade: Gradevinska knjiga, 1975).

10 Lenard J. Cohen, *Broken Bonds: The Disintegration of Yugoslavia* (Boulder, Westview Press, 1993), 26-38.

11 Blagojević, "Postmodernism in Belgrade Architecture," 24-5.

12 Ljiljana Blagojević, "Raskršća savremene

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arhitekture: Ranko Radović i diskurs postmodernizma," *Kultura* 134 (2012), 182-99.
13 Interview with Mustafa Musić, April 2010, in: Marija Josifovski and Olivera Stanković, *Autorska pozicija arhitekte Mustafe Musića* (Belgrade: Univerzitet u Beogradu, Arhitektonski fakultet, 2012), 32.
14 The Group members were also architects Slobodan Maldini (b. 1956) and Stevan Žutić (b. 1954)
15 *Antologija: post-moderna u Beogradu (Izložba teze Dragoša Kalajića)*. Exhibition catalogue (Belgrade, Salon Muzeja savremene umetnosti, 1982), not paginated.
16 All references to remarks by architect, noted in telephone conversation with Musić by the author of this paper, October 18, 2012.
17 Ljiljana Blagojević, *Novi Beograd: osporeni modernizam* (Belgrade: Zavod za udžbenike, Arhitektonski fakultet i Zavod za zaštitu spomenika kulture, 2007), passim.
18 Miloš R. Perović, *Iskustva prošlosti/ Lessons of the Past* (Belgrade, Zavod za planiranje razvoja grada Beograda 1985). Serbian and English text.
19 *Arhitektura Urbanizam: The Future of New Belgrade: International Competition for the New Belgrade Urban Structure* XXV/ special issue (1986), 1-76.
20 Blagojević, "The Residence as a Decisive Factor" 246-47.

4.5 Histories and Theories of Anarchist Urbanism

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Anarchist thought has had a profound impact on discussions about the city and city planning since the Enlightenment. Still, the influence of anarchism on the history of urbanism has not been sufficiently documented to date, and the aim of this panel is to rectify this gap in the literature. First and foremost, what do we mean by anarchism and what are some of the different ways in which it has shaped the face of urban planning and design? More specifically, how have anarchist thinkers influenced debates about decentralized planning since the nineteenth century? In what ways might the study of anarchism enrich our understanding of democratic or participatory planning more generally? Case studies that explore the links between urbanism and anarchism in journals (such as *Architectural Design*) and books (e.g. *News from Nowhere*) are most welcome. Explorations of the influence of anarchist thought on the ideas of seminal urban thinkers (Ebenezer Howard, Lewis Mumford, Patrick Geddes, Bruno Taut, Le Corbusier, Otto Neurath, Frank Lloyd Wright, Constant Nieuwenhuys, Fred Turner, Jane Jacobs, Hakim Bey, Rem Koolhaas, et. al.) will be appreciated as well.
Collectively, our goal is to use this session as an opportunity for rethinking the historiography of urban planning and design from the ninteenth to twenty-first century. We also want to use it as a vehicle through which to reframe contemporary discussions about the informal city.

4.5.1 The Legacy of the Anti-urban Ideology in Bruno Taut's Architectural Practice in Ankara (1936-8)

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Abstract
Bruno Taut was appointed Head of the Architectural State Cabinet of the Turkish Ministry of Education for the design of Higher Education buildings in the period between 1936 and 1938. Mainly realized in Ankara, these projects were intended to play a strategic role in shaping the urban fabric of the new capital of the Republic. This study focuses on the urban and visionary aspect of Taut's professional practice in Ankara in an attempt to establish a connection with the set of anti-urban ideas he professed in the early years of his political activism in Germany.
The study thus will explore how Taut formulated a clear prospect for the urban development of Ankara, which echoes the traits of his former urban utopian proposals as outlined in *The City Crown* (1919) and *The Dissolution of the Cities* (1920). These works display the deep impact exerted on his anti-urban discourse by the ideas of radical and anarchist authors. The utopian tracts developed by Taut in particular originated from the spiritual aesthetic and the social-pacifism of Paul Scheerbart, and from the cosmic communism professed by Pjotr Kropotkin.
Through a critical review of primary sources, ranging from Taut's personal diary to his articles published in Turkey, and a new reading of his projects, this study seeks to illustrate how the legacy of this anti-urban ideology surfaced once again to mark Taut's visionary practice in Ankara. The very idea of the city as a system of symbolic public buildings able to bind the individual and the community in a transcendental unity, in particular will be re-examined to point out how the attempt to give architectural form to Kropotkin's anarchism was still central in Taut's discourse.

Keywords
Kropotkin, anti-urban, Taut, crown, dissolution, Ankara

Introduction
Bruno Taut's architectural activity was distinguished by a clear urban character. His designs were conceived as active elements intended to generate a social transformation of their immediate surroundings. The urban vision implied in these works originated from the period of Taut's political activism, during and immediately after the World War I. Taut's urban discourse assumed the form of a basic antagonism towards the compact and centralized structure of the large city. His 'anti-urban' vision emerged in a propositional fashion, for it advocated other values, other forms of social relationships marked by communitarian basis, against the capitalist city and its individualism. In particular, the revolutionary visions of ideal settlements promoted by Taut in those years (*The City Crown* and *The Dissolution of Cities*) were developed in utopian terms in connection to the theoretical work of Pyotr Kropotkin. Kropotkin's discourse evoked the outline of a new kind of inhabited landscape based on a dispersed structure in opposition to the central compact one of the traditional large city. The legacy of his ideas played a determinant role in the development of radical urban proposals alongside the whole twentieth century, among which Taut's utopian projects stand as the very first attempt to visually construct the territorial realm evoked by Kropotkin.[1]
In the following years of Taut's activity, the visual devices and the symbolic figures elaborated to depict Kropotkin's views, shifted from a utopian to a concrete level to be incorporated in his practice. This paper analyzes the surfacing of these elements in the last years of Taut's life, when he worked in Turkey (1936-8) as the head of both the Academy of Fine Arts' Department of Architecture and the Turkish Ministry of Education's Department of Construction. In particular, Taut's sketch idea, submitted to the competition for the Turkish Parliament Building in 1937, is discussed as a case study. This project, the most grandiose and visionary among Taut's projects in Turkey, was conceived as a secular acropolis towering above the city of Ankara, and it was designed in the fashion of the ideal settlement Taut promoted in *Die Stadtkrone* (1919).
What was the reason for retrieving that utopian proposal after nearly 20 years and transforming it into the representative center of the new Turkish State? Was the 'city crown' still a feasible concept, which could be re-elaborated for a real situation? In an attempt to answer these questions, we review the visions originated from that utopian period and frame them as a legacy leading to the crown of Ankara.

From Kropotkin's anarchist vision to Taut's radical urbanism

The Russian geographer Pyotr Kropotkin elaborated a new configuration of the relationships between society and territory, based on anarchic-communist ideals. His seminal works, *Mutual Aid: A Factor of Evolution* (1902), *The Conquest of Bread* (1892) and *Fields, Factories and Workshops* (1898), provided, in a scientific and rigorous fashion, the essential guidelines to form a new society organized in autonomous decentralized communities.[2] Prime issues in his discourse (e.g. the scale factor of the association, the decentralization of industries, the integration between agriculture and industry, and the incorporation of rural and urban realms) were suitable for re-elaboration, both in architecture and urbanism, for their connections to spatial organizations. Kropotkin's ideas addressed the construction of a re-fashioned landscape in which a diffuse network of rural-industrial communities, scattered all around the globe, were to substitute the existent structure of centralized and specialized zones.[3] Eventually, his advice implied rejection of the idea of the large city.[4] Such an implication became an ideological issue of the anti-urban currents at the turn of the twentieth century.[5]

This stance applies in particular to Bruno Taut's utopian proposals, which can be read as the ultimate attempt to give formal expression to the ideas of Kropotkin.[6] These proposals were developed during the years of his political activism as presented in *Die Stadtkrone* (1919) and *Die Auflösung der Städte* (1920). The relationships between Taut and a number of members of the anarcho-socialist, literary and reformist movement, which flourished in Berlin at the turn of the century, have been thoroughly investigated by Iain Boyd Whyte, in his extensive reconstruction of the array of intellectual sources of Taut's activist discourse.[7] Although Whyte does not focus on the territorial factors of Kropotkin's discourse, they are essential to understand the visual imaginary elaborated by Taut for his utopian proposals.[8] These works, in fact, represent the epic attempt to translate into images the Kropotkin's anarchist claims for a re-generated society.

In his first utopian project, published as *Die Stadtkrone* (The City Crown) in 1919, Taut illustrated his architectural view with the plan for an ideal city (Figure 1).[9] Here, the structure of the settlement, based on a concentric layout, was entirely conceived in the character of a garden city with houses in single rows and large gardens. The residential area itself was a horticultural zone, resembling Ebenezer Howard's garden city, to which Taut referred in the book.[10] The continuity between Taut's ideal city and the tradition of the garden city movement is also strengthened by their common connection with Kropotkin's views, especially with his conviction that the future belonged to small-scale communities embedded in a decentralized society.[11] Kropotkin's idea of 'industrial village', an updated version of the medieval craftsmen's

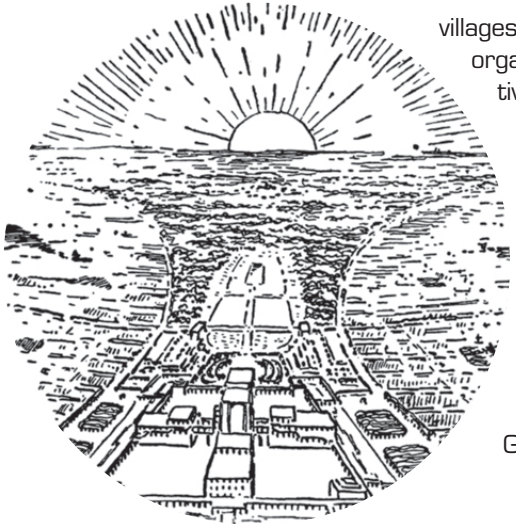

Figure 1. *Die Sadtkrone*, bird's eye view, looking west (drawing by Bruno Taut). *Source*: Ulrike Altenmuller, Matthew Mindrup (trans.), "The City Crown by Bruno Taut," *Journal of Architectural Education* 36, 1 (2009), 129

villages, and his theories of a social organization based on cooperative communities, were drawn from an extensive analysis of the dynamics of formation of the European medieval cities that informed his book *Mutual Aid.*[12] The re-appraisal of the Middle Ages as the ultimate escape from the nineteenth century metropolis is another common trait of Taut's proposals and Howard's Garden City. In their search for a future society, both looked back in an attempt to retrieve from the past values, ideals, and in particular the idea of organic community, which they sensed as dramatically lost in cities. Kropotkin offered a vivid representation of the medieval idea of community and spiritual unity, emphasizing that the Gothic cathedrals were not the result of a solitary effort, but they were the contribution of the entire city.[13] The city itself was the product, on a new territorial scale, of different village communities clustered together under the same common interest.[14]

Taut identified the presence of this spiritual unity in the relationships between the Gothic cathedral and the simple houses surrounding it in a sort of respectful submission.[15] Against the inhuman metropolis and its individualism, Taut opposed a plan aiming to re-establish, in architectural forms, the perfect unity between *Geist* and *Volk*, the sacred and the profane derived from the structure of the medieval city.[16] The architecture of Taut's *Die Stadtkrone* appeared as a direct crystallization of the medieval system of spontaneous associations that came into existence for a common pursuit: the construction of the city, expression of the linkages of the community, and the cathedral, the very physical and spiritual focus of the city.[17] The city center was intended as a grouping of communal buildings that fulfilled the intellectual and cultural aspiration of the community, and formed the base for a higher symbolic structure, which reigned 'above the whole as pure architecture.'[18] It was the *Kristallhaus*, 'the ultimate glory of the *Stadtkrone*

and a physical representation of *Geist'*.[19] The 'crown' eventually became a powerful figure to express the presence of a climax, a 'crystallized religious conception', the condensation of the spiritual ideals of the community.[20]
The process of rejection of the large city started with *Die Stadtkrone*, was completed in *Die Auflösung der Städte* (The Dissolution of the Cities) published in 1920.[21] The work was anticipated by the essay 'The Earth is a Good Dwelling' published in 1919, in which Taut formulated his vision according to Kropotkin's ideas.[22] In line with Kropotkin's *Field, Factories and Workshops*, Taut advocated the decentralization of autonomous rural cooperative communities and of industries reduced in scale and dispersed in the land.[23] This was not a nostalgic comeback to the romantic idea of pre-industrial village communities, on the contrary Taut's idea followed Kropotkin's pattern of territorial integration between agriculture and manufacture.[24] Another effective trait of Kropotkin's rural-industrial communities was the combination between brain work and manual work, which Taut incorporated in his discourse as 'a healthy balance between manual and mental activity, between the workshop and the land.'[25] To illustrate the impact of these ideas on the construction of a new territorial organization, Taut prepared 'The Dissolution of the City' in which he combined concepts and images into an organic unity. The concepts were excerpts from Kropotkin's writings, starting with the short manifesto 'stone houses make stony hearts' in the first illustration.[26] The images were arranged in a sequence of magnifying views that brought into focus the different cooperative units drawn on from Kropotkin's studies. The impression suggested a complex territorial structure on vast scale in which the rural-industrial units composed a widespread pattern of cellular aggregation. An early attempt to sketch an architectonic image of this plan appeared in 'The Earth is a Good Dwelling':

> In the settlements the urban landscape will completely disappear, and individual buildings will acquire a completely different meaning, as will the isolated large building. If we rise above the earth in a balloon, what we will see below are houses strewn about like grains of sand… and the higher we rise the more they will appear like a fog spreading over the green countryside. And in this fog, a few glistening spots sparkle, smaller and larger, like stars in the sky.[27]

To express his visionary plan Taut elaborated an extraordinary visual device, which implies a reversal in the direction of the architectonic experience, a sort of 'projection of the sky on earth.' As a result a watermark effect, a 'fog' that simultaneously conceals and discloses, enables to envision the complex territorial pattern in which groups of scattered individual houses blend into an opaque coat, whereas the isolated communal buildings are emphasized amidst free and clear areas. In one of the 30 drawings form *Die Auflösung der Städte*, this framework appears in an abstract pictorial fashion.[28] The relationships between buildings assume the form of units organized around a center, a crown. Eventually, the crown and the projection of the sky on earth, are combined in a sole visual device to recall the territorial configuration that surfaces from the considerations of Kropotkin, in which centralized hierarchies focusing on only a few large cities are replaced by a diffuse networks of people connected through one another.[29]
Kropotkin's views played a decisive role in Taut's construction of a radical and alternative urban imaginary. In translation of his views into images, Taut elaborated two symbolic figures: the figure of the 'crown', to envision the idea of community, of spiritual union between the individual aspirations and the collective ideals, and the figure of 'dissolution' (the 'projection of the sky on earth') to evoke the vegetative and biological features of the scattered land settlement. Both of these figures resurfaced at times in Taut's later practice, characterizing projects as fragments of 'concrete utopia'.[30] Through these fragments Taut worked out a radical urban vision that implied the rejection of both the compact and centralized structure of the traditional city and the demands to homogenize and rationalize the urban fabric pursued by the current modernist school. During the last period of his life, between Japan and Turkey, Taut elaborated this vision in a broader theory of architecture, which was published shortly before his death in Istanbul as *Mimari Bilgisi* (Lectures on Architecture). Here, he proposed to abandon the geometric and formalist approaches in order to explore variations of forms, and to give 'free play to the asymmetric.'[31] In Turkey, Taut had the chance to incorporate these ideas in an intensive architectural practice in connection with the construction of the new capital city of Ankara. In particular, his last project for the Parliament Building, which he designed as a re-fashioned version of the City Crown, is an extraordinary example of how his urban vision was in continuity with his former utopian stances.

A crown for Ankara: Taut's proposal for the Parliament building

Bruno Taut arrived in Turkey on 10 November 1936. He was among many German-speaking architects and planners, such as Martin Wagner, Margarete Schütte-Lihotzsky, Ernst Egli, and Clemens Holzmeister who were invited to the country by the Turkish government.[32] Appointed as both the head of the Department of Architecture at the Academy of Fine Arts and the Project Bureau of the Turkish Ministry of Education, Taut was assigned

to reform the curriculum of the school and to design the buildings for higher education for the Ministry, respectively.[33] Some of the educational buildings he designed include, Faculty of Languages, History and Geography in Ankara University (1936-8), Ankara Atatürk High School (1937-8), Trabzon High School (1937-8), and Republican Girls' Institute in Izmir (1938).

His design activity, as in the case of many other German and Austrian colleagues working in Turkey during the same years, was focused on Ankara, former town of central Anatolia, which was rebuilt as the capital of the Republic of Turkey, founded in 1923.[34] In those years, Ankara was seen as a testing field for the young nation in developing a modern and western architectural stance, while conveying an idea of national identity. Taut attempted to mediate between these two poles, promoting a synthesis between modernity and tradition. His architectural activity in Turkey was intended in this way to contribute to the identity of the new Turkish state, yet, differently from other foreigner architects, such as Holtzmeister and Egli, he refused to adopt an authoritarian language. Instead, he elaborated a symbolic and idealist architectural approach connected to the reformist experience of the interwar period in Germany.[35]

The urban character of Taut's projects for Ankara, on the one hand, matches the general idea of an open and public city, endowed with large green spaces, which was at the base of the master plan for the city designed by Hermann Jansen and put into practice in 1932. On the other hand, it manifests an evident opposition to the newly planned residential core (*Yenişehir*) based on a uniform and compact grid layout. Rather, Taut proposes a plan metric layout that opens to the city and establishes an active relationship with the neighbourhoods.[36] In particular, one housing project, which he proposed in a seminar on *Siedlung* for his students in the Academy is a good example of Taut's urban approach.[37] This project was proposed for the State Monopolies Ministry and was supposed to be realized near the governmental district in Ankara. In contrast to the monotony and the authoritarian character of the institutional core of *Yenişehir*, the project sought a mixture of different residential types, different circulation patterns, and large public green spaces, in an attempt to provide ample variations.[38]

On the basis of these interventions, Taut had the chance to formulate a clear prospect for the urban development of Ankara, which echoed the traits of his former urban utopian proposals. In the course of an interview he granted to the Turkish monthly magazine *Her Ay* in February 1938, Taut expressed his ideas on the city.[39]

As can be followed in the article, Taut was amazed by Ankara's environments, characterized by the lively topography of the steppe and by the view of the old citadel towering above the city. He stressed how 'this environment as a whole gives a sort of architectural impression'. He focused on the contrast between the old and the new part of the city (*Yenişehir*), referring to the an aerial vision of the city:

> … the contrast between the old and the new part of the city catches one's eyes, and this is particularly evident while flying over the city. Although the old part of Ankara is smaller in comparison with the new part, from this bird's eye view, it appears more visible. *Yenişehir* (the new city) seems to be filled with a coat of fog.[40]

The change of perspective activated once again the 'projection of the sky on earth.' In this case the 'fog effect' became suitable to emphasize the relationships between the two parts of the city. The very fact that the new part was veiled by a coat of fog allowed the citadel to emerge in the guise of a crown. The visual experimentation derived from the dialectic between these two figures, gained here a renewed role in the interpretation of urban relationships. This appeared even more evident in the text when Taut discussed the area of the governmental district. This district, located on the north side of *Yenişehir*, the institutional core of the capital, eventually was to be completed with the construction of the Grand Assembly Hall intended to embody the ideals of the new nation-state. Taut pointed out that this area appeared veiled by the same 'fog effect'. This district, as a whole, needed to stand out among the rest of *Yenişehir*, just like the citadel did. On the contrary, it disappeared. In this case, the 'fog effect' made the absence of a crowning element evident. Taut stressed the following:

> This completion is of prime importance. Because this part will form a sort of platform for the construction of the Parliament that in the future will rise on the background. In the same time, this building, is so determinant that it will affect the entire panorama of the new city of Ankara, not only the Governmental District. Because the Parliament will rise, like a new kind of Acropolis, on a hill dominating the city.[41]

Taut's thoughts on this project, are evident in a sketch that he submitted for the Parliament Building Competition (Figure 2).[42] Taut proposed a compact structure with different functional parts integrated by two large courtyards. In between these two courts was located the Grand National Assembly Hall topped by a towering structure. Taut took advantage of the topographic characteristics of the site (a narrow and long slope) and arranged a sequence of three grandiose green terraced platforms at the end of which the building rose. In this way the platformed structure together with its climax,

Figure 2. Parliament of Turkish Republic, general view, looking north (Drawing by Bruno Taut). *Source*: Bruno Taut, "Kamutay Musabakası Fikir Krokisi" ('A Sketch Idea for the Competition of Parliament'), *Arkitekt* 4 (1938), 130

the Grand National Assembly Hall, was to become the Crown of the city of Ankara, and the complex as a whole would rise in the guise of a secular acropolis.[43]

The figure of the crown revealed a strong symbolic and political meaning. The utopian ideals from which the idea of the crown originated, were translated to evoke the sense of national community embodied in the representative core of the nation. The Parliament building, conceived as a 'crown', was marking the focus around which the new capital was forged, and at the same time was expressing the ultimate attempt to center the nation.

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1. Kropotkin's views were central in the discourse of Ebenezer Howard and at large influenced the ideas connected to the Garden City movement both in England and Germany. Traces of Kropotkin's vision resurfaced also in later radical proposals, suffice it to mention Constant's New Babylon or the work of Superstudio and Archizoom.
2. The study refers to the following editions: Pyotr Kropotkin, *Mutual Aid, a factor of evolution* (New York: McClure Phillips & co., 1902); Id., *Fields, Factories and Workshops* (London: G. P. Putnam's Sons, 1913); Id., *The Conquest of Bread*, (London: Chapman and Hall, 1913).
3. Kropotkin expresses this concept as follows: 'The ideal society is a society of integrated, combined labour… A reorganized society must find the best means of combining agriculture and manufacture – the work in the field with a decentralized industry.' Kropotkin, *Fields, Factories and Workshops*, 23-4.
4. Kropotkin, *The Conquest of Bread*, 102-3.
5. Manfredo Tafuri, *Architecture and Utopia. Design and Capitalist Development* (Cambridge: MIT press, 1976), 120. Tafuri points out how the anti-urban ideology has a historical continuity, from the tradition of utopian socialism of the nineteenth century reaching back to the era of the Enlightenment, singling out the work of William Godwin as the first attempt to conceive a society in which the state is dissolved and the individuals gather into small communities without laws or stable institutions. Tafuri listed some of these anti-urban currents, including the theory of the Garden City, Soviet decentralization, the regionalism of the Regional Planning Association of America, and Frank Lloyd Wright's Broadacre City. He stressed that an ambivalent character tinges these utopian visions, since they are the expression from one side of a radical stance against the capitalist development, from the other of a nostalgic withdrawal towards Tönnies' organic community. Ibidem, 119-20.
6. Ibidem, 120; Alan Colquhoun, *Modern Architecture* (Oxford: Oxford University Press, 2002), 95; Iain Boyd Whyte, *Bruno Taut and the Architecture of Activism* (Cambridge: Cambridge University Press, 1982), 109.
7. In particular deep impact was exerted on Taut's discourse by Kurt Hiller, Erich Baron, and Gustav Landauer. Whyte, *Bruno Taut and the Architecture of Activism*, 9, 55-6, 80, 83-4.
8. Ibidem, 54. Whyte focuses instead on the great impact exerted on Taut by the rhetoric of Gustav Landauer's political writings. He besides mentions that Gustav Landauer translated into German two of Kropotkin's books, implying that Taut's discourse incorporated Kropotkin's ideas via Landauer. This emphasis on Landauer's influence is mainly due to the specific focus of Whyte's investigation aiming to illuminate the chain of spiritual assonances among the actors of the German political activism from 1914 to 1920.
9. "The City Crown by Bruno Taut," translated by Altenmuller Ulrike and Mindrup Matthew, Journal of Architectural Education 36, 1 (2009), 121-34.
10. Ibidem, 124.
11. In relation to the influence of Kropotkin on the ideas of Ebenezer Howard: Robert Fishman, *Urban Utopias in the Twentieth Century: Ebenezer Howard, Frank Lloyd Wright, Le Corbusier* (Cambridge: the MIT Press, 1982), 36-7.
12. Kropotkin's dynamic concept of society, based on the idea of community as the essential unit of social and territorial organization, has been explored by Horner, and Breitbart. G.M. Horner, "Kropotkin and the City: the socialist ideal in urbanism," *Antipode* 10-11, nn. 3-1 (1978), 33, 45. Myrna Breitbart, "Impressions of an Anarchist Landscape," *Antipode* 7, 2 (1975), 44-9.
13. Kropotkin, *Mutual Aid,* 211-2.
14. Ibidem, 165. Kropotkin explored new form of unions in the middle ages focusing on their functional and territorial role in the formation of the city. G. M. Horner, "Kropotkin and the City," 34.
15. Altenmuller, Mindrup, "The City Crown," 122.
16. Whyte, *Bruno Taut and the Architecture of Activism*, 55.
17. Kropotkin, *Mutual Aid, a factor of evolution*, 171.
18. "The City Crown by Bruno Taut,"128, 131.
19. Whyte, *Bruno Taut and the Architecture of Activism*, 76.
20. "The City Crown by Bruno Taut,"122.
21. Bruno Taut, *La Dissoluzione delle Città* (Faenza: Faenza Editrice, 1976).
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23. Ibidem, 458.
24. Kropotkin, *Fields, Factories and Workshops*, 349.
25. Ibidem, 369; Taut, "The Earth is a Good Dwelling," 459.
26. Kropotkin, (1902), 105; Taut, "The Earth is a Good Dwelling," 5.
27. Taut, "The Earth is a Good Dwelling," 459.
28. Taut, *La Dissoluzione delle Città*, 22.
29. Breitbart, "Impressions of an Anarchist Landscape," 48.
30. Giacomo Ricci, *La Cattedrale del Futuro. Bruno Taut 1914-1921* (Rome: Officina Edizioni, 1982), 116.
31. Bruno Taut, *Mimari Bilgisi* (Istanbul: Güzel Sanatlar Akademisi, 1938), 270.
32. Taut's move from Japan to Turkey was possible thanks to the mediation of his former colleague Martin Wagner, at the time planning advisor for Istanbul Municipality, who persuaded the Turkish authorities to invite him.
33. Sibel Bozdoğan, *Modernism and Nation Building. Turkish Architectural Culture in the Early Republic* (Seattle: University of Washington Press, 2001), 71. From 1933 more than 200 professionals were invited in Turkey from abroad. Among them 40 were German, Austrian and Swiss architects. At the end of 1930s together with Taut some of the most important figures of the German modern movement were active in the country: Martin Wagner, Franz Hillinger, Martin Elsaesser, Wilhelm Lithotsky, and Grete Schütte-Lithotsky.
35. Esra Akcan, *Architecture in Translation* (London: Duke University Press, 2012), 42-5. In those years the planning process to transform Ankara into the capital city of the newly founded Turkish Republic was in execution according to the plan designed by Hermann Jansen which was basically conceived according to the Garden City idea and the Camillo Sitte's formal principles.
35. Bernd Nicolai, "L'esilio. L'architettura di Bruno Taut e la Turchia kemalista del 1936-38," in Winfried Nerdinger and Manfred Speidel (eds.), *Bruno Taut 1880-1938* (Milan: Electa, 2001), 200.
36. Ibidem, 198-201.
37. *Arkitekt* 8 (1937), 212-3.
38. Akcan, (2012), 184.
39. Bruno Taut, "Türk Evi, Sinan, Ankara", *Her Ay* 2 (1938), 93-8.
40. Ibidem, 96.
41. Ibidem, 97.
42. Bruno Taut, *Istanbul Journal*, Akademie der Künste Baukunst Archiv, Berlin, Taut's Legacy (BTS 01-273), 18/11/1937, 54. Taut decided to submit a sketch idea out of the competition under the insistence of Turkish officials. Taut's sketch, together with an explanatory note, was published in the journal *Arkitekt* in April 1938: Bruno Taut, "Kamutay Musabakası Fikir Krokisi" (A Sketch Idea for the Competition of Parliament), *Arkitekt* 4 (1938), 130-2.
43. Ibidem, 132.

4.5.2 Henri Lefebvre's *Vers une architecture de la jouissance* (1973): Architectural Imagination after May 1968

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Abstract

Vers une architecture de la jouissance (Toward an Architecture of Enjoyment, 1973) is a book manuscript by the French Marxist philosopher and sociologist Henri Lefebvre (1901-91). The manuscript needs to be seen as an important step within Lefebvre's theorizing of space as socially produced and productive, formulated between 1968 (*The Right to the City*) and 1974 (*The Production of Space*). These publications were prepared by Lefebvre's numerous engagements into empirical research studies on urbanization of post-war France, all of which were commissioned by state cultural and planning institutions. This genealogy seems to contradict the anarchist character of Lefebvre's theory, which included his condemnation of the state, his commitment to generalized self-management, and his belief in the primacy of struggle. However, rather than seeing Lefebvre's theory as recuperated by the reforming capitalist state, I suggest discussing it as responding to the processes of institutionalization and normalization of critique within the emerging mode of governability of Western societies moving beyond Fordism. *Vers une architecture de la jouissance* is a case in point: written in the framework of a commissioned research on tourist urbanism in late Franco's Spain, the manuscript offered for Lefebvre a possibility to speculate about the potential of architectural imagination. In this manuscript, spaces of tourism are addressed both as products of advanced capitalism and sites of its reproduction, and as its 'other'; that is, these spaces offered a concentrated vision of both the dangers of ultimate alienation and the possibilities to transgress it. In my talk I will read Lefebvre's manuscript in the manner he was reading his favorite authors – starting from the historical context and moving beyond it – in order to speculate about Lefebvre's project of architectural imagination as negative, political, and materialist.

4.5.3 City of Individual Sovereigns: Josiah Warren's Geometric Utopia

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Abstract

In 1873, Josiah Warren, often described as the United States' first anarchist, published a book entitled *Practical Applications of the Elementary Principles of 'True Civilization.'* Printed in the twilight of a long career in radical reform that included the founding of several utopian communities in Ohio and New York, Warren's book ended with a list of 'Points Suggested for Consideration in Laying Out of Towns,' accompanied by a pair of plan drawings depicting a hexagonally gridded city and a six-sided city section. Warren's geometric utopia presented a radically atomized vision of society: houses would be located on two-to-three-acre plots, close enough to neighbors to glean the benefits of density, yet sufficiently isolated so that no individual's actions would impinge on his or her fellow citizens. At the same time, the plan manifested an equalitarianism consistent with Warren's theories about economic justice – ideas that motivated his founding of several 'time stores' based on the circulation of 'labor notes' in place of cash.

My paper explores Warren's 'anarchist' city plan, putting it in the context his larger reform philosophy as well as several other mid-nineteenth-century geometric utopias. Warren's plan individualized land tenure and devoted far less space to public and shared amenities than contemporary communitarian socialist schemes. Yet by reading Warren's urban proposals within the larger context of his thought, especially his theories of language and representation, we can also interpret the plans as gesturing toward another form of polity – one premised on the possibility of clear and unmediated representation. I argue that Warren's use of geometric images was motivated by a functionalist theory of representation that regarded certain kinds of diagrammatic images as capable of cutting through the obfuscation of words and politics in nineteenth-century America.

Keywords

Utopia, anarchism, geometry, politics

In the context of early America, as elsewhere, 'anarchism' was, until the nineteenth century, a pejorative term. When the word 'anarchy' appears in early American political discourse, it is usually in the context of asking how to prevent the republic from falling into 'anarchy and confusion', by which the writer usually means, how do we forestall the excesses of mob rule, otherwise known as democracy? Following classical theory, the framers of the US Constitution saw democracy as the most unstable form of government – subject to the vagaries of an uneducated and unreliable *demos*, and constantly under threat of descending into uncontrollable disorder.

We should put this into context: one of the things that this unreliable *demos* was doing in the 1780s was passing debt relief measures, such as printing more paper money, to assist ordinary farmers struggling under crushing debts and the post-revolutionary hard currency shortage. Shays' Rebellion of 1786-7 – which George Washington described with alarm as portending the proverbial 'anarchy and confusion' – was literally an insurrection against a foreclosure crisis.

The solution for dealing with the threat of such anarchic instability was the drafting of a new federal constitution, specifically a system of checks and balances that would help limit the power of the branch of government seen as most democratic: the House of Representatives. More broadly, the framers developed a theory of political representation in which the people did not exercise sovereignty directly but instead delegated decision-making to elected representatives – men drawn from the 'learned professions' who were supposed capable of practicing disinterested virtue, in contrast to the self-interested masses. The historian Gordon Wood has called the development of this theory of political representation *the* most important political concept to emerge from the revolutionary era.[1] The post-revolutionary period saw the creation of the indirect system of democracy that survives today: We vote for delegates, they theoretically carry out our will. But, of course, lots of things get in the way, such as money from big donors, making the average citizen's relationship to the legislative process quite removed.

I start with this discussion about representation in the early republic because one of the positions advanced by nineteenth-century anarchists was precisely an opposition to representation. This interpretation of anarchism as a revolt against representation has been developed recently by scholars like Jesse Cohn.[2] Anarchists claimed that representative democracies were not democracies at all because they relied on an abstraction, a distancing between the people and government. Anarchists saw electoral politics as dominated by the wealthy and by politicians, and therefore fundamentally corrupt. Instead of a system based on representation, they advocated decentralized local decision-making carried out by the people directly. As an aside, we can note that this suspicion of representation is continued in the thought of contemporary anarchists like David Graeber. Just think of the Occupy movement with its elaborate system of outdoor assemblies and consensus-building – expressions of a fantasy of unmediated, direct democratic participation.

It is specifically the anarchist opposition to representation that I want to highlight as I examine one specific utopian plan by Josiah Warren, who is often described as the United States' first anarchist. In 1873, Warren published two plan diagrams of a hexagonal ideal town, on the last pages of his last book, *Practical Applications of the Elementary Principles of 'True Civilization'*. One diagram showed a radially organized 'section of a city'. The other depicted an entire city composed of hexagons tiled together to form a larger hexagon.

To be clear, Warren never described himself or these plans as 'anarchist'; the designation of Warren as America's first homegrown anarchist was applied by later historians such as James J. Martin and William Bailie, and has been adopted in standard survey histories of anarchism.[3] Warren was the first in a line of what historians have labeled American 'individualist anarchists' – so called because Warren and later figures like Lysander Spooner and Benjamin Tucker tended to emphasize individualism as a supreme value over the mutualist or collectivist forms of anarchism more popular in nineteenth-century Europe. Yet Warren shared with contemporary thinkers like Proudhon an opposition to capitalism's exploitations and privations and to the state's monopoly on the use of force. He also shared European anarchists' belief in the possibility of a more natural form of order or self-organization of society. All this gives some credence to the appellation of Warren as an 'American Proudhon'.

Key to the argument I want to make here is that Warren shared the anarchist antipathy toward representation and even had what could be termed a theory of representation. Especially interesting to me is how the anarchist critique of 'political' representation might be related to the question of *aesthetic* representation – that is, the kind of representation that architects and architectural historians are perhaps more familiar with – images, drawings, diagrams. More specifically, I want to speculate a little on the 'form', or 'figure', of Warren's plan diagrams – their geometry – and what that form might have to do with the anarchist opposition to both aesthetic and political representation.

Before probing Warren's plans I should add that he was not an isolated example, but one of several American social reformers in the mid-nineteenth century who created such geometric utopian schemes. Not all of them were anarchist but several shared Warren's suspicion of representative democ-

racy and his underlying ideas about the nature of geometric diagrams as particularly efficacious types of political representations.

Josiah Warren

Josiah Warren was a classic nineteenth-century polymath: an inventor, a musician, a printer, and a social reformer. In his 1820s, he joined Robert Owen's New Harmony community in Indiana; early in his career, he subscribed wholeheartedly to Owen's critique of the inequality and exploitation ushered in by industrial capitalism. However, New Harmony quickly collapsed, leaving Warren totally disillusioned with socialism. He blamed the failure of the community on its misguided attempt to combine interests. People were just too different, their interests too distinct, to press into a shared mold. So he spent the rest of his life developing and elaborating what he called the principle of 'individual sovereignty' – the idea that our individual pursuits should be radically separated. On the basis of this principle, he opposed most forms of combination, cooperation, and government. Here we see a hallmark of American anarchism: its extreme individualism borders on contemporary libertarianism, in contrast to French or Russian anarchists, who often emphasized cooperatism or mutualism as avenues of non-state-based social organization.

At the same time that Warren outlined this extreme individualist position, he remained absolutely opposed to the rampant inequalities and exploitations of Jacksonian society. And so in parallel with individual sovereignty, he pursued the goal of creating a more 'equitable commerce' (this is the title of one of his books) based on the principle of 'cost the limit of price'. This was a version of a labor theory of value – the idea that the fair value of commodities should be the cost of producing them rather than their exchange value.

To test these principles, Warren carried out a series of social experiments at ever larger scales from the 1820s on: beginning with a system of labor notes. By pegging the value of the note to a fixed quantity of goods or hours of labor, Warren was trying to counter the extreme abstraction of money in the mid-nineteenth century – a time when there was no national currency and the value of banknotes fluctuated wildly. This idea of trying to counter the instability of representation is a recurring one in Warren's praxis – one that I'll return to later.

The labor notes led to the founding of several experimental time stores where such labor notes could be exchanged for goods. Gradually, Warren worked his way up to establishing a series of small communities: Tuscawaras, Ohio in 1833; Utopia, Ohio, in 1847; and Modern Times, NY, in 1851. The latter, which he organized with Stephen Pearl Andrews, became notorious as a hotbed of nudism and 'free love'. Warren didn't approve of these practices, but he stayed true to his principle of individual sovereignty, and tolerated all. 'Whoever tries what is vulgarly known as "free love"…will find it more troublesome than a crown of thorns: and there is not much danger of its becoming contagious…'[4]

The hexagonal plans

Throughout his years of forming communities, Warren had never evinced much interest in urban design. So it's something of a mystery why, late in his life, he published these two plans. On one level this scheme can be interpreted as a spatial analog of his principles of individualism and equality because it is essentially a series of identical yet distinct cells. He separated the lots of land with roads to minimize the possibilities of conflict between neighbors, and to prevent the spread of fire and disease. Each lot thus forms a kind of island. In each of these cells, Warren imagined individuals could exercise and enact their own desired lifestyles – as long as these didn't impinge their neighbors. He believed that in this way the plan could actually promote experimentation, and hence speed social change. As he explained in the accompanying text:

> The world needs free play for experiments in life. Almost every thinker has some favorite ideas to try, but only one can be tried at a time by any body of people, and there is but little chance of getting the consent of all to any thing new or untried. If a new project can find a half a dozen advocates, it is unusually fortunate: If a hundred experiments were going on at once, there might be fifty times the progress that there would be with only one.[5]

The individualist slant of Warren's plan is put in relief if we compare his scheme to another geometric utopian project that he was almost certainly aware of: an octagonal vegetarian abolitionist colony in Kansas from 1856.[6] The two plans exhibit numerous similarities: Both feature individually owned lots arrayed radially around a central public building and space. The radial arrangement was understood to promote equality, because each residential lot was equidistant from central community amenities. One of the main differences between the two plans is their geometries: Warren's is based on the hexagon, whereas the vegetarian colony is premised on the octagon. This apparently minor distinction turns out to have important implications: Tiled together, octagons leave residual triangular corners, which in the vegetarian plan were designated for areas of common woodland and grazing.

This is in addition to a generous central public space. In fact, when you calculate the areas, almost one-third of the space in the vegetarian abolitionist colony was given over to commons. In contrast, because the hexagon can tile perfectly with no residual spaces, Warren's 'anarchist' plan left little space for public or common use. Whereas the vegetarian scheme was very generous to collectivity, the anarchist plan manifested a vision of a radically atomized society – a non-hierarchical, centerless spatial analog of Warren's anti-statist individualist vision for society. In a sense, the geometric organization of the plan displaced the state as a system for coordinating the interests of individual members of society. Here, the urban plan would obviate the need for government.

So far, my reading of Warren's plan follows his own understanding of the scheme: he imagined that it would literally and directly separate individual interests and support the kind of decentralized, stateless society he desired. In other words, like Bentham's panopticon, the geometry was understood on functional terms, as having specific concrete social effects. Yet this more straightforward functionalist reading doesn't entirely account for the geometry of the plan, or the broader turn among nineteenth-century social reformers to plan diagrams as a tool of social transformation. Recall that he was just one of several reformers to create such geometric utopian plans.[7] Nearly all were patently unfunctional, despite their claims to the contrary. Most of these were only ever drawn and seen as rhetorical images – printed in broadsheets, pamphlets, and books – rather than as specific plans to be built. So the question I'm interested in is, how to account for the geometry of these plans?

A NON-REPRESENTATIONAL FORM OF REPRESENTATION

Here is where I think we have to consider Warren's and other reformers' views on representation. Warren, it turns out, had a quite developed concept of representation, one that we can only understand if we examine some of his other interests, especially printing and musical notation. As I mentioned earlier, Warren was a printer by trade. In fact, he invented and patented a new cheaper method of printing that would make publishing accessible to the masses. This helps to explain the crude, woodcut quality of the diagrams: they were cheaply printed for wide distribution.

In addition to printing, Warren was also obsessed with writing reform, specifically of musical notation. In fact, the reform of notational and writing systems was a common preoccupation of the geometric utopians I've studied. Many of them were printers and over half of them invented new systems of shorthand and spelling and in some cases new languages. The question therefore arises: What was the imagined connection between orthographic and social reform for these nineteenth-century radicals?

Warren invented a new system of musical notation that he published in the 1830s and 1840s. His method would signify the elements of sound 'exactly in the "notes themselves"' – that is, through form.[8] Thus, for example, the volume of the notes was represented by its size, with a 'swelling' of volume indicated by a corresponding swelling in the shape of the note. By a similar logic, the relative length of the stem of the note represented its length in time. In other words, the visual form of the note gives a cue to its meaning. Warren claimed that his system of musical notation, by creating a direct relationship between sign and musical effect, form and content, was more transparent and rational. He believed for example, that it would make it easier to learn how to read music.

Warren's proposal for the reform of musical notation was a symptom of his larger philosophy of language and writing, which was deeply influenced by Alexander Bryan Johnson, a banker in upstate NY who wrote a *Treatise on Language* in 1828.[9] Drawing on Johnson's antinominalist views, Warren wanted to make musical notation and writing in general become more like diagrams – that is, more like pictures whose forms had a direct, one-to-one relationship with their content. Warren saw texts and images as very different kinds of representations. Whereas words were obscure and subject to differing interpretations, he thought, images were clear, unambiguous.

This desire for clear representation had political implications. This was a time when politics was seen to be controlled by a privileged few, obscured and hidden away from view through the instrument of representative as opposed to direct government. Warren opposed representation on two levels: both representative democracy and language as a similarly opaque representative medium. He described political speech as a 'labyrinth of verbal delusions.'[10] In contrast, the diagram was a form of representation that could cut through this confusing labyrinth – because it was visual, immediate, 'natural'.

Another possible reason behind Warren's turn to a geometric diagram was the long association of geometry with political persuasion and rhetoric. We find references to geometry throughout political tracts in the late-eighteenth and early-nineteenth centuries – for example in the political writings of Thomas Jefferson and Alexander Hamilton.[11] Geometry at this time was correlated with the production of unassailable, self-evident proofs. Political writers cited what Stephen Colbert might call the 'truthiness' of geometry to make their own positions seem similarly self-evident. We see this, for example, in an 1829 tract by the labor radical Thomas Skidmore, who used a series of geometric diagrams to rationalize his otherwise highly implausible proposal

that all property in the US should be seized and redistributed every 20 years.[12]

This association of geometry with proof and transparency gets to the heart of why we see geometric diagrams and an anarchist utopia coming together at this moment in the nineteenth century. My contention is that Warren and his fellow geometric utopians saw these diagrams as forms of representation that borrowed from geometry's affect of certainty and transparency. At a time when politics, and political language, were regarded as obscure, and when the value of money and the capitalist economy itself seemed dangerously unstable and abstract, Warren and his fellow utopians sought to cut through the veils of delusion with a form of representation that seemed unmediated, natural, and unassailable.

Conclusion

The idea that a purportedly direct, transparent medium of representation – the geometric diagram – would help usher in an equally direct form of polity – a stateless community – was a utopian fantasy. Today we might duly exercise some wariness about the dream of an entirely unmediated and direct democracy, even if we might admire the underlying intentions.

For all its naivete, however, what Josiah Warren's utopian scheme does offer, perhaps, is precisely what he ostensibly sought to avoid – that is, an image, or a representation. By evoking a lack of mediation, the crisply delineated lines of the diagram call attention to its inverse – the multiple forms of mediation that do inhere in actually existing democracy, mediations that include politicians, corporations, and capital. In other words, the clarity of the diagram functions as a kind of reproach, or critique, of the opacity of the existing system. It's in this negative capacity that we might understand such geometric utopian plans to operate as figures of nineteenth-century anarchism.

1 Gordon Wood, *Representation in the American Revolution* (Charlottesville, VA: University of Virginia Press, 2008), 1.

2 Jessee Cohn, *Anarchism and the Crisis of Representation* (Selinsgrove, PA: Susquehanna University Press, 2006).

3 James J. Martin, *Men Against the State: The Expositors of Individualist Anarchism in America, 1827-1908* (Colorado Springs, CO: Ralph Myles Publisher, 1970) and William Bailie, *Josiah Warren, the First American Anarchist: A Sociological Study* (Boston: Small, Maynard & Company, 1906). The idea that Warren was the first homegrown American anarchist is repeated in standard histories of anarchism such as Peter Marshall, *Demanding the Impossible: A History of Anarchism* (Oakland: PM Press, 1992).

4 Josiah Warren, *Practical Applications of the Elementary Principles of "True Civilization" to the Minute Details of Everyday Life.* (Princeton, MA: The Author, 1873), 18-24.

5 Ibidem, 45-6.

6 For more on the Vegetarian Octagon Colony, see Russell Hickman, "The Vegetarian and Octagon Settlement Companies," *Kansas Historical Quarterly* 2, n. 4 (1933); Joseph C. Gambone, "Kansas – a Vegetarian Utopia: The Letters of John Milton Hadley, 1855-56," Kansas Historical Quarterly 38, n. 1 (1972); Henry S. Clubb, "Octagon and Vegetarian Settlements of Kanzas," *Life Illustrated*, May 24, 1856. Several of Warren's books were published by Fowlers and Wells, which was a sponsor of the Vegetarian Octagon Colony, so it seems likely Warren knew of the earlier scheme.

7 For other examples of geometric utopias, see Irene Cheng, "The Shape of Utopia: The Architecture of Radical Reform in Nineteenth-Century America" (Ph.D Dissertation, Columbia University, 2014).

8 Josiah Warren, *Written Music Remodeled, and Invested with the Simplicity of an Exact Science* (Boston: J. P. Jewett and Company, 1860), 9.

9 In *The Peaceful Revolutionist,* Warren wrote of the 'singular coincidence of my own views with those of such a mind as Mr. Johnson's" and claimed that he used "language with a constant regard for its principles as developed by Mr. Johnson… I do not intend to enter into any argument where the language does not refer to some sensible phenomena.' "Individuality," *The Peaceful Revolutionist*, April 5, 1833. Reprinted in Crispin Sartwell (ed.), *The Practical Anarchist: Writings of Josiah Warren* (New York: Fordham University Press, 2011), 106-7. For more on Johnson, see Alexander B. Johnson, *A Treatise on Language: Or, the Relation Which Words Bear to Things, in Four Parts* (New York: Harper & Brothers, 1836); Jean-Christophe Agnew, "Banking on Language: The Currency of Alexander Bryan Johnson," in *The Culture of the Market: Historical Essays*, ed. Thomas L. Haskell and Richard F. II Teichgraeber (Cambridge, UK: Cambridge University Press, 1996).

10 Warren, "Individuality." Reprinted in Sartwell, *Practical Anarchist*, 106-7.

11 Alexander Hamilton, for example, begins n. 31 issue of *The Federalist,* (an argument for the national government's power of taxation) with a lengthy rumination on geometry. Hamilton writes that just as in mathematics, there were 'primary truths, or first principles' so too, in the spheres of ethics and politics, there were propositions 'so obvious in themselves… that they challenge the assent of a sound and unbiased mind, with a degree of force and conviction almost equally irresistible.' Alexander Hamilton, "The Federalist n. 31," *The Federalist Papers* (1788), http://thomas.loc.gov/home/histdox/fed_31.html.

12 Thomas E. Skidmore, *The Rights of Man to Property! Being a Proposition to Make It Equal among the Adults of the Present Generation, and to Provide for Its Equal Transmission to Every Individual of Each Succeeding Generation on Arriving at the Age of Maturity* (New York: Printed by A. Ming, 1829).

4.5.4 Architectural Aporia of the Revolutionary City

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Abstract

This paper examines transformations in French architecture in the wake of the Paris Commune. I argue that the anarchic conditions of the revolutionary render an anarchic capacity of architecture legible. Specifically, I maintain that the dissolution of Second Empire institutions and space relations practiced by the Commune foretell a dissolution of Beaux-Arts classicism in the subsequent decade, with architecture serving to continue of the project of the Commune by articulating a political territory exterior to the state. Under revolutionary conditions, I argue, architecture participates in the radical negotiation of the political through the delineation and contestation of territory and subjectivities. In these instances the site at which architecture negotiates the real is precisely exterior to architecture's proper representation. The radical occupation of Paris by the Commune upset relations between architectural function and representation – the construction of the barricades employed an assembly of dissimilar parts by which objects were stripped of their proper function as they disincorporated Haussmann's urban agglomeration into a molar organization of urban defense. While these practices are unenvisionable by classical representation, I propose that they nevertheless manifest discreetly in architecture, speaking against the academic style as it sought to restore and legitimate the state. Architecture's anarchic capacity subjects the nation-state to the perpetual re-signification of its aesthetic production. This is legible in the architecture and planning of the Exposition Universelle of 1878, meant to showcase Paris' recovery from the Commune for an international audience. In examining the 1878 exhibition I show that in addition to the relegitimation of the state's control of the urban, the architecture and planning of the exhibition puts on display tensions and contradictions of the past decade.

Keywords

Anarchy, utopia, Paris Commune, Exposition Universelle 1878

'What fatal destiny weighs on us? How can we conceive of such a succession of disasters, and what is going to happen to our poor country?' Thus opens a dialogue between X and his interlocutor, identified only as XX. The dialog is dated 27 January 1871 the day of the signing of the treaty of Versailles between Otto von Bismarck and the short-lived Government of National Defense that had taken power upon the Fall of Napoleon III's Second Empire. The provisions of the treaty included the recognition of Wilhem I as Kaiser of a newly formed German Empire, a significant monetary indemnity, and the cession of Alsace and parts of Lorraine.[1]

We can take the unnamed X to be a member of the *Garde Nationale*, defending the city from Prussian aggression. XX, we can presume to be Eugène Emmanuel Viollet-le-Duc, as this dialog opens his *Mémoire sur la défense de Paris*, an 1871 technical treatise on the fortifications of the city published just after the Semaine Sanglante, the 'bloody week' from the 21 to the 28 of May that ended the three-month revolution of the Paris Commune.[2]

After lamenting the loss of Alsace and Lorraine, the Guardsman, X, wryly pointed out that France should have no reason to be surprised that Bismarck would take advantage of its weakness, just as France had previously done to other countries. 'Your reasoning,' Viollet exclaimed, is that 'might makes right.'

The Guardsman countered

> At the origin of any society, force alone establishes right, and there are few rights that were not the consequence of a conquest. Property rights, political rights, civil rights, *the Rights of Man* are all of conquest, which is to say the results obtained by the employment of force upon a previous weakened force, or upon chaos, or upon anarchy. The civilized nations then established among themselves certain conventions to which we ascribe the terms law of nations, neutrality, belligerents, etc. And right now, one dominates the others.

If France could not protect its provinces, then by all rights, they belong to the conqueror.

Surely in the nineteenth century, Viollet protested, the populations of Alsace and Lorraine had rights, and could not simply remain, 'like a flock of sheep,' passively at the disposal of their conqueror. But France had been a "docile flock," the Guardsman countered, since the absolute monarchy and state centralization under Louis XIV. He framed the project of the Garde Nationale against the aggression of both the right of power, and that of the rule of state; against Bismarck and Versailles respectively: 'it is up to us to guard ourselves, without the Sheppard and without the dogs.'

Only under one's own protection, according to the Guardsman, can there be a discussion of rights. The obligations of citizenship, paying taxes, conscription into the army, voting, holding political offices, and serving on juries are all merely tasks of passive acquiescence to state power. One's real responsibility is to utilize all productive capacity over and above these obligations, to actively contribute all physical and mental means to the cause of liberty. Rights not are acquired through the distribution of obligations, they manifest through collective contribution. Viollet is describing a political autonomy, literally *auto-nomos* or giving-oneself-the-law, as what Foucault would call a mode of 'taking care of oneself'[3] as an obligation to govern oneself before governing others. Fundamentally opposed to this is political sovereignty as theorized by Carl Schmidt, in which 'he who decides on the exception'[4] is endowed with the right to govern.

It is in this context that Viollet marks a distinction between the 'fortification' of the city, that subject to which the greater portion of his memoire is devoted, and the *defense* of the city, described in his title. Fortification, as a strategy, had failed because it was merely a symptom of state centralization under the powers of the sovereign. A conquering army need only take Paris to control all of the levers of power, to seize the apparatus of state, to render the rest of the nation helpless. The *defense* of Paris, however, refused the impulse to centralization that marked a sovereign power. By standing in defense of the city they provided a service supplemental to the obligations of citizenship, and by extension a 'right to the city'[5] over and above the delineation of state. Defense refused the state, rendering its capture impossible.

As a Colonel in the Garde Nationale, Viollet oversaw a group of architects – Davioud, Ballu, and Baudry, among others – in the fortification of Paris.[6] Viollet's discourse, though, in linking fortification to sovereign power as an architecture of the state. For the defense of Paris, fortification had to give way to a contra-form against architecture's proper construal. Thus his secretary, Massillon Rouvet, described the fortifications built under Viollet: 'architectural elegance disappeared to give way to a utile construction having but one aim: to protect.'[7]

Viollet's distinction between fortification and defense within his discourse on sovereignty seems to recognize a crisis in architecture under revolutionary conditions. Architecture as the combination of *archē* (origin or first cause) and *tektōn* (builder or mason) denotes the construal of *a priori* forms: to build out the first cause. Architecture's manifestation as institution of state thus extends the ontological ground of the *archē* to form a political power. I argue that architecture after the Commune overturned architecture's *archē*, to render it an-*archic*, disrupting its proper function as state apparatus.

Architecture's revolutionary other overturns the proper form of fortification,

stripping away its constituent order to expose an ontological void. Victor Hugo recognized this disruption of the architectural in his description of the Barricade of Sainte Antoine in the Revolution of 1848:

> You might say: Who built that? You might also say: Who destroyed that? It was the improvisation of ferment. Here! That door! That grating! That shed! That casement! That broken furnace! That cracked pot! Bring everything! Throw on everything! Push, roll, dig, dismantle, overturn, tear down everything![8]

Hugo, moreover, recognized a space of political alterity opened by such an architecture of dismantlement: 'This barricade, chance, disorder, bewilderment, misunderstanding, the unknown, had opposed to it the Constituent Assembly, the sovereignty of the people, universal suffrage, the nation, the republic; it was the Carmagnole defying the Marseillaise.'[9] The state as the purview of rights was disrupted with the loss of architecture's ontological foundation.

Through these deterritorializations of Second Empire configurations of urban space and architectural form, classical notions of order and representation were disrupted. As Kristin Ross explains, 'Monumental ideals of formal perfection, duration, or immortality, quality of material and integrity of design are replaced by a special kind of *bricolage*.'[10] While these practices are unenvisionable by classical representation, I propose that they manifest discreetly as a return of the repressed – aporia within the academic architecture that sought to legitimate the restitution of the state.

Haussmann had transformed the molar organization of the city as the site of revolutionary association to a space for the circulation of capital. As David Harvey has shown, Haussmann's city enabled greater ease of communication and transportation by creating a networked economy to facilitate production, industry, and finance. As the city became an instrument of state liberalism, urban space was itself monetized as financial instruments were developed to fuel a real estate speculation bubble along the new corridors of bourgeois habitability.[11] Leisure, as the ludic space outside of social regimentation, had been absorbed by state liberalism as Jean-Charles Alphand constructed public parks, notably Buttes Chaumont and Monceau, to become the sites of worker's rejuvenation towards capital's self-reproduction.

The condition of the Second Empire city as a site of state liberalism was reflected in civic architecture that transformed the sovereign privileges of the individual into biopolitical institutions. Hence the great works of Néo-Grec architecture undertaken at the end of the Second Empire transform religion, through Léon Vaudoyer's Marsaille Cathedral, knowledge, through Henri Labrouste's establishment of the Bibliothèque Nationale as a national library of last resort, and Justice, through Louis Duc's transformation of the traditional law courts into the juridical apparatus of the Pallais de Justice.

The Néo-Grec project sought to reform architectural design form the eclecticism of Beaux-Arts pedagogy by determining a systematic method. Duc, for instance, endowed the Prix Duc, to be awarded annually to a student of the École for compositions to found 'the style and shape of the elements of modern architecture.' For Duc, this modern architecture was to be set within the terms of a Saint-Simonian historiography that opposed 'critical' periods of social disharmony to 'organic' periods of synthesis:

> the spirit of art has become 'critical' instead of being 'organic,' and today it is too often expressed by productions whose individual form originates from retrospective inspirations. No link, no authority, no faith is given to the national unity that characterized past eras, and the only character of our own, that of absolute freedom, tends to decay of our art.[12]

Duc proposed a new design practice focusing on 'the most concise expressions of the essential elements of architecture.' This displacement of the eclecticism of the Beaux-Arts by construing a new elemental architectural order would perfectly accommodate the vast, interlinked administration of the Second Empire state apparatus.

While the dominant critique of the École favored a utopian alternative, another current, expressed by Émile Zola embraced the eclecticism of the École over its attempts to establish order. As he described the École in his 1866 article "L'Esthetique Professée à L'École des Beaux-Arts"[13]:

> We are in the midst of anarchy, and for me, this anarchy is a curious and interesting spectacle. […] There is in all this, an enormous amount of activity consumed, a feverish, raging life. Our epoch's persistent, continuous birth-giving is not admired enough; each day is marked by a new effort, by a new creation. The task is completed, then taken up again, relentlessly.[14]

If, for the utopians, an organic phase as a synthesis of art and culture was to express a greater spiritual unity, for Zola this period of disunity was itself the historical fulfillment of an escape from the age of idealism.

The reconstruction of Paris after the Commune saw the embrace of a utopian approach to the reform of political institutions. As Anthony Vidler described it

> the urban space was appropriated for its rightful owners by the re-building of every destroyed building in the same style. There was to be no visible or living memory of the time when the nation's capital had briefly become its largest correctional institution in riot.[15]

With the reconstruction of the Hôtel de Ville by Théodore Ballu and Édouard Deperthes, for instance, a reformist mood prevailed as the disparate structures of the old Hotel, assembled in piecemeal since the sixteenth century, were reconstructed as a single agglomeration. The reconstructed building is nearly identical to the old Hôtel that was torched during the Semaine sanglante and completely torn down in the subsequent months. The old Hôtel de Ville, it was decided, had suffered from too many functions jammed into a single structure. The reconstructed building did away with the ceremonial functions of the Hôtel, such as reception spaces, to make way for an expanded, rationalized, administration. Only the central Renaissance façade is 'faithfully' reconstructed, the bulk of the building is recessed form this monumental façade to form an administrative compound in a uniform Beaux-Arts expression.

During the same months, Hector Horeau, designed his own Hôtel de Ville as a counter-project to the reconstruction. Horeau, made famous for his glass and steel structures, was an active communard whose sketches of the Commune recall the Place de Hôtel de Ville as a site of political resistance.[16] His own project, designed while a political prisoner in the aftermath of the Commune, embodied this resistance. Leaving the old burned-out Hôtel as a monument to the fallen state, Horeau proposed a vast enclosure of disparate elements buttressing a billowing dome tethered to the volume by stalactite iron lamps. In contrast to rationalized administration of Ballu and Deperthes' Hôtel, Horeau's cut-away rendering reveals only a void – a green space of plants and trees with a few solitary figures wandering aimlessly. Reenacting the Barricade, this project pairs the dissolution of architectural order with an evisceration of administrative function. Horeau's contra-Hôtel, I would argue, renders explicit an anarchic dissolution of architecture that continued into the Third Republic. The only ground of anarchy is its groundlessness, it is delegitimating, a condition of effacement leaving no proper traces of its own. Architecture's anarchic can only exist as aporia undermining institutional truth.

This aporia is present at the moment of the Commune's defeat, in the competition for the Prix de Rome in the École des Beaux-Arts. The program the first *essai* for the Grand Prix, written by Henri Labrouste, who for the first and only time, served as president of the juries, and issued on 2 April, during the Commune, called for 'A cenotaph in honor of a young artist who died defending his country.' On April 11, the competition was suspended by order of Jules Simon, Minster of Public Instruction, Culture, and Fine Arts of the Government of Versailles. Simon reinstated the competition in a directive dated May 29 1871, the day after the fall of the Commune with the first *essai* reissued as 'A monument in memory of the French Painter Nicolas Poussin.' The revolutionary potential of the artist becomes an aporia through his transformation to the legitimacy of Beaux-Arts representation. This aporia extends to the archive. The minutes of the Academie des Beaux-Arts recall an April 7, meeting to judge of the first *essai*, the cenotaph for the young artist, elevating 18 entries of the 47. The official records of the competitions for the Grand Prix, however, backdate the competition brief of a monument to Poussin to April 2. No mention is made of a young artist defending his country; he never officially existed.

The program for the final phase of the competition, 'A Palace of the Representatives of France,' was issued on July 10, at a moment when representative government was all but certain. Dreams of a republic to come found their way into the most ambitious competition program issued hitherto. The Palace was to be divided into three distinct parts containing the legislative, executive, and administrative branches of government in which the representatives would be the center of power, mediating the relationship between a mostly ceremonial executive branch and the apparatus of state. The program extended this directive on political representation to an overturning of the classical, asking the entrants to '[leave] to each building form a character unique to its function, and presenting an ensemble whose appearance, without symmetry, would be at least harmonious.' For the first time in a program of a grand Prix competition, symmetry and uniformity were rejected in favor of differentiation and heterogeneity.

On August 30 Thiers had installed himself as the provisional president of the yet undeclared Republic, and by October 31, the day of the judgment of the Grand Prix,[17] he had fully installed an autocratic regime operating under the guise of a representative government centered in Versailles. This loss of republican ambitions is present in the winning entry by Samuel-Émile-James Ulmann, who composed monumental legislative assembly, flanked on both sides by symmetrical and similarly adorned buildings. A cursory look at the plan shows that the hall of representatives does not mediate the relationship between the executive and administrative, it is instead auxiliary to their direct relationship. But it is this alienation of the people from their own political representation that is monumentalized. The monumental façade, modeled upon the Palais Bourbon, which traditionally houses the National Assembly, ostensibly calls for the prominence of the lower house of parliament in any new government. Yet this monumental representation

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is a chimera, as the propylaeum that marks the hall of representatives is literally a blind wall; a hardened surface blocking any passage; a barricade, if you will, employing the Beaux-Arts style, an architecture of the state, to obstruct the people's own self-representation. Ulmann's design describes a lament of the Commune whose potentialities of a Republic to come are rendered as disaffection.

The culmination of Paris' reconstruction was brought to the world stage with the 1878 Exhibition Universelle. The erasure of the revolutionary city was monumentalized throughout the exhibition in the prominent display of new architectural works and the full realization of Haussman's city executed under Adolphe Alphand. The city itself was on prominent display as evidenced by the Pavilion of the City of Paris, which exhibited a set of models of the city's new and reconstructed buildings including the Hotel de Ville and the Basilique du Sacré Cœur, built to expiate the crimes of the Commune.[18] As the permanent buildings sought to reconstruct the city as it was, the temporary buildings of the exhibition grounds of the Champs de Mars and Chaillot that showed the critical slippages of this restitution.

The centerpiece of the exhibition, the Palais du Trocadéro by Gabriel Davioud and Jules Bourdais, offers something of an enigma, a monumental architecture as an amalgamation of dissimilar parts, both a classical edifice and a refusal of formal legibility. Paul Sédille offers an explanation, while 'some parts try to be Byzantine, others Arabic, these Roman, those Greek, and others yet Florentine,' in total it is none of these, it is instead a modern architecture that refuses precedent in both the imitation of form and the application of principle.[19] Sédille mistakes the dismantlement of Beaux-Arts form as surpassing its crises and contradictions – an unproblematic move beyond the dynamic of the revolutionary city and its reactionary political regimes. Yet the past remains, but only in its grotesque form that once again reproduces the barricade. The aporia of the Commune shows itself in the inaugural performance of its central theater, Charles Gounoud's *Gallia*, a lament to a fallen city written in exile in 1871, 'a simple and heroic work,' according to Sédille, 'which produced in the new room the most powerful effect.'[20]

An 1878 panorama, centering on the Exposition Universelle shows the reconstructed city in its completion, a monumental urbanism erasing all traces of the Commune. But let us end with Hector Horeau for a fleeting vision of this reconstruction's spectral other – a counter proposal to this rendering invisible of Paris' revolutionary potential. An 1871 panorama of Paris shows the city populated by the complete works of Horeau. The aporia of the Commune are put on full display as the destroyed city is replaced by voluminous voids – reproductions of the barricade, disrupting the smooth function of the urban agglomeration.

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4 Carl Schmitt, *Political Theology: Four Chapters on the Concept of Sovereignty* (Chicago: University of Chicago Press, 2005), http://www.columbia.edu/cgi-bin/cul/resolve?clio8743482.

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7 Ibidem, 46.

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10 Kristin Ross, "The Emergence of Social Space Rimbaud and the Paris Commune," *Theory and History of Literature*, vol. 60 (Minneapolis: University of Minnesota Press, 1988), 36.

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15 Anthony Vidler, "The Scenes of the Street: Transformations in Ideal and Reality, 1750-1871," in *The Scenes of the Street and Other Essays* (New York: Monacelli Press, 2011), 113.

16 Hector Horeau, *L'architecte et La Commune: Les Dessins d'Hector Horeau* (La Garenne-Colombes: Espace européen, 1991).

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18 Harvey discusses the construction and reception of Sacré-Cœur: David Harvey, *Consciousness and the Urban Experience : Studies in the History and Theory of Capitalist Urbanization* (Baltimore, Md.: John Hopkins University Press, 1985), 221-49.

19 Paul Sédille, "L'architecture au Champs de Mars et au Trocadéro," in Edouard de Beaumont (ed.), *Les Beaux-arts et les arts décoratifs: exposition universelle de 1878* (Paris: Gazette des Beaux-Arts et Société d'encouragement pour la propagation des livres d'art, 1879), 258.

20 Ibidem, 254.

4. THEORETICAL AND CRITICAL ISSUES

4.5.5 'Housing Before Street': Geddes' 1925 Anarchist Plan For Tel Aviv

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Abstract
A founding member of the city planning movement, Sir Patrick Geddes was largely marginal to the movement for his anarchistic challenge of the very idea that new cities form 'of thin air' due to the powerful actions of statesmen, capitalists and planners. Geddes self-distinguished from conceptions of modern planning, insisting that 'urban planning cannot be made from above using general principles […] studied in one place and imitated elsewhere. City planning is the development of a local way of life, regional character, civic spirit, unique personality […] based on its own foundations.' Geddes' urban vision was affected by issues of housing in the industrial city, yet compared with other theories of urban planning, Geddes' 'city of sweat equity' approach to urban housing 'contributed to planning theory the idea that men and women could make their own cities.' A perfect match with Tel Aviv founders' ideas of the city as accumulation of future-citizens as a vehicle for self-government, Geddes' 1925 plan for Tel Aviv, based on detailed survey of the town as housing estate, accepted Tel Aviv's use of housing as building block to produce a 'Housing before Street' urban planning. Geddes' Tel Aviv plan poses alternative to accepted models of modern planning: technocratic-capitalist Haussmanism, aesthetic City Beautiful, Corbusian 'radiant cities', or utopian Garden City. At the same time, contrary to the phenomenon of makeshift housing predating formal settlement and creating the city de-facto, as in the auto-constructed peripheries of Cairo, Brasilia or Calcutta, Tel Aviv's formation via housing was the result of a conscious, anarchist, planning process where Geddes fully realized his ideas: not merely challenging top-down mechanisms, but disrupting the very dichotomous perspective of modern urbanism as a clash between top-down planners-ideologues and bottom-up urban citizens.

Keywords
Geddes, housing, Tel Aviv, anarchist, urban, planning, garden city

Scholarship about Geddes' anarchist ideas focuses primarily on the idea of regional planning, forming free confederations of autonomous regions - each based on detailed specific survey - as opposed to planning the giant metropolis, the nation and the empire.[1] Geddes' ideas were influenced by French geographers Reclus and de la Blanch, and by sociologist Le Play, with whom he encountered in 1878 by way of the Paris Exhibition.[2] Meller shows that Geddes based his famous valley section on the ideas of Reclus, into which he incorporated Le Play's trinity of *Lieu, Travail, Famille* as well as Kropotkin's idea of communism of the free.[3] The most discussed radical aspect of Geddes' work involves 'the almost sensual reciprocity between men and women and their environment' as 'active motor force of human development… seat of comprehensible liberty and mainspring of cultural evolution', attacked and eroded by the centralized nation state and large-scale machine-industry economy.[4] Deeply influenced by Kropotkin's idea of 'communism without government, the communism of the free', spatially located in the Medieval city and its guild system, able to escape monarchic and theocratic domination, a free state based on a union of districts, parishes and guilds, swept away by the centralized state.[5] Geddes' deliberate anarchic quality of the regional survey with its emphasis on traditional occupations and historical links was a conscious celebration of European culture, bearing a radical purpose: to provide the basis for total reconstruction of social and political life.

Geddes' ideas of regional planning, spreading as far as Hong Kong and America and influencing the formation of regional cities like Sunnyside Gardens and Radburn by 'a group of insurgents', as Mumford declared them.[6] Yet Gedess' ideas, revolutionary and thought provoking as they were, have overarchingly never been executed, not even by his most well-known successors and torchbearers: Mumford and Abercrombie.[7]

My discussion of Geddes' anarchist urbanism in this paper goes beyond this well-known discussion of regional planning to examine his less-discussed anarchic idea of a 'city of sweat equity' built by its own dwellers based on housing. This revolutionary and anarchic idea underlies Geddes' 1925 master plan for Tel Aviv – his only work ever realized.

This less-discussed idea involves Geddes' anarchist thinking of housing as the building block for cities. Meller shows that Geddes valley section was imbued with Le Play's trinity of *Lieu, Travail, Famille*, stressing the family as the basic social unit, in the context of its environment.[8]Geddes agreed with Reclus and Kropotkin, who were influenced by Proudhon and Bakunin, regarding individual property ownership as the essential guarantee of a free society, providing the basis for a decentralized, non-hierarchical system of governance.[9] For Geddes, social reconstruction was to form not by sweeping governmental measures like the abolition of private property but through

the efforts of millions of individuals for the 'creation, city by city, region by region, of a utopia.'[10]
I would like to suggest that the true anarchist aspect of Geddes' planning involved his use of the house as a building block for the city – in fact, in seeing housing and urbanism as one single problem. Geddes:

> The natural eugenic center is in every home; its young go out to make new homes; these make the village, the town, the city small or great, so the would-be Eugenist has to work at all these towards their betterment. Federate homes into co-operative and helpful neighborhoods. Unite theses grouped homes into renewed and socialized quarters – parishes, as they should be – and in time you have a better nation, a better world… Each region and city can learn to manage its own affairs – build its own houses, provide its own scientists artist and teachers. Theses developing regions are already in business together; can't they make friends and organize a federation as far as need be… May not this be the time prophesied in Isaiah? … "they shall build houses and inhabit them… and I will direct their work in truth."[11]

Geddes' focus on housing and its role for the formation of cities and regions was deeply affected by issues of housing in the industrial city, having himself lived in a tenement in Edinburgh in the 1880s. As Kropotkin recorded in a letter to Reclus in 1886: 'Geddes has now just got married, leaving his house and taking a very poor flat among the workers'.[12] As recounted by Geddes:

> social conscious was then stirring throughout the cities, and we had both felt it strongly – and so strengthened each other: so after a single winter of bonnie home… we crossed to the high James Court tenement of the Old Town opposite, with opposite view accordingly, and thus enabling us to endure, by facing and tackling of dirt and overcrowding and disorder of even more infernal slumdom than now exists in Edinburgh; and to begin such changes as might be, thus became problems as scientific, as technical, as had been those of living nature and its science to myself, or of music to my companion.[13]

They started with:

> within our limited range, with flower-boxes for dull windows and colorwashing for even duller walls… we soon got to fuller clearings and repairings, next even to renewals, at length to building as through as Lawnmarket, Castle Hill to Ramsey Garden, of course with thanks to growing cooperation alike from students and citizens, increasingly becoming good neighbors.[14]

It was there, at the tenements of the Old Town, that Geddes developed his famous method of survey. Based on a three dimensional aerial drawing, Geddes developed simple logical connections regarding the built environment: overcrowding and under-housing, with high rents and high land values, resulted from the restrictive defensive walls of the medieval city; the notorious filth was due to poor water supply, which in turn came from its hill site.[15] Geddes carried out social reconstruction using associations and guilds: the educational program, the public open spaces committee, and significantly the Housing Guild. The Social Union's Housing Guild built up a fund by managing property for owners and organizing rent collection by volunteers, and developed university residence halls. A decade later, by 1896, Geddes' housing guild managed property worth 53,000 pounds, some 250 times his yearly salary as part-time professor, transferred to the Town and Gown Association Limited.[16]
While social reform activists and planners proposed housing solutions for and on behalf of the poor via top-down schemes, Geddes' approach to urban housing was termed by Peter Hall 'city of sweat equity.' Namely, 'contributing to planning theory the idea that men and women could make their own cities' and the idea of the role of planning in leading a civic reconstitution of society and cities.[17] This idea, initiated in Edinburgh, was developed during Geddes' visits to India since 1914, where he developed 24 planning reports for 24 different cities. Critiquing the British administration's fixation on sanitation and racial segregation to prevent disease, and planning methods summing up to Houssmanian opening of vast roads by clearing parts of the densely populated Indian city, primarily by military engineers, leading to absurdities like water closets that cost twice as the value of the houses.[18] Geddes thereby critiques the colonial planning mechanism altogether: assumptions, methods, goals and knowhow. His book *Cities in Evolution* of 1915 famously stated that

> urban Planning cannot be made from above using general principles… studied in one place and imitated elsewhere. This way leads to Haussmanism. City planning is the development of a local way of life, regional character, civic spirit, unique personality… based on its own foundations.[19]

Geddes suggested 'conservative surgery' based on long and patient study – the survey.

More significant still, in his report for Indore Geddes argued that British top-down planning schemes should be replaced with actions made by the residents themselves, in actions of self-housing. 'Simplifying the building itself, to a reasonable minimum to start with, yet with incentive to improvement', using temporary materials with 'labor can often, at least partly be given by the worker himself.' The whole plan, he stressed, 'must be realized with the real and active participation' of the citizens, warning against the 'dangers of Municipal Government from above' resulting in 'detachment from public and popular feeling and consequently… from public and popular needs and usefulness.'[20]

Needless to say, his ideas were met with impatience and anger: 'a certain Professor Geddes came out here to lecture in town planning… He seemed to have talked rot in an insulting way… a crank who don't [sic] know his subject'.[21]

Geddes' idea that cities should be built and governed by their poor dwellers – and that there can, and should be – planning for this purpose, was far more anarchistic than his idea of the city in the region. This idea is so anarchistic that it was marginal even to the Town Planning Movement, revolutionary for identifying the question of housing (rather than commerce or industry) as central to the very aims and idea of planned settlements, their *raison-d'etre* as well as economic bases and formative mechanism.[22]

Comparing Geddes' ideas for city planning with Howard's Garden City, we see they are strikingly different in the role assigned to the people's own actions in construction of their homes and the city. Garden city model based on purchase of cheap farm land by industrialists as investment in a city of good worker housing – to be paid back as rent and property values go up. It was planned for and on behalf of the workers, using industrialist entrepreneurial money for philanthropic social reform. This 'peaceful path for real reform' was a pacifying attempt to avoid revolutionary reform by planning good worker housing in better cities (at the backdrop of worker revolutionary attempts to take the city in the 1878 Paris commune, and later the 1905 Russian revolution).

Geddes' planning strategy disrupts the dichotomy taken for granted by modern urban planning of the Houssmanian, City Beautiful and later Radiant City, between the planned city produced by professional experts and governing institutions and the unplanned city produced by poor dwellers, primarily due to industrialization and urban migration.

1925 master plan for Tel Aviv

Geddes' ideas are generally understood as never been realized, save, partially, by his followers.[23] This scholarly perspective somehow ignores Geddes' 1925 master plan for Tel Aviv, self-proclaimed to be his most ambitious plan - and his only plan ever realized.

Geddes' Tel Aviv plan is discussed primarily as infrastructure, arguing that it was rejected by the city, thereby based on a poor survey and not representing his ideas.[24] My paper uncovers exciting data exposed in the archives and the built environment, proving that Geddes' Tel Aviv plan was in fact fully realized by the mid-1930s, and exposing the anarchist elements in the plan, as well as their role in enabling the very realization of the plan by the city's disenfranchised worker community. These findings indicate that unlike the phenomenon of unplanned auto-constructed peripheries in Peru, Sao Paulo or Calcutta - Tel Aviv's formation via housing was the result of a conscious anarchist planning process where Geddes fully realized his ideas: not merely challenging top-down mechanisms, but disrupting the very dichotomous perspective of modern urbanism as a clash between top-down planners-ideologues and bottom-up urban citizens.[25]

Zionist ideas of 'auto-emancipation' fascinated Geddes and appealed to his greater politics of self-help by the disenfranchised.[26] Upon the British conquest of Palestine in 1918, and having been disappointed by his efforts in India, Geddes contacted his dear friend from Edinburgh writer Israel Zangvil, who was a Zionist activist, proposing his services to the movement.[27] In 1919 Geddes first visited Palestine, aged 65, by invitation to devise a plan for the Hebrew University in Jerusalem, and eventually also submitted a critical review of the British plan for the city to its British Governor; a detailed report and general plan for Haifa, and several plans for garden suburbs in Jerusalem, Haifa and Tiberius. None of them was executed. In 1925 Geddes was invited to attend the opening ceremony for the Hebrew University. Tel Aviv's mayor Dizengoff took the opportunity and approached Geddes for designing a master plan for the city's development.[28]

Tel Aviv was in 1925 at a major crossroad: its population quadrupled in 4 years following the transition from Ottoman to British rule and the beginning of ethnic-national clashes in Palestine in the 1920s, which generated mass urban migration to Tel Aviv and the formation of tenements and substandard housing.29 Transforming the town from a homeowner community to a crowded agglomeration of neighborhoods with no clear structure, full of shacks and tents, bearing consequences for municipal politics which Dizengoff attempted to solve with urban planning. A prior 'city beautiful' plan produced by Richard Kauffman, planner for the WZO, was rejected for extending the piecemeal development of the city.

Geddes spent two months surveying the city and region and produced a 64 page town planning report and a plan for Tel Aviv as a city for 100,000 inhabitants which he defined as his most ambitious plan. 30 Geddes' planning

report was developed into detailed plan by the city's technical department, the plan was adopted by city council in 1925, and approved by the British authorities in 1927.[31]

In his survey report, Geddes analyzed Tel Aviv's 1925 condition as a city at a crossroads of two different paths dictated by housing development: One, continuing the process transforming Tel Aviv into a city of tenements – and the other, returning to its original principles of garden village. These two housing types, writes Geddes, 'represent the essential contradiction between the two types of planning'.[32] The Geddes plan, then, can be seen as a return to Tel Aviv's original framework, from which the city deviated due to WW1 and its dire housing consequences.[33]

Geddes' survey focused on Tel Aviv's housing condition. He analyzed the city's condition at a crossroads between two housing types: its original detached unit with subsistence farms – and the tenement, which he called 'human warehousing'. One, continuing the process transforming Tel Aviv into a city of tenements – or 'human warehouses' – and the other, returning to its original principles of garden village based on "detached cottages with small gardens". Geddes presented this crossroad in his report by analyzing two nearby housing in the Shapira alley: detached cottages with small gardens and a nearby 'warehousing tenement block'. These two housing types, writes Geddes, 'represent the essential contradiction between the two types of planning.'[34]

Geddes' survey method of Tel Aviv could not have missed out the historical role of housing for the town's formation, based on the single house as its building block. Founded in 1909 as a homebuilders' association, the town developed in a 'housing before street' process, by which the houses formed the city around them. After laying a grid layout and distributing house plots, historical images show, the city's infrastructure and urban life formed around the houses. Tel Aviv homebuilding association was declared from the very start to be 'seed for a Hebrew City.'[35] The idea that a city could be produced from the agglomeration of individual housing involved collective purchase of land, subdivision to plots, self-construction of houses, and the formation of streets, parks, and public institutions – the 'city' – around them.[36]

Geddes found this form of urbanism remarkable and defined his plan's primary aim as 'continuing the Garden Village Tel Aviv began with, and bettering this as far as may be.'[37]

Geddes' plan for Tel Aviv is based on 'home block' urban units: urban blocks composed of two rings of detached houses, at the inner circumference and outer circumference of the block. Each block included a small public park with communal facilities such as playgrounds and tennis courts. The home block was surrounded with 'mainways' for through traffic, and serviced by narrow 'homeways' and pedestrian ways leading to the inner block yet not traversing it.[38] House plot suggested in Geddes's report was 560 square meters, same as Tel Aviv's original plot, with construction area limited to one-third and building height to 9 meters, to contain a single, semi-detached house with no more than two residential units, leaving much of the plot for subsistence farm. Tel Aviv's building block, the house, was thus embedded within Geddes' home block within large-scale urban scheme.[39]

The plan included different-sized home-block units tied to one urban system via non- orthogonal grid system of north-south and east-west mainways, identified by scholars as 'biological' design creating a street hierarchy which differentiates between quite residential streets from major throughways.[40]

Geddes' recommendations were adapted into planning document by the municipal Technical Department. A legal document, containing a colored map and written by-laws, drafted in accordance with the British 'Town Planning Order' was approved by the planning Board of the Mandatory Authority in 1927.[41]

Yet, consensus resides among scholars that housing was insignificant to the plan. Scholars claim Geddes plan's housing was rejected by city and public in favor of 'Bauhaus' apartment houses. Weill-Rochant writes: 'Scientific publications on the history of the city, dealing primarily with the topic of the garden-city, discuss the inadequacy of [the home-block] model… made obsolete the development plan drawn up in 1925 by Geddes'.[42] Scholars claim that the home-block was realized in layout alone, while house units were built in the 1930s by Bauhaus-educated architects as three floor apartment houses, what Geddes defined 'warehousing'.[43] Claiming that Tel Avivians rejected the home-block housing type, scholars in effect claim that Geddes' anarchist planning-as-housing design was not executed – but merely as a top-down modern planning scheme later filled-in with housing.

Examining the historical development of the Geddes area closely, my detailed study nonetheless shows that Geddes' housing scheme was materialized en mass in the 1930s. Moreover, my findings indicate that rather than infrastructure preceding housing and attracting residents, as in most modern urban plans, home-block housing were formed before the Geddes layout reached them, forcing the city to extend Geddes' layout and materialize his full urban vision in a relatively short period.[44]

How has this happened? The plan's design and approval occurred at a period of great conflict between workers and capitalists in Tel Aviv, at the backdrop of grave housing conditions. Rental costs ranged 40 to 50 percent of a worker's average wage in the early 1930's.[45] Workers' response was unionization into cooperatives in order to obtain loans for land purchase and construction, cooperatives similar to Ahuzat Bayit's homebuilders' associa-

4. THEORETICAL AND CRITICAL ISSUES

tion model. Geddes' home-block was a perfect match for urban workers: Restrictions on housing size and height made auto-construction a realistic possibility, and construction limit to 1/3 of the plot met workers' need to maintain small subsistence farms and support them.[46] The socialist party took power of Tel-Aviv's municipal government between 1925 and 1928, at the crucial moment of British Mandate approval of Geddes' plan. Worker leadership realized the immense consequences of the plan for their struggle over the 'production of the city' in terms of access to housing.

Urban workers could only afford cheap land at the edge of the Geddes plan area, far from the city center. Approving leapfrog development, worker-led urban government permitted development of small self-built home-blocks at the edge of plan area before the infrastructure development of the Geddes plan layout: roads, electricity, water and sewage. Following construction of worker housing, the working class government used public funds to service these remote worker neighborhoods with roads and public services, thereby creating the Geddes plan layout in a 'housing before street' framework. [47]

Housing construction at the edges of the plan was therefore the decisive act in forming the infrastructure and layout of the Geddes plan. By 1937, there were sixteen worker neighborhoods in the Geddes plan area, marking the entire area a 'worker's quarter'.[48] Some of the original buildings still exist, standing as testament to the existence of a workers' neighborhood with subsistence farms in what is now at the heart of the city.

Examples include Workers' Neighborhood A formed 1930-1 by collective purchase of a cheap three hectare plot at the northern tip of the Geddes plan area, un-serviced and far from the city center at a period of ethno-national violence. Engineer David Tuvia designed the neighborhood layout and its 35 identical houses, each with subsistence farm, on 0.05 hectare plots. Houses included two rooms, a porch, a kitchen and a bathroom.[49] Poorer workers of the Camel Leaders Neighborhood first built wooden shacks for themselves and only in the late 1930's gradually began issuing building permits for the construction of small permanent houses. All structures were built by the residents themselves using scrap metal rather than construction-quality materials, therefore the technical department banned construction of more than one floor in this neighborhood.[50] While meager, the houses enabled dwellers of the city's shack neighborhoods to gain access to proper permanent housing and subsistence farms, and transformed workers into homeowners and therefore proper citizens of the city.

Geddes' complete blurring of the top-down bottom-up, planners-ideologues vs. infill-citizenry has in fact contributed to the realization of his plan in full, the only example worldwide. This idea, refusing a total-control planning that 'knew best' and incorporating what residents of this specific city viewed as their self-defined goal, enabled dwellers to form Tel Aviv as a 'city of sweat equity'.

Geddes' 'sweat equity' modern planning was deeply invested in concrete housing solutions, including the question of housing as central to the very aims and idea of planned settlements. Tel Aviv's 1925 plan was the result of conscious, anarchist, planning process where Geddes fully realized his ideas: not merely challenging top-down mechanisms, but disrupting the very dichotomous perspective of modern urbanism as a clash between top-down planners-ideologues and bottom-up urban citizens. Realization of the Geddes plan in Tel Aviv was significantly the result of 'sweat equity' actions of its working class, self-constructing the home-block and thereby extending plan layout throughout the planed area, in a 'housing before street' development.

1 Peter Hall, *Cities of Tomorrow* (Berkeley: University of California Press, 1988). Helen Meller, *Patrick Geddes: Social Evolutionist and Town Planner* (London: Routledge, 1990).

2 Hellen Meller, *Patrick Geddes: Social Evolutionist and Town Planner*, 35, 40. Id., "Philanthropy and public enterprise: International exhibitions and the modern town planning movement, 1889-1913," *Planning perspectives* 10, n. 3 (1995), 300.

3 Meller, *Patrick Geddes: Social Evolutionist*, 35.

4 Clyde Weaver, *Regional development and the local community, planning, politics, and social context* (London: Wiley 1984), 47.

5 Peter Kropotkin, *The conquest of bread* (Montreal: Black Rose Books Ltd., 1990), 28. Petr Alekseevich Kropotkin and George Woodcock, *The state: Its historic role* (Alexandria: Chadwyck-Healey Incorporated, 1987).

6 Lewis Mumford "The Regional Cominity," *The Survey*, n. 54 (1925).

7 Hall, *Cities of Tomorrow*.

8 Meller, *Patrick Geddes: Social Evolutionist*, 35.

9 Pierre Joseph Proudhon, *Selected Works, translated and edited by S. Edwards* (New York: Doubleday, 1969), 33, 107.

10 Patrick Geddes, "The Two-Fold Aspect of the Industrial Age," *Town planning review* 3, n. 3 (1912), 183.

11 Geddes, quoted in Amelia Dorothy Defries, *The interpreter Geddes: The Man and his Gospel* (London: Routledge, 1927), 218-9, 230-1.

12 Kroptkin quoted in Philip Boardman, *The Worlds of Patrick Geddes: Biologist, Town Planner, Re-Educator, Peace-Warrior* (London: Routledge and Kegan Paul, 1978), 87.

13 Geddes quoted ibidem, 86. Anna Geddes was herself deeply influenced with issues of social reform and the work of Octavia Hill in the Marylebone slums of London. See: Sofia G Leonard, "The Regeneration of the Old Town of Edinburgh by Patrick Geddes," *Planning History* 21(1999).

14 Geddes quoted by Boardman, *The Worlds of Patrick Geddes*, 86-7.

15 Leonard, "The Regeneration of the Old Town of Edinburgh by Patrick Geddes", 34.

16 Hall, *Cities of Tomorrow*.

17 Ibidem, 263.

18 "Report on Town Planning, Dacca," in Jaqueline Tyrwhitt and Sir Patrick Geddes, *Patrick Geddes in India* (London: Lund Humphries, 1947).

19 Patrick Geddes, *Cities in Evolution: an*

Introduction to the Town Planning Movement and to the Study of Civics (London: Williams & Norgate, 1915), 205.
20 Patrick Geddes, "Town Planning Towards City Development: A Report to the Durbar of Indore" (Indore: Holkore State Printing Press, 1918), 70, 104.
21 Christopher Edward Clive Hussey, *The Life of Sir Edwin Lutyens* (London: Country Life, 1953), 336.
Postcolonial urban scholars critique Geddes' 'city in the region' plan for Tel Aviv for having been 'blind' to the national and colonial context he was working in (thereby questioning his survey method) and for 'taking sides' with Zionists. For example: Noah Hysler Rubin, *Patrick Geddes and town planning: a critical view* (London: Routledge, 2013). Of course, this critique is blind to Geddes' insistence not to think of a city as a national or Imperial instrument but rather as the social and political center for a local regional community. Geddes' plan for Tel Aviv was in fact widely successful in this regard: it is often critiqued by nationalists in Israel as 'the state of Tel Aviv', for undercutting and surpassing the nation state.
22 Mumford, in E. Howard and F.J. Osborn, *Garden Cities of To-morrow: With an Introductory Essay by Lewis Mumford* (London: Faber and Faber, 1946).
23 Hall, *Cities of Tomorrow*.
24 Rachel Kallus, "Patrick Geddes and the evolution of a housing type in Tel-Aviv," *Planning Perspectives* 12, n. 3 (1997). C. Weill-Rochant, "Mythes et Constructions de Tel-Aviv," *Bulletin du Centre de Recherche Français de Jérusalem*, n. 12 (2003).
25 JFC Turner, *Housing by People: Towards Autonomy in Building Environments* (London: Marion Boyars, 1976). James Holston, *Insurgent citizenship: disjunctions of democracy and modernity in Brazil* (Princeton: Princeton University Press, 2008).
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27 Nathan Marom, *City of Concept* (Tel Aviv: Babel, 2009).
28 Weill-Rochant, "Mythes et Constructions de Tel-Aviv."
29 Marom, *City of Concept*. Gideon Bigger and Jacob Shavit, *The History of Tel Aviv Part A: From Neighborhoods to City* (Tel Aviv: Ramot, 2001).
30 Kallus, "Patrick Geddes and the evolution of a housing type in Tel-Aviv." Rubin, *Patrick Geddes and town planning: a critical view*. Catherine Weill-Rochant, *L'atlas de Tel Aviv: 1908-2008* (Paris: CNRS Editions, 2008). Catherine Weill-Rochant, "The Tel Aviv School: A Constrained Rationalism," *Docomomo Journal*, n. 40 (2009).
31 Geddes's plan for Tel Aviv included a written report, sketches, photographs and a plan. The Tel Aviv Engineering Archive holds the written report alone, Town Planning Report – Jaffa and Tel Aviv 1925, and an illustration of the plan on its cover (see above). The map and drawings, mentioned in the report text, have disappeared, allegedly burned by Arab insurgents in 1936. See Arindam Dutta, "Organicism: Inter-Disciplinarity and Para-Architectures," *Journal of the Society of Architectural Historians* 64, n. 4 (2005). The available map we have today is a plan prepared by the city engineering département circa 1931, according to the report and master plan suggested by Patrick Geddes in 1925 (Tel Aviv Engineering Archives).
32 Patrick Geddes, "Town Planning Report - Jaffa and Tel Aviv" (typed report: Tel Aviv, 1925), 13. Found at the Tel Aviv Engineering Archive.
33 Marom, *City of Concept*. For some reason Marom relegates this important observation to a footnote, 59. f. 64.
34 Geddes, "Town Planning Report - Jaffa and Tel Aviv," 13.
35 Akiva Arie Weiss, *The Beginning of Tel Aviv* (Tel Aviv: Ayanot, 1956).
36 Marom, *City of Concept*. Bigger and Shavit, *The History of Tel Aviv Part A: From Neighborhoods to City*.
37 Geddes, "Town Planning Report - Jaffa and Tel Aviv," 15.
38 Ibidem. Kallus, "Patrick Geddes and the Evolution of a Housing Type in Tel-Aviv." Weill-Rochant, *L'atlas De Tel Aviv: 1908-2008*.
39 See note 35.
40 Geddes, "Town Planning Report - Jaffa and Tel Aviv," 21-23.Volker M Welter and Iain Boyd Whyte, *Biopolis: Patrick Geddes and the City of Life* (Cambridge: MIT Press, 2003). Weill-Rochant, *L'atlas De Tel Aviv: 1908-2008*.
41 Kallus, "Patrick Geddes and the Evolution of a Housing Type in Tel-Aviv."
42 Weill-Rochant, "Mythes et Constructions de Tel-Aviv," 82.
43 Kallus, "Patrick Geddes and the Evolution." Weill-Rochant, "Mythes Et Constructions De Tel-Aviv."
44 Rather than the neighborhood by neighborhood for-profit developing which prevented Tel Aviv from a clear structure. See: Marom, *City of Concept*. Bigger, *The History of Tel Aviv Part A: From Neighborhoods to City*.
45 Zelig Lavon, *Shelter* (Tel Aviv: Am Oved, 1974).
46 Tel Aviv Municipal Archive: Workers' Neighborhood A file; Camel Leaders' Neighborhood file; Neighbors' Neighborhood B file.
47 Tel Aviv yearbook, 1926, 1927, 1928, Tel Aviv Municipal Archive. Alter Druyanov, *The Book of Tel Aviv*(Tel Aviv: Tel Aviv Book Committee, 1936).
48 Ibidem.
49 Tel Aviv Municipal Archive: Workers' Neighborhood A file, Ben Gurion 26 house file.
50 Tel Aviv Municipal Archive: Camel Leaders' Neighborhood file, Yeshayau 36 house file.

5. TWENTIETH CENTURY

5.1 In-Between Avant-Garde Discourse and Daily Building Practices: The Development of the Shopping Centre in Post-War Europe

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This session will focus on a new urban figure that emerged in western Europe in the post-war period: the shopping centre. Following the apparent demise of pre-war modernism, post-war architectural culture was concerned that people's sense of responsibility to their local communities was eroding and expected architecture and urban design – by allowing people to identify with their immediate locale – to help buttress people's sense of belonging. The notion of a 'core' that could engender community interaction therefore became an important theme in the avant-garde discourse on modern architecture and urbanism, and found a fertile breeding ground in the (often) highbrow building programmes of the western European welfare states. These building programmes not only targeted housing,health care and education, but also gave rise to the development of community infrastructure, which was to cater to all strata of the population equally: leisure parks, community centres, school buildings, cultural centres, and so on.

Parallel to these novel community-oriented infrastructures, another new (commercially inspired) spatial figure became popular in western Europe: the shopping centre. A fully-fledged architectural expression of the new logics of mass distribution and mass consumption, the post-war shopping centre gradually settled on the European territory. Even though it was most commonly developed by private bodies, from a social point of view it had much in common with the newly constructed welfare state centres, offering spatial centrality, public focus and human density.

For this session, we invite papers that explore this parallel between govern-

ment-funded community infrastructure and privately developed shopping centres in post-war Europe. We want to discuss whether the multiple parallels between community infrastructure and shopping mall were a mere coincidence or, in fact, the result of the strong influence of contemporary avant-garde discourse about architecture and urbanism on daily building practice.

5.1.1 Shopping *à l'américaine* in the French New Towns

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Abstract

This paper explores how the rapid development of shopping malls in post-war France shaped the design of multi-use megastructure projects for the country's New Towns in the late 1960s and 1970s. Often cast as exemplary of the Americanization of post-war Europe, suburban shopping was in fact not solely an American import. In France, two distinct, competing types of suburban shopping emerged simultaneously. The *hypermarché* or hypermarket – a French invention of sorts – was geared towards the low-cost segment of the market while the more upscale 'regional commercial centre' was adapted directly from the American dumbbell mall formula and contained both department stores and independent smaller boutiques. Despite intellectuals' denunciation of both types, which they cast as tasteless American imports threatening the French way of life, suburban shopping became a key source of inspiration for the architects and planners of France's New Town program, launched in 1965. Their approach was perfectly summarized in the words of Prime Minister Chaban-Delmas, who proclaimed that France needed 'to master the society of consumption by bestowing it with a touch of soul.' In France's post-war suburbs the shopping mall guaranteed the crowds and thus the kind of liveliness reminiscent of that of a traditional city. Focusing on the new urban centres for Evry and Cergy-Pointoise, this paper explores the strategies planners and architects employed to harness what they saw as 'wild' and 'anti-urban' private developments for their own urban projects. It argues that such designs were not so much signs of an architectural avant-garde influencing daily building practice than attempts to marry private development with centralized planning.

5.1.2 From Million Program to Mall: Consumerism in the Swedish Town Centre, 1968-84

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Abstract

In September 1968, Prince Bertil of Sweden inaugurated Skärholmen Centrum, a new outdoor square on the outskirts of Stockholm designed by the architects Boijsen & Efvergren. As a neighbourhood core, this *centrum* (town centre) emerged in the heyday of the so-called Million Program, as Swedish welfare state politicians and architects constructed over one million dwelling units between 1965 and 1974, often in new town suburbs.

Here, I examine the transformation of the *centrum* from the late 1960s to the mid-1980s, arguing that 'community' and 'consumerism' were originally regarded architectural and social antagonists but quickly became critical partners. When constructed, town centres adhered to Social Democratic ideologies that encouraged social cohesion among citizens through 'service': standardized amenities like libraries, hobby spaces, post offices, youth centres, and stores offering industrialized goods. But was Skärholmen Centrum a community centre or a shopping centre? A national newspaper article entitled 'Demolish Skärholmen!' appeared just two days after Bertil's speech, beginning a lengthy debate. Some critics pilloried the modernist concrete forms and 4,000 parking spaces of this 'welfare state concentration camp,' while others argued against its naked 'consumerism'.

With press like this, Million Program areas like Skärholmen were increasingly stigmatized by the 1970s, and architects searched for ways to revamp their urban environments. Increasingly, they privileged shopping. By 1984, new glazed atrium structures covered Skärholmen Centrum's old pedestrian streets, and private stores took precedence over social services. As renovation trumped demolition, the *centrum*'s supposed architectural failures ultimately required a radical change: the welfare state's premier public squares became indoor malls. If the *centrum*'s 'consumerism' originally served as an epithet, how did it become a design goal in less than two decades?

5.1.3 Reinventing the Department Store in Rotterdam: Breuer's *Bijenkorf*, 1953-57

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Abstract

This paper will offer an insight into Marcel Breuer's *de Bijenkorf* Department Store Complex, a work that belongs to the most creative period of the architect, when he finally had the chance to turn the Bauhaus ideas into practice. Free from doctrines and styles, Breuer, with this project, reinvented the department store in its substance – as if it were the first one to be built in history – creating a modern background for human activity in the new centre of post-war Rotterdam.

In our analysis we investigate Breuer's approach to the creation of this specific building typology, primarily through the study of his archive (original drawings, speeches and writings). In a broader context, by reflecting on the firm's decision to abandon the remnants of Willem Dudok's 1930 *de Bijenkorf*, destroyed by the Nazi Germany incendiary raids in 1940, and to commission a new building at a different location, next to the *Lijnbaan* shopping centre and the V&D department store – both projects of the city's reconstruction period – we shed light on the unique identity of Breuer's commercial beehive and explore its role in the post-war modernist reconstruction plan of the inner city of Rotterdam (Basic Plan, 1946). The paper thus draws parallels between Breuer's design and the Basic Plan, as both share the same avant-garde spirit and dynamic. Both designs are pure representations of their era (sincere, rationalists and with practical spirit) and both cherish the values of the Modern Movement for community welfare, acknowledging at the same time the sovereignty of consumerism and market economy. Instead of getting carried away by nostalgia and old practices, they take the chance to create anew their desired image, showing their eagerness to experiment on a *tabula rasa*, be it about a razed city centre, or a new shopping philosophy.

Keywords

Breuer, Bijenkorf, Rotterdam, shopping, modern, architecture

Introduction

A branch of the chain department stores 'de Bijenkorf' (meaning, 'the Beehive'), designed by Willem Dudok, first opened in Rotterdam in 1930. It was an impressive modernist building that was irrevocably damaged when German incendiary raids destroyed most of the inner city of Rotterdam in 1940. Discussions for the rebuilding of the city started immediately after and led to a plan with a new urban concept that was to transform the image of Rotterdam: the 1946 'Basic Plan'. Seven years later Marcel Breuer was commissioned to design the new Beehive[1] on the Coolsingel Boulevard, not far from its old site, a building that, when completed, was characterized as 'the climax of the city's reconstruction'.[2]

The new Beehive is a work that belongs to Breuer's most creative period, when he finally had the chance to turn the ideas of the Bauhaus into practice,[3] and gain international recognition and other important commissions in Europe and the USA.[4] A modern dynamic (expressed in the absence of prejudice, in his ability to place himself in immediate objective contact with the given problem and in the creation of aesthetic satisfaction using balance and elemental forms)[5] is easily discernible in Breuer's building and will be traced here. However, the main purpose of this study is to shed light on its importance for the design of shopping buildings. What will be argued is that, first, Breuer consciously and systematically created in Bijenkorf a specific building type[6] for the department store with innovative characteristics; and, second, through his profound understanding of the pursuits and aims of the 'Basic Plan', he evolved this new type to create a communal space of private interests, influential in the life of the city, thus promoting a new philosophy of shopping; in other words, it will be argued that he tried to address the principal questions of what a department store is and how it works.

What is a department s tore 'The essence of the vase'[7]

In the USA, retail establishments had come a long way during the interwar period, as new needs had created new forms, still untried in Europe. For that reason Bijenkorf's executives wanted an architect from across the Atlantic for their Rotterdam project. Breuer was already familiar with the design of department stores by that time, since he had worked as the consulting architect for the exterior design of the Abraham & Straus department store in 1951, a big warehouse in Hempstead, Long Island. There, he created elevations that, with the exception of the display windows, remained windowless in order to generate extra wall space and protect the merchandise from direct exposure to sunlight.

In the Beehive, studying the problem, Breuer started by defining the object of design: 'Essentially,' he said, 'a department store is a big, empty box built around a central circulation core, with the walls closed to provide ample storage.'[8] This definition may sound simple, however it marks a departure from older typologies in European practice, where the department stores used to be more compartmentalized (often with labyrinthine environments) and with a fenestrated exterior.[9] Breuer obviously had the chance to make use of his prior experience in this new project, but he did not simply 'transfer' the American model of the warehouse to Europe. Instead, he adapted his design both to the particularities of the city and of post-war European reality, where, despite recent economic prosperity and social stability, the psychology of investors had changed. The commercial 'palaces' with the big atriums of the first decades of the twentieth century were no longer considered a sustainable solution, which is partly why, however successful Dudok's building had been in its time, it was by now considered obsolete.[10]

Bijenkorf is one of the projects in which Breuer treated function[11] as an internal logic that creates the form of the building. In its original 1957 form it is primarily composed of a five-level parallelepiped, 26 m high, with a floor area of about 5100 sqm, which provides an adequate space for retail, – the core activity of the department store –, and its supporting functions, including a food section and a limited parking space in the basement, a snack bar on the ground floor, a hair salon on the first floor, a restaurant on the second floor with a capacity of 500 people, as well as offices and service area for the personnel on the fourth floor. On the north side of the 'box', Breuer annexed a three-level volume for offices and boutiques. This volume includes also storage, packaging and pricing areas on the ground floor, and a cinema theatre on the first floor, accessible from the Coolsingel. On the western side, adjusted to the scale of the neighbouring Lijnbaan shopping centre, a delicate crystalline pavilion with a catenary roof is attached to the building and serves as an exhibition and advertising area.

The core of the department store conforms to Breuer's definition: large sales halls of a uniform layout optimise the arrangement of the merchandise, and in the middle, there is a vertical circulation core with escalators. Ancillary staircases are placed around the three sides of the sales halls, while the lifts and the restrooms are placed on the north side. The flexibility of the layout is little affected by the freestanding columns, constructed on a standard grid of 12 m. The whole circulation of goods and personnel takes place unobtrusively behind the scenes. For 'the layout and size of the different departments and their relation to each other' Breuer consulted

Daniel Schwartzman, a New York based architect and interior designer, who was also engaged to give his advice 'as to the clarification of the detailed merchandising requirements of these departments, including fixtures, accessories, etc.'.[12]

Dismissing the extensive use of glass for the shell of the building, Breuer sheathed three sides of his 'box' in travertine slabs. In this way he created elevations that are independent from the floor division. He also used vertical slit windows that alternate at a constant rate, creating an interesting visual game at night.[13] The few large horizontal windows correspond to spaces that need natural light, namely, the restaurant on the second floor and the offices, along with the service area for the personnel on the top floor, which are also illuminated by three interior patios. On the ground floor, the walls are replaced by display windows that reveal the building's supporting structure. On the north side, and in stark contrast to the solidity of the travertine walls, the office annex has an aluminium skeleton and a refined, highly elaborated curtain wall with references to De Stijl.[14]

This 'box'-like architecture is the outcome of an effort to find a compact form for a big retail establishment able to accommodate large numbers of customers, to display and store an abundance of goods, and to operate under conditions of artificial lighting and ventilation. From another aspect, the sheathed 'box' gives a sense of protection to its contents, hiding all the intensity of its inner activity. In this way it creates a protected market, where passers-by cannot inspect the inside without actually entering the building and, at the same time, customers are not distracted by the town; they are isolated and focused in their shopping activity and, ideally, feel included in a distinctive community.

Creating a desired image

The outer shell of the 'box' sets the limits of the building. It separates the private space of the interior from the public space of the city, protecting and, at the same time, projecting the enclosing functions. It is the public image of the building that transmits information and meaning about its character and its relationship to the urban environment, also contributing to the shaping of the latter.[15]

Bijenkorf's image has reached a level of intense expressiveness without being emotional or subjective. On the contrary, it derives from careful analysis of all the component forces acting in the project, it is consistent with the market economy and it achieves economy in the means of expression. The strict geometry of the 'box', the analogies, the symmetries (or rather the 'asymmetric balance'), the rhythm, the materials he used and all those elements that indicate the character of the building could be a subject of further analysis.[16] However, the focus here will be given to the particular and unprecedented element of Bijenkorf's public image and use of what is today generally called 'marketing strategy.' Breuer's aim was to create a perfectly clear and recognizable identity. In order to fulfil it, he based his design on a distinct central idea: the honeycomb, a theme that arises from the brand name of the chain. The main geometric feature of the honeycomb is the hexagon that became the trademark of the store. In his effort to create as many associations as possible, he treated the building both as a whole and in detail, following the Bauhaus idea of total design[17]: the elevations on the Coolsingel and the Lijnbaan, covered with hexagonal plates,[18] and the construction site kiosk that was erected on the plot, the door handles and some of the furniture, were all generated from this central idea.[19] (Figures 1 and 2)

The metaphor of the honeycomb, however, is not used only as an image (kiosk, door handles, furniture) or as a rule (formation of elevations). On another level, the hive operates as a symbol for the great concentration of people and activities in this central department store that, as this paper will show, attempted to restore an urban density that had been lost after the bombing.

Figure 1. Detail of the east elevation on the Coolsingel Boulevard. *Source:* Photograph courtesy of Jos Troost.

Figure 2. Door handles at the south entrance of the department store. *Source:* Photograph courtesy of Jos Troost.

How a department store works
Bijenkorf's post-war location

The question of selecting a new location for the new Beehive was crucial not only for the company, but also, as the architect of the reconstruction plan, Cornelis van Traa, mentions, it was crucial for the city.[20] The selection took into consideration the new plans for the Coolsingel Boulevard and the changes both to its geometric characteristics and to its character, as it was planned to become the main artery of the new central business, shopping and recreational district.[21] The new Beehive was to be built on a spacious corner plot half way along the Coolsingel on the west, near the City Hall and opposite the Chamber of Commerce. It was elaborately placed next to the Lijnbaan shopping centre[22] and close to another department store, Vroom & Dreesmann, on the Hoogstraat, to the east of Coolsingel.[23] Those three retail establishments became the pillars of growth for commercial activity in the centre of the city.

Breuer's building had to comply with the city-planning committee's requirement that imposed a double building line on the Coolsingel to give prominence to the few surviving buildings (e.g. the Hotel Atlanta, in immediate vicinity to the Beehive). However, instead of spoiling his clear-cut volume with a corner projection, Breuer[24] proposed the construction of a big monumental sculpture at the corner of the Boulevard which would refer to the old building line – resulting in Naum Gabo's 25 m high constructivist work.[25] Nevertheless, he treated the proximity to Hotel Atlanta with delicacy, creating an intermediate space in a recess to house the cinema theatre.

To further explore Bijenkorf's interaction with the post-war downtown Rotterdam, and the way that the city shaped its character and the philosophy of its function, it is essential at this point to take a closer look at the well known and widely discussed 'Basic Plan.'

The 'basic plan'

Even before the war, the old centre of Rotterdam, with its growing population living under desperate conditions, and an increase of traffic congestion, needed drastic changes. Moreover, the city's infrastructure was inadequate to its port, which, by the 1930s, had become the largest in Europe. So, when the Germans, right after the bombing, completed their disastrous act by ordering the clearance of the rubble, it became obvious 'that the future of Rotterdam did not lie in the past but in its future.'[26] There was no time for lamenting the lost architectural heritage: Rotterdam's city architects, W. G. Witteveen and later C. van Traa, who replaced him,[27] were impatient to build from scratch a brand-new city, and to fundamentally modernize it.

The plan that was finally implemented, van Traa's 'Basic Plan,' was a comprehensive zoning plan dominated by a traffic grid and separated into areas of particular functions. According to the plan, the centre of the city was dedicated to economic, commercial and recreational functions; the residential function had therefore to be removed to an urban zone around the centre. This was a new urban concept for Rotterdam and a break with its traditional pre-war structure. Apart from this strict separation of functions, the 'Basic Plan' included many other important elements, typical of its avant-garde influences. Some of these were the radical re-parcelling of land in the city centre that led to the creation of more spacious lots and a considerable drop in the ratio of built to open space (from 55 to 31 percent). In this way, openness was to replace the dense, mixed-use, decaying centre, and Rotterdam was to become 'a city of social justice, liberating its inhabitants from the horrors of the past.'[28]

Since the former architectural image of the town had been lost and there was no desire to return to the culture and way of life of the recent past, Rotterdam – like Bijenkorf – had the opportunity to visualize its future and create anew its own image. What was to be conveyed with the new plan

was the image of a city of affluence, consumerism and welfare that could accommodate within its infrastructure the economic functions connected to its big, international port. In this frame, the 'Basic Plan' was actually a general, rather neutral, layout of the city of Rotterdam (in obvious emulation of the American model), allowing a maximum of architectural freedom and of private initiative, acknowledging the sovereignty of consumerism and market economy.

Creating a vessel of human activity

However, this boldly planned city centre lacked the vitality that a residential function – or a variety of functions – could bring. Nor was the planning of public spaces either the driving force or the priority of the 'Basic Plan'.[29] Therefore, the commercial function became pivotal in this process of re-centralization and revival of the city core; shopping became a common activity that could attract people to the newly constructed and partly empty centre. And since the new Rotterdam was favouring the private over the public, shopping was transformed into a controlled and orchestrated experience, as public space was privatized and the outside moved inside.[30] The collective memory of the inhabitants, lost with the bombing, was substituted by a new collectivity: consumerism.

Fully understanding this new reality and the risks that his endeavour involved, Breuer offered the city more than yet another retail establishment: by combining under one roof the commercial and business functions (the office annex) and by offering customer services (hair salon, snack bar), leisure and culture (restaurant, cinema theatre, exhibition pavilion, works of art in permanent exhibition), he created a pleasing and ever busy nucleus of activity and offered chances for community life. This compactness and intensity of public life, lacking in the rest of the city, enhanced urban activity and helped the Beehive become a focal point in a rather bland area.

Out of these particular circumstances and in a spirit of experimentation, Breuer evolved his original building type so as to bring together a variety of functions. In this way he offered a new perception of how a department store might work in relation to the post-war city centre of Rotterdam. His model was highly influential in the everyday practice of the department store design in Europe during the following decades, as it re-introduced, in a practical and, most importantly, sustainable way, the shopping philosophy that had been promoted by the big department stores of the early 1920's (characterized in their time as modern pleasure palaces). In this logic, his model can also be considered as a precursor of the big regional shopping centres of the early 1960s regarding the role they played in American suburbia, not merely as commercial centres, but as social, cultural and recreational points, resembling, as Victor Gruen says, 'the long-lost town square of our urban past'.[31]

Conclusions

The most interesting ideas to emerge from the analysis of Breuer's innovative elements in the design of the department store are firstly, the resonance of Breuer's design for 'de Bijenkorf' with Rotterdam's 'Basic Plan': it shares the same boldness and spirit of experimentation – being idealistic and at the same time pragmatic – and it has a clear image about its future. Secondly, while Bijenkorf's contribution to the city is undeniable, the reverse is also true, namely that the city contributed to the shaping of a building type that would enrich the experience of shopping. Most importantly, Breuer's genuine and unbiased approach united form and content under the central idea of the honeycomb, creating a unified architectural experience and providing the recently reconstructed city with one of the first collective myths of the post-war era.

1 The full title of the project is: 'De Bijenkorf Department Store Complex,' Rotterdam, the Netherlands. Department Store, Office Annex, Movie Theatre, and Construction Field Office, 1953-7 (Marcel Breuer and Abraham Elzas, Architects. Daniel Schwartzman, Consultant). The Amsterdam based Elzas was the chief architect of the N.V. Magazijn De Bijenkorf Company and designer of the HEMA Stores. He was the local architect for Rotterdam's Bijenkorf, where, as he describes, was 'the chalk of the master'. "Abraham Elzas Zesendertig HEMA's en één Bijenkorf," Nederlands Architectuurinstituut (NAI), https://www.nai.nl/collectie/bekijk_de_collectie/item/_rp_kolom2-1_elementId/1_42167].

2 "Rotterdam's Beehive," *Architectural Forum: the Magazine of Building* 107, n. 3 (1957), 133-5. The great number of journal and press publications right after its completion, in national and international level, is indicative of the importance given to this new architectural acquisition of the city.

3 It is a period that the architect calls the 'second epoch of the architecture we call modern', following the revolutionary avant-garde modernism: a period of 'interlocking philosophy and realization'. Marcel Breuer Papers, 1920-86, Archives of American Art, Smithsonian Institution (hereafter mentioned as AAA), Series 6.1, Speeches and Lectures by Breuer, 1923-75, typescript of lecture "History of Modern Architecture", n.d.

4 In the Netherlands, it is the first of his projects, the others being the Van Leer Office Building in Amstelveen and the US Embassy in The Hague.

5 These, according to Breuer, are the three 'impulses' that characterize modern architecture. AAA, Series 6.1: Typescript of lecture "Where do we stand?," Zurich, 1934.

6 The use of types was playing a strategic role in Breuer's architecture. For him, type precedes and specifies form. It is not to be repeated as an image; it rather works as a system of rules.

7 In his essay "Sun and Shadow" of 1954 in Cranston Jones, *Marcel Breuer, Realisations & Projets, 1921-1962* (Paris: Editions Vincent, Freal & C, 1962), 255, Breuer, in an effort to define architectural space, quotes Lao-Tzu. 'Though clay may be molded into a vase, the essence of the vase is in the emptiness within it. Though doors and windows may be cut to make a house, the essence of the house is in the emptiness within it. Therefore, taking advantage of what is, we recognize the essence of what is not', in J-J.L. Duyvendak, *Lao-Tzu's Tao Te Ching* (London: Murray, 1954).

8 "Bijenkorf Project," *Time Magazine*, June 3, 1957, 74.

9 We can mention here Amsterdam's Bijenkorf (1914), by Jacob Augustinus van Straaten, with the vertical rows of windows in a palatial style, or examples like the modern Schocken department store in Chemnitz, Germany (1927-8), by Erich Mendelsohn, with its unbroken bands of cantilevered ribbon windows and, of course, Willem Dudok's Bijenkorf (1930) with its huge multi-storey windows.

10 Corenlius van Traa, "Nieuwe Bijenkorf te Rotterdam," *Bouwkundig weekblad*, 75, n. 38 (1957).

11 In his projects, initially in his furniture and later in the buildings he designed, Breuer applied an idea he inherited from his Bauhaus years: to design everyday life rationally, giving all the necessary attention to functionality. The concept of functionality for Breuer was indicating the necessity of studying the nature of any object to be designed so as to fulfil its purpose, its *raison d'être*, in a simple and economical manner.

12 His service was not meant to include any drafting; only 'research, investigation, consultation and advice'. AAA, Series 8.12: Contract of collaboration between Marcel Breuer – A. Elzas and Daniel Schwartzman. Breuer had also collaborated with Schwartzman, in the Abraham & Straus department store.

13 With the dramatic artificial lighting at night, the 'box' becomes perforated, its interior gets disclosed and its enclosed character begins to decompose.

14 It is a clearly defined and framed surface with a unique composition of three different types of rectangular glass panels, arranged in horizontal bands. The lower and narrower area of each floor has black, opaque glass that covers the floor slab, the middle zone has translucent glass that captures natural light and at the same time offers privacy to the employees, and the higher zone has a transparent glass so as to receive freely the light and create appropriate working conditions. This 'open' elevation is the only one looking at the interior of the quarter and, hence, the only one that is not considered to be public. Therefore, it allows some privacy for the offices and boutiques and gives Breuer the freedom to create something that doesn't necessarily carry the load of a public image. It was destroyed when Breuer designed a large parking garage next to the store in 1974.

15 In this way, architecture has always manifested its cultural character and has been an exponent of collective memory and shared values (a rule that equally applies to the architecture that is transparent in its expression of materials and construction methods, and to the architecture of the sheathed 'box').

16 It can just be mentioned here that by placing the few large horizontal windows by the edges of the volume and by highlighting the corner on the Coolsingel, Breuer managed to give motion to a rigorous and mostly opaque prism. Actually, he used his technique of the 'asymmetric balance' in order to create tensions and impulses. With this technique, Breuer employed some features of classicism – a clean geometric shape, symmetry, measure and rhythm –, which he tried to 'break' by entering asymmetrical elements. In doing so, he ventured to convert static balance to dynamic, to shift the centre of gravity to the one side of the project, to create inequalities and tensions revealing the hidden differences arising from the functions inside the building and to push the observer into motion. The outcome is an organized, comprehensive composition where none of the parts can be removed without destroying the overall balance.

17 Term that refers to Richard Wagner's 'total work of art' (*Gesamtkunstwerk*). As Gropius had said, announcing the Bauhaus program, 'architects, painters, and sculptors must recognize anew and learn to grasp the composite character of a building both as an entity and in its separate parts'. Hans M. Wingler, "Program of the Staatliche Bauhaus in Weimar, April 1919," *The Bauhaus. Weimar Dessau Berlin Chicago* (Cambridge Mass.: The MIT Press, 1969), 36.

18 On the southern elevation the pattern is different: the cladding is made of rectangular plates with the same height as the hexagonal ones. In this way the elevations are handled in a two-dimensional way, leaving no doubt about their sheathing nature.

19 Breuer has always wanted to be responsible for every little detail of the projects he was overtaking, making sure that every part of the building was inextricably linked to the

5. TWENTIETH CENTURY

architectural design in a way that it could not be disconnected from the architectural object without destroying its essence. As he says characteristically on the subject: 'Approaching a structure from a distance, we gradually shift our attention from the whole to the detail. The nearer we come, the more the detail gains in importance; we are still with the basic conception, we still remember the overall architecture, the form, the silhouette, the structural modulation, we are still guided by the general orientation of the building, – but now, we see and touch and experience the details. The architecture of past periods tended to lend melodies of their own to the details: the head of a column was a piece of sculpture in itself, – a piece of art or decoration, even without the building. Our details tend to be completely for the service of the whole structure, they are inherent particles of the space'. Marcel Breuer, "Close-up," in Tician Papachristou, *Marcel Breuer: New Buildings and Projects* (New York: Praeger Publishers, 1970), 21.

20 'The Beehive moved to another location and that move deserves a statement, because, in my eyes, this was a particularly good solution, both for the Beehive and for the city of Rotterdam'. Van Traa, "Nieuwe Bijenkorf te Rotterdam".

21 The transformation of the Coolsingel into a central Boulevard started after World War I, attracting the new City Hall, the Chamber of Commerce and the Central Post Office, among other functions, pivotal for the city. Han Meyer, "Rotterdam, the Promise of a New Modern Society in a New, Modern City – 1940 to the Present," in Joan Ockman (ed.), *Out of Ground Zero. Case Studies in Urban Reinvention* (Munich: Prestel Verlag, 2002), 89. In Cornelius van Traa's post-war reconstruction plan, it was decided to straighten the Coolsingel and to open it to the river, 'where the prosperity comes from'. Furthermore, due to the demanding traffic needs, it was decided to widen the old Boulevard. Van Traa, "Nieuwe Bijenkorf te Rotterdam".

22 This is a pioneering project of the reconst.uction period that aimed at regathering the shopkeepers that had abandoned the centre of the city after the bombing into a district of uniformed small shops lined by the sides of a central pedestrian street. On its relation to the Bijenkorf, van Traa says characteristically that the Lijnbaan might have not arisen if there wasn't an expectation that Bijenkorf would be built on the western side of the Coolsingel and, vice-versa, Bijenkorf might have not been built without the safety of the existence of a shopping centre in the immediate vicinity. However, van Traa points out (right at the beginning of his article) that 'Bijenkorf, in the world of shops and warehouses, forms a class of its own' and that it could easily stand by itself. Van Traa "Nieuwe Bijenkorf te Rotterdam".

23 According to Han Meyer, this was 'the first department store with the courage to open a new building in the empty city center in 1950'. Meyer, "Rotterdam," 95.

24 With the mediation of Dr. van der Wal and the Executive Board of the store. Van Traa "Nieuwe Bijenkorf te Rotterdam".

25 Gabo's organic creation is in a very interesting dialogue with Breuer's simple form and enhances the store's recognition.

26 Paul van de Laar, "Modernism in European Reconstruction-Policy and its Public Reception, 1945-1970: the Rotterdam Case," Kunstwissenschaft und Historische Urbanistik, http://www.geschundkunstgesch.tu-berlin.de/fileadmin/fg95/Veranstaltungen/09-09_Wiederaufbau_Konferenz/PvdLaar__Hamburg.pdf.

27 Van Traa was supported by modernist Dutch architects and city planners, and by a group of influential businessmen that had founded 'Club Rotterdam' during the war years. According to Han Meyer, 'the group expressed strong objections to [Witteveen's] desire to create monumental and architecturally uniform boulevards and avenues. This meant limiting private initiative, according to Club Rotterdam; they preferred to afford businesses a maximum of architectural freedom so as to stimulate private participation in the reconstruction process. […] Finally, at the end of the war, in 1944, Club Rotterdam forced Witteveen to resign.' Meyer, "Rotterdam," 91.

28 Kees Schuyt and Ed Taverne, *Dutch culture in a European Perspective, 1950: Prosperity and Welfare* (Assen: Royal Van Gorcum, 2004), 161-2.

29 There has been a lot of criticism of the 'Basic Plan' after the 1970s, especially of the sterility and inhumanness that comes from segregation, apparent in the evenings, when the offices and shops were closed. Later on, as Han Meyer says, 'Rotterdam's urban planners shifted their emphasis to improving the quality of public space, and to the quantity and variety of urban functions' [Ockman (2002), 96]. In the following decades, the municipality continued to form regeneration projects which, apart from the construction of prestigious iconic developments (e.g. the Erasmus bridge), focused mainly on further strengthening the inner city's multi-functional character, as well as the redevelopment of public space as an inherent aspect of urban transformation and a main precondition for economic prosperity in the city. According to the most recent plan for the inner city (2008-20), the revival of street life and the connection of neighbourhoods by means of well-designed public spaces is a priority, while, amongst the basic aims of the municipality is to offer more culture, leisure, and shopping opportunities in the city (acknowledging once again that strengthening the retail is necessary in the competition with other cities and peripheral shopping centres). Municipality of Rotterdam, *Binnenstad als city lounge: binnenstadsplan Rotterdam 2008-2020* (Rotterdam: Municipality of Rotterdam, 2008).

30 The example of the Lijnbaan shopping centre can be considered a pioneer when it comes to the involvement of the private sector in the formation of public space. Since then, the presence of the entrepreneurial private sector in the redevelopment processes and the consequent privatization of public space constitute a common practice in Rotterdam. The most characteristic is the example of Beurstraverse (project of 1996), a 300 m long sunken retail passage that crosses the Coolsingel, right next to Bijenkorf.

31 Victor Gruen, *The Heart of our Cities. The Urban Crisis: Diagnosis and Cure* (New York: Simon and Schuster, 1964), 190-1. It is interesting to state at this point that Breuer dealt with issues of revitalization of the modern city centres rather early in time, just a couple of years after the relevant discussion in the 8th CIAM (International Congress for Modern Architecture) [Jose Luis Sert, "Centres of Community Life," in J. Tyrwhitt, J. L. Sert and E. N. Rogers (eds.), *The Heart of the City: Towards the Humanisation of Urban Life* (London: Lund Humphies, 1952) and several years before the influential criticism of the modernist city by Jane Jacobs, in Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, Inc., 1961).

5.1.4 Chilean Commercial Snail Buildings: Architecture, Typology, Shopping and the City

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Abstract
In the middle of 1970s, Chilean Commercial Snail Buildings (CLCSB) began to populate Chile's main cities creating a new architectural typology. Nowadays, they represent – perhaps by chance – the most risky and ephemeral experiment and model of Chilean commercial architecture. *El Caracol* – its first specimen, literally 'snail' in reference to its spiral shape – was built in Santiago in 1974. After that, CLCSB multiplied rapidly (over 30 buildings) during an extremely short period of time (1974-83) all over the country and under a very particular context – Pinochet's dictatorship – in which Chile experienced profound political, economic and urban transformations towards a neoliberal consumption society. The main spatial characteristic of the snail buildings consists of the continuous spiral pedestrian ramp that lifts the sidewalk (public space) toward the block's interior (private space) to generate a container for small commercial stores around a large central void that crosses vertically through the whole project. This system introduced a new way of perceiving and inhabiting the city in Chile by means of commerce and the intensification of land use. From that central space (Bentham's panopticon and Frank Lloyd Wright's Solomon R. Guggenheim museum) new ways of collective life were developed aimed at privacy and visual control, aspects that fit perfectly with the dictatorship in which the buildings emerged. CLCSB are part of Chile's architectural and social heritage, they are highly significant but totally ignored by the discipline, and they represent the last – and still standing – commercial spaces of urban life before the contemporary logic of (sub)urban expansion represented by the mall. CLCSB have a interesting potential link with the work developed in post-war Europe during the 1960's by Claude Parent and Paul Virilio (*Architecture Principe*) under the theoretical frame of the Oblique Function as the Centre commercial Sens (Sens, France, 1968-70) designed by Parent.

Keywords
Collective, consumption, modernism, postmodernism, neoliberal city, type

The political, social and economic context of Chilean commercial snail buildings

Chilean Commercial Snail Buildings (CLCSB)[1] emerged in the mid-nineteen seventies, a particularly complex period in Chilean history marked by major political, economic, and social changes (Augusto Pinochet's dictatorship, neo-liberalization of the economy, among others). This type of building flourished as an urban commercial architectural phenomenon from 1974 to 1983, years when profound cultural transformations influenced the development of cities. Although initially the construction of these buildings was welcomed, this explosive phenomenon was brought to an end by the devastating 1982 Chilean economy crisis.

In 1974, at the beginning of Pinochet's regime,[2] the Ministry of Housing and Urban Development introduced measures to stop the growth of the city with the sole purpose of protecting agricultural land. As René Martínez describes, after 1974 the city limits were virtually frozen on the theoretical justification that 'urban land is a limited resource that must be optimized.'[3] Although this measure aimed to control urban growth, it resulted in a land scarcity and significantly increased land prices. The new CLCSB typology, which takes the street's pedestrian flux and densifies it by locating it in a vertical helical structure, furthermore caught the attention of real estate investors as it raised land value. At the same time, major department stores were having a hard time, which made it easier (and less risky) for investors to sell or to rent small shops in CLCSB than to build a big department store under single ownership. And so, in the mid 1970s, when the CLCSBs emerged in Chile – especially in Santiago de Chile – this new shopping typology became an economic success. In some cases their small shops were sold even before the whole structure had been built. Additionally, in July 1975 Santiago's first subway line was inaugurated under the Alameda, Providencia and Apoquindo avenues (the main east-west axis of the capital city) and, at the same time a major urban project, known as the Nueva Providencia (1974-80)[4] was being developed. These urban interventions contributed to the development of CLCSB because they encouraged some of the most dynamic economic activities such as luxury shops, corporate office buildings and banks to locate in the Providencia district, which is where the first CLCSB was built and where most of the others were concentrated. These conditions favoured the development of CLCSB especially in Santiago de Chile's central area, where metropolitan commercial life flourished during the late 1970s and the early 1980s. In fact, nearly 70% of CLCSB built in Chile's capital were located in the central municipalities of Santiago and Providencia. This was also the case in other large Chilean cities where this new commercial typology was introduced. For instance the Caracol in

Puerto Montt (1981) was built on the main square, next to the catholic cathedral. The Caracol Carrusel (1978) in Viña del Mar, the Caracol Colonial (1981) in La Serena, and the Caracol Policentro (1981) in Talca were also all located just a short distance away from the main squares.
Between 1979 and 1981 snail buildings rapidly became a phenomenon of commercial architecture in Chile, and more than 65% of them were built in that period. Their explosive development however slowed in the early 1980s due to the neoliberal policies imposed during Pinochet's dictatorship. These policies ended the economic restrictions that had existed until the late 1970s and turned Chile into a free market economy. In 1979, the military regime fixed the exchange rate at 39 Chilean pesos to the US dollar to stop inflation. This exchange rate remained stable until the economic crisis of 1982. In 1979 the Ministry of Housing and Urban Development[5] furthermore implemented a new National Urban Development Policy, which stated that 'urban land is a non scarce resource' (Martinez 1984, 15). This measure, among others, immediately abolished the urban limits established in the Master Plan of Santiago[6] and in the other Chilean cities.[7] As a result, a 'supply and demand' model started governing urban development, encouraging private sector investment. These economic and urban policies played a key role in the high levels of local expenditure and of debt, enabling a strong real estate commercial investment in CLCSB. In the following years, however, these investments contributed to Chile's external debt becoming unmanageable; unemployment rates reached 20% in 1982-3[8] and interest rates and oil price increased substantially. This resulted in a severe economic crisis, bringing to an end further development of CLCSBs.
The CLCSB commercial typology introduced a new way of inhabiting the city by means of shopping at moment when social surveillance became a key feature of Pinochet's dictatorship. The central void space of the CLCBSs cannot fail to refer to the image of Jeremy Bentham's Panopticon, probably the most influential spatial design of modernity. The Panopticon materializes the obsession for surveillance and control, and is not so much a building but more a system whose purpose was to keep the person under continual but invisible observation and thus force the subject into a regime of strict self-discipline. The design conceived by Bentham in 1791 for a perfect prison around a central observation tower with an encircling body containing prison cells is not far from the visual control of the central void along the helicoidal ramp containing the characteristic small shops of CLCBS. A new form of controlled internal commercial space in Chilean cities in the late 1970s, when, as part of the new modern urban lifestyle, everyone wanted to see each other and to be seen, the CLCBS was an architectural device perfectly suited to the prevailing political structure of the time when, as Pinochet famously said, 'Not a leaf stirs in Chile without me moving it.' [9]
The CLCSB was the final manifestation of a chain of urban retail typologies in central city areas that goes back to the colonial period, when business in the main square first emerged. From the colonial period, this urban retail typology gradually evolved, from commercial streets to shopping arcades to the department stores, until in the 1970s CLCSB appeared. In the early 1980s this continuity was broken by the arrival of new suburban typologies, the malls[10] and strip centres that nowadays dominate retailing.
Although the research has revealed the existence of some commercial snail buildings in other countries,[11] including a few unbuilt projects,[12] Chile is the only place in the world where these buildings became widespread.

CLCSB's ARCHITECTURAL BACKGROUND

The search for the architectural background of this typology takes us a long way back in history. Spiral ramps appear in the countless interpretations of the Tower of Babel, in the dynamism and of the Italian Futurist movement, in the Monument to the Third International envisioned by the Russian constructivist Vladimir Tatlin (1919), in the Fiat Lingotto factory designed by Giacomo Mattè-Trucco (1916-23), and in the proposals by the modernist movement, especially Le Corbusier, for the use of ramps to materialize the new ideas of spatial continuity.
The first attempt to use a spiral in a commercial building was in Frank Lloyd Wright's 1924-5 design for the Gordon Strong Automobile Objective. This project (which was never realised) included recreational spaces such as a planetarium, a restaurant and a scenic lookout designed for those heading to Sugarloaf Mountain (Maryland, USA) by car. Wright conceived this building as a spiral that complemented the mountain. He envisaged vehicles ascending and descending around the dome, which contained the planetarium. Additionally, a circular pedestrian gallery surrounded the dome.[13]
Wright's V.C. Morris Gift Shop (1948-50), should also be mentioned when investigating the typological background of the CLCSB.[14] This small store was built between party walls, fronted by an arched portal from which you access a top-lit central space, with a narrow ramp climbing up around the walls. This spiral not only organizes the circulation, but also determines the position of the jewels on display; these are placed on small showcases that visitors observe as they ascend and descend along the ramp. Although Wright had been appointed to design the Solomon R. Guggenheim museum in New York in 1943, the building only opened in 1959,[15] making the V.C. Morris Gift Shop Wright's first building with a continuous spiral circulation around a central void space.

In the Chilean architectural context three projects can be listed – two of which were not built – that are important for the morphological background to CLCSB. Although all three projects are non-commercial in nature, they all include spiral circulation as a key spatial feature and are therefore likely to have influenced the development of CLCSB in Chile. The first building is the Palacio de la Velocidad (1934), which was architect Jorge Aguirre Silva's graduation thesis at the Universidad Católica de Chile. He proposed it as an ideal building in the 'mechanical city', a utopian, futurist city that houses scholars devoted to the study of time and movement. This project was influenced by both Antonio Sant'Elia's ideas on mobility and by the concepts of monumentality and mechanization. The Palacio de la Velocidad was the venue for an Automobile Show in this ideal city; an important programmatic component of the proposal, which needed to focus attention and was therefore housed in a sculptural and expressive building located at the end of an axis of the 'mechanical city'. The building is divided into two volumes and it is articulated around a large void formed by a helical ramp. Unlike Mattè-Trucco's motorized experience of the Lingotto, Aguirre introduces the spectacular inner space through the pedestrian experience of the spiral ramp.
In the Chilean context, it is also important to mention the work of Francisco Brugnoli Cañas. In 1939, Brugnoli designed the Espirovia Excéntrica. Brugnoli suggested that this building should be built on a central commercial urban lot and described it as follows:

> All stores and rooms are located in such a way that it appears that all of them were located on the first floor; it is an original project that adds fine artistic taste, the marvellous distribution of apartments allows enjoyment of sunlight and it provides complete ventilation.[16]

Although this project never went beyond the design stage, Brugnoli patented it in 1939 to retain the property over the idea. Another project designed by Brugnoli was the Mausoleum n. 2 of the Società di Mutuo Soccorso Italia (1939-45), which is located in the Santiago's General Cemetery. It was developed by Brugnoli in collaboration with civil engineer Humberto Fazzini and was the first Chilean building with its central circulation articulated as a spiral ramp. This seven-storey high mausoleum is built up entirely of exposed reinforced concrete, except for the access level, which is covered with stones. The building is organized around a rectangular plan, which is symmetrically distributed in order to generate an inner spatiality connected by a spiral ramp. The ramp extends from the central void, and the vertical planes (internal facades) of the volumes are formed by the tombstones, and ends at the terrace level.

Although these three projects by Aguirre and Brugnoli present a morphological background to the development of CLCSB in Chile, it is important to clarify that this research does not attribute any typological influence to these projects, as they do not share the contextual and programmatic conditions of CLCSB. Furthermore, even though the aforementioned local and international projects display design characteristics that might seemingly have influenced CLCSB architects, interviews with these architects[17] have revealed that most of these projects were unknown to them. Jorge Swinburn, the designer of three CLCSB, mentioned in an interview that 'the main influence for us was Melvin Villarroel's El Caracol (…) we knew the Guggenheim museum but I did not know Wright's Gift Shop;'[18] likewise Salvador Valdés – architect of Galerías Santo Domingo - specified in the interview 'I do not know that building [V.C. Morris Gift Shop] (…) but I know it [the Guggenheim museum] very well. I have been there several times';[19] meanwhile, Germán Jiménez – architect of Caracol de Concepción has stated, 'I knew the Morris Gift Shop but here [in Concepción, Chile] we designed based on what we had (…) Melvin was the one who broke the orthogonal scheme and classicism that existed in Chile and *el Caracol* became the referent.'[20] Therefore, the Guggenheim Museum is the only well known morphologically similar reference, and the V.C. Morris Gift Shop, although it was unknown, is the only retail building that was a precedent for the CLCSB.

Figure 1. *El Caracol*. Architect: Melvin Villarroel. Interior. *Source:* photograph by Mario Marchant, 2010.

CLCSB MAIN TYPOLOGICAL CHARACTERISTICS AND EVOLUTION

El Caracol was the first of the CLCSB built in 1974, and – as such – the archetype of this typology in Santiago (Figure 1). Designed by Bolivian architect, Melvin Villarroel R. and Chilean architect Eugenio Guzmán L., it is located in Providencia, next to the city's main avenue. El Caracol is a four-level building[21] constructed around a moderate slope that lifts the sidewalk into the building's interior and then organizes it around a spiral pedestrian ramp. The helicoidal ramp that develops along a central void space vertically crosses the entire project and is crowned by a steel and crystal dome, *à la* Guggenheim, Along this ramp, a series of small shops, each of which measuring between 12 and 15 metres square (on average), are organized. Although the building does not present a great height to the street, it does deliver a particular and new plastic expression to the local street landscape. Construction of this reinforced concrete structure started in 1974 and was completed in 1975. El Caracol rapidly became not only a new piece of urban architecture but also a desirable commercial real state typology that subsequently spread rapidly across the country (Figure 2).

It is interesting to note that – just as Wright's realised helical structures were not his first designs of their kind – El Caracol was not Villarroel's first attempt to build a CLCSB. Before El Caracol Villarroel had designed a CLCSB project for Santiago's downtown area that was not built, on the northeast corner of Estado and Huérfanos streets. The site had been occupied by Gath & Chaves - the first department store in Chile – opened 5 September 1910. On Christmas Eve of 1952, the staff of Gath & Chaves went on strike, which lasted for several weeks, and finally forced the company to close down.[22] Some years later the building was demolished and because Villarroel could not convince the property investors to build his design there, the Edificio Galería España[23] was constructed instead. Nevertheless, Villarroel was obsessed by the new idea that the commercial snail building would be a success and continued searching for investors and an adequate site. Finally, El Caracol was built on its current location after Melvin Villarroel met real state investor Osvaldo Fuenzalida who, after a trip to New York returned to Chile surprised and excited by the spatial versatility of the Guggenheim Museum.[24] The design project for El Caracol began to take shape during 1960s and it was not until the 15 May 1973 that construction began.

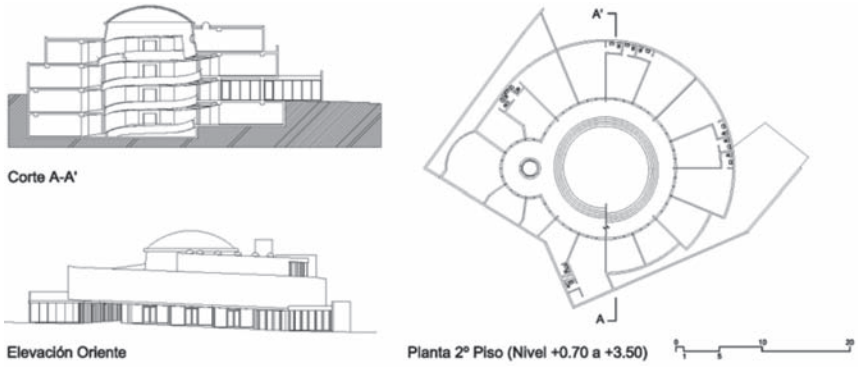

Figure 2. *El Caracol*. Architect: Melvin Villarroel. Section A-A', east facade and second level plan. *Source*: CAD drawings from originals. Research project VID I 08/10-2, Universidad de Chile.

CLCSB are commonly four to seven levels high and present themselves to the street as hermetic and opaque reinforced concrete structures, thus 'protecting' the interior world that develops around the central open space from the exterior hustle and bustle. In some cases balconies rise on the building's facade, allowing pedestrians to experience different visual relations with the street from varying heights. These balconies furthermore enable natural ventilation.

The 45 Chilean cases considered by the research reveal an interesting evolution in the morphology of the central void and to the ramp that organizes the interior of CLCSB. These transformations are commonly informed by the geometric variations of the sites on which the buildings are located. As CLCSBs aim to occupy the maximum possible area for commercial use, their designs are usually based on the perimeter of the site.

In the evolution of the CLCSB typology, it is particularly interesting to analyse the project Dos Caracoles (1977-8) by the architects Sergio Larraín García M., Ignacio Covarrubias S., Jorge Swinburn P., Enrique Riveros B. and Jaime Burgos. This project connects two volumes, each of which have a spiral ramp around the characteristic central void space. Contrary to El Caracol though, the inclination of the ramp decreases gradually as the ramp goes up. What is remarkable about this project is its urban contribution. In a singular site between party walls Dos Caracoles has three entrances to the two commercial volumes, thus creating a new urban experience for pedestrians by connecting the project interior to two streets and the building block's interior courtyard.

CONCLUSIONS

CLCSB are a unique commercial typology that introduced a different way of living in the city by intensifying the commercial ground use and generating new modes of public life based on interiority and visual control. These aspects suited the dictatorship during which these buildings emerged. Their

potential contradictions correspond with the inconsistency of Pinochet's liberal urbanism, especially in the early years of the military regime.

Compared with malls, CLCSB can be seen as defined by their localities, and specific to the sociocultural conditions in which they were made. They possess their own socio-commercial structure, determined by local inputs that – although necessary and demanded by some social groups of the community – did not necessarily lead to intensive consumption. CLCSB typically included *cafés con piernas*, animé/comics shops, computer and videogames technical services, sex-shops, skate-shops, tarot reading, tattoo and piercing shops, and so on. They thus generate unique urban micro landscapes that attract a mixed clientele: seniors go to the Caracol de los Pájaros col Bandera Centro to use international call centres and cybercafés; many teenagers who belong to urban tribes (pokemones and emos) get together at the Caracol Portal Lyon. Today the CLCSB thus function as daily gathering places.

In relation to its morphological organization it is important to highlight that the commercial snail buildings take the street into the interior of the lot, keeping a continuous width along a ramp. Besides the central atrium located in the lower level that characterizes CLCSB' architecture, their interior design features the absence of major spaces for organised social gatherings of large numbers of people,[25] and there is nowhere for shoppers to linger (as is possible in the malls' food courts). CLCSB produce a continuous space experience but at the same time separate the people, both with the commercial space of the small stores and on the ramp that unifies them. The vertical open space that spatially 'unifies' the interior volume paradoxically separates shoppers from one another. All these spatial characteristics, along with their implications for use lent them to the processes of control, social atomization, and dissolution of group identities that characterised the period of the dictatorship.[26]

Last by not least, it is also important to highlight that the CLCSB are more than buildings, they are social places whose architecture supported the conditions of a particular period of Chilean society and sustained a unique model for urban life.

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1 The research identified 45 CLCSB, 27 of which located in Santiago de Chile and 18 in major cities (from north to south: Antofagasta, La Serena, San Felipe, Quillota, Villa Alemana, Viña del Mar, Valparaíso, Rancagua, Curicó, Talca, Chillán, Concepción, Temuco, Osorno, Puerto Montt and Punta Arenas).

2 Augusto Pinochet was dictator of Chile between 1973 and 1990. Pinochet assumed power following a coup d'état on 11 September 1973 that overthrew the elected socialist Unidad Popular government of President Salvador Allende and ended civilian rule. Under the influence of the free market-oriented neoliberal 'Chicago Boys', the military government implemented economic reforms that involved strengthening the private role from a set of liberalization processes in various fields, including urban development policies.

3 René Martínez, "Desarrollo urbano 1974-1984," *AUCA: Arquitectura, Urbanismo, Construcción, Arte* 48 (1984), 14.

4 *Nueva Providencia* was an urban project developed by Chilean architect Germán Bannen, Director of the Urban Development Department of *Providencia* Municipality (Santiago de Chile). The project combined 'design and construction of public space of municipal responsibility, with the zone designed and constructed by private investors, which includes private property and a free market economy regime'. Germán Bannen, "El comercio en Providencia," *CA: revista oficial del colegio de arquitectos de chile* 72 (1993), 36. Spatially, *Nueva Providencia* defined a series of new urban spaces, most of them connected and protected from the street (opened or covered) for the pedestrian within the interior of the blocks.

5 *Política Nacional de Desarrollo Urbano* (Santiago: Ministerio de Vivienda y Urbanismo, 1979).

6 *Decreto n. 420, modificación del Plan Regulador Intercomunal de Santiago* (Santiago: Ministerio de Vivienda y Urbanismo, 1979).

7 Pedro Bannen, "En torno a ciudades y territorios: Permanencia y cambio en la configuración del paisaje en tres actos (o decenios)," in Jorge Liernur, *Portales del laberinto. Arquitectura y Ciudad en Chile 1977-2009* (Santiago: Ediciones UNAB, 2009), 176-80.

8 Francisco Rosende, "Una interpretación del desempleo en Chile," *Estudios Públicos* 32 (1988), 68.

9 Simon Collier and William F. Sater, *A History of Chile, 1808-1994* (New York and Cambridge: Cambridge University Press, 1996), 359.

10 The commercial typology of mall began in Chile in April of 1982 with the launch of mall *Parque Arauco* Shopping Center. It was design by architect Jaime Bendersky and it construction began in 1979. *Parque Arauco* was located in *Las Condes*, a high-income district of the eastern area of Santiago de Chile.

11 *Centro Comercial El Espiral* (Quito, Ecuador, 1981), *Galería Caracol* (Mendoza, Argentina) and *Centro Comercial Independencia El Caracol* (Zaragoza, Spain, 1983).

12 According to an interview with Jorge Swinburn Pereira – architect of four CLCSB along with Sergio Larraín García M. and Ignacio Covarrubias S., they developed two projects that were not built, one designed for Bogotá (Colombia) and the other designed for Miami (USA).

13 A similar project inspired by the Gordon Strong Automobile Objective is *El Helicoide*, (1958-61) proposed by architects Jorge Romero, Pedro Neuberger and Dirk Bomhorst (Roca Tarpeya, Caracas, Venezuela).

14 Bruce Pfeiffer, *Frank Lloyd Wright* (Berlin: Benedikt Taschen, 1994).

15 According to the British architect, historian and architecture critic Kenneth Frampton, the structural idea of the Guggenheim Museum has its roots in the project Wright designed for the Gordon Strong Automobile Objective 'a science fiction proposal par excellence.' Kenneth Frampton, *Modern Architecture: A Critical History* (London: Thames & Hudson Ltd, 2004), 190.

16 Erasmo Astudillo, *"La obra del arquitecto Francisco Brugnoli."* Paper presented at the Seminario de investigación, Departamento de Historia y Teoría de la Arquitectura, Facultad de Arquitectura y Urbanismo, Universidad de Chile, Santiago, 1998.

17 Unfortunately, many of the architects of the CLCSB have passed away, among them, the author of the first of them, Melvin Villaroel R. (1931-2010). However, it was possible to hold interesting interviews with Germán Jiménez D. (*Caracol de Concepción*), Raimundo Lira V. (Caracol Austral), Jorge Swinburn P. (*Dos Caracoles*, *Caracol Plaza de Armas*, *Portal Lyon* and *Caracol de los Pájaros*) and Salvador Valdés P. (*Galerías de Santo Domingo*).

18 Jorge Swinburn, interview by Mario Marchant, Swinburn+Pedraza Arquitectos office (Santiago de Chile), January 19, 2011.

19 Salvador Valdés, interview by Mario Marchant, Salvador Valdés Asociados Arquitectos office (Santiago de Chile), January 27, 2011.

20 Germán Jiménez, interview by Mario Marchant, Santiago de Chile, April 11, 2011.

21 The building *El Caracol* is located in Av. Nueva Los Leones 24-54 (almost corner Av. Providencia) and was built by Eduardo Boetsch as constructor in a site of 763.10 sqm and with a total built surface of 2334.69 sqm, being initially property of the Inmobiliaria Caracol, as stated in the municipal files of the Department of Buildings of *Providencia* Municipality.

22 Oreste Plath, *El Santiago que se fue: Apuntes de la memoria* (Santiago: Biblioteca Nacional, Grijalbo, 1997), 199.

23 Designed by Chilean architects Alberto Cruz E. and Mateo Homar M. in 1960.

24 Sergio Paz, *Larga vida: crónicas, entrevistas y artículos indefinidos* (Santiago: Aguilar, 2004).

25 Today malls in Chile offer a broad range of complementary activities to shopping ranging from libraries, art exhibitions and concerts to hosting sport events, family activities and religious services.

26 It is important to mention that the official curfew which was imposed on 11 September 1973 by the Pinochet's regime was partially modified in 1978. Due to that policy, Chilean people had to socialize preferably during the day and in controlled and indoor places. CLCSB for the same reason became an alternative to street shopping at that time when being on the street was not safe.

5. TWENTIETH CENTURY

5.1.5 Building European Taste in Broader Communities: The Role of the David Jones Stores in the Promotion of Design and Architecture in Australia

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Abstract

From the beginning of the twentieth century, the Australian department store David Jones operated as a vehicle for community making at a national level. It offered spatial centrality, public focus and human density, but also become a stage for cultural events. By the end of 1930s, the company chairman Charles Lloyd Jones ensured that every David Jones outlet included venues for art, used for the purpose of hosting both Australian and foreign art exhibitions. On 1st August 1944 the David Jones Art Gallery in Sydney officially opened on the seventh floor of the Elizabeth Street store. This phenomenon intensified during the 1950s, with the organization of a series of exhibitions, some of them dedicated to the promotion of contemporary industrial design and architecture emanating from Europe, generating the opportunity for David Jones to establish solid relationships with European institutions. This approach to building community through the dissemination of culture at shopping centres had its precedent in pre-war Europe. For instance, in 1933 the famous London department store Fortnum & Mason hosted an exhibition of Alvar Aalto's furniture that launched the Finnish architect abroad, introducing Finnish design to the British public. Meanwhile in Australia, for the lack of an official institution that supported and promoted good quality design, the David Jones department store took up this role, assuming the task to both improve and make more sophisticated the taste of the Australian populace. This paper aims to demonstrate that the role of commercial shopping outlets for engendering community interaction in the post-war context was not only a phenomenon occurring in Western Europe. The Australian example of David Jones can be considered as a useful comparative case study to frame the issue more broadly, indicating how commercially inspired structures with cultural ambitions become strong social attractors at a national level.

Keywords

David Jones, department store, Australia, postwar architecture, Enrico Taglietti

During the post-war period, the Australian department store David Jones (DJs) was not considered simply a 'shop': it was a national 'institution' bringing together society, culture and merchandise. This reputation was confirmed by the fact that David Jones had one of the world's most faithful followings of customers per head of population, built upon the famous motto 'satisfaction or your money back'. The first DJs department store was opened in George Street, Sydney, in 1838 and soon gained great popularity in the city. The key strategy at the base of DJs' marketing success was its claim to sell nearly everything from the needle to the anchor.[1] High quality silks, ready-made dresses, perfumes, carpets, curtains and even furniture could be found at DJs' department stores amongst other day-to-day items. As a matter of fact, David Jones engaged with increasing the quality of Australian everyday life across a range of activities, offering 'guidance on everything from high fashion to art, from fine china and glassware to cooking, from music to elegant window display.'[2] Another two stores were opened in Elizabeth Street in 1927 and in Market Street in 1938 in Sydney. By the mid 1960s, DJs had department stores in three other major Australian cities: Brisbane, Adelaide and Perth and in three provincial centres in New South Wales: Newcastle, Wagga Wagga and Wollongong, thus confirming its strength in the national market. While offering the opportunity to 'buy Australian,' David Jones believed in importing the world's best merchandise. Buyers and merchandise controllers were sent off to different international cities, such as London, Los Angeles, Florence, Bangkok, Paris and Tokyo, gleaning exotic objects and discovering new tendencies.

As in the case of other department stores in Sydney – the Australian Anthony Hordern & Sons and the New Zealander Farmers, for instance –, DJs' strategy incorporated the exploitation of 'the public appetite for art,'[3] becoming even more pervasive in Australian society with the broadening of its middle class. Nevertheless, DJs' commitment to art was much more substantial and went far beyond the consideration of mere commerce, with the aspiration of increasing national cultural standing.[4] By the mid 1940s, Charles Lloyd Jones, a great-grandson of the first David Jones, who in his youth sought to become an artist, made sure that every department store of his company had spaces dedicated to art, which would host both Australian and foreign art exhibitions. The Exhibition Hall at George Street store was the result of the renovation undertaken in 1935, while the Market Street department store got its Exhibition Galleries in 1938. On 1 August 1944, the David Jones Art Gallery was opened at the seventh floor of the Elizabeth Street store and many famous personalities were invited from overseas to attend this prestigious Australian showcase.[5]

The set up of exhibition venues destined for showing both art and merchandise was underpinned by Charles Lloyd Jones's conviction that Australia was cut off from the Western cultural world and that it was necessary to bridge the gap, bringing part of Europe to Australia.[6] Charles thus manifested his twofold vocation of retailer and cultural advocate, responsibilities that he honoured until his death in 1958.[7] The inclusion of art and merchandise exhibitions within DJ's activity program meant that the department store took on the role of a centre of culture, proving that commercially inspired structures with cultural ambitions could become strong social attractors. DJ's department stores offered spatial centrality, public focus and human density, acting as a stage for educational and lifestyle events and operating as a vehicle for community making.

During the 1950s, an unprecedented number of Australian citizens became involved in the construction of their own homes.[8] This home-making impulse covered all aspects of the domestic environment. There was mindfulness of organizing domestic architecture with items of industrial design – furniture and homeware – although the standard of Australian knowledge about these issues was generally poor at this time. In 1957, it was observed that in Australia 'industrial design is not yet a respectable profession. It is a sad state of affairs when good architects design good buildings and then have to fill them with poorly-designed equipment. The alternative is to have everything in the building specially designed for it.'[9] With the lack of a proper official institution to support and promote good quality design – something comparable to the Australian Council for the Arts established in 1968 – David Jones took on the mission of becoming the tastemaker of Australian society, forging a national 'taste' for the new Australian domestic life while increasing the saleability of international industrial design. According to Allen Smith: 'People as a whole are really quite inarticulate. They buy what they see, not necessarily because they particularly like it, but because that is what is offering'[10], and DJ's department stores assumed the task of educating the Australian population through the offer of a new idea of lifestyle.[11]

DJs' commitment to the diffusion of a more sophisticated taste for the Australian society was supported by an intensive cultural program that included the display of architecture and industrial design. In December 1948, photographs illustrating American architecture were part of the exhibition 'America To-day' organized at David Jones by the Royal Australian Institute of Architects in association with the Australian-American Association, with the aim 'to show types of architecture suitable to Australian conditions because of climatic similarities along the Pacific coast.'[12] The choice of the subject of the show clearly demonstrated David Jones' intention of fostering a modern concept of living through the introduction of new models. David Jones Art Gallery also organised an architectural exhibition of scale models on the theme of the suburban house produced by the students of the Faculty of Architecture at the University of Sydney in August 1951.[13] A similar initiative was repeated in 1965, with students of the same university preparing speculative projects for a new Federal parliament house in Canberra.[14] In 1953 DJs' store in Market Street initiated an office dedicated to 'design for sale', a service providing customers with house schemes with the assistance of prominent architects such as Harry Seidler and Walter Bunning[15]. It was an attempt to replicate the successful 'Small home service' that was created by Robin Boyd in Melbourne in 1947. At the 4th Australian Architectural Convention organised in Sydney between 9 and 15 May 1954, architecture seemed to reach its peak of public attention in Australia,[16] when an exhibition of photographs on Australian and international post-war architecture was held at David Jones Art Gallery in Elizabeth Street, Market Street and the Lower Town Hall in George Street. In 1964, in cooperation with *The Australian Women's Weekly* magazine, DJs sponsored the lecture tour of John Siddeley, one of Britain's leading interior decorators, who gave two talks 'Living for Comfort, 1964' and 'Art and Architecture in terms of interior design from then until now'.

Between 1954 and 1956 David Jones strongly asserted its role as a centre of culture, when it organised a small exhibition series aimed specifically at fostering the dissemination of European culture in Australia by combining 'merchandise,' 'art' and 'lifestyle'. This series was underpinned by the strategy to import sophisticated European industrial devices, food, fashion, furniture industrial design and pieces of art, endeavouring to shape Australian popular taste by raising cultural standards. The first exhibition to be organized was 'Sweden at David Jones' in 1954, followed by 'Italy at David Jones' in 1955 and 'France at David Jones' in 1956. The choice of the titles had a strong geographical connotation, which was not an unusual approach at that time. After WWII, the dynamism generated by the economic boom prompted people to explore international cultural realities. A source that might have inspired DJs' exhibition titles is the series of architectural books written by the American writer and photographer G.E. Kidder Smith. In his *Brazil Builds* (1943), *Switzerland Builds* (1950), *Sweden Builds* (1950) and *Italy Builds* (1955), the emphasis was placed on the country and great attention was paid to the presentation of its culture. The pictures included in these books represent public spaces and buildings populated by people, communicating the habits of the country beyond architecture itself, an approach that DJs' exhibitions reflected too.

David Jones' commitment in the promotion of cultural activities demonstrates that the role of commercial shopping outlets as cultural incubator for engendering community interaction in the post-war context was occurring beyond Western Europe. Nevertheless, David Jones' program to build community through the dissemination of culture at shopping centres had its precedent in pre-war Northern Europe, where the strategy of exhibiting industrial design in a department store was often used as a means of generating new trends and consumer demand within society. For instance, the famous department store Fortnum & Mason in London hosted an exhibition of Alvar Aalto's furniture in 1933, which consolidated his design reputation internationally. Thanks to the visibility of the showcase and the proper organization of the exhibition, Aalto's furniture was widely commented on in *The Architectural Review* and *The Architectural Journal*, disseminating his work to the USA, Canada and Australia.[17] This tendency was also followed in Scandinavia. For example, the Finnish department store Stockmann similarly organized the first post-war exhibition in Helsinki dedicated to Italian design, installed by Franco Albini.[18]

The exhibition 'Sweden at David Jones', the biggest collection of Swedish art and industry ever seen outside Sweden, was held between 16 June and 2 July. DJs' ambition was not only commercial and cultural, but also political, as it aimed to stimulate trade and enhance relations between the two nations by promoting Swedish merchandise in the Australian market and celebrating Swedish culture.[19] Swedish fine arts, architecture, industrial design, clothing, food, textiles white goods, merchandise and industrial items were all on display, scattered around the three department stores in Sydney. As a performance of Swedish industrial design, a Swedish kitchen was assembled at the fifth floor of the George Street store. At DJs' art gallery in Elizabeth Street, one could not only admire Swedish handcraft and furniture, but also a 'pink room' devoted to culture, which contained Swedish books translated into English and other books depicting reproductions of art and industrial art. It was also possible to find a presentation of Swedish architecture, lithographic art and printing.[20] The restaurant foyer of the Elizabeth Street Store had a model of the Stockholm town hall, designed by Ragnar Östberg and completed in 1923, on display.

However, by the time that 'Sweden at David Jones' took place, Swedish industrial design and architecture were already familiar to the Australian audience. In 1950, the year of the release of the book 'Sweden Builds', an article was published in the magazine 'The Australian Home Beautiful' illustrating a Swedish designer's home. Swedish furniture design, with its international reputation, was lauded for its 'clean cut lines, simple shapes and the honest use of materials.'[21] In a further article in the same journal about Swedish settings, Sweden was depicted as a producer of 'some of the best of the world's furniture,'[22] while a visit to Scandinavia's large cities, as Melbourne architect D.A. Norman categorically wrote, 'should convince any Australian that we have much in common with that part of Europe and much to gain from a study of life there.'[23] Meanwhile in Brisbane, a whole generation of architects was educated according to refined Scandinavian architectural and design examples, thanks to the teaching activity of John Hitch at the University of Queensland.[24] Unlike the restricted debate fed by cultural institutions and the relatively closed circulation of information within professional circles, DJs was able to catalyse a targeted interest in North European culture and lifestyle, turning it into a mass trend. With the exhibition 'Sweden at David Jones,' Scandinavian design was revealed and divulged to a broad number of consumers to such an extent that some years after the exhibition, on the pages of the popular magazine *The Australian Women's Weekly*, journalist Margaret Macnamara recognized 'the continuing success of Scandinavian design.[25]

The indisputable success of 'Sweden at David Jones' lead to two other similar exhibitions: 'Italy at David Jones' and, at a smaller scale, 'France at David Jones.' Both of these exhibitions included a special section dedicated to fashion. David Jones was indeed responsible for the introduction of French fashion in Australia, with the invitation of Pierre Balmain in 1949 and the organisation of the first collection of Christian Dior models ever shown outside Paris[26]. 'Italy at David Jones,' the largest exhibition of foreign merchandise seen in Australia to that point, was meant to legitimize Italian culture in Australia and again to encourage trade between the two countries.[27] With the display of a large variety of items – fashion, cuisine, industrial design and to some extent even architecture – the show had a crucial role in presenting post-war Italian manufacture, revealing its high degree of sophistication and refinement.

Opened on the 15 June 1955, 'Italy at David Jones' was on display in all three Sydney department stores. A big industrial show was set up at the Market Street store, where it was also possible to examine a real Venetian gondola, a new FIAT 600 and a Riva Speedboat, as well as men's clothing. At the Elizabeth Street store one could take part in fashion parades, enjoy viewing female fashion items and visit an art exhibition of crafts. Designed by the Italian architect Enrico Taglietti, the art exhibition was held at the art gallery in Elizabeth Street store and provided a new spatial experience.

The rarefied atmosphere that distinguished the space was obtained by the irregular position of tables for the display of Venini glassware lit by vertical lamps, and with a metallic net used for hanging wall plaques by Lucio Fontana. Taglietti was also responsible for the section staged at DJs' store in George Street: a completely furnished 1:1 scale model apartment. This was an innovative example of home furnishing, conceived to show the most up-to-date Italian industrial design. Taglietti designed a two bedroom apartment imagined for a family of four, with a small hall, a spacious living and dining room split into two main areas by a central divider, an independent kitchen, a central patio, two bedrooms, a bathroom and outdoor spaces.[28] Far from being a spectacular showpiece, the arrangement of the apartment plan was quite simple in order to expose the furniture, textiles and light fittings designed by popular Italian designers, such as Franco Albini, Gegia Bronzini and Taglietti himself, exhibited at the Milan Triennale and imported directly from Italy.[29] The Australian audience was clearly impressed by the celebration of the modern values of 'beauty', 'comfort' and 'spaciousness', as can be derived from the comments of a journalist from the *Daily Telegraph*, who wrote that the exhibition displayed 'five rooms packed with reasons why Italy has become world centre for design since the war: furniture and accessories with that fine Italian flair for originality tempered by taste'.[30]

Enrico Taglietti was a young and vital Milanese architect, well connected in the city's architectural circles, who studied under distinguished teachers such as Carlo De Carli, Marco Zanuso, Franco Albini, Gio Ponti, Ernesto Nathan Rogers and Pier Luigi Nervi at Milan Polytechnic between 1948 and 1954. De Carli, Zanuso and Lucio Fontana involved Taglietti in La Triennale di Milano (Milan Triennale) activities and in 1954 he was made responsible for the foreign section of its 10th exhibition. Hosted in the Palazzo dell'Arte in Sempione park, the Milan Triennale is a museum, an events venue and, at the same time, a remarkable international stage for exhibiting new ideas and networking. Since 1933 it had represented a lively cultural environment for industrial designers, architects and artists, fostering the integration of industry and arts. When 'Italy at David Jones' was open, the *Daily Telegraph* described the Milan Triennale as the place 'were the ideas come from', explaining the exemplary design work of the Milanese architects Marco Zanuso, Gio Ponti and Ludovico Belgioioso from firm of BBPR.[31] It is safe to state that at that time Milan was perceived as Europe's design capital. Charles Lloyd Jones was undoubtedly abreast of the international relevance of the Milan Triennale when he contacted its president, the politician Ivan Matteo Lombardo, aiming to approach Ponti and involve him in the setup of the exhibition on Italian contemporary items to be held at DJs' stores in Sydney the following year. Ponti, who taught interior design at Polytechnic of Milan, was an active architect in Milan and might have attracted Charles Lloyd Jones' attention for his endeavour to improve the national standard of living and to raise Italian society's taste after WWII. Ponti pursued this throughout his career as an ethical task, particularly through his design and teaching activity and the edition of the international architectural journal *Domus* and the less know *Stile*. Nevertheless, the attempt to reach Ponti failed and Lombardo suggested Enrico Taglietti instead.[32] Ponti would eventually visit Australia more than a decade later, in 1967, when he was invited to speak at the AASA (Australian Architecture Student Association) Convention in Brisbane (20-27 May)[33]. Mr Bishop from DJs' office in London was sent to Milan to personally finalise the exhibition details with Taglietti before his departure for Australia.

As soon as 'Italy at David Jones' was opened, its great success was evident and Taglietti's approach to industrial design and architecture was highly regarded as extremely innovative and sophisticated. He was described as 'belonging to the ultra-modern school of design'[34] and soon become an icon of the Italian lifestyle: even his moustache was commented on in newspapers.[35] In turn, Taglietti and his wife also became immediately fascinated by opportunities that Australia had to offer to architects. Soon after reaching Canberra in a Fiat 500 that same year Taglietti discovered the tabula rasa that distinguished the city at that time and decided to settle down and start his career there.[36]

With the exhibition dedicated to Italy, David Jones not only contributed to the diffusion of knowledge of post-war Italian culture in the Australian community. It was also able to 'import' a highly qualified architect who succeeded in merging his architectural principles absorbed at Milan Polytechnic with the local culture. In 2007 Taglietti won the Royal Australian Institute of Architects Gold Medal, the highest award in Australian architecture. DJs' role as an agent for the dissemination of culture within the Australian community had impact beyond the strictly commercial realm, seeding approaches and ideas that would effect the Australian profession of architecture and its public audiences in the second part of the twentieth century.

1 "Lead in fashion is traditional," *The Canberra Times (Supplement)*, March 5, 1963, 28.
2 "History of David Jones," ibidem, 2.
3 Helen O'Neill, *175 Years David Jones* (Sydney: New South, 2013), 256.
4 Ibidem.
5 "History of our City is History of DJs. Sydney's Largest Department Store Celebrates Anniversary," *The Sydney Morning Herald*, May 28, 1952, 7.
6 "History of David Jones," 262.
7 O'Neill, *175 years David Jones'*, 258.
8 Judith O'Callagan and Charles Pickett, *Designer Suburbs: Architects and Affordable Homes in Australia* (Sydney: New South Publishing, 2012), 32.
9 W. Allen Smith, "Industrial Design and Architecture," *Architecture in Australia* 46, n. 3, (1957), 81.
10 Ibidem.
11 "History of Our City is History of DJs," 7.
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5.2 Ideological Equality: Women Architects in Socialist Europe

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Emerging in the 1970s, the feminist approach to architectural history in the West and in the United States explored beginnings: from investigations of women who created spaces via exhibitions and who were influential as patrons and architects around 1900, to a focus on women in the shadows of modernist masters or who laboured in adjunct positions throughout the twentieth century. As women architects slowly gained ground in the 1980s and 1990s, research turned to new themes focusing on gender, space, and architecture.
In the former socialist countries of Eastern Europe, however, the emergence of the woman architect and a gendered approach to history followed a starkly different trajectory. Before 1945, most architectural faculties limited the number of women architecture students but, after World War II, women's integration into the profession was quick and radical. Because the new socialist states desperately needed engineers and architects, restrictions were abolished and the number of female architecture students increased extensively. The sudden integration of women into architecture served more than a practical demand. Because the ideal Socialist Woman should seek self-fulfillment in work and social-political commitment, the influx of women into architecture and engineering reinforced the prevailing political ideology. Abundant state commissions provided work for all who were willing, and, in principle, the new generation of women architects entering the profession in the 1950s and early 1960s were offered the same opportunities as their male colleagues.
While the bulk of gender research in architectural history concentrates on

difference, this situation of conscious (forced) equality may help to explore other aspects of the feminine. Therefore we hope to generate a new consideration of gender and architecture inspired by the situation in Socialist Europe, and we seek papers that address this special situation. For example, did state-promoted, ideological equality contradict everyday gender practices? How did it impact on the situation for women in architectural design offices? Did women play an adjunct role or did they supervise large commissions? Were they confined to the usual 'feminine' fields, like residential architecture, interior design, or monument preservation? How did the media treat them and their work? Did they embrace Socialist ideology, did they attempt a more critical position, or did they exploit their position as women for other ends?

5.2.1 GDR Women Architects between Emancipation and Professional Obstinacy

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Abstract
Women architects experienced a complicated occupational trajectory in the GDR. Due to the government's support, the number women architects grew steadily to roughly 26% of all practitioners by 1989. Yet it was difficult for women architects to assume leading roles. Their presence on the board of the Association of Architects of the GDR only increased from 1.2% in the early sixties to 8.7% in the late eighties. In more than 40 years of GDR history only three women ever became chief architects of a large city. Nevertheless their apparent marginalization should be considered from the perspective of these women. They created specific, obstinate approaches to reflect their particular contribution to the dominant world of (male) architects. Aside from typically feminine areas such as interiors and monument preservation, women architects claimed to adopt softer and more feminine working methods to complement the masculine, technological, and rational language of architecture. Their arguments echoed those of late nineteenth-century German feminists, and illustrate how ideas about gender and work, which arose in a bourgeois context, persisted under Socialism. Nevertheless, women architects in the GDR were active in many areas including construction supervision, housing, historic preservation and education. The database of all GDR architects at our institute will be used to analyze and assess women's participation in these fields.
Although many women architects from the GDR today deny the existence of female networks, it is worth speculating: to what extent is it possible to identify networking strategies among these women? There are strong indications of efforts to help other women architects in the work place, especially if women were heads of collectives or chief architects. Also: did they exploit their position as women for other ends? This paper explores such structural and institutional issues in addition to examining the work of several compelling protagonists.

Keywords
Women, architects, emancipation, GDR, socialism, networks

5. TWENTIETH CENTURY

This paper examines the situation of women architects in the German Democratic Republic (GDR) in regards to East German policies towards women and social issues. First it will consider to what extent quantitative government incentives enabled women in the GDR to enter the male-dominated domain of architecture in order to clarify the qualitative position women architects were able to achieve in the GDR. The results will be compared with the perspectives of the women architects who cultivated their distinct strategies for dealing with the patriarchal power structures and the representation of gender roles under socialism. Then a brief examination of two outstanding individual biographies as well as prototypical biographies from the 'second row' of women architects will focus on the following questions: if it appears that women architects in the GDR did not create formal professional networks, how was network formation limited or restricted under socialism? Can activities that resemble networks nevertheless be identified among women architects? Did such activities support or otherwise explain the position that women architects were able to achieve in the GDR? The conclusion illuminates the importance of women architects and their position in the society of the GDR for women's history and as an essential part of a larger social history of twentieth century modernism.

State and professional support for women in the GDR – potentials and limits of social emancipation

Compared to West Germany, there were many more women architects in the GDR because all female professionals benefited from governmental legislation that promoted the balance of work and family life.[1] From 1950,[2] this targeted support for professional women responded to the basic socialist idea of the emancipation of women, as called for by the labour movement. Legal equality and the promotion of vocational training for women were also necessary to cover the high demand for manpower in the GDR. Accordingly, the employment rate for women rose from 49% of all women of working age in 1950 to 92% in 1981, a level that was maintained until the end of the GDR and represented an absolute peak worldwide.[3]

In reality, women's emancipation through employment presented women with a triple burden: professional, household and family responsibilities.[4] Furthermore women remained significantly under-represented in all positions of leadership. In the forty years of the existence of the GDR not a single woman became a member of the supreme political steering committee of the state, the *Politbüro* (executive committee) of the Central Committee of the state party, the *Sozialistische Einheitspartei Deutschlands* (SED).[5] There is, therefore, a broad consensus among GDR scholars that the alleged 'equality' of women in the GDR, should be carefully scrutinized or even declared a myth, at least in terms of everyday reality and the actual opportunities for women to attain positions of leadership.[6]

Nevertheless the GDR witnessed a rapid increase in the number of women who acquired professional skills. Whereas 25.2% of all university students in 1960 were women, by 1986 the proportion had doubled to 50.3%. At the universities of applied sciences the proportions of female students were even higher, increasing from 28.6% in 1960s to roughly 70% in the 1980s.[7] Women architecture students benefitted from government incentives that systematically focused on increasing the number of architects. For example, at the leading university for architecture, the *Hochschule für Architektur und Bauwesen* in Weimar, single-sex, all-women classes were taught in certain years. In addition, the BdA (*Bund der Architekten*), the professional association of the architects' union of the GDR, lent particular support to its female members. This association established a gender equality commission that systematically campaigned for the improvement of working conditions for women architects and supported their professional development.[8] Finally, in order to increase the proportion of women architects in urban planning offices, incentive schemes specifically for women were obligatory in large collectives.[9]

The results of the promotion of women architects. A quantitative analysis

How successful were these government incentives in support of women architects? And, compared to men, what positions were open to women architects in the GDR?

To answer this it is necessary to establish the overall proportion of women architects, and especially how many held positions of leadership. First, the ratio of women to the total of all employees in the GDR increased from 40.0% in 1950 to 49.1% in 1985, and, by the early 1980s 92% of all women of working age were in employment. Governmental support and targeted training for women notwithstanding, the labour market of the GDR remained highly gender segregated.[10] For example, in the construction industry, a traditionally male-dominated field, women's employment reached 11.2% in 1968. Aside from Japan (about 12%), this figure was far above Western countries such as Germany (5.5%) or the United Kingdom (0.2%).[11]

The professional opportunities for GDR women architects can be calculated from analysis of applications for admission to the BdA. In the course of his or her professional life, virtually every GDR architect became a member of this professional organization.[12] 7576 applications for admission are ar-

chived in the Scientific Collections of the Leibniz Institute for Regional Development and Structural Planning (IRS) Erkner near Berlin.[13] As a result of a research project which is in the course of being completed, they are now recorded in a database and will be available online.[14]

Of the total number of applications for admission to the BdA – and therefore to almost the entire architectural community of the GDR – 26% were from women. As well as overall increase in the number of female architects from the fifties to the eighties, a disproportionately large number of the sponsors for women members were themselves women (each new member for membership required two sponsors). This could be an indication of network activity on the part of women members of the BdA to increase the number of women architects in this important council. The analysis of the BdA memberships in terms of gender distribution in the different architectural specializations is also worth noting.

In order to gain information about the degree and integration of women architects in comparison with their total number, we will consider some of the various activities in the professional life of an East German architect (Table 1). First, the number of female members of the executive committee of the BdA shows the very limited possibilities for women architects who desired to advance to key professional positions: their share increased from 1.2% at the beginning of the 1960s to only 8.7% by the mid-1980s. The proportion of women architects who became members of the *Bauakademie* (Academy of Architecture), the central, elite institution for building and architecture in the GDR, was even smaller.[15] Only two women architects – Iris Dullin-Grund (Figure 1), the city architect of Neubrandenburg, and Anita Bach, a professor for architecture at the *Hochschule für Architektur und Bauwesen* in Weimar – were admitted into the plenum of this illustrious body.[16] Likewise,

Key Position	Architects total	Women architects	
		total	share (%)
BdA, members total	7576	1814	23.9
BdA, members 1961	1853	48	2.6
BdA, executive committee, 1961/1988	84/111	1/15	1.2/8.7
Bauakademie, members	120	2	1.7
City architects	45	2	4.4
Authors in journal Architektur der DDR, 1961/1987	205/154	12/19	5.8/12.3
Biographical lexicon	220	9	4.1

Table 1. Proportion of women architects in selected key positions in the architecture of the GDR. *Source:* Rechenschaftsbericht des Bundesvorstands auf dem IV. Bundeskongreß des Bundes Deutscher Architekten, in: Protokoll zum IV. Bundeskongreß des Bundes Deutscher Architekten 6.-8. April 1961, Sonderbeilage 13/61 der *Deutschen Architektur,* 19-26, esp. 23.

Figure 1. Iris Grund, city architect, presenting skeptical looking male architects an overview of the main elements of the general city planning for the fast growing city of Neubrandenburg in the north of the GDR. *Source:* Simone Neuhäuser (ed.), *Mut und Anmut. Frauen in Brandenburg-Preußen* (Leipzig: Kulturland Brandenburg, 2010), 89

only two women architects – the aforementioned Iris Dullin-Grund and Sabine Rohleder in Zwickau – were appointed to the most coveted post that a practicing GDR architect could hope to achieve, namely the position of a city architect in a large municipality. These architects often had an extensive scope for action and supervised staffs of up to 200 employees.[17]

A brief look at historical journals and recent historical surveys as indicators of the position of women architects in the GDR also confirms their marginalization. The most important professional magazine of the GDR was *Deutsche Architektur* (German Architecture).[18] In 1961, on average, only 5.8% of the authors were women, although their contributions rose to 12.3% in 1987. Meanwhile, of the 220 architects whose work is documented in the most important recent reference book on GDR architects, *Vom Baukünstler zum Komplexprojektanten. Architekten in der DDR* (From architect to complex project engineer. Architects in the GDR)[19] only nine, or 4.1%, of the biographical entries are for women. The extremely low percentage of women architects in the GDR who advanced to key leadership positions clearly demonstrates that the quantitative growth of their numbers was accompanied by a most rudimentary presence in positions of power and influence. The already existing gender gap in the architecture of the GDR was especially pronounced when considering women's inability to assume key positions in the architectural profession.

Perspectives of women architects themselves

In the following section, the numerical evidence on women architects is considered from the perspective of these women.[20] First, it is important to emphasize that women architects did not perceive either their professional development or their position in the architectural collectives as being disadvantaged. It was important for them to be taken seriously as professional women in architecture. They often portray their everyday work as being equal to the work that men carried out, and they confirm that it was respected by their male colleagues.[21] Nevertheless, reservations were expressed about a woman's sexual appeal, especially if she climbed to a high position, such as that of a city architect.[22] And reservations were repeatedly articulated about women architects who gave birth to a child and took advantage of their right to full maternity leave.[23] Some women architects even deliberately slowed their professional careers, especially when they were married to a man who also worked as an architect and was eager to make a career himself.[24] Although GDR women architects were active in many areas of architecture and construction, it seems that they frequently worked in the 'softer' fields, especially landscape, city planning, interiors, and historic preservation.[25]

The answer to the question of how GDR women architects dealt with the fact that they rarely achieved the key professional positions or rose to the top of their representative institutions in all areas of architecture is more complex. On the one hand, GDR women architects rarely criticized their situation, an acceptance of the status quo that appears to be associated with the significantly less pronounced politicization of feminist discourse in this state compared to the Western World.[26] However, a distinctly different and more nuanced view from the perspective of the GDR women architects emerges from a number of recent interviews.[27] Numerous women architects justify the unbalanced representation in key positions by arguing that they did not want to assume more responsibility, which would have exposed them to political pressure. They also cite their triple burden of family, household responsibilities and professional career, which left them feeling overextended and unwilling to take on more duties. Nevertheless GDR women architects articulated their presence in architecture as contributing a feminine, organic corrective to the male, technocratic norm.[28] To what extent this was an accurate reflection of reality, or was an excuse for their failure to overcome the patriarchal structure of the architectural world in the GDR needs to be more fully investigated.

Did (hidden) networks of women architects exist in the GDR?

The targeted use of networks is an established strategy to support women in the male dominated world of work, to enable them to gain influence and enjoy better working conditions.[29] Architects from the GDR when asked in retrospect about the existence of women-orientated networks in their professional field initially deny not only their existence, but they also reject the active pursuit of network-oriented strategies. Network strategies based on feminist theories, such as those that were established in the West beginning in the nineteen seventies, were obviously not present in the GDR. Nevertheless, when considering the activities of the few women who were successful in achieving important positions in GDR architecture, there are some small indications that network-like procedures were used explicitly to support women in architecture.[30]

Women architects in the GDR had an interest in promoting the professional careers of their fellow women. This was an opportunity for them to break down male dominance in this career field in an active, self-determined and not openly confrontational way and can be interpreted as a covert form of networking. Thus city architect Iris Dullin-Grund, went out of her way to employ young women graduates and supervised a majority of women architects in her town planning collective.[31] After winning a competition for a *Haus der Kultur und Bildung* (Building for culture and education) – now an outstanding icon of GDR modernism from the nineteen sixties in East Germany –, she became the first woman city architect in 1970. Although her male colleagues viewed her success critically and were certain that she would soon quit, she prevailed and remained in this office until the events of 1989/90. As a prominent woman architect, Iris Dullin-Grund was called upon time and again to stand in the limelight in the GDR. As previously noted, she exploited these opportunities strategically for herself and other women by using her influence to ensure that women found employment in her town planning collective.[32] In contrast, the only woman professor of architecture, Anita Bach at the University in Weimar, was not able to ensure that other women completed the second and highest-level dissertation (a qualification for a university professorship), the *habilitation*. Despite years of intense efforts and targeted support for promising female talent, she remained the only women professor in architecture until the end of the GDR.[33]

Conclusion and outlook

The history of women architects in GDR presents a sobering picture, as a clear gender gap existed in the profession of architecture. The legal status of women and the assertion of professional gender equality did not, in real-

ity, provide them with parity and a level of influence that corresponded to their nominal recognition in society. All too often, state subsidies served to ensure that quotas for women in certain economic sectors were met and responded to the bare economic necessity of bringing women into workforce to participate in the labor-intensive economy of the GDR. And the triple burden GDR women architects had to negotiate – motherhood, household responsibilities and a profession – combined with difficult living conditions often unduly challenged these women. Finally, the impression cannot be ignored, that those few women architects who enjoyed influential positions as city architects or as an architecture professor certainly owed their success, in part, to their professional competence. Yet their achievement can also be understood as an alibi for those women who were not successful to this extent, that is, they were the few women who appeared to have succeeded on their own merits and achieved a position of gender parity as exposed by GDR rhetoric. They were held up as examples of gender equality under socialism, even if this was very far indeed from the real, lived reality of the vast number of women architects in this state.

On the other hand, the massive integration of women into working life as a whole – and especially when compared to western social systems – to a level of independence and equal self-confidence for the women developed a momentum of its own and should have sustained a permanent change in the social position of women. For female architects of the GDR, gender issues obviously were less pronounced than in nations of the western hemisphere.[34] Nevertheless there appears to have been resistance on the part of women architects of the GDR towards assuming key positions, which were coveted by men, so as to avoid becoming entangled in social and political power relations. This could be interpreted as a strategy for attaining 'real socialist' gender representation in architecture, and of emancipation from below, into another type of modern society,[35] as part of a development of global cultures between diversity and hegemonization.[36]

1 Gisela Helwig, "Frauen- und Familienpolitik," in Rainer Eppelmann (ed.), *Lexikon des DDR-Sozialismus. Das Staats- und Gesellschaftssystem der Deutschen Demokratischen Republik*, vol. 1 (Paderborn et. al.: UTB, 1997), 271-80.

2 The legal basis for it offered the 1950 adopted 'Gesetz über den Mutter – und Kinderschutz und die Rechte der Frau.' Dierk Hoffmann and Michael Schwartz, *Sozialstaatlichkeit in der DDR. Sozialpolitische Entwicklungen im Spannungsfeld von Diktatur und Gesellschaft 1945/49-1989* (München: Oldenbourg, 2005), 68-74.

3 The promotion of female employment was created for example through the development of a comprehensive infant and child care system or through special teaching and curriculum for student families. Gunnar Winkler (ed.), *Frauenreport 90* (Berlin: Verlag der Wirtschaft, 1990), 234; Stefan Wolle, *Aufbruch nach Utopia. Alltag und Herrschaft in der DDR 1961-1972* (Berlin: Links-Verlag, 2011), 219-23, esp. 219f.

4 Thus, a survey showed in 1970 that from 47 hours housework per week on average were taken 37 hours by the women and only about 6 hours from the men. The remaining four hours were taken over by 'others', such as service personnel. Cf. Mary Fulbrook, *Ein ganz normales Leben. Alltag und Gesellschaft in der DDR* (Darmstadt: Wissenschaftliche Buchgesellschaft, 2008), 161, 178; Susan E. Reid, "Women in the Home," in Melanie Ilić, Susan E. Reid, and Lynne Attwood, *Women in the Khrushchev Era* (Basingstoke: Houndmills, 2004), 149-76.

5 It consisted of 15 to 25 male members; Wolle, *Aufbruch nach Utopia*, 221. The under-representation of women could be found in many other economic or social areas, the career opportunities for women were extremely limited; Dagmar Langenhain and Sabine Roß, "The Socialist Glass Ceiling. Limits to Female Careers," in Konrad Jarausch (ed.), *Dictatorship as Experience. Towards a Socio-Cultural History of the GDR* (New York: Berghahn Books, 1999), 177-91.

6 Leonore Ansorg and Renate Hürtgen, "The Myth of Female Emancipation. Contradictions in women's lives," in Jarausch, *Dictatorship as Experience*, 163-76; Donna Harsch, "Squaring the Circle. The Dilemmas and Evolution of Women's Policy," in Patrick Major and Jonathan Osmond (ed.), *The Workers' and Peasent's State. Communism and Society in East Germany under Ulbricht 1945-1971* (Manchester: University Press, 2002), 151-70; Sandrine Kott, *Le Communisme au quotidien. Les enterprises d'etat dans la societé est-allemand* (Paris: Belin, 2001), 237-69; Lynn Abrams and Elizabeth Harvey (eds.), *Gender Relations in German History. Power, Agency and Experience from the Sixteenth to the Twentieth Century* (Durham, NC: Duke University Press, 1996).

7 Winkler, *Frauenreport 90*, 39; Wolle, *Aufbruch nach Utopia*, 219.

8 So women architects, for example, were encouraged to a greater degree to publish in scientific journals in order to strengthen their public perception in comparison to the

medial omnipresent male colleagues. Chair of the Women's Committee was Isolde Andrä, who had previously worked primarily with school buildings; Isolde Andrä, "Das einheitliche sozialistische Bildungssystem und der Schulbau," *Deutsche Architektur* 13, n. 10, (1964), 606-10.

9 In order to increase the rate of female architects, women sometimes were pressurised to make qualification measures and to decide themselves to study architecture, which led in some cases to conflicts. Helga Fassbinder and Isabel Bauer, *Wichtig war das Bewußtsein der Frauen, Einfluß zu haben. Erfahrungwelten von Frauen im Bau- und Planungswesen der DDR* (Dortmund: Vertrieb für Bau- und Planungsliteratur, 1996), 245 (interview with Iris Grund).

10 Women were particularly engaged in social services, health and education sectors, the service sector, trade and postal, banking and telecommunications, while they remained significantly underrepresented in the industry, craft, construction and transportation.

11 *Statistisches Jahrbuch der DDR* 13 (1968), 23.

12 The BdA on the one hand offered its members training opportunities and professional exchanges and thus a unique way of horizontal and vertical networking. On the other hand the BdA, organized and closely associated with the *Bauakademie* and the Ministry of Construction of the GDR, was essential for the party and state leaders in order to control the architects ideologically and politically in their favour. Harald Engler, "Das institutionelle System des DDR-Bauwesens und die Reformdebatte um den Städtebau in den 1980er Jahren. Ein Problemaufriss," in Christoph Bernhardt, Thomas Flierl, and Max Welch Guerra (eds.), *Städtebau-Debatten in der DDR. Verborgene Reformdiskurse* (Berlin: Verlag Theater der Zeit, 2012), 71-104, esp. 85.

13 The *Wissenschaftlichen Sammlungen*/ Scientific Collections are the only specialist archive for construction and planning history of the GDR. In addition to the BdA membership applications researchers can find, among other things, all urban competitions, general development plans and new residential areas of the GDR and study actual more than 60 pros and discounts of the most famous East German architects. Harald Engler, "The Scientific Collections – Archive for the History of Building and Planning in the GDR," in *ICAM print 05* (Wien 2014, in print) and the website of the Collections: www.irs-net.de/profil/wissenschaftliche-sammlungen/index.php?sprache=en (13 March 2014).

14 The research project with the recording of all the applications for admission for the BdA in a database with about 60 entries parameters including an image of the architect will be completed this year and will go online in 2015. The project "DigiPortA" is a joint project of several scientific collections and is funded by the Leibniz-Gemeinschaft. Cf. the website for the project DigiPortA (www.deutsches-museum.de/archiv/projekte/digiporta) und IRS (www.irs-net.de/forschung/forschungsabteilung-5/digiporta/index.php?sprache=de).

15 This central research and planning institution was directly subordinate to the Ministry of Construction and was staffed with some 4000 employees. Engler, "Das institutionelle System," 87.

16 Fassbinder and Bauer, *Wichtig*, 251.

17 These are Iris Dullin-Grund in Neubrandenburg (Pomerania) and Sabine Rohleder in Zwickau (Saxony). Engler, "Das institutionelle System," 88.

18 The Journal was in 1974 renamed in *Architektur der DDR* (Architecture of the GDR). This specialist journal was published monthly with a total of about 700 pages per year. Bruno Flierl, "Anspruchsvoll und waghalsig? Die Zeitschrift Deutsche Architektur/Architektur der DDR (1952 bis 1990)," in Simone Barck, Martina Langermann, and Siegfried Lokatis (eds.), *Zwischen, Mosaik und Einheit. Zeitschriften in der DDR* (Berlin: Links, 1999), 252-7.

19 The 220 most important architects and designers of the GDR are portrayed with articles of a length of some two printed pages in this encyclopaedia; Holger Barth and Thomas Topfstedt (eds.), *Vom Baukünstler zum Komplexprojektanten. Architekten in der DDR. Dokumentation eines IRS-Sammlungsbestandes biografischer Daten* (Erkner: IRS, 2000). The volume comprises articles on the women architects Anita Bach, Edith Diehl, Liv Falkenberg, Iris Grund, Ludmilla Herzenstein, Sigrid Schaller, Gertrud Schille, Margharita Stefanenko, Dorothea Tscheschner.

20 The women architect's perspective is tracked and evaluated by the analysis of research material with numerous personal testimonies and interviews and supplemented by own guided interviews. Cf. also Dörhöfer, *Pionierinnen*; Frederike Lausch, "HAB DDR Wende. 29 Lebensläufe von Architekturabsolventen der 1980er Jahre der Hochschule für Architektur und Bauwesen Weimar" (Master Thesis, Bauhaus-Universität, Weimar 2014).

21 These findings are based on several guided interviews conducted by the author with several architects, and the analysis of Fassbinder and Bauer, *Wichtig*; Lausch, *HAB*.

22 Thus spoke the party secretary in Neubrandenburg: 'Also deinetwegen muss ich jetzt, Genossin und Genossen sagen' (female and male comrade); Fassbinder and Bauer, *Wichtig*, 253.

23 Ibidem, 322.

24 Interview with architect Gisela Adler, 12 May 2010.

25 Based on the analysis of the 171 women architects who were member of the BdA in the *Bezirk* (district) of Leipzig. Besides architects (42.5%) and building engineer (13.5%) many of these women worked as landscape architects (30.6%) and as city planners (9.4%). Women architects therefore planned in disproportionate numbers social buildings and residential construction including interior design. They worked as landscape architects in the large design collectives in the GDR often with the aim to oppose the dominant strict geometry of industrial concrete forms with their 'organic' landscape architecture. A distinctive niche among women planners and architects in the GDR represented the sector of historic monuments protection.

26 'Western colleagues often do not understand that here [in GDR] women do not feel discriminated against themselves in their favour' said the Equal Opportunities Officer of the Berlin district of Marzahn 1998; "Wenig Zeit für Feminismus. Die ostdeutsche Gleichstellungsbeauftragte Christine Rabe erlebt Arbeitslosigkeit als die schlimmste Frauendiskriminierung," *Die Zeit* 13, (1998).

27 The author conducted several interviews with East German women architects and planners, including Dorothea Tscheschner, Gisela Adler, Ute Baumbach, Ingrid Apolinarski.

28 But there is strong criticism of the questionable approach that women as architects create a gender-oriented architecture in general cf. Kerstin Dörhöfer, *Pionierinnen in der Architektur. Eine Baugeschichte der Moderne* (Tübingen-Berlin: Ernst Wasmuth, 2004), 213, ann. 555.

29 Lily M. Segermann-Peck, *Frauen fördern Frauen – Netzwerke und Mentorinnen* (Frankfurt: Campus, 1994).

30 The existence of networks in the GDR is clearly proved for opposition circles as in the area of the church or the peace movement.

31 Fassbinder and Bauer, *Wichtig*, 246.

32 Ibidem, 253.

33 Ibidem, 320f. (interview with Anita Bach).

34 Hilke Schlaeger and Nancy Vedder-Shults, "The West-German Women's Movement," in *New German Critique* 13, Special Feminist Issue (1978), 59-68.

35 Based on the concepts of Peter Wagner and Zygmunt Bauman to understand socialist states as a variant of modern societies; Peter Wagner, *A Sociology of Modernity. Liberty and Discipline* (London: Routledge, 1994); Zygmunt Bauman, *Modernity and Ambivalence* (Ithaca, N.Y: Cornell University Press, 1991); Shmuel Eisenstadt (ed.), *Multiple Modernities* (New Brunswick et. al.: Transaction Publishers, 2002).

36 Petra Goedde, "Global Cultures," in Akira Iriye (ed.), *Global Interdependence. The World after 1945*, (Cambridge, Mass.: Belknap Press of Harvard University Press, 2014).

5.2.2 Women in Hungarian Industrial Architecture between 1945 and 1970

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Abstract
Emerging after the 1956 Revolution, the reform-spirited Kádár system greatly accelerated the emancipation of Hungarian women. Beginning in 1960, the Kádár system replaced the Rákosi dictatorship's de-feminized 'working woman' ideal with new feminine roles. Substantially more women professionals, including women engineers, appeared during Hungary's second wave of 'socialist industrialization'. The authorities also de-Stalinized the political sphere, restructured the economy, and promoted modernization. These efforts focused on modernizing households and expanding industries for trade with other Comecom countries.
Changes regarding the situation of women working for the Industrial Building Design Company (IPARTERV), one of Hungary's largest state design offices, reflect these trends. Under the Rakosi's dictatorship, hardly any women designed industrial buildings. Yet after 1956, at a time when IPARTERV's professional prestige grew, their numbers increased, often as leading architects of large projects. Structural innovation and an optimistic investment boom resulted in spectacular buildings that were utilized as backdrops for the Kádár regime's propaganda. They also attracted international attention. Due to IPARTERV's prestige, women employees had more support than those in other state design offices. It is hardly a coincidence that the first female winner of the Ybl Prize, Hungary's most prestigious architectural award, was IPARTERV's Olga Mináry, and that she represented Hungary at the 1967 UIA Congress in Prague. However, Mináry's success and that of women with similar careers reflect political efforts to demonstrate the system's appreciation of women and highlight emancipation's progress. This paper explores the following questions: Did industrial architecture provide Hungarian women architects with excellent opportunities because politicians found it expedient to connect IPARTERV's performance with the efficacy of the "Hungarian model" of Socialism and new feminine ideals? Did a personal or social commitment on the part of IPARTERV's management bring about an increase in women employees? What factors typified the careers of women architects at IPARTERV?

Keywords
Socialism, emancipation, Modernism, industry, Iparterv, Hungary

Browsing through Hungarian journals on architecture from the 1950s and 1960s, it is conspicuous that of all the architectural specializations, the number of women is the highest in industrial architecture. What could have been the appeal of industrial architecture, a markedly technical field, to Hungarian women architects and structural designers at this early stage of the emancipation process? The reasons can only be discerned based on the study of policies towards women in the two decades under consideration. The following sections attempt a brief summary of this historical phenomena, and provide some preliminary findings to assist future research.

The new situation of female engineers in the Rákosi dictatorship

The changes in women's rights that took place in Hungary in the second half of the 1940s opened up opportunities for women approaching those enjoyed by men. This new situation was attributable to both the emancipation process brought about by modernization as well as the ideology of state socialism.[1] Indeed, during the communist regime headed by Mátyás Rákosi (1948-56), women's politics were not intended to bring about gender equality but rather to respond to the sudden increase in the demand for labour linked to the gigantic wave of industrialization that was triggered by the Cold War armament programs throughout the Eastern Bloc.[2]
The mobilization of women, who represented a significant labour reserve, began in response to the extensive industrialization. Propaganda that supported the state socialist ideal of gender equality and which celebrated the soviet-inspired model of a defeminised woman unwaveringly standing her ground in the nation's economic production and dedicated to the 'working community'[3] accompanied this change.
However, several factors impeded the emancipation of the female *intelligentsia*. Women clearly had better opportunities to participate in higher education than in previous decades. However, discrimination was significant, and women were 'marginalized' by being placed only in the less prestigious colleges and universities. One exception to this was technical higher education, where the prestige of universities with engineering programs increased steadily as post-war rebuilding, and later industrialization, commenced. Although the proportion of women students at technical universities remained low throughout the 1950s, from the late 1940s, a sharp and steady increase can be detected.[4]
In the early 1950s, a growing number of young women engineers were participating in the many design and construction projects necessary for industrialization. A contributory factor to this trend was the introduction of legislation aimed at encouraging the employment of qualified female labour.[5] Although women's presence in the engineering profession was greeted with

prejudice, women were gradually becoming 'visible' in the professional teams employed in the industrial companies and design offices.

Older women engineers, who had learned their profession before the war and, owing to their exceptional expertise and/or because they were *protégés* of powerful political figures, had achieved a great deal both professionally and in positions of leadership, played an important role in the slow process of emancipation.[6] Although very few in number, they were looked upon as role models by the new generation of recently graduated women engineers. This seemed to be particularly the case for those professional women involved in the design and construction of industrial facilities.

Such a special role was attributed in the Rákosi era to Johanna Wolf, a civil engineer and architect. She earned her degree in 1931 at the Budapest Technical University under extremely difficult circumstances for women. The peak period of her career began in 1947, when she was appointed chief engineer at one of Hungary's largest building companies.[7] She played an important part in developing and introducing a special Hungarian version of on-site concrete pre-casting (mainly used in industrial construction projects).[8] Using this technology, a number of buildings were erected in the 1950s with unique aesthetic and engineering qualities, which attracted widespread international recognition. Johanna Wolf was also entrusted with the task of chief engineer supervising the construction group that built the iron- and steelworks in Dunaújváros, the biggest industrial facility in Hungary at the time.[9] As Johanna Wolf was associated with this project, which was crucially important for the new political powers, state propaganda soon 'elevated' her and referred to her as the embodiment of the ideal socialist woman who puts men to shame by her hard work. The experience that she acquired during this time in addition to her commitment to socialist industrial development probably contributed to her being given the prominent position of chief engineer after the collapse of the Rákosi regime.

Another emblematic woman in the Hungarian engineering profession at this time is Eszter Pécsi, a structural designer, who worked in industrial architecture after 1945. In 1920, she was the first woman in Hungary to obtain a degree in engineering and, from 1930, she ran her own architectural studio. The intellectual milieu created by the pioneers of Hungarian modernist architecture shaped her professional identity.[10] She also developed new structural systems and standardized plans for the reconstruction of factories that had been destroyed in the war, again researching the possible methods of concrete pre-casting.[11] Although in the first half of the 1950s she was chief engineer at the Architectural Office of the Ministry of Metallurgical and Machine Industry, she had to leave the country in 1957 because of her social views, her contacts to Hungarian Social Democrats and her personal connections to those involved in the events surrounding the 1956 uprising.[12] Clearly, Johanna Wolf and Eszter Pécsi were competent engineers who ably managed large-scale industrial development projects and were not simply the darlings of the communist system. Nevertheless, their social, ideological and professional identities were quite dissimilar, and therefore the emerging female engineering community looked upon them as 'pioneers' or role models in different ways.

Even though the proportion of women in this specialization only amounted to a few percent, the rising number of women engineers was reflected in the composition of the employees of government companies dealing with the architectural and technological design of industrial facilities. This is best exemplified by the Industrial Building Design Company (*Ipari Épülettervező Vállalat*, IPARTERV), established in 1948-50 with a staff of over one thousand. Women appeared in 21 out of the 198 entries in the company's catalogue of their most successful designs in 1951-2,[13] with many of them being structural designers or mechanical engineers, and only a few architects. It is conspicuous that female architects were few and far between in large-scale, complex industrial building projects where architectural-engineering creativity could unfold; women typically participated in projects of secondary importance.

There might be various reasons for this situation. Many of the female architects were still young, at the beginning of their careers, and could not be entrusted with prestigious projects. In the meantime, due to the shortage of experts created by the large volume of building projects, in some cases young professionals were given the opportunity to design large-scale facilities (although these were mostly men).

Clearly the intellectual-creative potential of women was exploited to an even lesser degree in industrial architectural development projects, as they were involved more in 'auxiliary' tasks. It is unclear to what extent the careers of young women engineers were hindered by 'old knee jerk reactions' and helped by the new labour policy. In any case, beginning in the early 1950s, some women architects who were just beginning their careers were able to oversee important projects. For example, in 1953, Katalin Geszti, who earned her degree in 1949, designed large-scale complexes for several industrial plants. And after the events of 1956, Katalin Geszti, like many of her colleagues, emigrated, but before that she participated in several architectural competitions with major success.[14]

State feminism and industrial architecture in the early Kádár era

From the mid-1950s, at the same time as changes in the political and economic structures there was an ideological toning-down in Hungary and,

prompted by the soviet model, social policies also underwent radical change. From 1957 onwards, attitudes towards women started to be affected significantly, especially during the Kádár era. The previous regime was replaced by an authoritarian power structure, which concentrated on modernizing society and creating economic prosperity. Those involved in academic and cultural pursuits were allowed a certain degree of autonomy and – albeit under strict political control – were able to adopt fresh western ideas.[15]

This liberalization profoundly impacted the process of women's emancipation. New models emerged ever more frequently in the controlled public forums that considered gender roles and were more in line with the new approach to living than previous ones. So-called 'state feminism' – although still following the norms of the paternalistic family model – relaxed to some extent and the assertion of femininity and female identity became less and less of a political issue.[16] Technical universities continued to have a great appeal in the early Kádár era, and the proportion of female students also kept rising, slowly but steadily. This trend can be explained by the incentive provided by the new economic policy when the Kádár government decided to implement another comprehensive industrialization program.[17]

The extent to which the renewal program boosted the career opportunities of women pursuing a technical profession is reflected by the spectacular changes that took place at IPARTERV. From around 1960, an increasing number of female architects can be found among the company's large-scale projects, and not only as supporting architects or structural engineers, but also among leading architects. Éva Czuppon, for example, was given the task of making a unified architectural design for the complex structural system of the paper factory in Dunaújváros. In several projects for agricultural and industrial research institutes, Éva B. Mueller combined the formal characteristics of modernist architecture with details evocative of the vernacular architectural idiom of the Hungarian countryside. The pharmaceutical complex in Gödöllő, designed by Lászlóné Edvi, was one of Hungary's most innovative facilities both architecturally and technologically. (Figure 1) Gabriella Zeöke was responsible for the refined structural aesthetics and complex spatial structure of the halls of the Debrecen roller bearing factory that were built using special concrete elements precast on-site. (Figure 2) Rozália Márfai's design for a manufacturing hall in Lábatlan attracted attention due to its innovative and aesthetically pleasing steel structure. Finally, Sára Cs. Juhász's industrial warehouse designs are highly refined artistic compositions.

The above examples made 'visible' to the wider professional circle that at IPARTERV an increasing role was being played by *creative* female architects with a talent for making *large-scale* and *autonomous* designs. Just as their

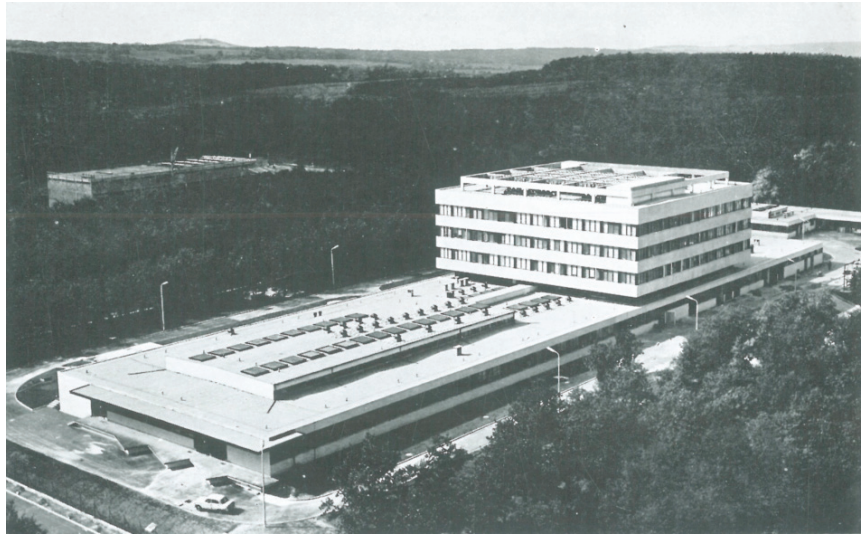

Figure 1. Pharmaceutical complex, Gödöllő, Hungary. 1964-1967. Architect: Lászlóné Edvi. *Source:* Jenő Szendrői (ed.), *Magyar építészet 1945-70* (Budapest: Corvina, 1972), 227.

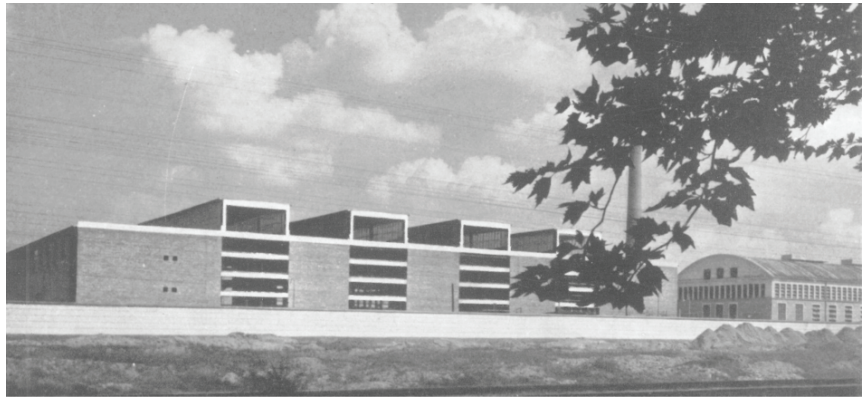

Figure 2. Roller Bearing Factory, Debrecen, Hungary. 1962. Architect: Gabriella Zeöke. *Source: Magyar Építőművészet,* 13, n. 5 (1964) 44

male colleagues were doing, they were able to develop the architectural design for entire industrial plants, make crucial engineering-economic and artistic decisions and exert a defining influence on a company's activities. It must be added, however, that even though their numbers rose significantly, the majority of women architects continued to take part in large-scale projects only as 'fellow architects.' Nevertheless, women structural design-

ers participated in the planning of complex industrial structures in strikingly large numbers.

Thus, compared to the 1950s, the 1960s brought greater opportunities for women architects to develop their intellectual-creative potential. This can only be partly explained by the general improvement in the situation of women in Hungary; the internal processes specific to IPARTERV might have also played a part. Biographical data clearly shows that the first generation of female engineers, numbering hundreds of women, had 'matured' into professionals with sizeable experience by the late 1950s. Equipped with professional standing and inspired by the legacy of iconic figures of the 1950s (Johanna Wolf, Eszter Pécsi) the members of this generation of female engineers working at IPARTERV were able to represent their interests far more efficiently in the optimistic atmosphere of the early 1960s. A possible contributing factor might have been the vast size of this generation – when both men and women are included – from which a growing number of professionals of similar age and stage in their careers began to occupy leading positions at IPARTERV at this time.[18] This influx of new, young professionals must have rejuvenated the prevailing professional atmosphere, enabling the company to open to the latest intellectual and social trends, including the process of emancipation.

For young and ambitious women engineers, IPARTERV represented good career opportunities and was particularly appealing because of the company's increasing prestige. Due to their innovative structural systems and monumental new industrial buildings, IPARTERV rose to the forefront of economic policy propaganda. IPARTERV soon gained the reputation of being the most open-minded Hungarian company that was ready and willing to embrace new ideas and able to keep up with international trends, thus achieving the highest aesthetic quality and standard of implementation. The company's expanding international professional ties and growing number of publications further enhanced this position. Hence, IPARTERV became a symbol for the modernization of Hungarian society, a process that was associated by many people with the new phenomena of women's emancipation.

It was no coincidence that Olga Mináry – the first ever woman to win the most important Hungarian architectural award, the Miklós Ybl Prize, awarded by the Association of Hungarian Architects (*Magyar Építőművészek Szövetsége*, MÉSZ) – belonged to the staff of IPARTERV. She earned her degree in 1951 and after a brief period as a teacher she joined IPARTERV in 1955. She was known primarily for residential buildings, yet her '*sachlich*' industrial structures were also highly influential. In addition, she designed the office building for the Aluminium Industrial Trust, a company of great symbolic significance in the Kádár era. She achieved a relatively high position in the corporate hierarchy: by 1968 she had become the head of a group consisting of 40 architects.[19]

Olga Mináry was highly successful in the reorganization of the architectural profession and in developing its international relations: in the 1960s, she was on the only female member on the board of MÉSZ, and in 1967 she represented Hungary at the UIA world congress in Prague with her lecture on the typological issues of industrial architecture.[20] Olga Mináry also used her professional and corporate position to improve the situation of women architects. In a surviving letter, dating from as 1986, she addressed the commission that was responsible for personal issues at MÉSZ requesting the revision of the decade-long discrimination in the employment rights of women architects.[21]

Olga Mináry's role in IPARTERV and the architectural profession suggests a peculiar duality. On the one hand, she was no longer a pioneer 'in an exceptional position,' like Johanna Wolf and Eszter Pécsi had been, and there were other female architects who designed significant buildings that matched the quality and scope of her own. On the other hand, Olga Mináry openly expressed her commitment to women in architecture and industrial engineering and was able to assert herself effectively in professional circles. Thus, she successfully embodied the 'presence' of a female expert in the Hungarian architectural community. Even though she was able to benefit from past achievements (prominent female models) and obviously received more support from her professional environment than her predecessors, in this regard she was a pioneer too.

In addition to her ambition and professional expertise, Olga Mináry benefited from the recognition that Hungarian industrial architecture was acquiring at the time. It is a fair assumption that in the case of IPARTERV, the greater emancipation of Hungarian women architects and the innovative nature of the professional community may have triggered comparable changes within the company. Since IPARTERV was one of the largest design organizations, it may well have served as a model for the rest of the Hungarian architectural scene.

1 Mária Schadt, *Feltörekvő dolgozó nő*: *Nők az ötvenes években* (Pécs: Pro Pannonia, 2002), 14-15.
2 Mária Schadt, "A nők tömeges munkába állítása az iparban az 1950-es évek elején," in Id. and Balázs Sipos (eds.), *Házastárs? Vetélytárs? Munkatárs? A női szerepek változása a 20. századi Magyarországon* (Budapest: Napvilág, 2005), 79-86.
3 Schadt, *'Feltörekvő'*, 14-15.
4 Ibidem, 36-40.
5 Éva Vámos, "A nők részvételének megteremtése a tudományban és technikában Magyarországon," http://www.phil-inst.hu/recepcio/htm/6/609_belso.htm
6 About female architects in pre-war Hungary: Endre Prakfalvi and Pál Ritoók, "Építésznő van néhány' – Építésznők a két világháború közötti Magyarországon", in Áron Tóth (ed.), *És az oszlopok tetején liliomok formáltattak vala' Tanulmányok Bibó István 70. születésnapjára* (Budapest: CentrArt Egyesület, 2011), 297-302.
7 Vámos, "A nők", *Note* 35.
8 About on-site precasting in Hungary: László Mokk, *Prefabricated Concrete for Industrial and Public Structures* (Budapest: Akadémiai kiadó, 1964).
9 Vámos, "A nők", *Note* 35.
10 Máté Major, "Pécsi Eszter halálára," *Magyar Építőművészet* 24, n. 3 (1975), 64.
11 About the related activity of Eszter Pécsi: Gerle György, "A NIK építkezései a hároméves tervben," Új Építészet 1 (1948), 14-15.
12 Mihály Vargha, "Pécsi Eszter és Fischer József," *Építészfórum* 6, 2001. http://epiteszforum.hu/pecsi-eszter-es-fischer-jozsef
13 Ipari épületek tervkatalógusa, *Ipari Építészeti Szemle* 8 (1953).
14 János Bonta, *A magyar építészet egy kortárs szemével 1945-1960* (Budapest: Terc, 2008), 167, 183-9.
15 János M. Rainer, "The Sixties in Hungary – some historical and political approaches" in Id. and György Péteri (eds.), *Muddling Through in the Long 1960s: Ideas and Every Day Life in High Politics and the Lower Classes of Communist Hungary* (Budapest/Trondheim: 1956 Institute, 2005), 4-26.
16 Tibor Valuch, *Magyarország társadalomtörténete a XX. század második felében* (Budapest: Osiris, 2002), 313-7; Tibor Valuch, *A lódentől a miniszoknyáig. Az öltözködés és a divat Magyarországon az 1950-es és az 1960-as évekbe*n (Budapest: 1956 Institute – Corvina Kiadó, 2004)
17 Iván Pető and Sándor Szakács, *A hazai gazdaság négy évtizedének története 1945-1985* (Budapest: Közgazdasági és Jogi Könyvkiadó, 1985), 531-621.
18 This is suggested by the biographical data of the company's architects born around 1930.
19 The autobiography of Olga Mináry – January 1975. The estate of Olga Mináry, Kiscelli Múzeum, Budapest, no inv. nr.
20 Olga Mináry, "Výroba a pracovní prostředí," *Architektura ČSSR* 9 (1967), 581-3.
21 Olga Mináry's letter to the board of the MÉSZ, 18 June 1986. The estate of Olga Mináry, Kiscelli Múzeum, Budapest, no inv. nr.

5.2.3 Famous or Forgotten: Women Architects in Communist Poland

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Abstract
Few Polish women architects attracted widespread recognition during the inter-war years. This situation improved in the People's Republic of Poland (PRL). Although the pre-war feminist movement was not revived, Communist authorities needed qualified workers. They encouraged women to perform 'male' jobs and increased educational opportunities. Professional women soon became common. Whereas women perceived the 'new' professions as a means to acquire status, achieve social emancipation, and become independent, the political situation, economic difficulties, and the persistence of the traditional family model forced women architects to view practice as a means to make a living and not a creative undertaking. State-sponsored daycare relieved women of some parental duties, yet they remained responsible for the family and the home. Official propaganda claimed that professional careers led to self-actualization, yet the difficulties of everyday life hindered this goal. Although half of the architecture students were women, few remained in practice.
A spirit of creative freedom was confined to the state-owned studios, which employed many women. Some also worked in construction administration or education. Nevertheless, Halina Skibniewska, Hanna Adamczewska-Wejchert, Małgorzata Handzelewicz-Wacławek and Jadwiga Grabowska-Hawrylak emerged as important designers, professors and award recipients who influenced Polish architecture after World War II, although most started their careers before the war. For some, teaching provided professional independence and the opportunity to publish. Books like Helena Syrkus' *Społeczne cele urbanizacji* (*The Social Objectives of Urbanization*) or Bożena Maliszowa's *Śródmieście. Wybrane zagadnienia planowania* (*The City Centre. Selected Urban Planning Problems*) influenced a generation. Meanwhile, numerous anonymous women (educated mostly after 1945) labored in the state-owned studios and contributed to the period's ambitious architectural and urban planning projects. Working in supporting roles, they rarely developed independent professional positions. This paper presents the achievements of women architects and demonstrates the relationship between their professional activities and the Communist state's socio-political methods.

Keywords
Women, architecture, Communism, Poland

The contribution of women to the development of Polish architecture is indisputable, albeit insufficiently known or appreciated. Until recently, the subject of women's involvement in the public, political and economic life of the People's Republic of Poland[1] (PRL) did not receive much attention from researchers,[2] and questions regarding women's participation in the built environment remained an 'uncharted area.' Among the hundreds of women architects, only a small number achieved independence and renown. Real autonomy and equality was very rare. The feminist movement did not really emerge in the PRL, nor was the pre-war tradition of the so-called 'emancipationists' continued. Communist authorities strove to secure as many qualified workers as possible to support the growing economy. During this period, women in professional careers became a standard as Poland adopted the Soviet model. Women were not limited to the family, and were to be involved in professional careers and public work. The authorities encouraged women to take up 'male' jobs and increased educational opportunities. Many women perceived the 'new' professions as a means to achieve higher status and social emancipation, and to become independent. However, the complicated political situation, the economic difficulties and persistence of the nuclear family model reduced most women architects' work to a means of making a living instead of the realisation of their creativity and professional development.

Daily life and professional activity

Official propaganda proclaimed that professional careers would ensure self-actualisation for women. However, considering the difficulties of everyday life under socialism, this was an illusion. Women remained responsible for their families, the household and childcare. Consequently, many women viewed professional work as the source of additional income and not as an opportunity for self-actualisation. The PRL attempted to reconcile professional careers with motherhood by organising a network of nurseries and kindergartens. Certainly, without these institutions the professional activities of many women would not have been possible. Although the law guaranteed gender equality, it was standard practice to bypass women regarding promotion and to pay them less. Furthermore, there were no systems in place to diminish the disadvantage posed to their careers by childbearing.[3] Whereas research conducted in the 1980s showed that women's professional activity had been growing since 1945, most women focused on making an income and sidelined their career aspirations.

Women began studying architecture at the Technical University in Warsaw in 1915, and some important women architects, began their careers in the 1920s. Yet until 1945, a career in the construction sector was largely reserved for men. After 1945, the number of women who studied architecture began growing. In the 1980s, half of the architecture students were usually women, but few remained in the profession following graduation. On the whole, as many as 70% of women of working age were professionally active (and even 77% in the white-collar sector),[4] but only few of them were promoted. This was especially true for women architects. The reason for the increased professional activation of women was the greater demand for labour combined with everyday economic pressures. The latter resulted from the low remuneration levels that forced two people in a family to work to maintain a minimum standard of living. Widespread official propaganda in combination with social infrastructure (nurseries and kindergartens) supported this practice.

Until 1983, nearly all architectural activity was concentrated in large, state-run studios. Within these studios, the majority of employees were women.[5] In one of the largest, Miastoprojekt-Poznań, the share of women staff members was 46%. However, most were employed in lower-ranking positions or as technical assistants.[6] The situation was similar in other studios in Poland, where women were reduced to a cheap labour force with no opportunities for promotion[7] and were seldom able to distinguish themselves. Despite proclamations of gender equality, men held most managerial posts.

The renowned and the influential

Nevertheless, a considerable number of women were involved in architectural work. Some of them were continuing careers that had been launched before World War II, but most of them graduated and began working after 1945, including several figures, who greatly impacted Polish architecture. They became renowned designers, professors and award holders, albeit rarely winning the highest accolades (established in 1966, the prestigious Honorary Award of the Polish Association of Architects[8] (SARP), has only been given to four women).[9]

Nevertheless, women architects attempted to improve everyday living conditions in Poland.[10] Barbara Brukalska,[11] for example, initially worked with her architect husband, Stanisław Brukalski, on residential architecture. A graduate of the Warsaw University of Technology, until 1939 she designed simple functional buildings with interesting artistic features, such as her own home and the Warsaw Housing Association[12] (WSM) Colony in Zoliborz District, Warsaw. After World War II, she worked independently, designing the Okęcie Housing Estate and the Dom Matysiaków Retirement Home in Warsaw in the 1960s. Perhaps owing to her leftist views, her colleague

Helena Syrkus[13] fared even better in the communist reality. Also a graduate of the Warsaw University of Technology, she was an architect and urban planner who was deeply devoted to socialism and felt her work in architecture and planning could improve the everyday living conditions. Prior to the war, she and her architect husband Szymon Syrkus contributed to the establishing of CIAM and participated in the 1933 conference in Athens. In the 1930s, she manifested her leftist stance in a housing estate that she designed with her husband for the WSM. Here the architects formulated the principles of a modern housing estate. The same principles were applied in one of the Syrkuses' major achievements, the WSM in Kolo Estate in Warsaw, erected in the 1950s. Helena Syrkus advocated the industrialised building, prefabrication and the use of plastics. Nonetheless, near the end of her life Helena Syrkus changed her mind and called for a more humanistic architecture, with different approaches and requiring different kinds of materials, and looked to a younger generation to carry this out.[14]

In the early 1960s, a new approach to urban planning emerged based on functionalism and the Athens Charter. A commitment to social equality led to attempts to solving the housing problem using industrialised building methods and prescriptive centralised action. Laws specified the housing estate as the basic unit within a residential area. Restrictions were also introduced on the kinds of amenities, green areas and the size of houses and attempts were even made to provide common toilet facilities for groups of families. In the misery of those times, Sady Żoliborskie Estate was groundbreaking for its sensitivity to both human scale and the needs of the prospective residents. Its author, Halina Skibniewska,[15] organized the unpretentious five-storey-high buildings on the site of a former allotment garden and situated a school, nursery and kindergarten on the outskirts of the neighbourhood. On the one hand, it referenced the ideal social housing estate and, on the other, it departed from the *Wohnung für Existenzminimum* concept. Thus it displayed a flexible layout of flats interspersed with quiet spaces between the buildings. The project greatly impacted on modern housing standards in the following years. According to later commentators,

> the success of *Sady Żoliborskie* was a result of its designer's knowledge as well as her social and architectural sensitivity. Everybody liked the estate. Varsovians were going there for walks or to show the place to people from other towns, whilst top-ranking officials invited formal visitors to see it.[16]

Halina Skibniewska, an architect, urban planner and professor of the Warsaw University of Technology, was also involved in parliamentary work as a Member of Parliament and, later, as the Deputy Marshal of the Polish Sejm. Her architect colleagues held various opinions about her official contacts, but it must be stressed that during the martial law in Poland (1981-3), she used her position to help political prisoners and internees.[17] Halina Skibniewska also pioneered accessibility issues and educated many architects, including women, who currently hold high-ranking positions. Among them is Prof. Ewa Kuryłowicz, an architect and co-owner of one of the largest design studios in Poland.

Polish women architects were rarely involved in large-scale urban projects. One exception was Hanna Adamczewska-Wejchert,[18] an architect, urban planner and a teacher associated with the Urban Planning Faculty at the Warsaw University of Technology who collaborated with her husband, Kazimierz Wejchert. She developed master plans for several dozen Polish towns destroyed during the war. In 1950, Hanna Adamczewska-Wejchert and Kazimierz Wejchert won a competition for the construction of a new town, Nowe Tychy, in the Upper Silesian Industrial Region. The town's concept evolved from socialist realism aesthetics to attain modernist expression in the 1960s. The realised plan was an example of a modernist city rooted in the principles of the Athens Charter. Its clear spatial structure was based on several crystallising elements and two axes that constituted the major compositional features. With the construction of Nowe Tychy, Hanna Adamczewska-Wejchert gained recognition. In 1964, she and her husband were awarded a First Degree State Award (and in 1982, they were presented with the Honorary Award of the Polish Association of Architects). When she designed this new town, she split her time between Warsaw and Nowe Tychy. She worked in a newly established studio where many of the designers were architect or architect and engineer couples.[19] The Wejcherts' associate, Janusz A. Włodarczyk, made an interesting remark about the architect's wife being a member of the creative team:

> Madam Professor [Adamczewska-Wejchert] became involved in SARP matters in the 1970s, when she held the position of Deputy Chairwoman for Creative Matters on the SARP Board. This gained her greater autonomy and she was no longer merely the Professor's [Wejchert's] right hand and gendarme.[20]

These words clearly illustrate the difficulties faced by women architects, even by prominent ones, when they worked in collaboration with men.

In the progressing modernisation in Poland of the 1960s and 1970s, the role of women architects was far from easy. The socialist reality, dominated by men, rarely allowed women designers to take the initiative. Jadwiga

Figure 1. Residential and commercial complex at Grunwaldzki Square in Wrocław, designed by Jadwiga Grabowska-Hawrylak. *Source:* photo Ewelina Jędrzejczak

Grabowska-Hawrylak[21] was one of the few women who headed a design team in a state-owned studio. She worked at Miastoprojekt in Wrocław and designed buildings with boldly articulated facades in the 1960s and 1970s, including the block of flats at Kołłątaja Street and the Dom Naukowca building at Grunwaldzki Square. Jadwiga Grabowska-Hawrylak surprised the architectural milieu in Poland in the early 1970s when she built the commercial and residential complex at Grunwaldzki Square, in the centre of Wrocław (Figure 1). By creatively integrating prefabricated elements, she transformed the façades into a sculptural structure of interpenetrating curves that harmonised with the round windows of the pavilions and superstructures on the roofs.[22] Jadwiga Grabowska-Hawrylak expressed her specific views on architecture in the following words:

> In an age of industrialised technologies that inevitably increase standardisation, uniformity and anonymity, one should not cut back on seeking an individual, diversified and distinctive form for architecture – a human dwelling that is closer to earth and nature, a city which one feels nostalgia for but which has been lost somewhere in the pursuit of modernity.[23]

Such creative explorations marked Jadwiga Grabowska-Hawrylak's architectural oeuvre and her teaching at the Wrocław University of Technology. In 1974, she was the first woman architect to receive the Honorary Award of the Polish Association of Architects.

Some women architects, however, developed their own creative approaches marked by individuality and romanticism. An interesting, albeit forgotten figure is Anna Górska,[24] who studied at the Lviv Polytechnic and the Warsaw University of Technology. Hailing from an affluent and educated family, she

Figure 2. Shelter on the Turbacz, designed by Anna Górska, *Source:* photo Paweł Opioła, http://pl.wikipedia.org/wiki/Plik:Schronisko_PTTK_na_Turbaczu_a2.JPG

returned to her hometown, Zakopane, just before the outbreak of World War II. Here she designed beautifully situated shelters in the Tatra Mountains: on Ornak, in Chochołowska Valley and the Five Polish Lakes Valley (Figure 2). Her daughter has said that her work would consume her completely:

> The construction of shelters in the Tatras comprised the most beautiful moments in her life. When they were being built, mother would always drag me to the mountains… she supervised the work all the time. She was very emotional about it because these were her life's major achievement, because she loved the mountains.[25]

Such an independent approach was quite rare. Usually women only assisted their male colleagues.

The unknown and the anonymous

Meanwhile, numerous groups of anonymous hard-working women architects (educated mostly after World War II) were members of nearly all the design teams at the state-owned studios. Their laborious efforts contributed to the realisation of the massive and ambitious architectural and urban planning projects of the post war period. Working alongside their male colleagues,

they usually performed assisting roles that rarely enabled them to establish a strong position in this milieu. In an interview, Jadwiga Grabowska-Hawrylak thus described the situation of women architects in Poland:

> … despite everything, this is still a profession in which men usually achieve, even though so many women study [architecture]. Afterwards, many of them are quite successful, as I can see, in opinion journalism and writing, whilst rarely emerging independently as actual architects. In the world, there is Zaha Hadid and the Japanese Kazuyo Sejima, but they are, actually, the exceptions that prove the rule. Women often appeared in spousal teams. Here in Warsaw these were the Brukalskis and the Syrkuses, and in Wrocław the Tarnawskis, the Tawryczewskis and the Müllers, in those days, of course.[26]

Another leading woman who worked in a couple was Zofia Hansen. She is usually referenced in the context of her husband, Oskar Hansen, an architect, painter and architecture theoretician. He created the concept of Open Form and the Continuous Linear System and contributed to avant-garde art theory. Oskar and Zofia Hansen realised his theoretical ideas in a range of projects, for instance the Słowackiego Estate in Lublin and the Przyczółek Grochowski Estate in Warsaw. He always acknowledged Zofia Hansen as being the co-author, without whom the practical fulfilment of his concepts would have been impossible. Although Zofia Hansen always stood in the shadow of her husband, Oskar Hansen loyally commented about their collaboration. 'First of all, an important observation: not "I designed" but "we designed". I am talking about several co-designers, in particular… about my wife, the brilliant architect Zofia Garlińska-Hansen.'[27] However, this does not change the fact that the prevailing attitudes put men in the foreground of design teams, while women were perceived of as only playing supporting roles.

Publishing

Theoretical work comprised a major part of the work undertaken by women architects. Many renowned women architects were active in schools of architecture, which enabled them to build independent positions and to publish widely. Their books have become a permanent feature of Polish architectural literature. Among these women, one should mention Izabella Wisłocka, an architect and a faculty member of the Warsaw University of Technology, who wrote several books about modern architecture, for example *Awangardowa Architektura Polska 1918-1939* and *Dom i miasto jutra*.[28] Likewise, there is Helena Syrkus, who was also involved in research and theoretical work. Two of her books, *Ku idei osiedla społecznego (1925-75)* and *Społeczne cele urbanizacji. Człowiek i środowisko*[29] made a great impact on architects who were educated after World War II. The latter publication, which is a collection of views on the formation of towns, familiarized Polish readers with Western European urban planning ideas that were not widely known in Poland. Other publications include Hanna Adamczewska-Wejchert's *Kształtowanie zespołów mieszkaniowych* and *Domy atrialne*,[30] or Bożena Maliszowa's book about urban planning, *Śródmieście. Wybrane zagadnienia planowania*.[31].

Summary

Based on these examples, it is possible to formulate a relatively one-sided model of women architects' success. Many of those who won acclaim and had successful careers formed creative teams with their husbands, also renowned architects. Rarely did they reach independent professional success.[32] Gender equality as propagated by the communist authorities was illusory. Together with the civil rights movements, the wave of feminism that emerged in the USA and Western Europe in 1968, did not reach Poland. More so it was depicted in the Polish media as a manifestation of the degeneration of western culture. Gender awareness was not something commonly understood and it was usually suppressed behind the curtain of propaganda campaigns. Despite the gender equality slogans propagated after 1945, communist authorities ultimately aimed to preserve traditional perceptions about the role of women. Perhaps the only way for women architects to be creative and autonomous was to work with men. Women worked just as hard as men, but had to dedicate much of their time to their families. The necessity of dealing with the unpredictability of everyday life in communist times consumed much of their energy and focus. This may be the reason why they usually put prominence and independence second.

1 Polish: *Polska Rzeczpospolita Ludowa*.
2 The history of women was marginal to historical research regarding the PRL. Studies explaining the difficult communist times from a critical feminist perspective have only began emerging. One of the first books which focuses on women's professional, political and public involvement at the time is Małgorzata Fidelis, *Women, Communism and Industrialization in Postwar Poland* (New York: Cambridge University Press, 2010). Another book which should be mentioned is Ewa Toniak, *Olbrzymki: kobiety i socrealizm* ('Giantesses: Women and Socialist Realism') (Kraków: Korporacja Ha!Art, 2008) about the position and role of women in the 1950s. Other, more popular works include *Życie artystek w PRL* ('The Life of Women Artists in the People's Republic of Poland') (Warsaw: Wydawnictwo Czerwone i Czarne, 2013) and Sławomir Koper, *Kobiety władzy PRL* ('Women of Power in the People's Republic of Poland') (Warszawa: Wydawnictwo Czerwone i Czarne, 2012).
3 Roman Wieruszewski, "Prawa kobiet w PRL" ('Womens' Rights in the People's Republic of Poland'), in Elżbieta Konecka (ed.), *Kobiety polskie* ('Polish Women') (Warsaw: Książka i Wiedza, 1986), 228-9.
4 Adam Kurzynowski, *Aktywizacja zawodowa kobiet zamężnych w Polsce Ludowej. Geneza – czynniki rozwoju – perspektywy* ('The Professional Activation of Married Women in the People's Republic of Poland. Genesis, Growth Factors and Prospects') (Warsaw: Książka i Wiedza, 1979), 29-33.
5 According to estimates (based on Central Statistical Office and Polish Association of Architects data), there were approximately 8500 women architects in Poland in 1975. "Zawód architekt. Liczba członków SARP w oddziałach," ('Profession: Architect. Members in the Particular Divisions of the Polish Association of Architects') *Architektura* 2 (1985).
6 Not a single woman was head of a design team. See Adam Hahn (ed.), *Miastoprojekt Poznań 1948-1969. 20 lat w służbie społeczeństwa* ('Miastoprojekt Poznań 1948-1969. 20 Years in Public Service') (Poznań: ZGMK, 1968).
7 Danuta Graniewska, *Żłobki i przedszkola w PRL* ('Nurseries and Kindergartens in the People's Republic of Poland') (Warsaw: IW CRZZ, 1971), 29-30.
8 Polish: *Stowarzyszenie Architektów Polskich*.
9 The only women architects who this accolade has been awarded to were Halina Skibniewska, Hanna Adamczewska-Wejchert, Małgorzata Handzelewicz-Wacławek and Jadwiga Grabowska-Hawrylak.
10 Helena Syrkus, "Ku budownictwu społecznemu mieszkań" ('Towards Social Housing Construction'), in Tadeusz Barucki (ed.), *Fragmenty stuletniej historii 1899-1999. Relacje, wspomnienia, refleksje* ('A Fragment of a Hundred Years' History. Accounts, Reminiscences and Reflections') (Warsaw: Warsaw Division of SARP, 2000), 119-20.
11 Barbara Brukalska (born Barbara Sokołowska, 1899-1980) was an architect and architecture theoretician, a professor of the Warsaw University of Technology and a member of Group Praesens; she was married to architect Stanisław Brukalski.
12 Polish: *Warzawska Spółdzielnia Mieszkaniowa*.
13 Helena Syrkus (born Helena Eliasberg, 1900-82) was a member of Group Praesens and CIAM and a professor of the Warsaw University of Technology; she was married to architect Szymon Syrkus. The works of Helena and Szymon Syrkus are described by various authors, including Józef Piłatowicz in "Poglądy Heleny i Szymona Syrkusów na architekturę w latach 1925-1956," ('Helena and Szymon Syrkus' Views on Architecture in the Years 1925-1956') *Kwartalnik Historii Nauki i Techniki* ('Science and Technology Quarterly') 3-4 (2009), 123-64.
14 'Architekt sam musi być optymistą. Rozmowa Barbary Kalabińskiej z prof. Heleną Syrkus' ('Architects Themselves Must Be Optimists. Barbara Kalabińska's Interview with Professor Helena Syrkus'), *Polityka* 32 (1980), 9.
15 Halina Skibniewska (born Halina Erentz, 1921-2011) was an architect and urban planner, a member of Parliament and Deputy Marshal of the Sejm of the People's Republic of Poland; she was a professor of the Warsaw University of Technology; in 1978, she won the Honorary Award of the Polish Association of Architects in 1978; she was married to architect Zygmunt Skibniewski.
16 Jerzy S. Majewski, *Spacerownik. Warszawa śladami PRL-u* ('A Walker's Guide. Following Traces of the People's Republic of Poland in Warsaw') (Warsaw: Agora SA, 2010).
17 Konrad Kucza-Kuczyński, "Dedykowane Architektom-Kobietom" ('Dedicated to Women Architects'), *Komunikat SARP* [Polish Association of Architects Communication'] 3 (2006), 6-8.
18 Hanna Adamczewska-Wejchert (1920-96) was an urban planner, architect, teacher and professor of the Warsaw University of Technology; she was Deputy Chairwoman of the Board of the Association of Polish Architects; she was married to architect Kazimierz Wejchert, with whom she won the Honorary Award of the Polish Association of Architects in 1982.
19 The architect couples who worked with Hanna Adamczewska-Wejchert were Bożena and Janusz A. Włodarczyk and Maria and Andrzej Czyżewski
20 Janusz A. Włodarczyk, *Pokochać Tychy? czyli Miasto od nowa* ('Loving Tychy, or the City Anew') (Katowice: Katowice School of Technology, 2012), 144.
21 Jadwiga Grabowska-Hawrylak (1920) is an architect, teacher, professor of the Wrocław University of Technology and winner of the Honorary Award of the Polish Association of Architects in 1974; she was married to Henryk Hawrylak, an expert in mining machinery.
22 Michał Mateusz Duda, *Nagroda Honorowa SARP '74* ('The Honorary Award of the Polish Association of Architects '74'), 2014. http://www.sztuka-architektury.pl/index.php?ID_PAGE=1234.
23 T. Przemysław Szafer, *Współczesna architektura polska* ('Contemporary Polish Architecture') (Warsaw: Arkady, 1988), 89.
24 Anna Górska (born Anna Tołwińska, 1914-2002) was an architect, artist and the co-creator of the so-called 'Zakopane revival' style.
25 Anna Górska's daughter, Ewa Górska-Schumacher's account, quoted from Agnieszka Kwiatkowska, *Anna Górska - zawsze patrzyła po swojemu* ('Anna Górska Always Looked at Things in Her Own Way'), 2013. Onet, http://kultura.onet.pl/ksiazki/artykuly/anna-gorska-zawsze-patrzyla-po-swojemu,1,5585254, artykul.html.
26 Bartosz Kuprianowicz, *Rozmowa z Jadwigą Grabowską-Hawrylak (część I)* ('Interview with Jadwiga Grabowska-Hawrylak, Part 1'), 2013. http://kompozytorzy przestrzeni.blogspot.com/2013/05/rozmowa-z-jadwiga-grabowska-hawrylak.html. Jadwiga Grabowska-Hawrylak mentions Maria and Stefan Müller, whose work included the reconstruction of the market square in

Jawor, and Maria and Igor Tawryczewski, who designed the *Kołłątaja* and *Gajowice* Estates in Wrocław.
27 Quoted from Filip Springer, *Zaczyn. O Zofii i Oskarze Hansenach* ('From the Germ. About Zofia and Oskar Hansen') (Krakow/Warsaw: Karakter, 2013), 103. In the book, the author recounts the Hansens' story and reveals the often difficult relationship between them.
28 Izabella Wisłocka, *Awangardowa Architektura Polska 1918-1939* ('Polish Avant-Garde Architecture 1918-1939') (Warsaw: Arkady, 1968). *Dom i miasto jutra* ('The House and City of Tomorrow') (Warsaw: Arkady, 1971).
29 Helena Syrkus, *Ku idei osiedla społecznego 1925-1975* ('Towards the Concept of the Social Housing Estate (1925-1975)') (Warsaw: Państwowe Wydawnictwo Naukowe, 1976). *Społeczne cele urbanizacji. Człowiek i środowisko* ('The Social Objectives of Urbanisation. Man and the Environment') (Warsaw: Państwowe Wydawnictwo Naukowe, 1984). In 1955, H. Syrkus was nominated a professor of the Faculty of Architecture at the Warsaw University of Technology.
30 Hanna Adamczewska-Wejchert, *Kształtowanie zespołów mieszkaniowych* ('The Development of Housing Complexes') (Warsaw: Arkady, 1985). *Domy atrialne* ('Atrium Houses') (Warsaw: Arkady, 1978). Hanna Adamczewska-Wejchert, Kazimierz Wejchert, *Małe miasta* ('Small Towns') (Warsaw: Arkady, 1985).
31 Bożena Maliszowa, *Śródmieście. Wybrane zagadnienia planowania* ('The Downtown. Selected Planning Questions') (Warsaw: Arkady, 1974). A chance for success in both areas (theory and design) was a specific personal and professional situation which entailed collaborating with a professionally active architect husband. Working in a spousal team made it possible to clearly divide responsibilities. Also, it often happened that, after an intensive designing career, women decided to focus exclusively on research, a career path that gave them greater autonomy.
32 This, of course, was not always the case. An exception was, for instance, Izabella Wisłocka, whose husband was an outstanding conductor and composer, or Jadwiga Grabowska-Hawrylak, whose husband was a professor and an expert in mining machinery construction.

5.2.4 Emancipated but Still Accompanied

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Abstract
Slovakia's first architecture school opened in 1946, and the first Slovak women architects, three graduates of this school, began working in 1950. In the 1950s, state ideology and the law guaranteed women equal rights. However, problems resulting from the nation's poor economy and the hesitation of Slovak women, who had emancipation forced upon them by state policy, complicated women's social status. Meanwhile, throughout the 1960s, other processes, including Slovak emancipation, modernization and industrialization, combined with increased building production, the construction of national institutions, and the establishment of specialized planning institutes accelerated women's entry into public life.
Although the building sector provided opportunities for women architects, their situation was far from easy. A woman on a building site could perform a laborer's tasks but she was not expected to supervise construction. Women could move about only when accompanied by a man, such as a classmate, husband or superior officer. The situation in the state design offices was similar. Strict professional discipline and the time-consuming nature of creative work combined with familial responsibilities placed enormous pressure on women architects. After a promising start, many left architecture and worked in supporting roles. In the 1960s, Viera Mecková (1933-) and Ol'ga Ondreičková (1935-) managed to transcend these limitations. Both were studio directors, designed important public buildings and received awards. Mecková worked in a regional centre that carried out state commissions and conceptual projects similar to the work of Superstudio. When she was 35 years old, Ondreičková completed a structure for the World Ski Championships in the High Tatras, which insured her later success. This paper examines these women, their positions, the similarities and dissimilarities in their approaches to architecture, and their careers. It considers the situation of women architects in the former Czechoslovakia and focuses on the strategies that they employed to gain recognition.

Keywords
Women, architects, emancipation, Slovakia, design, recognition

It was only in 1946 that Slovakia's first school of architecture in Bratislava opened its doors. Until that date, no Slovak woman had ever studied architecture. Thus the first wave of female architects burst onto the scene half way through the century, in 1950; the first graduating class included four women. However, in the following years, the number of female graduates in architecture did not increase in proportion to the growing number of students at all Slovak universities. Even though no *numerus clausus* existed in the first decade of the school's existence, the number of female students fluctuated between zero and thirteen.[1] The ratio between male and female students only began to even out in the following decades. The first wave in the emancipation of women in the context of the profession of architecture, therefore, did not take place in the first half of the twentieth century, as occurred in several European countries, but only in the nineteen fifties. In Slovakia, women architects earned their place in the profession over the course of decades, and even today they have not completely succeeded in righting the balance. Despite the fact that the number of students in architecture schools now tilts slightly in favour of women, and that women have attained roughly equal status in the Slovak Chamber of Architects, it is still for the most part male architects who achieve the higher positions and enjoy most significant roles. In fact, the only woman professor in the field of architecture was appointed in 2004, shortly before her retirement. The first woman dean of an architecture school was elected in 2010, and in 2011 the chief architect of the capital city, Bratislava, was, for the first time ever, a woman. This picture incidentally is not characteristic of the architecture profession alone; it corresponds to the overall situation for women in managerial positions in Slovakia.[2]

The marginalization of women in the architecture profession is also evident from the way in which women architects have perceived and continue to view their status. When in 1989 the editors of the Slovak professional magazine *Projekt* prepared a special issue dedicated to the first women/architects, several of them replied that they had no interest in discussing architecture 'from a female perspective.' Nonetheless, the editors managed to compile data on the life and work of thirteen women. Their presentation, however, revealed the continuing confusion around the understanding of 'woman' in the context of architecture. Biographical data did not include their dates of birth and, in the discussions, some referred to themselves in the masculine form (architect, creator) or in neutral terms (person). They distanced themselves from gender issues by explaining that they 'have the right to evaluate their work in the same way the men do'[3] They even saw the focus of a single magazine issue devoted to built work by women/architects 'not as its affirmation, but rather as its degradation.'[4] Without exception, this magazine was dealing with those women who first appeared on the architecture scene at the end of the nineteen fifties and at the beginning of the nineteen sixties, and who managed to create autonomous works of architecture at this point in time.

The nineteen sixties: modernization and political, nationalist and gender emancipation

In the Czechoslovakia of 1948, ruled by the Communist Party, both state ideology and legal measures guaranteed women equality. However, the true social and professional fulfilment of women ran into a host of problems related to the country's economic situation, deeply embedded stereotypes as well as the prevailing attitudes of the majority of women, who often perceived emancipation as a patronizing state policy. In the regions of Moravia and Bohemia in the Czechoslovak Republic, emancipation movements had a solid tradition dating from the inter-war period, when many measures were enacted to support women's equality. Slovakia always represented the more conservative part of the country, and emancipation movement only made modest inroads during the first half of the century. At this time Slovak society was inherently patriarchal and also influenced by fervent Catholicism. For these reasons, female emancipation in Slovakia was only able to take stronger steps forward in the post-war period, most emphatically in the 1960s, when a number of emancipation processes culminated more or less simultaneously. These included the somewhat delayed process of modernization and industrialization, the distancing of Czechoslovak politics from Soviet power and the achievement of national emancipation for Slovakia following the signing of the Czechoslovak federative arrangement in 1969. At the same time, Slovak society became more secularized, a phenomenon which had a direct effect on the process of women's emancipation. It was precisely the parallel timing of these developments that influenced the successful ascent of women not only into 'constructive' professions but also into positions as university-educated management and creative workers. All the aforementioned processes also directly impacted architecture. Modernization, industrialization, and national emancipation resulted in increased building production, the creation of national institutions, and the formation of special, state-run design offices. Increased demand for labour in the building trades opened up possibilities for women's involvement as designers and architects. However, their position was far from straightforward.

Working in design offices

Upon graduation from architecture school in 1952, Mária Krukovská began her design work at *Stavoprojekt Bratislava*. She remembers that almost the entire workforce came by to stare at her during her first few days at work.[5] Indeed, she was the first female architect to work for this enterprise. Krukovská's experience was confirmed by another pioneer, Irina Kedrová, who stated that

> out of curiosity, the renowned male architects came to the quality commission, where a woman was presenting her work, to examine what such a creature would think up in an exclusively male branch and what such a creature actually looked like.[6]

At that time, women architects were beginning their careers in wholly male collectives, usually on the basis of a *billet* which determined their placement in a specific design institute. Even though it was possible to avoid these assignments by a number of means, the conditions in the various institutes were basically interchangeable. The organization of work revolved around precisely defined working hours, including reporting to the workshops in the early hours of the morning, without regard to gender or position, even though women were still expected to look after their families. Although preschool facilities and communal eating facilities existed, and household help was tacitly tolerated, the entire system principally operated under 'a non-understanding of the content of female emancipation' wherein the woman's new status was 'subordinating' rather than 'liberating.'[7]

The situation on the building site was even more complicated. In accordance with communist ideology, a woman could theoretically perform the job of a labourer or site supervisor, but in reality it was assumed that she was incapable of managing construction work. This contradiction is revealed in a variety of accounts recalling how 'a woman had to prove that she was up to competing with male architects.'[8] Several women architects agree that they won confrontations on the building site not only due to their convincing arguments, but also due to their courage or downright impudence.[9]

For women, it was easier to move in this environment when accompanied by a chaperon, such as a male colleague. It is noteworthy that almost all the female architects, who made a name for themselves in the profession, were the wives or life partners of male architects. These men probably had greater understanding for their partners' professional ambitions. However, this was not always an advantage. Double-career marriages were exceptions at that time, and the running of the household was generally subordinate to the man's career. Therefore the majority of professional women architects

Figure 1. Alexander Mlynarčík and Viera Mecková: Istroport, City on the Danube River, 1976. *Source:* Viera Mecková, *Architektúra, knižná väzba, šperk* (Bratislava: SAS, 2003), 39.

remained in the background. In the 1960s, very few women were able to transcend this convention. Their integration into the profession of architecture evolved into two basic types, which were conditioned by a woman architect's work environment, her family background and, in particular, her personality.

The first type comprised of those women architects who naturally accepted the role of being 'the second'. While they formed a significant part of the work collective, they subordinated themselves to the authority of a strong masculine personality. Deliberately or as a result of circumstances, they typified the woman architect during this dynamic time. As one critic observed, 'symbolically and factually women entered en masse the process of architectural creation, at the same time its scope expanded to include several objects that were unusual in the past, such as nurseries, dormitories, wedding halls, health facilities, services outlets…'.[10] And in fact, Mária Krukovská, Štefánia Krumlová, Gabriela Cimmermannová as well as Lýdia Titlová, Marta Skočeková and several other women architects, designed a range of buildings for residential purposes, education, and culture. They also often made a name for themselves through their involvement as members of professional organizations. At the same time, several of them formed couples with the male architects who worked alongside them in the design offices. In their professional work the roles were divided such that the men were responsible for the spatial and constructional aspects, while the women focused on the interior finishing touches.

A second, minority type is composed of women architects who established themselves as 'the firsts.' They worked in positions of head designers, designing and building significant public structures, with their work gaining the

highest professional acknowledgement. From that first generation of women architects in Slovakia, Viera Mecková and Ol'ga Ondreičková achieved this level of professional fulfilment. Of interest is the fact that they both lived and worked together with their architect husbands while succeeding in carrying out independent professional careers. Their cooperation with their husbands however worked in reverse order: the men looked after the interiors while the women undertook the constructions as a whole. Both women married during their time at university and, upon graduation, began to work in design offices where they were immediately assigned their first independent tasks. Further on, however, they developed their own individual professional careers and emancipation strategies.

The firsts

After completing her studies in Bratislava, Viera Mecková (1933) and her husband located to her native region of Žilina, where in 1958 she joined the state design office, *Stavoprojekt*. Her more significant contributions date from the beginning of the 1960s, when she and her husband were successful in a number of architectural competitions. The first larger commissions, a culture centre in Púchov and a bank in Liptovský Mikuláš, were built from 1965 to 1970 according to her designs. At the beginning of the 1970s, her successful career continued with a series of large commissions for cultural centers, administrative buildings, a music conservatory and a house of mourning. From 1972, she also worked, in collaboration with the artist Alexander Mlynarčík and the architect L'ubomír Kupkovič, on an independent project, *Voies et aspects de lendemain* (Ways and views of tomorrow*)*. The utopian designs, straddling architecture and monumental fine art, developed in their spare time, corresponded with the contemporary European wave of visionary architecture represented by Archigram, Coop Himmelblau and Haus-Rucker-Co. (Figure 1) Through this work Mecková became known in an international context. Paradoxically, she acquired her first, great professional recognition for the building of the Central Committee of the Communist Party of Slovakia in Žilina, which she, a non-Party member, designed in 1984. Here she brought her fondness for demanding surfaces to perfection; she covered the whole complex large building in a monochromatic ceramic façade with a distinctive texture. In 2003 Viera Mecková, as the first and until now the only woman architect, was awarded the Emil Belluš Prize, the most significant professional award for lifetime achievement in architecture in Slovakia.

Figure 2. Ol'ga Ondreičková: Communications building, Štrbské Pleso, 1970. *Source:* Archive of the Department of Architecture USTARCH SAV

Ol'ga Ondreičková (1935) began her working career in 1959 in an office which prepared construction documents for mining operations. In 1966, however, she managed to get transferred to *Spojprojekt*, where radio transmitters, communications buildings and post offices were designed. Ondreičková, who had always been most interested in the constructional and operational side of a project, worked there for almost 40 years and designed tens of buildings and radio transmitters. She embarked on her first major commission, the design for the communications building in Štrbské Pleso, in 1969. (Figure 2) At that time, the High Tatras was preparing to host the Classical Ski Disciplines World Championships, to be held there in 1970. Accordingly, this was a prestigious and demanding assignment, requiring space for postal operations, radio, amplification facilities and a transmission tower. Ondreičková not only completed the project in the course of three months, she also created highly functional and aesthetically pleasing architecture. The motif of the massive in fair-face concrete and the contrasting hung glass walls that she used here became a trademark of her later work. Her master works, the post building in Bratislava (1983) and the post building in Prague (1985) were further enhanced with another element, delicate aluminium and glass lamellas. It was this last-mentioned work which brought Ol'ga Ondreičková her greatest acknowledgement, the Association of Slovak Architects Award.

Despite the fact that both these architects belonged to the elite of the profession, their success was never institutionalized; they were never appointed heads of studios or directors of design offices or chairs of professional orga-

nizations. Both however attribute the absence of such career culminations to their own lack of interest in these positions. It is debatable to what extent it all depended on the free decision of the architects and to what extent the legendary 'glass ceiling expressing the invisible obstacles women run into in their professional advancement' came into play.[11]

A further open question is the presence and readability of the female principle in their work. The architectural works of both authors were to a large degree influenced by the restrictions of construction technologies, the limited selection of building materials, as well as the standardization and unification which impacted all areas of building in those times. In spite of this, we can discern in their creations a daringly strong gesture rather than lightness or softness. If we accept the precondition set by the Czech feminist writer Mirek Vodrážka that *muliebris* resides in 'the movement of the lines whose trajectories are accentuated by a fold embracing the creative void', then we could perhaps consider the motif of the entrance arms which are repeated in Mecková's culture centres in Dolný Kubín and Dubnica, or the oval, egg-shaped and ringed shapes of the visionary architecture as the expressions of her feminine creativity.[12] The convex rounding of the façade of the communications building in Štrbske Pleso or the folds of the entrance façade of the Bratislava post building could again reveal something of the female principle in the work of Ol'ga Ondreičková. However, both architects refuse such an interpretation of their works. It is in this case difficult to say whether they fear that 'feminism will tarnish their architectonic career' as Debra Coleman maintains on the basis of American experience, or whether they are 'completely immune to such fears because as persons they must not reveal that they are women,' as Mirek Vodrážka assessed the situation in the Czech Republic.[13] The basic question which everyone who engages in architecture in the Czech and Slovak environment asks themselves, whether it is at all possible and necessary to look on their creation from a gender standpoint, still remains unanswered.

1 Among the first 65 graduates the women architects represent 6%. After 0% in 1951 the number of women students increased to 11% in 1952 and even to 37% 1957, when 13 women graduated among 35 architects.

2 According to research by the FOCUS Centre for Social and Marketing Analysis, in 1995 women made up only 28% of the total number of head and managing workers in large organizations and small businesses. Zora Bútorová et al., *Ona a on na Slovensku. Ženský údel vo svetle verejnej mienky.* (Bratislava: FOCUS, 1995).

3 Irina Kedrová, "Úvahy jednej zo skôr narodených architektiek," *Projekt* 31, n. 2 (1989), 3.

4 Ibidem.

5 Milan Moncol', "O sínusoidách, Rozhovor s architektkou Krukovskou," Ibidem, 9.

6 The quality commission was a closed forum within the office where the projects delegated to individual architects within the design institute were discussed. Irina Kedrová, "Úvahy jednej zo skôr narodených architektiek," Ibidem, 3.

7 Mirek Vodrážka, "Architektura a politika záhybu," in Jiří Ševčík and Monika Mitášová (eds.), *Česká a slovenská architektura 1971-2011* (Praha: VVP AVU, 2014), 485.

8 Milan Moncol', "O sínusoidách," 9.

9 According to the discussion with the architect Viera Mecková, 29 January 2014.

10 L'ubomír Mrňa, "Vstúpili do dejín architektúry," *Projekt* 31, n. 2 (1989), 2-3.

11 Mirek Vodrážka, "Architektura a politika záhybu," 475.

12 Ibidem, 488.

13 Ibidem, 486.

5.2.5 Female Students of Jože Plečnik between Tradition and Modernism

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Abstract
After World War II, in the changed socio-political circumstances of the newly established socialist state of Yugoslavia, in contrast to the pre-war period, almost exclusively female students studied under the leading Slovene neo-classicist architect Jože Plečnik (1872-1957), who at that time still taught at the Ljubljana Faculty of Architecture. The present paper focuses on those women architects who were professionally active when the crucial period in Slovene twentieth-century architecture began and reached its peak in the 1960s. Their professional position and the role of their work in the formation of the new socialist country and the new society will be discussed, with special regard to the following questions: How did Plečnik's female students navigate between his architectural views (influenced/inspired by tradition), foreign influences and the needs and directions of a socialist state, such as solving the housing problem and building public facilities? Why did they, in the time of the socialist regime, study and work under Plečnik, known for his interlacing of architecture and religion? Were they because of their gender seen as less likely to succeed professionally and thus directed to him, since Plečnik's work was not really appreciated at that time, or were they just not enticed by ideological conformity as some of their male colleagues were? Where did they find work after concluding their studies and on what kind of commissions? Furthermore, this paper will shed light on professional as well as personal relationship between Plečnik and his female students. On the basis of archival research and interviews with Plečnik's female students who are still alive the paper will deepen our understanding of the position of women architects in socialist Europe.

Keywords
Architects, women, socialism, Slovenia, Jože Plečnik

Women are only sporadically mentioned in the Slovenian architectural-historical compendiums. In one of the most essential overviews of the twentieth century architecture, Stane Bernik mentions only two buildings designed by women architects.[1] *DOCOMOMO Slovenija_100*[2] presenting 100 of the most important buildings of the twentieth century in Slovenia, includes only two works by women architects. Furthermore, the work entitled *20. stoletje: arhitektura od moderne do sodobne* (Twentieth Century: Architecture from Modern to the Contemporary),[3] which deals with 'the typical creations of past time, characteristic witnesses of space, mentality and architecture,'[4] does not present any achievements by women architects. In addition, the rare presence of female architects in architectural-historical compendiums is limited mostly to the period after World War II, which coincides with the crucial shift of socio-political circumstances in the newly established socialist state of Yugoslavia, of which Slovenia was also a part at that time.

Thus research on the first Slovenian women architects was launched in 2013 in the frame of the RI19+ (Research institute for visual culture from the nineteenth century to the present time in Ljubljana, Slovenia), in order to fill this gap in Slovenian architectural historiography and deepen the understanding of the position of women architects in socialist Europe. Archival material is still being collected[5] and analysed. Consequently, this paper presents some of the conclusions of this 'work in progress', based on an analysis of the archival material and, what is of crucial importance, on interviews with some of the first Slovenian women architects.

In 1919 the University of Ljubljana was founded, in the frame of which department of architecture was established at the Technical Faculty in 1920, where Ivan Vurnik and Jože Plečnik played the leading role. The first woman to graduate with a degree in architecture, was Dušana Šantel, who earned her degree in 1932 (in the seminar of Professor Ivan Vurnik).[6] Before World War II there were only ten female students of architecture in Slovenia (approximately 10% of all students). This paper focuses, however, on the women students of Jože Plečnik (1872-1957), the leading Slovenian neo-classicist architect, in the immediate post-war years. These students found themselves in a special historical moment in Slovenia. Against the framework of the new socialist society, and due to the rise of post-war modernism and conceptions of new architecture, traditional approaches to architecture were fading out. This change culminated in the zenith of Slovenian architectural creativity in the 1960s.

Female architects: 'new' society and new opportunities

Similar to several countries in Europe and beyond, also in Yugoslavia both

5. TWENTIETH CENTURY

World Wars proved to be a turning point in both the improvement of women's social status and in the breakdown of traditional gender segregation. During World War II women worked in a supporting role for the military, replaced male workforce at the 'home front,' and also actively engaged in the war effort in different ways. As Barbara Jancar mentions 'Official Yugoslav sources set the total number of women involved on the side of the Partisans at 2 million.'[7] Furthermore, women assumed the obligations and took on positions that were the domain of men in peacetime. After World War II Yugoslav women gained the right to vote, and within the socialist society they were expected to educate themselves, work outside the home and participate in public and political life.[8] Beginning in 1945, the widely read bulletin of the Women's Antifascist Front of Slovenia, *Naša žena* ('Our Woman'), explained and emphasized the newly acquired gender equality to its female readers. Although Slovenian political leaders did not approve of the rising feminist tendencies,[9] addressing the so-called 'female question' was an important component of the new, equitable society and, as Vida Tomšič, a prominent Slovenian politician noted, it contributed to solving the problem of the workers' status:

> All questions that specifically concern women in the same way reveal the inappropriate status of most people of both genders in the society. Thus, it is about including the aim to improve the status of women in the general tendency to gain a better status for the people in the society.[10]

Architecture played a crucial role in the creation of a new country and a new society. Women contributed to both this profession and nation building, too. After World War II, Plečnik,[11] whose work was marked by an exceptional quality of realisation, an extraordinary level of originality and inventiveness in the use of historical, regional and local elements, still taught at the department of architecture at the University of Ljubljana. Yet, in contrast to the pre-war period, more female than male students studied in his seminar. In the period from 1919 to 1943 there were only five female compared to 41 male students in his seminar, yet, from 1944 to 1956, 22 female and only 17 male students attended it. Six female and five male students of Plečnik concluded their studies after his death.[12] The question arises: considering there were more women studying in technical fields in the post-war period, why did female students prevail in Plečnik's seminars after 1945?[13] The research points to two answers. The first is that women were not successful in acquiring places in other seminars, especially in the one directed by Edvard Ravnikar. As Zlata Jeras Pohl has mentioned, many students desired to enrol in Ravnikar's seminar – she as well. Ravnikar was a former Plečnik's student, known as the most important Slovenian architect of the second half of the twentieth century. In his seminar, both the needs of the new socialist state and the most contemporary architectural conceptions provided the framework for students to deal with architectural issues.

The second answer involves Plečnik's architectural pedagogy and the particular 'attraction' his position had for many women students. In the changed socio-political circumstances of the newly established socialist state, Plečnik, known for his interlacing of architecture and religion, was pushed to both the margins of the educational system and of society. On the occasion of his 80th birthday and against the background of these conditions, he commented in a letter to a friend, Anton Suhadolc, dated 4 February 1952, that: '*die Tone sind verklungen, die Liechter ausgelöscht*' ('The bells have rung, the lights have gone out').[14] Henceforth Plečnik designed monuments (for example, those commemorating the national liberation struggle), several his commissions were from the Church (adaptation of churches, furnishing for baptisteries and chapels etc.), which was then also marginalized in the society.[15] In addition, the new generation of professors placed greater emphasis on contemporary architectural ideas, yet there was little possibility to participate in these international currents in Plečnik's seminar. (Figures 1 and 2) Under his tutelage students were not dealing with the utilitarian architecture that was in the forefront in the seminars taught by Edvard Ravnikar and Edvard Mihevc, another important architect of post-war modernism, as Plečnik was much more interested in architectural themes with symbolic meaning and creating monumental architecture.[16]

Socialist society's proclaimed gender 'equality' notwithstanding, the main calling for women was still motherhood and the raising of the new generation. On the one hand, the prevalence of female students in Plečnik's seminar can perhaps be ascribed to the gender segregation, because female students were less effective in acquiring a place in the seminars taught by Edvard Ravnikar and Edvard Mihevc. On the other hand, an observation made by Alenka Kham Pičman should be considered, namely that female students actively chose Plečnik's more contemplative, artistic environment, and rejected the ambitious, stressful seminars of Ravnikar or Mihevc, who were acquiring all the major projects for the new socialist state, and working on them with their students. Thus, the desire for a greater 'artistic' emphasis on the part of those female students who chose Plečnik should not be overlooked. As Le Corbusier noted, when taking on Edvard Ravnikar on in his studio, Plečnik's students were excellent draftsmen. The research has shown that all of the women who were interviewed[17] were either aware of their artistic abilities or wanted to enrol in the Academy of Fine Arts

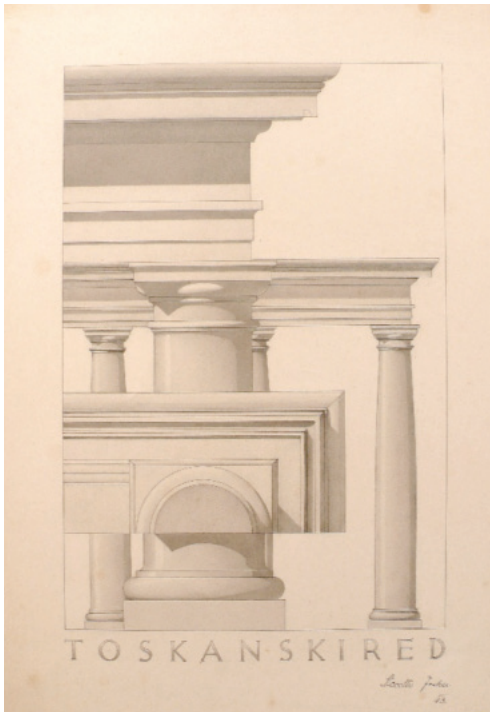

Figure 1. Jakobina Acceto: Tuscan order. *Source:* City Museum of Ljubljana, Collection of Jože Plečnik, identification number: EGO011416.

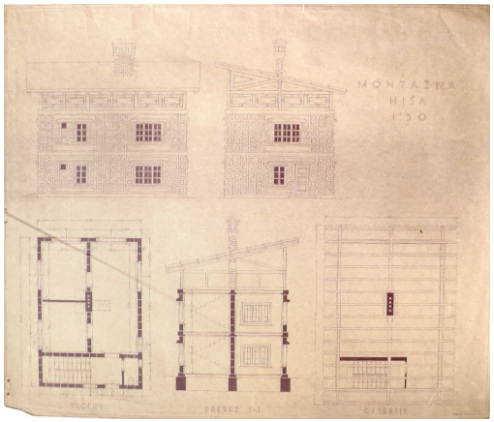

Figure 2. Milica Detoni: The plan for prefabricated house. *Source:* City Museum of Ljubljana, Collection of Jože Plečnik, identification number: EGO011407.

in the first place, yet decided not to because of the poor professional prospects in the fine arts at that time. It is therefore possible that female (as well as male) students chose Plečnik because of his well-known 'artistic' perception of architecture and his traditional educational methods, which included a lot of drawing. Several of Plečnik's students later acquired a formal education in the fine arts, such as the painters Alenka Kham Pičman, Marija Grafenauer Vogelnik, and Vladimira Bratuž, the latter of which is now known more for her work as a sculptor than as an architect. It seems that those who decided for Plečnik's seminars were of a more artistic nature or at least were less opportunistic and enticed by ideological conformity than some of their male colleagues.

Another interesting fact reveals itself when considering Plečnik's students in regards to the first Slovenian women architects. Although information about their backgrounds is not extensive, in a few instances it does reveal that the situation is similar to the findings of Svetic,[18] who has investigated the first women architects in Serbia, which was once a part of Yugoslavia. Svetic concludes that the first women architects in Serbia were either married to a more prominent architect or had a father, who was not necessarily an architect, but was certainly an 'educated and respected citizen at a higher level of the then social scale'.[19] The situation is similar in the case of Plečnik's post-war women architecture students. Špela Jurkovič Valentinčič, for example, was the daughter of architect Janez Valentinčič, Plečnik's assistant, and she had a successful career in the monument conservation field. Magda Fornazarič Kocmut, the spouse of architect Ivan Kocmut, was an employee in *Komunaprojekt*, one of the largest architecture offices in Slovenia, and designed numerous utilitarian buildings. Marta Ravnikar Ivanšek, the sister of Edvard Ravnikar, had an interesting career working in major Slovenian architectural offices (*Dom* and *Slovenijaprojekt*), in architectural offices in Stockholm and finally with her husband, France Ivanšek, also an architect, in their own office. Meanwhile, Mira Ružič Kraigher was not married to an architect, but rather to one of the most important politicians of the time, Boris Kraigher, the President of the Executive Council of the National Assembly. Until his death in 1967, she worked on the complex regional planning issues in the Kvarner region. Thus, in spite of studying in a milieu influenced by tradition, religion (or as Alenka Kham Pičman put it, by 'cosmic sacrality') and symbolical monumentality, there were several women architects who were able to embrace contemporary foreign influences and have a successful career. In doing so they designed housing and building public facilities to fulfil the architectural needs of the socialist state.

Besides these women architects, a few others should also be mentioned, although it cannot be determined at this time if they had a close relative who was either a male architect or had an influential position. These include Majda Neřima, who was the main architect of the town of Kamnik, and Lidija Podbregar, who worked in major architecture companies (*Slovenijaprojekt*, *Gradis*, *Giposs* etc.) and created several utilitarian buildings (housing, offices, and shopping centres). In addition to the interviews that have been conducted, these examples do not support the assumption that women architects were not expected to have a successful professional career in architecture, and that women did not play an important role in twentieth century Slovenian architecture. The interviews have revealed that if they had problems with their studies or in their career (especially at the beginning) those problems have to be ascribed not to the fact that they were female students, but rather to the fact that they were Plečnik's students. The latter was clearly expressed in the interviews, and the question if those difficulties can be ascribed to the fact they were women was clearly negated. Kham Pičman and Jurkovič Valentinčič even stated that that students from other seminars and professors would make fun of them and other (also male) stu-

dents from Plečnik's seminar. Plečnik, tradition and religion were certainly not 'fashionable' at that revolutionary time and did not improve the chances of women who wanted to become architects in the new socialist state. Many of Plečnik's students (although not exclusively) worked in fields of architecture that might have appeared to be less significant (marginal) when compared to other architectural tasks which were perceived as being crucial to the creation of a the socialist country: in design and especially in education in this field (Zlata Vidmar Kališnik, Milena Gerk Jamšek, Bogomila Avčin Pogačnik, Jakobina Acetto, etc.), which was in an early stage in Slovenia at this time; in monument conservation (Staša Blažic Gjura, Špela Valentinčič Jurkovič, Zlata Jeras Pohl, Alenka Lenarcic Jeršek, Nataša Stupar Šumi etc.), which was traditionally associated with art history rather than architecture; or sacred architecture, which was marginalized due to the then political and ideological situation (Erna Tomšic).

A LACK OF NOTABLE WOMEN ARCHITECTS?

Nevertheless a number of Plečnik's students[20] became successful professionals, also in the previously mentioned fields of design, monument conservation and sacred architecture. Thus, the main problem seems not to be that no notable Slovenian women architects existed, but that architectural historiography has ignored them, possibly also due to the still present positivism in the Slovenian art history. Thus, along with (opposite to the post-war years, in, again, changed socio-political situation) almost glorifying Plečnik and Ravnikar, the forgotten women architects deserve just as much attention and in-depth research as their male counterparts. Only then can a relevant evaluation of the Slovenian architecture of the twentieth century be complete.

1 Stane Bernik, *Slovenska arhitektura dvajsetega stoletja. Slovene architecture of the twentieth century* (Ljubljana: Mestna galerija, 2004).
2 Nataša Koselj (ed.), *DOCOMOMO Slovenija_100* (Ljubljana: Docomomo Slovenija; AB, 2010).
3 Damjana Prešeren (ed.), *20. stoletje: arhitektura od modern do sodobne* (Ljubljana: Zavod za varstvo kulturne dediščine Slovenije, 2001).
4 Gojko Zupan, "Arhitektura dvajsetega stoletja," in Damjana Prešeren (ed.), *20. stoletje: arhitektura od modern do sodobne* (Ljubljana: Zavod za varstvo kulturne dediščine Slovenije, 2001), 5.
5 Of all in the here-discussed group of architects only the legacy of one female architect is presereved at the Museum of Architecture and Design in Ljubljana. It is the legacy of Gizela Šuklje, one of the five pre-war students of Jože Ple˘cnik.
6 The archive of Faculty of Architecture, University of Ljubljana.
7 Barbara Jancar, "Women in the Yugoslav National Liberation Movement: An Overview," Studies in Comparative Communism 14, nn. 2-3 (1981), 144-64. Barbara Jancar-Webster, *Women and Revolution in Yugoslavia 1941-1945* (Denver, Colorado: Arden Press, 1990).
8 MartaVerginella, *Ženska obrobja. Vpis žensk v zgodovino Slovencev* (Ljubljana: Delta, 2006); Mateja Jeraj, *Slovenke na prehodu v socializem* (Ljubljana: Arhiv Republike Slovenije, 2005).
9 Verginella, *Ženska obrobja*, 57.
10 Vida Tomšič, *Ženska, delo, družina, družba* (Ljubljana: Komunist, 1978), 235.
11 Plečnik's work, distributed between Vienna, Prague and Ljubljana, ranges from monuments and buildings to major planning projects.
12 Marko Pozzetto, *Plečnikova šola v Ljubljani* (Ljubljana: Arhitekturni muzej, 1996), 27.
13 Before World War II there were only ten female students of architecture in Slovenia (approximately 10% of all students). The archive of Faculty of Architecture, University of Ljubljana.
14 Peter Krečič (ed.), Plečnik *in jaz. Pisma Jožeta* Plečnika *Antonu Suhadolcu. Suhadol˘cevi spomini na* Plečnika (Trst: Založništvo tržaškega tiska, 1985), 127.
15 Peter Krečič, *Jože* Plečnik (Ljubljana: DZS, 1992), 355-6.
16 Ibidem, 359. See also: Damijan Prelovšek, Plečnik*ova sakralna umetnost* (Koper: Ognjišče, 1999); Damijan Prelovšek, *Josip* Plečnik*: an architect of Prague castle* (Prague: Prague Castle Administration, 1997).
17 Alenka Kham Pičman, Zlata Jeras Pohl and Špela Valentinčič Jurkovič were interviewed in February 2014.
18 Svetic, "Building a Room of One's Own: An Insight into the Origins of Women Architects in Serbia" (paper presented at the sixth annual IAS-STS conference, Graz, Austria, 24-25 May 2007). The discussion of Svetic is based on Linda Nochlin's theory

that female artists had artists for fathers or were in a relationship with more prominent architect. Linda Nochlin, "Why Have There Been No Great Women Artists?," *ARTnews* 69 (1971), 22-39, 67-71.

19 Svetic, "Building a Room of One's Own," 6.

20 There is almost no data on some of Pleˇcnik's female students, with the exception of the year of their birth and degree (for example Marjanca Kanc, Katarina Grasseli, Marjeta Pirkmajer Kregar, Mira Robič Bohinjec, Sonja Mlakar Ivanc, Nataša Seršen, Majda Novak Bitenc, Mira Lozej and Milica Detoni). Their sketches, drawings and plans from the time they were in the seminar of Pleˇcnik are preserved in City Museum of Ljubljana (Collection of Jože Plečnik).

5.3 Missing Histories: Artistic Dislocations of Architecture in Socialist Regimes

SESSION CHAIRS:
SRDJAN JOVANOVIC WEISS
Columbia University, USA
CARMEN POPESCU
Université Paris-Sorbonne, France

In both heavy and less rigid socialist regimes, architectural discourses were often the object of orchestrated tight control. Much design and comment on architectural thinking and production at the time followed a narrative that was approved – if not scripted – by the bureaucrats of ideology. However, in order to avoid control over architectural language in socialist regimes, the practice of architecture frequently found a new voice through semantics that veered away from the usual course of the discipline. A parallel approach that specifically addressed politics employed the appropriation of artistic mediums. Art confronted unwritten rules in architectural discourse in a different way, filling in the blanks with meaningful interpretations. Various forms of visual arts – from videos, photography and performances, to fictionalized narratives used in movies and novels – allowed an introspection of crucial architectural issues which would have been difficult otherwise. Even works which were considered at the time to be purely a reflection of propagandistic rhetoric (Shostakovich's Cheriomushky, for example) raised questions about the limitations of the role that architecture could assume in socialist society. Resituated in a different semantic realm by the artistic gaze, architectural discourse was not only distorted but also dislocated. This process of deconstruction revealed architectural problems, allowing them to step into the public domain. Art, therefore, not only questioned the nature and role of architecture in those times, and the constraints shaping it, but also provided a space of (perhaps limited) freedom for debate.

We invite papers on art forms that challenged issues in architecture under socialist regimes. We intend to extend the traditional limits of Eastern

European regimes and include countries like China and Cuba. We propose, at the same time, to extend the chronological frame and go beyond the fundamental moment of 1989, requesting papers that explore how the remains of socialist ideas of architecture are reciprocated by contemporary art practices engaged in recent history. How have art works, created before and after 1989 by both architects and artists, shaped a critical discourse on the architecture of the socialist regimes? What means were employed in this critical process?

5.3.1 Scene(s) for New Heritage?

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Abstract

"Scene for New Heritage" is the title of a video trilogy by David Maljković, Croatian artist in whose work scenes from Yugoslav modernism are featured prominently. The trilogy dislocates the famous partisan monument 'Petrova Gora', the unfinished anti-fascist memorial complex authored by Vojin Bakić, into the future, as a place for new discovery for the future generations in the twenty-second century. Similarly, Aleksandra Domanovic's 'Monument to Revolution' re-locates the anti-fascist monument of Ivan Sabolic *Bubanj* to the new setting of Morocco, as part of a work commissioned for the fourth Marrakesh Biennale. These are just two examples of the many artists' projects that appeared in recent years that take the visual heritage of Yugoslav socialism as a starting point for artistic work. Anti-fascist memorials from the period especially became a continuous inspiration for artists, either as photographic objects, or as ready-mades. Additionally, the new word, *spomenik*, meaning monument in Serbian and Croatian, was introduced in the interpretation and text in English, as a certain linguistic ready-made. In the paper "Scene(s) for New Heritage?" I will look more closely into how the contemporary artistic practice today takes anti-fascist Yugoslav memorials as starting points for its work in order to analyze how their legacy is being interpreted, and whether this new reading can open a new way of understanding memorial production during the time of Yugoslavia, and a way out of the current revisionist practices that have seen many of those monuments destroyed, neglected or even reshaped.

5.3.2 Radical Space for Radical Time: The Intersections of Architecture and Performance Art in Estonia, 1986-91

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Abstract
The proposed talk will focus on the possibility of radical space in the intersection of architecture and performance art, and the search for analytical tools to tackle the critical architecture and art practices of 1986-1994, the 'transition' period that does not readily fit into existing interpretative models of either late socialist or democratic-neoliberalist reindependent state(s). The case is illustrated by Group T – the first intentionally interdisciplinary group in Estonia intitated by architects Raoul Kurvitz and Urmas Muru in the mid-1980s, inviting artists, poets, musicians and a philosopher to collaborate on artistic production ranging from conceptual architecture to neoexpressionist paintings, performances, and music events. The group's creative inspiration was drawn from sources as diverse as Bataille, Nietzsche and freshly arrived poststructuralist theories on the one hand, and relations to the local alternative music scene on the other. The semi-violent mystical-ritualistic performances – the events among Group T's activities that attracted the most public interest – have usually been interpreted as turning one's back to social issues in the turbulent times. However, regarding these in interaction with their conceptual architecture and manifestoes, their artistic production reveals itself as utterly socially aware but displaying an idiosyncratically critical position. Group T's impulse to go against the (physical) body is parallel with their going against the social body, as personified by architecture, essentially a productive and thus controlling agent. This anarchism-informed position does not comply with late socialism's performative gestures as described by Alexei Yurchak, nor do they share the national romanticist sentiment of the 1990s. Group T's efforts at creating an alternative space reveal the antagonisms of the period between two social formations, at the same time questioning architecture itself.

Keywords
1980s, Estonia, Socialism, performance, conceptual, drawings

In the context of artistic dislocations of architectural practice, the aim of this article is to bring to focus a lesser researched episode of Estonian architecture and art history – the activities of Group T (Rühm T), an interdisciplinary creative grouping active from 1986 until 1991. As a group with a wide range of creative output spanning from architecture projects and conceptual architectural drawings to neo-expressionist paintings, spatial installations, performances, and music events, it offers a possibility to examine the relationship of performed space to architectural space. How can the understanding and conception of architecture and architectural space be informed by performance art practice, a completely different and seemingly discrete form of artistic production? The case of Group T also brings out the problem of the social position of architecture at the very end of the 1980s and the beginning of 1990s – and, for that matter, the problem of addressing the position of any critical cultural practice during this in-between era. What might constitute a critical architecture at this point of time between the crumbling Soviet power and the reinstatement of the longed-for independence? We do not seem to have any readily applicable frameworks or models for that short but certainly crucial period of time. The interpretational frameworks of the period commonly termed 'late Soviet', meaning 1970s and the first half of the 1980s, do not seem to be fully viable any more. Neither can the practices in question be related to the fiercely neoliberalist social context of the 1990s when laissez-faire policies were considered the fastest way to improve the near catastrophic economic situation inherited from the Soviet collapse, and regained independence fuelled nationalistic attitudes. This article certainly does not have a fully-fledged answer in a form of a comprehensive model, but the example of Group T may be useful to pose some questions for further examination.

Group T – a 'curated' affiliation
Group T was formed at the initiative of two core members – Raoul Kurvitz and Urmas Muru, who had graduated as architects from the Estonian State Institute of Art at the beginning of 1980s. Soviet planning policy meant that all graduates were assigned a workplace, in their case jobs widely considered as the least creative for an architect – respectively, at the Estonian Industrial Project office (Kurvitz), and the Estonian branch of Tsentrosojuzprojekt (Muru). Both were large state designing offices specializing in infrastructure and industrial buildings. The design process was slow, the assignments – boiler houses, railroad infrastructure, electricity subplants, etc – highly preordained and restricted in nature, and more often than not the laborious design work did not lead even to an actual building but remained

on paper as evidence of five-year plan accomplished, its actual implementation postponed to an unforeseeable future.[1] But the young architects had a different vision of architect's role and scope before their eyes. After the pragmatism and rather technocratic official modernization policies of the 1960s, the avant-garde generation of the following decade – the so-called Tallinn school – had rebelled, establishing the role of architect not only as an intellectual but also as an artist with their exhibitions of conceptual architecture and artworks, and polemical articles in the media. By 1981 they had managed to push through a small revolution in the institutional sphere as well with some of them being elected to the Architects' Union board.[2] One of the leaders of the Tallinn school, Vilen Künnapu was of particularly important influence to young Raoul Kurvitz, who had practiced as his assistant during the studies, and later credited him as the one who had opened his eyes toward arts.[3]

So after a couple of years of unimaginative office work, Kurvitz set out to form a grouping of his own. But the aim was to move beyond the realm of architecture, to form an interdisciplinary arts group for renewal of the whole sphere of visual culture. In this purpose he set out to consciously search for likeminded people from the other cultural fields, devising his role more or less as a curator of the group.[4] The closest collaborator in this initial conceptualization was Urmas Muru with whom he had already submitted a couple of competition entries during their architecture studies. The launch of Group T was an outdoor exhibition in the back yard of Adamson-Eric Museum in the winter of 1986 with architects Peeter Pere and Urmas Mikk, painter Lilian Mosolainen, and poet Max Harnoon (philosopher Hasso Krull's alter ego). The second exhibition a year later at the Tammsaare Museum saw the group expanded to include musicians Ariel Lagle and Margo Kõlar, graphic artist Anu Kalm, painters Tiina Tammetalu and Valev Sein, and the poet Andres Allan. For the third exhibition, painter Ove Büttner joined, and audio was produced by members of an indie rock band Röövel Ööbik, formed in the same year of 1987 to achieve some noticeable if brief international recognition at the beginning of the 1990s. In the following years, Group T came to be defined as a loose, fluctuating collective of creative individuals, occasionally stressing the openness of the membersip to the extent that any interested passer-by who had the will and ideas was welcomed to contribute to an ongoing performance.[5] In practice however, while this could perhaps be true of the "Guide to Intronomadism" exhibition of 1991, devised as a continuous two-week series of performances in the Tallinn Art Hall, in most cases, the scenarios were quite prescribed and the activities self-contained enough to draw a clear line between participants and onlookers. Nevertheless, over time the importance of paintings and installations as object-based art diminished and process-based works took centre stage, with painters receding from the activities, being replaced by actor Maria Avdjushko, stage designer Ene-Liis Semper, and photographer Tarvo Hanno Varres. At the same time, the architect members continued their design practice, with Raoul Kurvitz and Urmas Muru winning the competition for Tallinn fashion house in 1985 and completing the design in 1988.[6] Kurvitz, Muru and Pere were also submitting proposals for numerous other design competitions, and advancing architectural drawing as a genre in its own right. At the very beginning of the 1990s the three formed a joint design office KMP, later to be reformed to Architects Muru & Pere.

Performing space, subverting places

The easy explanation for turning away from architecture and towards visual art and performance was surely the frustration with normal architectural practice, a desire to achieve a more instantaneous communication: Kurvitz claimed that architecture, under the circumstances, was an ineffective means of communicating ideas about space,[7] and Muru has retrospectively admitted the same, stating that art was simply a swifter way towards self-realization.[8] But the essence of the ideas to be communicated was of no lesser importance. The central, recurring elements in Group T's performances were often so overloaded with disparate and obscure citations and references as to be decidedly illegible, with violence and (self)destruction, and negation of possibility of meaning. This has mainly been interpreted from the point of view of the performer, the subject, relating the content to Jungian subconscious, sadomasochism, feelings of guilt, and the like.[9] Yet this commonly held interpretation has overlooked the aspect of space and the performing subjects' relationship to their location. RoseLee Goldberg who collaborated with Bernard Tschumi in 1974-5 with the latter's diploma unit at the Architectural Association,[10] leading to an exhibition "Space: A Thousand Words" investigating the relationship of architecture and performance art, has conceptualized 'space as praxis', claiming that spatially-informed performance art enters simultaneously into physical and discursive relationships.[11] The pieces of Group T similarly had a very physical, sensual level – 'The space of the nomad is rather sonorous and tactile than visual, that is why the exhibition consists of intensive events instead of objects,' as Hasso Krull explained[12] – but they nevertheless engage in discourses informed by the chosen locations that tended to be culturally highly loaded.

The very first exhibition, mounted literally in snow in the yard of the Adamson-Eric museum, was both the young rebels' triumphant admission directly

to institutional premises as well as a violation of all normal conventions about exhibition-making and handling art – a markedly sadomasochistic indifference towards their own oeuvre but also latently violent towards the institution and its spatial premises. The second exhibition took a step further: the home environment of the house-museum of Tammsaare, author of some of the core novels of Estonian national identity, was taken over by an industrial wasteland of rusted metal, found wood, and barbed wire. The opening performance involved running head-wise against the wall. The third exhibition took place at the indoor premises of Song festival grounds. In 1988, the year of the 'Singing revolution,'[13] the location could not have been more symbolic. Whereas the grounds of the song festival are a spatial setting that takes on its actual significance when the tens of thousands of singers gather under its canopy, in the opening performance of Group T's exhibition this normal usage was countered by a sole performer on the back side of the building, whose violin playing was, furthermore, disrupted by his suit suddenly catching fire. Later the same year there was a performance event in the Writers' Union, in the so-called Hall of the Black Ceiling – again a highly symbolically loaded location in terms of Estonian intellectual culture since 1960s. In order to clash and short-circuit meaningful references, the event entitled "Meeting the Black Lady" referred to a painting of René Magritte as well as to a local myth of a lady walled into the castle of Haapsalu. But it again, once more, tried to undo the space, this time by complete blackout, whereas the performance effectively consisted of a chaotic aural mix of female screams and recitals in German and English, with four bright flashes of light meanwhile.

Blacking out the Black Ceiling Hall found a parallel four years later when Urmas Muru, acting as a curator of the second annual exhibition of the Soros Centre for Contemporary Arts – significantly entitled Non-existent Art –, exhibited the main hall of the Tallinn Art hall as empty and painted in black. This may be read as the culmination of a series of interventions to this most important local art space designed by Edgar Johan Kuusik and Anton Soans in 1934 – a space that may be read as sacred both in its form – with an apse at the end of the main top-lit hall – and its position in local art world. Two major performance events took place here – "A Guide to Intronomadism", a nonstop performance programme lasting for two weeks in February 1991, and "Eleonora" in 1992, an event that involved also local and international invited artists. The various performances included a number of violent acts towards the space, such as covering one floor in gritstone, to bury Urmas Muru underneath it; piling up prefab industrial elements and starting a fire on top; dismounting the glass ceiling panels to enable descent from the ceiling; smashing some water-filled buckets to release the water; not to mention an accidental pickaxe hole in the wall.[14] Such direct architectural violence fits in with the overall scripts that could sometimes be read as rituals of sacrifice and purging with a cathartic outcome but sometimes as a general losing of solid ground, disintegration of the structural, and overcoming by the amorphous, meaningless, and discoordinated. The latter may be illustrated by one of the performances at the "Eleonora" event, where firstly, in a darkened room with flashing lights two men were hurrying around with large orthogonal metal structures on wheels[15] with no clearly discernible aim or direction, often colliding. Then the whole floor space was taken over by large black plastic sheet, amorphously waving and somehow threatening. At the same time, Urmas Muru was hanging on a rope from the ceiling, and Hasso Krull was reciting verses from Comte de Lautréamont's *Les Chants de Maldoror*.[16] The pristine modernist temple of art was effectively conquered by a completely different configuration of time-space, conceptualized in Deleuzian terms as 'a slippery space devoid of horizon, where heaven and earth merge into one endlessly continuous field, its folds full of air – an absolutely continuous, historically unarticulate interiority'.[17]

Technodelic expressionism to counter neo-national romanticism

The performances were driven by discontent with physical architectural space in its rational articulation but they also worked on discursive level, against architecture as productive and symbolising agent. Thus they expressed a certain criticism towards late Soviet reality as well as towards the previous generation's engaging yet nationalist-nostalgic resistant position. 'We express the sentiment of our generation – our attitude is rather cool and devoid of pathos,' exclaimed Muru in one of the earliest interviews.[18] They called the dissent of the previous generation 'fruitless' and their ideals an imaginary 'pure, bright, uncompromising realm of harmony that is thoroughly different than the actual world they are producing – a discrepancy that could only increase estrangement.'[19] Their "Manifesto for Technodelic Expressionism" – the name coined by merging 'technology' and 'psychedelic' –, published in the peak of the national awakening in 1988, shows both criticism of local architectural tradition, and willingness to embrace the actual changing reality without any illusions, in all of its contemporary industrialist forms. They diagnose the local tradition as an outcome of the national subconscious:

> The indifferent and harsh nature that has conditioned the Estonian temperament and biological code, has resulted in a static, inward-

> looking architecture. Yet, this austerity is not our permanent feature: the same energy may be turned outwards instead, to unleash the stern movements.[20]

Instead they call for architecture that would express individual consciousness, erotic passions, desires and hallucinations, at the same time juxtaposing the subjectivity with awareness of the inevitable prevalence of the technological.[21]

The architecture accompanying the manifesto took passionate and rather diverse forms. Glorifying 'space as a state of consciousness,'[22] Group T architects preferred to present sketches and drawings instead of actual elevations, let alone plans or sections.[23] The sketches of Raoul Kurvitz but even more those of Peeter Pere demonstrate passion or rather rage against architecture comparable to the sentiments of some of their performances. Pere's use of newspapers instead of tracing paper is a sign of banalizing the dignified profession as well as adding the level of urgent social issues of the turbulent times. The buildings are rendered in thick lines of black or colourful gouache, ignoring precision and making the forms practically illegible. The drawings of Muru are much more elaborate – dynamic technicist black buildings seem to be caught speeding through some inarticulate space-time. The lines are fine, calculated and cool, and the buildings seem thin, or somehow devoid of spatiality. These are not much more than empty shells belonging to a posthumanist era, and no wonder they have been described as memories,[24] residue,[25] or ruins.[26] Muru has claimed growing unimportance of the actual properties of any architectural shell, conceiving architecture as pure facilitator of the action taking place in it[27] – but it is hard to imagine any activities in these buildings.

A CRITICAL ATTITUDE IN TIMES OF RADICAL INDETERMINACY

Could this kind of radical, self-destructive architecture be interpreted as somehow characteristic of the era of radical social change, a moment between two societal formations? To be sure, this was by no means a mainstream position. The expectations of the general public, and those of a significant part of the cultural sphere too, were fuelled by national sentiments,[28] and a restitutive attitude aiming at reinstating the independent republic all together with its previous legislative order and social relationships. The architectural mainstream took a decisive turn towards a sober, no-nonsense attitude, eager to build a new society – indeed, Mart Kalm has characterized it as the era of the 'good practitioner.'[29] Still, whereas internationally deconstructivist impulses in architecture have been seen as elitist and self-referential stepping away of societal concerns,[30] could it be that in late and post-Socialist setting the similar impulses actually served a purpose, namely that of keeping the possibilities open and resisting a too swift and unproblematized change of gear from one ideological setting to another, no less clear-cut one? In most post-Socialist countries, collapsing totalitarianism was swiftly replaced with nationalism as the new 'ideological cement;'[31] the peculiarity of Estonia was the pairing of national sovereignity with radically liberal right-wing economy politics, presented as a combination so self-evident that one merged seamlessly into another.[32] The in-between space of the two formations was deliberately diminished, out of a desire to overcome the transitional period of entropy as fast as possible. Yet it is this in-between period that presents the greatest possibilities of negotiation and constitutes a true democracy, conceptualized by Claude Lefort as a radical emptiness, a space for constant negotiations where power belongs to no one. For Lefort, democracy is instituted and sustained by the dissolution of the markers of certainty. [33] It inaugurates a history in which people experience a fundamental indeterminacy as to the basis of power, law and knowledge, and as to the basis of relations between self and other. This essence of democracy as an empty space is clearly visible in the post-Socialist transition[34] although according to a number of commentators, this productive gap closed fairly quickly.[35] In this light, the activities of Group T, aimed at destabilizing architecture as a productive agent of power relations and symbolic order – architecture as an activity that in its 'normal mode' would tend to be rather orientated towards closing of this radical emptiness – can be read as sharp dialogue with its time. The artistic means employed certainly enabled a more intense, more effective, and at the same time more ambivalent critique than architectural production would have offered. But it also seems that the potential for interaction of artistic and architectural activities was not fully realized, the relationship was not fully conceptualized, and the two spheres informed each other indirectly. The decision to disband in 1991 may be seen as testifying to the core members' diverging visions about fruitful strategies under the new, altered circumstances. Raoul Kurvitz continued a career as solo artist, creating some of the most remarkable spatially-informed installative works of the 1990s. Urmas Muru and Peeter Pere went on to pursue a 'normal' architecture practice, occasionally managing to find clients with tastes unconventional enough for some critical and experimental projects in dwellings and public buildings. Nevertheless, the practices of Group T point out the necessity to address the cultural production in-between two social formations in their own right, and problematize the conventional chronological division around the single year 1989.

1 Conversation with Urmas Muru and Peeter Pere, 21 November 2012.
2 See Andres Kurg, "The Turning point in 1978. Architects of the Tallinn School and their late Socialist public," in Ines Weizman (ed.), *Architecture and the Paradox of Dissidence* (London: Taylor and Francis, 2013), 19-32. For a comprehensive overview of the Tallinn School, see Andres Kurg and Mari Laanemets (eds.), *Environments, Projects, Concepts. Architects of the Tallinn School 1972-1985* (Tallinn: Museum of Estonian Architecture, 2008).
3 Kärt Hellerma, "Kunst on tunne," *Noorus* 10 (1988), 40-1.
4 Raoul Kurvitz (Tallinn: Eesti Kunstimuuseum, 2013). Video interview on DVD accompanying the catalogue.
5 Conversation with Raoul Kurvitz, 6 December 2012.
6 See *Arhitektuurikroonika* 1988 (Tallinn: Ehituse TUI, 1991), 86-7.
7 Kärt Hellerma, "Kunst on tunne".
8 Ants Juske, "Rühm T juubel Kunstimuuseumis," *Eesti Päevaleht*, October 19, 1996.
9 See Hanno Soans, "Peegel ja piits. Mina köidikud uuemas eesti kunstis," *Kunstiteaduslikke uurimusi 10* (Tallinn: Eesti Kunstiteadlaste Ühing, 2000) 309-53.
10 Elena Crippa and Tom Vandeputte, "Space as Praxis," *Log* 21 (2011).
11 RoseLee Goldberg, "Space as Praxis," *Studio International* 190, n. 977, (1975).
12 Hasso Krull, "Nomadistlikud rituaalid," *Eesti Ekspress*, February 15, 1991.
13 This term for the Baltics' non-violent uprising was coined by artist and activist Heinz Valk in an article published a week after the June 10-11 spontaneous mass night-singing demonstrations at the Tallinn Song Festival Grounds, see Heinz Valk, "Laulev revolutsioon," *Sirp ja Vasar*, June 17, 1988.
14 Conversation with Urmas Muru and Peeter Pere, 21 November 2012.
15 Actually, these were standard bread racks from the groceries – a creative reuse characteristic of the general deficit era.
16 This nihilistic prose poem has been repeatedly used by the Surrealists, and was also recited in Jean-Luc Godard's 1967. apocalyptic film Le Week-End.
17 Hasso Krull, "Nomadistlikud rituaalid."
18 Heie Treier, "A. H. Tammsaare majamuuseumis. Interview with Raoul Kurvits and Urmas Muru," *Sirp ja Vasar*, 3 July 1987.
19 Urmas Muru, "Rühm T," *Noorus* 12 (1987).
20 The manifesto was published in a leaflet *Eesti ekspressionistlik arhitektuur 1985-1988* (Tallinn: RPI Eesti Tööstusprojekt, 1988), unpaginated.
21 Ibidem.
22 Ibidem.
23 Curiously enough, the same drawings, in spite of their near-illegibility, got presented as parts of official design documentation and were being published as such in issues of Arhitektuurikroonika, an annual chronicle of projects waiting for implementation in the various state design offices.
24 Urmas Muru, "Mälestused tunnetest," *Kunst* 2 (1989), 22-3.
25 *Eesti ekspressionistlik arhitektuur*.
26 Hasso Krull, "Androgüünsed varemed: tekst," *Vikerkaar* 10 (1989), 35-40.
27 Vappu Vabar, "Urmas Muru. Jutuajamine näituse "Olematu kunst" kuraatoriga," *Kultuurileht*, December 9, 1994.
28 It has been pointed out that the desire for national romanticist cultural production and nationalist narratives was stronger on the side of art and literature crticism than in actual artistic production, see Johannes Saar, "Võistlevad maastikud: kultuuripanoraamide ja kontekstide vaheldumine 1980. aastate kunstitekstides," in Andreas Trossek and Sirje Helme (eds.), *Kadunud kaheksakümnendad. The Lost Eighties* (Tallinn: Kaasaegse Kunsti Eesti Keskus, 2010), and Epp Annus, "Postmodernism. The Cultural Logic of Late Socialism," in Johannes Angermüller, Katharina Bunzmann, and Christina Rauch (eds.), *Hybrid Spaces: Theory, Culture, Economy* (Hamburg: Lit-Verlag, 2000), 25-36.
29 Mart Kalm, *Eesti 20. sajandi arhitektuur. Estonian 20th Century Architecture* (Tallinn: Prisma Prindi Kirjastus, 2001), 420.
30 Mary McLeod, "Architecture and Politics in the Reagan Era: From Postmodernism to Deconstructivism," *Assemblage* 8 (1989).
31 Aleš Erjavec, *Postmodernism and the Postsocialist Condition. Politicized Art Under Late Socialism* (University of California Press, 2003), 13.
32 Hasso Krull, "Mõõk merepõhjas. Eesti poliitiline alateadvus," *Eesti Ekspress*, September 3, 1993.
33 Martin Plot (ed), *Claude Lefort: Thinker of the Political* (Palgrave Macmillan, 2013), 5.
34 Andrew Arato, "Lefort, the Philosopher of 1989," *Constellations* 19, n. 1 (2012), 23-9.
35 In 1994, Hasso Krull published an allegorical description of Estonia as the land where breeding unicorns is no longer possible, see Hasso Krull, "Ükssarvede lahkumine," *Eesti Ekspress*, December 30, 1994. Lately, a radical cultural commentator Anders Härm has also claimed that Estonia was democratic only in 1988 – 91/92, see Anders Härm, "Eesti oligarhia," *Eesti Päevaleht* , November 30, 2012.

5.3.3 Appropriation, Commemoration, and Resistance: A Shifting Discourse on Political Space in Socialist China

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Abstract
This paper explores the construction of political discourse and its subsequent deconstruction in socialist China, through the practice of architecture as well as the different forms of visual arts that centered on architectural discourse. Appropriating the previous imperial capital, Mao Zedong and the Party leaders engineered the reconstruction of Beijing's urban space into a revolutionary centre. Tiananmen, the gate of the imperial city from the Qing Dynasty (1644-1911), became a sacred monument to commemorate the birth of the Communist China. In front of the gate, an open space was expanded to emulate its rival, Red Square, and to recreate China spatially. While celebrating the making of a new political centre, propagandistic art reformulated the architectural narrative in visual forms, addressing politics at the expense of distorting the actual site. After Mao's death in 1976, the monumental architectural construction that was intended as a triumphant statement of the Communist regime became a combat zone in the political life of the Reform era: the Party insisted on its revolutionary legacy, while dissident intelligentsia challenged the ideological discourse through re-appropriating the political space. Their conceptual works activated possibilities for critical reflection upon the conventions and protocols inherent to the construction of China's socialist life. Focusing on the interaction between architectural practice and visual representation, this paper underlines the hybridity of old and new architectural narratives as well as the shifting process from formulating the revolutionary discourse to resisting its dominance in the public domain.

Keywords
Tiananmen, Socialism, performance, people, citizenship

Between 1995 and 2003, Chinese artist Ai Weiwei (born 1957) created his *Study of Perspective* photograph series, one of which features Ai's middle finger directed at the Beijing's landmark of Tiananmen.[1] Tiananmen, which literally means 'Gate of Heavenly Peace', had been the main entrance to the imperial city during the Qing dynasty (1644-1911) and was transformed into a sacred site of socialist China after 1949. For his picture, Ai Weiwei did not stand directly opposite the gate but to the west of Tiananmen Square, indicating a position on the side of the Great Hall of the People, home of the National People's Congress. The picture focuses on his provocative hand gesture, forming a dramatic contrast to the once formidable gate with the obscured portrait of Mao Zedong. Ai Weiwei's gesture is more directly expressed in the Chinese title of his work, '*Wo gan Beijing Tiananmen*' (I fuck Beijing Tiananmen). Those familiar with the Cultural Revolution (1966-76) easily recognize this title as a parody of the popular song '*Wo ai Beijing Tiananmen*' (I love Beijing Tiananmen)" that schoolchildren performed as part of their daily ritual embracing the cult of Mao.

Illustrating a powerful statement that challenges the official political discourse, Ai Weiwei's black-and-white re-presentation of Tiananmen also stands in telling contrast to its once awe-inspiring image as an imperial gate and subsequently a Communist icon. In his sixteenth-century painting *The Forbidden City*, Zhu Bang portrayed Tiananmen amid a mysterious cloud with a pair of ornamental pillars (*huabiao*) and made it the most prominent among a series of gates that mediated the transition from the sacred emperor's court to the mundane space of his subjects. In contrast, to glorify China's socialist revolution, Sun Zixi's 1964 painting *In Front of Tiananmen* isolates the gate from the imperial complex and turns it into a stage, with joyful people posing in front of Mao's giant portrait.

This paper begins with a set of simple questions elicited in the juxtaposition of the works of Zhu Bang, Sun Zixi, and Ai Weiwei. How was a historical site appropriated for different political discourses? What made it possible to redefine the political character of that material environment? How did the artistic intervention shape the public expression of architectural space? Focusing on Beijing's history after 1949, this paper recognizes the connection between architectural practices and various forms of visual arts and explores the construction and subsequent deconstruction of political discourse in socialist China. It argues that embedded in the converging artistic practices is a critical change in the discourse, from one centered on people to one centered on citizenship.

Appropriation: making socialist space

Soon after the Communists took over Beijing in early 1949, an urban planning committee was established in charge of the reconstruction of the old imperial capital.[2] Led by the major and vice major, the committee also invited architects, including American-trained Liang Sicheng, to participate in redesigning Beijing. Emphasizing the city as China's new cultural and political center, the committee proposed to preserve its historical sites and build a new urban center in Beijing's western suburbs.[3] However, this plan was later rejected; the Party decided to appropriate Tiananmen for the new revolutionary center and build its headquarters in Zhongnanhai (Central and South Sea), part of the former imperial garden Xiyuan (West Garden).

The Party's final decision was influenced in part by its Soviet advisers, who arrived in Beijing in the early 1950s and suggested the city be modeled on Moscow.[4] Chen Gan, the chief architect of Beijing's Municipal Institute of Urban Planning, also found justification for the decision in Friedrich Engels's discussion of the significance of zero in his *Dialectics of Nature*. Chen argued, 'Everything in the city will have to divorce itself from the old zero and align itself with the new zero. To be sure, at the very moment when the national flag rose in Tiananmen Square for the first time, history had determined that this locale should be the center of the capital of New China, and had predicted Beijing's subsequent transformation and its rise in Asia.'[5] Tiananmen Square has certainly become the most significant political center in China since 1949, and the government paid close attention to the architectural reconstruction of the place.[6] However, the Communists were not the first regime that appropriated the historical site. After the fall of the Qing Dynasty in 1911, the Republican government had taken Zhongnanhai as the Presidential Palace and the State Council before moving the governmental seat south to Nanjing. Yuan Shikai, the Republican President, had reviewed military parades on top of Tiananmen, and later the portraits of Sun Yat-sen and Chiang Kai-shek had been displayed on the gate. After taking control of the city, the Communist authority attached Mao's portrait to the gate and staged parades on National Day. The historical site was charged with socialist ideology through architectural reconstruction and renewed spatial practices.

Mise-en-scène: political ideology and the representation of historical site

Apart from appropriating the old imperial capital for its own political center, the Communist government also commissioned artists to register the transition of this politically charged site. These propagandistic works often deviated from topographical accuracy to highlight the political change. Sun Zixi's painting In Front of Tiananmen, mentioned in the beginning of the essay, deliberately omits the ornamental pillars but adds a pair of streetlights to demonstrate the modern transformation of the site. Another example is Dong Xiwen's The Founding of the Nation, originally produced between 1952 and 1953, to commemorate the founding ceremony of the People's Republic of China (PRC).[7] Taking as its viewpoint the top of Tiananmen gate, Dong's painting removes a column from the balcony the better to place Mao's authority center stage.

Though architecturally inaccurate, Dong Xiwen's painting reveals the Communist Party's observance of political convention and its reconfiguration of the former imperial space. His depiction of Mao reading the announcement from the PRC's Central Government recalls the issuing of the emperor's edict and evokes the aura of centuries-old imperial power.[8] During the Ming and Qing dynasties, the grandest of all ceremonies held on Tiananmen was the issuing of imperial edicts when a new emperor was enthroned or a royal heir born.[9] As illustrated in a woodblock print from 1802, an imperial envoy would first read the edict aloud on Tiananmen's balcony, and after officials and commoners kowtowed nine times in response, the imperial document would then be lowered in the mouth of a gilded phoenix to a cloud tray, to be brought to the Ministry of Rites for its announcement to the entire country. Coincidentally, in an interview with the artist about his painting *The Founding of the Nation*, Dong Xiwen said that it was not sunny on 1 October 1949, but he still filled his canvas with auspicious blue sky and fair-weather clouds. Despite its allusions to imperial ritual, Dong's painting of the ceremony founding Communist China also demonstrates significant changes from ancient rites. Instead of including the golden phoenix and cloud tray as ritual agents, Dong's work represents Mao directly, situating him in the center of the composition and turning the public square in front of the gate into the architecturally bounded theatre of his speech.[10]

Focusing as it does on the political leaders on the balcony, Dong Xiwen's representation is rather exceptional. Many paintings, such as Gu Qun's 1950 New Year's Picture *Celebration of the Founding of the People's Republic of China* (Figure 1), represent this event from a standpoint on the square.[11] Highlighting the people's support for the new Communist regime, Gu Qun shifts attention to the crowd that is anonymous and obscured in Dong's painting and shows in the foreground the commoners cheering and gathering around the new national flag. Indeed, the performance of such political ceremony acquires its real power 'only in relationship to the audience.'[12] The audience of Mao's speech and the subsequent military parade constitutes a public assembly that reorganizes the ancient imperial architecture. As Ju-

Figure 1. Gu Qun, *Celebration of the Founding of the People's Republic of China*, 1950, New Year's Picture. *Source*: Zhonghua quanguo meishu gongzuozhe xiehui (ed.), *Xinnianhua xuanji* (Selected Collection of New Years Print) (Beijing: Rongbaozhai, 1950).

dith Butler writes, 'Space and location are created through plural action.'[13] It was not only Mao but also his audience that played a pivotal role in reconfiguring the political space.

Representing mass gathering on the square, Gu Qun's New Year's Picture illustrates the political term 'people,' a key concept for the newly founded socialist China. The constitution stipulates in explicit terms that all powers in the PRC belong to the people, who exercise state power in a unified way through the organs of the National People's Congress and the local people's congress at various levels. [14] No longer bowing from afar, as Zhu Bang had depicted earlier, the crowd in front of the Tiananmen gate in Gu Qun's work as well as later Sun Zixi's later painting In Front of Tiananmen is still impersonal and conceptual. They are stereotyped individuals who serve as index of larger social categories and enact the mass support for Mao's power. They collectively illustrate the 'People-as-One,' a constructed social body that Claude Lefort considers the foundation of totalitarianism.[15]

Art and the politics of space: from *renmin* (people) to *gongmin* (citizen)

While the ritual of issuing imperial edicts and the ceremony of founding Communist China exemplify the performance of political power, the protests and demonstrations that also took place in front of the Tiananmen gate reveal the conflicting engagement with the same location, reflecting the power of performance through public assembly. The open space in front of the gate had become a prime site for public gathering and demonstration before 1949, most famously in the May Fourth Movement of 1919. Angered by the verdict of the Versailles Peace Conference after the First World War, liberal intellectuals from Beijing's colleges organized the public protest, which then spread throughout the country. This event was later recognized as a landmark in Mao's vision of China's revolutionary history, a shift from the old democratic revolution of the world bourgeoisie to the new democratic revolution of the world proletariat.[16] On the Monument of People's Heroes erected on the central axis of Tiananmen Square, one relief on the lower plinth was dedicated to the May Fourth Movement.[17]

The marble relief of the May Fourth Movement was created by a group of artists headed by the French-trained sculptor Hua Tianyou.[18] Although it focuses on the protesters in front of the gate, the individual figures are again impersonal and artificially constructed to stand for a collective body of people.[19] The relief takes as its backdrop the old imperial gate and an ornamental pillar that signifies the communication between the human world and the divine power.[20] In its original design, the Tiananmen gate appears in the center right of the background, and an ornamental pillar serves as the stage on which a young man and woman stand to lead the protest. In a later design, the Tiananmen gate moves to the left border of the frame. One pillar is excluded from the composition and the other moved backward to the right side. Standing on a stool instead, only the young man remains at the center of the attention among the assembled people, while the woman descends among them, distributing leaflets.[21] Through the fragmentation of Tiananmen and the pillar, the revision indicates the political intention to deconstruct the imperial architecture as well as to disentangle the interaction between the imperial site and the revolutionary act of the people.

Different from the May Fourth Movement canonized in official Communist history, the Tiananmen Square protest of 1989 remains a highly sensitive subject for the Communist regime. Contemporary Chinese artist Yang Jiechang created a giant ink painting of the event without representing a single protester (Figure 2). Instead, Yang made a sketch of the space along with short captions. He painted the Tiananmen gate without a balcony in the upper center of the composition, indicating the monument below through

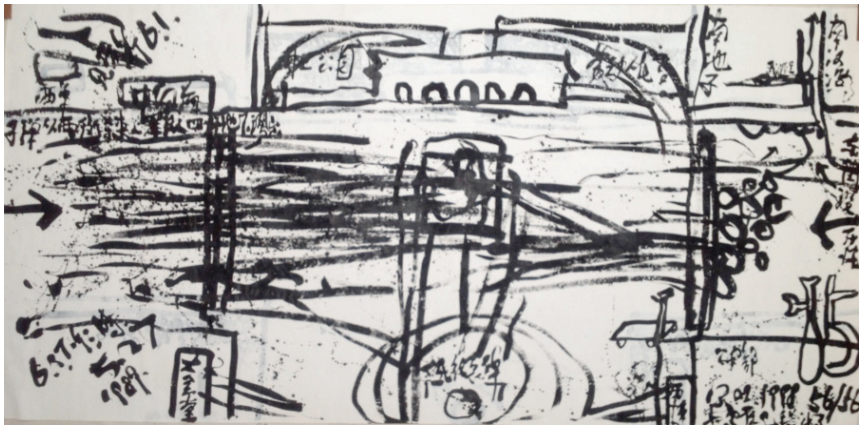

Figure 2. Yang Jiechang, *Massacre*, 2012, ink and acrylic on paper, 245 x 495 cm. *Source*: courtesy of the artist.

the characters *Renmin jinianbei* (People's Monument) within three concentric circles. On the left edge of the painting is an arrow, above which the artist has written 'bullets coming from the west;' in the upper right corner another arrow shows the direction in which the artist escaped. The artist's personal experience of the protest animates this maplike depiction of the political space and creates a powerful statement that challenges the Chinese official account of the event.

Both the May Fourth Movement and the 1989 protest were staged in front of Tiananmen, rivaling the show of political power at the same site. Yet Hua Tianyou's relief and Yang Jiechang's painting registered the demonstrations in opposite ways: the relief, focusing on the protesters, uses the May Fourth Movement to legitimize the Communist regime, while Yang's painting, showing no images of protesters, calls the regime's legitimacy into question. The political space is reconfigured through the performance of demonstration and also rearticulated through the representation of the public assembly.

Yang Jiechang's painting represents a new direction of contemporary Chinese art during the post-Mao era that has developed outside the framework of official art and revisited China's socialist past.[22] Rather than representing the collective body of 'the people,' artists act as citizens, claiming their right to oppose the institutionalized discourse determined by the state.[23] Their experimental works of art have reframed the political space and registered alternative voices.

The transformation of political space in socialist China, then, is manifested not only in architectural reconstruction but also in the performance of political power, the collective action of public assembly, and artists' individual projects that represent and engage the process of spatial reconfiguration. The Communist regime appropriated the historical site and associated ritual practice to claim its authority, while contemporary Chinese *avant-garde* artists used the public space to reflect critically upon the conventions and protocols inherent in the construction of China's socialist life. Focusing on the interaction between space and visual representation, this study is the first step in a larger project on Chinese socialist art and architecture that underlines the hybridity of old and new architectural narratives as well as the shift from formulating revolutionary discourse to resisting it in the public domain.

1 The title here follows that in the collection of the Museum of the Modern Art, New York. In other places the picture is called Study of Perspective – Forbidden City, which creates greater ambivalence of the image. Meridian Gate, or *wumen*, is the formal entrance to the Forbidden City, and Tiananmen is one of a series of gates that constitutes the liminal space leading to the Forbidden City.

2 Chaoqi, "Jianshe renmin de xin Beiping" (Building people's new Beiping), *Renmin ribao* (People's Daily), May 23, 1949.

3 Liang Sicheng published an article about Beijing's new urban plan. See Liang Sicheng, "Chengshi de tixing jiqi jihua (Urban Form and Plan)," *Renmin ribao*, June 11, 1949.

4 See Wang Jun, *Chengji* (The Story of a City) (Beijing: Sanlian shudian, 2003), 37-96.

5 Engels writes, 'The zero point has not only just as much as significance as any point denoted by a positive or negative magnitude, but a much greater significance than all of them: it is the point on which they are all dependent, to which they are all related, and by which they are all determined.' For the discussion of Chen Gan and Friedrich Engels's theory, see Wu Hung, *Remaking Beijing: Tiananmen Square and the Creation of a Political Space* (Chicago: University of Chicago Press, 2005), 7-8.

6 A series of new building, including the Monument of People's Heroes, the Great Hall of the People, the National Museum of Revolution, the National Museum of History as well as the later Mao's Mausoleum, transformed Tiananmen's spatial structure. Yet the Communist reconstruction of Beijing was certainly not limited to the city center. The eastern and southern parts of the city were designated as the new industrial district along with living quarters for workers and urban residents. The northwestern part was reserved for the cultural and educational district. The goal of reconstruction was to transform Beijing from a city of consumption into a city of production. See Liang Sicheng, *Renmin shoudu de shizheng jianshe* (*Urban Construction of the People's Capital*) (Beijing: Zhenghua quanguo kexue puji xiehui, 1952).

7 The painting was commissioned for the National Museum of Revolution, which was located to the east of Tiananmen Square and is now merged with the History Muse-

um as the National Museum of China.
8 The gate was originally known as Chengtianmen (Gate of Receiving Heaven's [Mandate]) during the Ming Dynasty (1368-1644). The design and construction of the gate follow a long tradition of imperial architecture in China. During the Tang Dynasty (618-907), the prince was crowned at Chengtianmen. This practice may be another reason why the Communist Party chose the gate as the site for the founding ceremony of the PRC.
9 Hung, *Remaking Beijing*, 59.
10 Hung has an insightful analysis of a subtle manipulation of perspective in Dong's painting: 'he painted Mao's head and upper body from a slightly lower angle to emphasize the loftiness of the founder of New China. But he ran into a difficulty: from this angle it would be impossible to see the space under Tiananmen; what could be seen would be only Mao's silhouette against an empty sky. To solve this problem, Dong Xiwen artificially raised the horizon, so the entire square could come into view. To make this manipulation less obvious, he also intensified the foreshortening of the balcony, making the floor's perspective consistent with that of the square.' See Hung, *Remaking Beijing*, 173.
11 Dong Xiwen witnessed the ceremony as did other artists who painted the same subject, but he deliberately moved his perspective to the balcony and rearranged the political leaders on top of the gate to accentuate the authority of Mao.
12 See Ngugi wa Thiong'o, "Enactments of Power: The Politics of Performance Space," *TDR* 41 (1997), 12. This analysis of performance space can be applied to political ceremony.
13 Judith Butler, "Bodies in Alliance and the Politics of the Street," European Institute for Progressive Culture Policies, http://www.eipcp.net/transversal/1011/butler/en
14 Already in his celebrated essay from mid-1949, Mao spelled out the idea of 'people's democratic dictatorship' that would permeate the governmental policies of the new Chinese state. The definition of people excluded the 'running dogs of imperialism', 'the landlord class and bureaucrat-bourgeoisie' as well as 'the Guomindang reactionaries and their accomplices'.
15 Hung, *Remaking Beijing*, 176.
16 According to Mao, the May Fourth Movement was an anti-imperialist as well as an anti-feudal movement and a chief landmark of Chinese revolutionary history. As Timothy Cheek notes, 'Prior to the May Fourth Movement, China's new culture was a culture of the old-democratic kind and part of the capitalist cultural revolution of the world bourgeoisie. Since the May Fourth Movement, it has become new-democratic and part of the socialist cultural revolution of the world proletariat.' See Timothy Cheek, *Mao Zedong and China's Revolutions: A Brief History with Documents* (Boston: Bedford, 2002), 102-5
17 The monument was planned already in 1949, at the moment of the founding of the PRC, and was completed in 1958 for the tenth anniversary of the nation. The relief commemorating the May Fourth Movement, as the second most important theme, is on the south side of the monument, while the crossing of the Yangzi River in 1949, marking Mao's final victory over the Nationalist Party, or Kuomintang, is represented on the north side. For more see Wu Hung, *Remaking Beijing*, 24-36; and Yin Shuangxi, *Yongheng de xiangzheng: Renmin yingxiong jinianbei yanjiu* (The Eternal Emblem: A Research on the Monument of the People's Heroes) (Shijiazhuang: Hebei meishu chubanshe, 2006).
18 There are varying accounts about the creators of the relief. According to Yan Han, it was designed by the painter Feng Fasi and sculpted by Hua Tianyou with the assistance of Wang Hongwen, Wu Ruzhao, and Xia Xiaomin. According to the construction project archive, Hua Tianyou and Feng Fasi were in charge of the relief, with the assistance of Gu Hao and Chen Tian. Later, when the original ten reliefs were reduced to eight, Hua Tianyou remained in charge, but with the assistance of Chen Tian, Xia Xiaomin and Wu Ruzhao. See Shuangxi, *Yongheng de xiangzheng*, 55-61.
19 About the ten reliefs on the monument, Wu Hung writes, "The artists" major task became to cast a single idealized archetype… A single actor appears both synchronically and diachronically 170 times across ten acts of a lengthy drama. No matter how busy he is, however, his face remains expressionless and his gesture(s) and movement(s) highly disciplined.' See Hung, *Remaking Beijing*, 32.
However, according to Yin Shuangxi's interview with Wang Zhuoyu, the relief figures were made after life models. The artists went to Beijing's labor service market (*laowu shichang*) to hire one or two persons per day. They created a draft of the relief with all figures nude and then another with the figures wearing clothes. See Shuangxi, *Yongheng de xiangzheng*, 175-6.
20 For more see Nancy Schatzman Steinhardt, *Chinese Imperial City Planning* (Honolulu: University of Hawaii Press, 1999).
21 In the final design, the number of figures is further reduced, but the drapery lines are accentuated to emphasize the motion of the figures.
22 Wu Hung wrote about contemporary Chinese artists' three basic strategies in producing 'counter images:' (1) rationalizing or objectifying Mao and Tiananmen; (2) reframing Mao and Tiananmen with contemporary references and/or the artist's personal experience; and (3) emptying Mao and Tiananmen for perpetuity. See Wu Hung, *Remaking Beijing*, 190.
23 As Margaret Somers maintains, citizenship is centered on 'the right to have rights.' See Margaret Somers, *Genealogies of Citizenship: Markets, Statelessness, and the Right to Have Rights* (Cambridge: Cambridge University Press, 2002).

5.3.4 'Our House': The Socialist Block of Flats as Artistic Subject-Matter

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Abstract

Two distinct groups of artworks produced in Romania in the late 1960s and 1970s took as explicit subject matter Bucharest's changing urban landscape. A first, large family of paintings aimed to represent in a favorable light the increasingly present modernist mass housing block, and scores of established painters (such as Marius Bunescu, Dumitru Ghiă, Gheorghe Spiridon) contributed to it, punctually or repeatedly; against this pictorial approach, which turned socialist Bucharest into a Barbizon of sorts, I pose the work of Romanian artist Ion Grigorescu who, during the 1970s, produced a series of photographs and videos that offered a radically different sense of spatial experience under socialism. The photographic work 'Casa noastră', for instance, in which Grigorescu portrays himself as a naked, satyr-like figure, investigated the new, standardized apartment interior through troubled forms of privacy and voyeurism.

These two artistic approaches to the new built environment of socialism seem to occupy extreme ends of aesthetic practice: in the first case, the conventional traces of the hand on the canvas, but used to convey exteriors made out of bare, factory-produced panels; in the second, cool observation and mechanical recordings, but deployed on an interior covered in intimate bric-a-brac. The works also appear to enact the poles of official and dissident art: on one hand, enthusiastic and often large-scale representations of an official architectural culture, disseminated through publications and exhibitions to a large audience; on the other hand, blurred and difficult images that corroded architecture's cheerful modernism, viewed only by a handful of trusted friends.

In pitting Grigorescu's little-known work against state-sanctioned artifacts, my intent is to open a terrain in which the conventional dualities of artistic practice under a socialist regime can be tactically weighed against each other, on each side of the fulcrum that architecture – and more specifically the modernist block of flats – provided. A series of questions emerge: what happens when serially designed, industrially produced, colorless and texture-less buildings intersect with the picturesque needs of figurative representation, such as socialist realist painting and documentary photography, and how is each side of the encounter transformed? What tensions (or dislocations) arise when state-mandated architecture becomes the purview of subjective, personal artistic expression? How impermeable (and ultimately, how useful) is the art historical distinction between official and subversive art?

5. TWENTIETH CENTURY

5.4 The Third Life of Cities: Rediscovering the Post-Industrial City Centre

ROUNDTABLE CHAIRS:
DAVIDE CUTOLO
Independent scholar, Germany
SERGIO PACE
Politecnico di Torino, Italy

For many western cities the end of the industrial era brought about a significant rediscovery of the centre. This phenomenon is most pronounced in those cities which experienced pre-industrial growth, such as small and mid-size capital cities, centres of an ancien regime society. Turin epitomizes this three-step evolution: pre-industrial, industrial and post-industrial. From the late sixteenth century Turin was the capital of a small European state and its baroque city centre was an artistic expression of political power and cultural traditions. The climax of this pre-industrial life came in the mid-nineteenth century, when the history of the city and that of the emerging Italian nation became intertwined and the city centre gained importance as the setting for the Risorgimento (Italian Unification). Turin remained the capital city of Italy for only four years, from 1861 to 1865.
The second life of the historic centre of Turin was characterized by a decline in status, signalled by the departure of crucial urban activities and functions. At the end of the nineteenth century new settlements around the old centre became production hubs, mixing workers' dwellings and workshops. Nevertheless, it was not until the 1900s that industrial production took off on a large scale, shifting the urban balance over the course of the next century.
The third life of the city centre of Turin began very slowly at the end of the 1970s, in parallel with the industrial crisis. The last thirty years have seen a search for alternative urban identities and changes in the emphasis given to particular periods of the city's development. Public redevelopment programs have focused on the Roman and medieval core; through a broad policy of 'big events' the municipality has tried to recover the old baroque center, with its growing tourist appeal. The idea of the city centre itself has changed, as the celebrations for the 150th anniversary of the Unification (2011) have underlined, by focusing not only on the old town, but also on the surrounding industrial areas, with their empty factories ripe for reinvention.
This round table aims to explore the relationships, shared issues and main differences between the case of Turin and other cities. Which actors have led the rediscovery of the centre? What qualities of the city centre have been prioritized: Historic value? Tourist appeal? Real estate potential? How has the social and demographic structure changed? How does architecture and urban planning react to these issues? What is the role played by industrial heritage in this process?

5.4.1 When Turin Lost Its Myths

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Abstract
This presentation aims at questioning the image of the 'city (centre)-museum' as a factor of tourist attractiveness. In Turin the public and political use of the local artistic and architectural heritage, as materialized in those city's spaces that are specifically connected to the history of the Savoy dynasty, shows a distorted interpretation of the local history often accompanied by the tendency to forget the city's industrial and social past. The absence, in this city, of a museum of industry and technology dedicated to the culture of labour (and to its conservation) well epitomizes this paradox.
Between the 1990s and the first decade of the 21st century, a number of urban renovation projects were promoted whose main aim was to neglect the history of the territory and erase the memory of labour, especially when the latter corresponded to a specific space in the city. Often this act of voluntary amnesia happened in the name of purely speculative economic interests.
Criticisms and protests have recently arisen among different sectors of the civic society claiming that everyone should be free to exercise the right to use the city's space. These protests have made clear that a radical reconsideration of the public policies concerning the use of the urban space is urgently needed.

Keywords
Democracy, neo-liberalism, modernization, globalization, FIAT, memory

Can the future of democracy influence the future of cities? To what extent can political evolution determine urban changes? These may seem obvious questions, but the issue brings us face to face with an aspect of the crisis of democracy, concerning above all the question of political representation.
One aspect of this crisis is evident in the limitations of rights in cities where the question of appropriate representation and the weakening of the decisional process has tended to eliminate any kind of participation from below.
The crisis of democracy reveals itself in urban politics where private interests have prevailed, sustained by neo-liberalism. Public space is subject to ideological and speculative operations and the collectivity is excluded from decision-making. From this point of view, Turin's post-industrial situation offers numerous insights. The city can be seen as a combination of problems and of resources: on the one hand, the city is considered to be the terminus of social problems, while on the other hand it is an opportunity, if well-run, for economic development and social integration within the process of globalization.
In the last twenty years the three successive mayors were promoters of urban modernization projects, aimed at keeping the memory of the capital of the Dukes of Savoy alive, both in the legacies of 1861 and of twentieth century Italian industrialisation. With the decision of the FIAT Company to move its production abroad, Turin became the centre of a heated economic and political debate about its future and its identity.
The post-industrial era in Northwest Italy began in the 1980s, transformating the landscape and the urban territory. The dismantling of factories in industrial areas in Turin and Piedmont promoted interest in industrial archaeology, and prompted in the field of historiography new studies into the traditions of working-class culture. Wherever production flourished, there has developed a tertiary sector with the purpose of bringing about the redevelopment of abandoned areas.
This brings us back to the methods of urban intervention of the mid 1980s, a time when the Haussmann model was being promoted throughout Europe. Over the last thirty years, misguided attempts to restore a strong identity to Turin, have produced a variety of illusory images: Olympic city, tertiary city or innovative city. In essence, the city-laboratory, invented by social scientists in the first half of the 1990s, already empty of contents, found itself dealing with that abstract concept full of unknowns called the globalization of the twenty-first century. The FIAT question is thus the final act of this long road towards the end of a myth. As history has often shown, many things can overturn the intentions and projects of humankind. Faced with this new element of globalization, FIAT has been transforming its image, by erasing memories of 100 years of cohabitation with the city, and adopting instead a wholly multinational character, putting into action a strategy planned a

long time go, when the gradual transfer of the productive automobile sector abroad was foreseen.
The contradictions of the city - industry relationship have been brought into the open through public debate. It has been the ambition of the local leadership to broaden the horizons of renewal by fading out the myth of the company town. The political and administrative sectors choose new urban models for the remastering of the city: on one hand, the rhetoric of the celebrations of 150 years of unification as the continuity of a political tradition, and on the other hand experiment with models of globalization like the great events of the Winter Olympics, internationalization, the smart city. The administration implements a program of intervention that makes public and political use of artistic heritage and also of the urban spaces, including reconnection with or even recovery of the past, in particular with that of the Savoy dynasty. It is an operation that falsifies history, with a tendency to forget the history of work of the city of Turin, of the industrial production and of the world of labour (Gramsci's city) in the populous outskirts, and of southern migration. No museum of industry, technique, culture of labour and labourers or immigration exists. The Lingotto factory project, not by chance born in the 1980s, is a testimony to this absence and also marks a turn in the history of the planning of Turin. The late eighties marked the end of the season of city planning involving plans and public projects, and was succeeded by an era of the contraction of city planning, with new developments directly run by private funds, outside democratic control and no longer with the participation of the city. Urban projects for abandoned industrial areas rely upon the capitalisation of land values. Between the nineties and the first decade of the twenty-first century numerous urban transformations were started without consideration for the history of the region, erasing the memory of labour and of industry, that in Torino were closely identified with well defined spaces and places. As a consequence, the city's factories no longer formed part of its image. The centre of the city became home to a new identity, different from the suburbs, which are filled with shopping malls.
As in every other western metropolis, the authorities in Turin are obsessed with problems of urban security, public order, and with the freedom of movement, of expression, of nightlife in the centre of the city, which become so problematic that the only solution is often the removal of these activities to outlying districts or the indiscriminate use of cameras located everywhere, so as to differentiate between what is legal, and what is deemed illegal. The outskirts of Turin therefore, continue to be receptors for all those situations considered abnormal, with more and more sub-standard building producing slums occupied by nomads, resulting in conflict between the residents of the neighbourhoods and the world of the marginalized. This model of modernisation excludes the active and spontaneous participation of many people, who have had to join groups or movements in order to make their voice heard on decisions affecting urban Turin. The basic forms of democracy, such as open public debate, have been suppressed. To make economies in the municipal budget and public debt, the administration is selling off its real estate assets, to the advantage of manufacturers and speculators. A recent example of memory suppression occurred in the San Paolo neighbourhood, a well-known industrial neighbourhood in Turin from the 1900s, where the authorities used the military to occupy an abandoned industrial area, the Diatto automotive factory, to implement its immediate demolition without first warning the inhabitants of the adjoining neighbourhood. Considered an important example of the city's industrial archaeological heritage, a committee of citizens in the neighbourhood protested to protect the work and to avoid another building speculation, proposing instead a public area with green spaces. This important site, whose memory deserves protection, could constitute an inheritance useful for re-launching an alternative model of the city in the twenty-first century.
Memory is the central theme of contemporary urban politics. Think of the recent events in Taksim Park in Turkey, a point of focus for the great transformation of Istanbul and the re-launch of the city in economic and aesthetic terms. In this case as well, the administration justified its modernising policy by appealing to safety, the risk of earthquakes, to crime reduction and to insanitariness. Istanbul provides more material for the analysis of the democracy-city relationship. Not only is there the link between capitalism and urbanization, but it also reveals three fundamental aspects of this correlation: public space transformed into private, and reconfigured according to the standards of globalization (shopping malls, anonymous residential areas, commoditized ways of life); the erasure of the historical memory of a neighbourhood and its social life; civil protests against the unexpected changes, for which the authorities were unprepared.
Can one think of a solution to these global crises in urban territories? One lesson is the importance of retaining the significance and the memory of underlying differences and discontinuities in the uses of the city: the rules/regulations and institutions, the conventions of social groups but also the tactics and strategies of individuals, who settle in parts of territory and write their biographies or leave traces of their existence. As mentioned at the beginning, urban political neoliberalism collapses this interaction between past and present, because in order to change a city it is necessary to destroy the previous city.
History and urban planning are inseparable and to balance this relationship there needs to be permeability between the contemporary and the historical contexts.

5.4.2 The Case of Paris

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Abstract
Despite its stature as a great capital city, Paris entered a period of significant decline in the 1970s. This decline was the result of a convergence of factors, including economic recession, population loss, and capital flight. Indeed, since the early 1960s the Prefect of the Seine and his planning staff had explicitly pursued a policy of decentralization and metropolitan expansion in order to spread out the city's dense populace. By the late 1970s, however, the negative consequences of such a policy were becoming evident as manufacturers decamped for new industrial parks and old neighbourhoods grew gaptoothed from the loss of families to peri-urban new towns.
With the resurrection of the mayoralty of Paris (abolished during the Second Empire) and the election of Jacques Chirac in 1976, renewed attention to the urban core resulted in a burgeoning campaign for historic preservation, particularly in the wake of the demolition of Les Halles. But it was the election of François Mitterrand to the presidency that would ultimately lead to the largest transformations of Paris since the time of Haussmann. Paris planners and architects were soon busy on Mitterrand's *Grands Projets*, an ensemble of eight major works that included the Pyramid at the Louvre, the Opera-Bastille, and the massive Parc de la Villette. While scattered, most of these projects, and indeed the redevelopment energies of the state, were concentrated in the East of Paris in an effort to redress the long historic imbalance of public investment.
The large-scale transformation of Paris in the 1980s and 1990s was as much about the rise of new forms of politics and new economic imperatives than it was about the search for urban authenticity or sense of history. Still, these latter factors drove the politics and economics of Paris in crucial ways, particularly as the city came increasingly to rely on tourism as a source of exogenous capital, and as Parisians confronted the range of temporalities and histories embedded in (and lost from) their urban fabric. Amid the massive dislocations and transformations underway since the 1970s, the efforts to define a post-industrial Paris is not so much a return to some timeless principles of urbanism, but rather a projection of new urban imaginaries in an increasingly globalized world.

Keywords
Post-industrial, Paris, redevelopment

The 'rediscovery' of the urban core in Europe since the 1970s reflects processes that are at once common to most cities, but at the same time play out in widely divergent circumstances. A comparison of the case of Paris to that of Turin illustrates the varied conditions, histories, and circumstances that refract otherwise similar processes. It is a useful comparison because it enables an examination of the ways in which the political, cultural, and economic patterns of post-industrial redevelopment unfold in distinctly different kinds of cities.
This rediscovery of the city centre is often described by architects, planners, and journalists as a renewed commitment to principles of urbanism that were lost in the post-war decades of slum clearance, reconstruction, highway building, and metropolitan sprawl. This search for a seemingly authentic mode of urban living has indeed pushed cities to invest large sums in heritage conservation, rehabilitation, and adaptive reuse with the hope of salvaging their urban cores.
At the same time, throughout the 1970s and 1980s European cities such as Turin experienced massive dislocations from the loss of capital, industry, and well-paying manufacturing jobs, which in turn damaged the municipality's fiscal capacity. A simultaneous crisis of overaccumulation led financial institutions and speculators on a global quest for new investment opportunities, which they found partially in devalued real estate of aging industrial cities. Drawing on, and sometimes leading, the production of new consumer desires around possession of the urban core, private financial institutions joined municipal governments in recapitalizing city centre buildings and properties, converting vacant warehouses into luxury apartments and abandoned factories into museums. These reconfigurations have primed an urban-oriented consumer economy, driving much of the tourism and real estate activity over the past three decades.

The case of Paris bears out this general outline, but with important differences. Like Turin, Paris evinced the classic three-stage evolution of pre-industrial, industrial, and post-industrial development (however complex the particularities). As with Turin, Paris came to full-blown industrialism later than cities such as Manchester, England or Lowell, Massachusetts, with massive factories replacing cottage industries only by the late nineteenth century. Paris also made attempts to curate its ancient and medieval past through archaeological digs, legal safeguards, new monuments and museums, though perhaps with less success than Turin.
Unlike Turin, however, Paris's urban core did not need to be rediscovered–it has long stood as the epitome of the great city centre. Rather, Parisian officials and investors have intervened in the urban fabric since the 1970s for

a wide variety of reasons, only some of which were related to deindustrialization. Indeed, for Paris, the term 'post-industrial' is less a general condition than a spatial descriptor for particular locations within the metropolis that suffered the stresses of disinvestment. After all, by the 1940s, Turin's industrial capacity was far more concentrated and intense than that of Paris, although Paris's plant was not subject to the same massive bombing campaigns during World War II as that of Turin.

Despite its stature as a great capital city, however, Paris entered a period of significant decline in the 1970s. This decline was the result of a convergence of factors, including economic recession, population loss, and capital flight. Indeed, since the early 1960s the Prefect of the Seine and his planning staff had explicitly pursued a policy of decentralization and metropolitan expansion in order to spread out the city's dense populace. By the late 1970s, however, the negative consequences of such a policy were becoming evident as manufacturers decamped for new industrial parks and old neighbourhoods grew gap-toothed from the loss of families to periurban new towns. While the challenges of decline were felt across the metropolis, they were nevertheless unevenly distributed, and it was in the working class districts of Eastern Paris where the effects were most dramatic.

With the resurrection of the mayoralty of Paris (abolished during the Second Empire) and the election of Jacques Chirac in 1976, renewed attention to the urban core resulted in a burgeoning campaign for historic preservation, particularly in the wake of the demolition of Les Halles. But it was the election of François Mitterrand to the presidency that would ultimately lead to the largest transformations of Paris since the time of Haussmann. Paris planners and architects were soon busy on Mitterrand's *Grands Projets*, an ensemble of eight major works that included the Pyramid at the Louvre, the Opera-Bastille, and the massive Parc de la Villette. While scattered, most of these projects, and indeed the redevelopment energies of the state, were concentrated in the East of Paris in an effort to redress the long historic imbalance of public investment.

Within this context, Parisian planners and architects began to re-imagine the city's industrial spaces and structures. Three of the *Grands Projets* were themselves created at sites associated with the industrial revolution: the Parc de la Villette was built atop a complex of old slaughterhouses, the Musée d'Orsay was adapted from a train station, and the Bibliothèque Nationale de France (BnF) replaced a river port. Moreover, many redevelopment projects emerged over the course of the 1980s and 1990s either to compliment the *Grands Projets* or as part of the overall spirit of urban rehabilitation. To make way for the Opera-Bastille, planners had to demolish the old Gare de Bastille, and in turn rethink the viaduct and train yards associated with the station. These became the Viaduc des Artes and Parc de Reuilly respectively. Meanwhile, large-scale warehousing and production facilities on the Seine were condemned and vacated to make way for new uses: the Quai de Bercy, long associated with the wine trade in Paris, became the Parc de Bercy, and the old Porte de Tolbiac became the site for the BnF.

In the end, the large scale transformation of Paris in the 1980s and 1990s was as much about the rise of new forms of politics (Chirac's neoliberalism, Mitterrand's accommodationist socialism) and new economic imperatives (the desperate need for new investment streams) than it was about the search for urban authenticity or sense of history. Still, these latter factors drove the politics and economics of Paris in crucial ways, particularly as the city came increasingly to rely on tourism as a source of exogenous capital, and as Parisians confronted the range of temporalities and histories embedded in (and lost from) their urban fabric. Amid the massive dislocations and transformations underway since the 1970s, the efforts to define a post-industrial Paris is not so much a return to some timeless principles of urbanism, but rather a projection of new urban imaginaries in an increasingly globalized world.

5. TWENTIETH CENTURY

5.4.3 Prague – Buildings, Spaces and People in Its Re-discovered Centre

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Abstract

Prague has become a post-industrial city only recently. Though its position as the capital of the country was always connected with a broad spectrum of activities, the share of people employed in industry was before 1989 relatively high and – beside that – the role of the working class was emphasized for political reasons. After the fall of communist regime the situation has changed rapidly: many factories have been closed leaving large industrial areas abandoned. More than 80% of employees work now in services. The historic core of Prague has become an attractive destination of international tourism and has accommodated to its needs. This development, which took place in similar Western cities over the decades, was accomplished in Prague over several years and moreover it was accompanied by a deep reorientation from a centrally controlled to a free market economy.

No wonder that this hectic transformation has had a strong impact on the role and character of the city centre – both positive and problematic. From the point of view of architectural history, two interconnected issues are important.

(1) The conflict between the efforts to protect the historic values of Prague city centre (that is listed as a site of cultural heritage of UNESCO) on one side and the pressure for its modernisation on the other.

(2) The changing character of public spaces in the city centre of Prague, which is a visible manifestation of deeper social changes. Dealing with the first theme the paper will analyse the opposing arguments of preservationists and architects and will also interpret some realized works that successfully harmonize creativity and respect for the historical context. Public spaces will be then surveyed as the stage of city life with its new orientation.

Keywords

Contemporary architecture, monuments protection, public space, Prague historic core

Prague has only recently become a post-industrial city. Although its standing as the capital of the country was always connected with a broad spectrum of activities, the share of people employed in industry before 1989 was relatively high. After the fall of the Communist regime, the situation changed rapidly: many factories were closed, leaving large industrial areas abandoned. More than 80% of employees now work in the service sector. The historic core of Prague has become an attractive destination for international tourism and has been accommodated to its needs. This development which took place in similar Western cities over the course of decades was accomplished in Prague in just several years and was accompanied by a deep reorientation from a centrally-controlled to free market economy.

It is hardly surprising that this hectic transformation has had a strong impact on the role and character of the city centre – both positive and problematic. From the point of view of architectural history, two interconnected issues are important and will therefore be the subject of this presentation.

(1) The conflict between efforts to protect the historic values of the Prague city centre on one hand and the pressure to modernise the city on the other. (2) The changing character of public spaces in the city centre of Prague, which is a visible manifestation of deeper social changes. First of all, we need to define what the city centre is in the case of Prague. The historical centre of Prague is today conservation area of 8.63 sqkm, which corresponds to the fourteenth century boundaries of Prague. Until the early nineteenth century, Prague developed within these medieval walls, a territory that now represents only 1.74% of the city area. However, when we talk about the heart or broader centre of Prague today, the districts from the nineteenth and first half of the twentieth centuries are also included. Their character and the traditional urban structure clearly set them apart from the outer ring of large housing estates from the Communist era. The city centre is therefore varied, with diverse development potential and issues. When the previous regime collapsed, the historic centre of Prague, our principal theme, was in a poor conditionFor several decades, construction activities had focused on housing development on the outskirts of the city, neglecting routine maintenance of the existing buildings in the centre. A positive – albeit unintended – side effect of this development was that at the end of the Communist era, despite being dilapidated, the historic centre of Prague was extraordinarily intact. This was because Prague escaped untouched from both World Wars as well as the waves of modernization that had passed through Western cities.

The post-1989 return to democracy and a market economy, and the opening up to the world led to rapid changes that also affected the Prague city centre. Historic buildings, or at least their exterior shells, underwent reno-

vation within an incredibly short period of time. The formerly gray city with flaking plaster suddenly came to life. Soon there were concerns that the process might jeopardize the preserved historic character of Prague, its *genius loci*. The freshly liberated society had no experience or mechanisms for harmonising the protection of public interests, which the protection of cultural heritage undoubtedly is, with private initiative and capital, which represented a new driving force in the city's renewal, but also a potential threat. Having become a UNESCO heritage site, Prague hosted a large international conference in 1991 entitled "Prague – Future of the Historic City,"[1] which was attended by Jacques Derrida, Francoise Choay, and Oriol Bohigas, among others. In its final declaration, the conference recommended that construction in the most valuable parts of Prague be suspended until clear rules were set and binding regulatory plans created. Such a delay, nevertheless, proved to be unrealistic. And so, new projects in the historical centre of Prague provoked endless discussions about issues that I believe are relevant to today's topic:

What is the natural development of a historically unique city? Should we live in a protected 'open-air museum', or do we have the right to accommodate the city to our present-day needs, plans and aesthetic taste? The discussions sometimes escalated into a conflict between preservationists and architects, and the following arguments were used: 'The historical centre is a completed piece of art that cannot be reworked. Contemporary architects are obsessed with their efforts to make themselves visible.' And the arguments on the architects' part claimed: 'The preservationists are not competent, they decide without clear rules. Revoke the system of monument preservation. Only due to the non-existence of such a system in past centuries could Prague have grown into such a beautiful place.'

Urban development was accompanied by such disputes throughout the whole twentieth century. As cities are transforming into post-industrial conglomerations, their centres are faced with new pressures and problems. Prague had to cope with them very quickly after 1989. I would not want to make conclusions on the extent to which it has succeeded. Instead, I have two successful examples, which to me represent a harmonious blend of architectural creativity and respect for the historic setting. The first is the completion of the 'Langhans' Palace (architect Ladislav Lábus, 2000) in the centre of Prague near Wenceslas Square. The building from the turn of the twentieth century was constructed on a narrow and long Gothic parcel, and it was extended several times in the past. The current intensive pressure to use up the space as much as possible often causes a complete change of the interior into one volume at the expense of the former segmentation. Only the facade remains. The architect Lábus chose a different approach. He followed the principle of additive growth and respected the existing scope. His additions look like a natural extension of the building development. There were new flats constructed on the upper floors and a photo gallery at the rear part. His design interconnects two strategies: careful renovation that is not to reconstruct the past into an ideal form and new self-confident architecture that is not to suppress the past.

Another strategy is embodied in the new 'Euro' building (architects Kotík – Malinský – Doležal, 2002) on Wenceslas Square. The first project for this plot provoked a strong negative reaction. The volume of the construction was originally clearly divided into two parts – a tower and a horizontal connecting part. There was serious fear that the tower could interfere with the so-far respected height of buildings on Wenceslas Square. The conflict did not concern only the height but also the possibility of building a tower building there at all. It would be a new reality in the Prague city centre and could open the door for skyscrapers in the centre. The second transformed project came up with a very good solution, in my opinion. The architects wrapped the entire building in a glass façade. The tower part is now visible through the glass only in the second (rear) plan and with a different intensity depending on the lighting and the position of the blinds. It now looks like a roof turret, a typical motif of Prague street corners.

To me, these examples show that even a historically valuable location can handle new architecture and secondly, that for old and new architecture to coexist in harmony, it is more important to comply with the measure than focus on the materials or formal style. This principle was in essence respected in the historical centre of Prague, and the few new structures added were generally of good quality. If, nevertheless, the historic core of the city sometimes resembles a museum, it is not because of the conservatism of the monuments care office but the result of the requirements of contemporary tourism. The current tourist business is an 'industry' of the post-industrial era. While the industrial invasion into cities in the nineteenth century often brought about demolitions this new soft industry entails the transformation of the historic setting into scenic props devoid of autonomous life. The result is especially apparent in changes of public urban spaces and their function. After 1989 the historical centre of Prague suffered a dramatic drop in the number of permanent residents. Although it remains an important place where Prague citizens come for work, study, and services, many locations have been fully adapted to the needs of the crowds of tourists, who only bump into each other here. The basic social functions of the public spaces have thus been severely narrowed. This makes efforts to shape public space not only toward embellishment but also toward enriching the social atmosphere of the area all the more important than tourism-oriented initiatives.

I will end my presentation with one such positive example. President Václav Havel decided to reopen the Prague Castle gardens that had been closed to the public during the Communist regime. Architect Pleskot, who designed a new tunnel connecting two parts of Deer Moat, not only managed to preserve the subtle atmosphere of this natural site in the heart of the city but also purposefully made the paths very narrow, which is ideal for thoughtful walks and not so much for mass tourism. When you do run into someone else here, at some point you even need to step aside and let them pass, which creates – as architect Pleskot says – an opportunity to make some sort of contact.
Even a post-industrial historic city centre may provide spaces not only for mass entertainment but also for real life and its needs.

Note: The presentation is part of the research project "Architecture and Public Space," GA ČR P409/11/2220.

1 Alena Novotná Galard, Petr Kratochvíl (eds.), *Prague – Avenir d´une ville historique capitale* (La Tour d´Aigues: Éditions de l'Aube, 1992).

5.4.4 Turin to Naples, Stopping in Milan: Urban Transformations between Heritage and Theme Parks

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Abstract
In the last decades, the crisis of Fordism and the relocation of large manufacturing sectors have caused radical transformations in the major Italian urban centres. Turin, Milan and Naples are among the most significant examples of this transformation, characterized by two distinct phenomena: the reuse of large areas left over by the manufacturing industry and – in parallel – the rediscovery of historic centres as places of culture and events. This paper's aim is to show how this process escaped the local authorities' control, especially when these were strangled by debts and financial cuts from the central government. In accordance with an ultra-liberal ideology, local authorities left a free hand to private initiative in exchange for 'building rights', which were often used to heal the financial crisis. Owners and entrepreneurs guided the preparation of plans and zoning variations designed to maximize rents, largely forfeited by private capitalists. The result was the creation of high-density residential and commercial districts, not sufficiently connected to the urban context and poorly equipped. To the contrary, the central urban areas reached a further increase in values also as a consequence of the choice to redirect the old industrial uses towards scientific innovation and cultural heritage, with the risk of creating amusement parks. The result was contradictory: new processes of gentrification were accompanied by regeneration of urban centres (Milan and Turin), projects of transformations of industrial areas which neglected the historical memory of the place (Turin) and difficult processes of re-appropriation of public degraded areas (Naples). Starting with a comparative analysis of three apparently unrelated cases, this paper aims to draw an initial assessment of the outcomes of these transformations considering as the main standard of evaluation the notion of urban quality seen in social as well as environmental terms.

Keywords
Torino-Turin, Milano-Milan, Napoli-Naples, post-industrial transformation, urban regeneration

At the beginning of the twentieth century Turin became known all over the world for the production of cars. During the fascist regime it grew to 600,000 inhabitants and developed building and public services favourable to architecture and urban renewal in accord with the new ideas of Modern Movement. After the heavy destruction of World War II Turin's industrial activity resumed. New capital came from the USA and the presence of a large working class were some of the principal elements of the economic 'boom' that soon took off. Population increased from 700,000 in 1945 to 1,200,000 by 1971. The extensive area occupied by industry reflected the importance of industry's role in the social and economic organization of the city. In the 1970's, Turin was the perfect model of the 'one company town': 150,000 employees worked in the Fiat factory, where there are now less than 15,000. City life was strongly conditioned by rhythms and culture of Fordism.[1]

After the strike of 1980 against a massive wave of dismissals by Fiat, the role of the factory in the city completely changed. A lot of areas were abandoned by industry, which dispersed production to other countries with cheaper labour costs. The policy was also to avoid the massive concentration of working people in great factories, and make new profits out of land rent. The symbol of this new vision was the end of production at the gigantic Lingotto building (Giacomo Mattè Trucco, 1914-21) and the international competition (1982),[2] to decide how to reuse it. Renzo Piano's winning project was carried out independently of any public plan, marking the beginning of the end of the second leftist government (1975-85) under Mayor Diego Novelli, who had tried to take control of public services and to approve a new city plan without success.[3]

At the end of the 1980s, the city was in a deep crisis with massive redundancies in the automotive industries, strikes, social conflicts, and terrorism. About 10 million square meters of abandoned industrialized areas were to be considered either as a problem or as a resource.[4] The new city plan (Vittorio Gregotti and Augusto Cagnardi, 1995) tried to find a solution and focused on three principal guidelines: to expand the tertiary sector, to improve the value of real estate, to market the urban image. The success of the plan was linked to some important factors: Winter Olympics (2006), new infrastructures (subway, railway bypass), private bank and central government financing. The most important realization was the 'Central back bone', a new boulevard over the railway line, that links four different industrial sectors called Spina-1-2-3-4.

Spina-1 is characterized by the almost complete obliteration of the existing factories (ex Materferro) and the construction of new residential and commercial buildings. Spina-2 is devoted to research and to knowledge: it concerns the expansion of the Polytechnic, new residences, the conservation of the ex OGR factory and the old prison, spaces intended for exhibitions, the new railway station of Porta Susa and the San Paolo Intesa tower, a skyscraper designed by Renzo Piano without any prior studies of its social effects or visual impact on the city skyline. Spina-3 is the largest of the processing areas, mostly occupied by the former Teksid, Michelin and Savigliano. The transformation has retained only some parts of the old factories (a chimney, the cooling tower and a facade), but has created a 'post-industrial park' of 450,000 square meters designed by Peter Latz.[5] Spina-4 is intended for residences, offices and malls designed to please big stakeholders and contractors.

This urban transformation has been generally featured banal construction and urban layout and lack of attention to public spaces and to historic visual connections between city and nature (rivers, hills and mountains). Moreover the improvement of buildings, without solving the social housing problem, has added to an overstocked market a large quantity of new constructions that risk aggravating the economic crisis. In contrast with this reconstruction, the artistic beauty and quality of life of the city centre was enhanced by the reservation of some streets to pedestrian circulation, by the opening of new museums and by the renovation of numerous monuments.[6] Turin has achieved a new international appeal as a city of events, culture, art, research, proposed as new opportunities for economic development, despite the limited attention to the conservation of industrial heritage.[7]

The urban impact of Turin's post-industrial transformation is comparable with other cases in Europe and in the world,[8] for example Barcelona, Glasgow, Bilbao, Lion, Detroit. In Italy surely we can remember Genoa and Milano that with Turin composed the 'industry triangle' and also Florence, Rome, Naples and Taranto. The cases of Milano and Naples are the most comparable to Turin.[9]

Milan is the most significant case of a huge post-industrial transformation still in progress, with the conversion of many important companies into tertiary sector and the creation of more than 5 million square meters of covered area.[10] This process has not been stopped by the current centre-left administration led by Giuliano Pisapia that tried to downsize the General plan of the previous city government led by the centre-right mayor Letizia Moratti (2011).[11] As part of this urban process, the transformation of ex Agip Petroleum refinery, which occupied an area of about two million square meters in the northwest, is an example comparable to Spina-3 in Turin.

The area was industrialized in the post-war period, and reached its maximum extent towards the end of the 1960s, but had heavy environmental problems in the mid 1970s. The refinery closed in 1992 and the conver-

sion initiated only in the early 2000s, was to make it one of the two poles of development of the exhibition system of Lombardy, able to accommodate great events. The second pole of the Milan Fair has been confirmed in the town where it was located since 1923 on an area of 440,000 square meters dedicated to events more closely linked to the city. In 2002 the general redevelopment started as hub for the regeneration of the entire northwest city.[12] The original factory was completely demolished with a complex operation to clean-up contaminated soil, completed in 2003. In March 2005 the new Milan exhibition centre designed by Massimiliano Fuksas was inaugurated. The new complex includes eight exhibition halls of 40,000 square meters, the Convention Centre, a system of green spaces, restaurants, bars, stores, offices, services and parking. Under construction is a transportation network of roads and railways with the extension of Line 1 of the subway and a new stop as an important interchange station between public and private transport. In the area of the International Exhibition of 2015 will be a further expansion of settlements and occupation of natural land, in a way not entirely controllable.[13]

The post-industrial transformation of Naples is more complex and involves two main areas with different characteristics.[14] The western area of Bagnoli, mainly characterized by the presence of the former factories of the ILVA-Italsider steelworks, Federconsorzi, Cementir and Eternit, has about 2.5 million square meters,[15] and in the eastern area, in the neighbourhoods of Barra, San Giovanni a Teduccio, Ponticelli e Poggioreale there are approximately 8.2 million sqm.[16] Here there are about 35 brownfield sites with a plurality of abandoned industries, including some historic buildings such as the Cirio plant for the production of canned food, the Corradini, the gas tanks of the Neapolitan lighting company, the Tobacco factory, the textile factory SNIA Viscosa and the complex of petrochemical plants.

The western area is the object of a great transformation program, still in progress, starting with the preservation of 16 main industrial buildings. The ex Federconsorzi is being converted into a Science Museum,[17] the cooling tower into 'Turtle Point,' the mechanical sector into film studios. A large green area is also planned, and the reconstitution of the coastline will give back to Neapolitans the historic beach of Coroglio. A new subway line and the extension of an existing one will provide the main links to the area.

In the eastern part, the transformation has not been able to redevelop an area of neglected and deteriorating suburbs.[18] The city master plan proposes the relocation of the oil depots, the construction of a new avenue, from Piazza Garibaldi station to the historic centre of Ponticelli, the restatement of the historic north-south connection, the creation of an urban park and the restoration of the main water channels. Little attention has been given to industrial heritage. The ex Cirio plant, as a new university, has lost its original character, the ex Corradini plant will be converted to provide the services for the new harbour for 700 boats, and the conversion of the Tobacco factory by Mario Cucinella has a specific focus on environmental sustainability, but almost completely demolishes the industrial complex.

It is difficult and may be too early to take stock of the urban transformations in the cases described. From the point of view of urban quality it is necessary to examine different approaches, for example: the homogeneity of the proposals compared to the surrounding tissue (Masons); the recognition of new objects able to offer a vigorous urban image (Lynch); the reading of the space as a function of the movement through which it is normally perceived (Cullen); the attraction generated by the new volumes and the existing project (Arnheim).[19] But empirically, it is possible to agree on the poor quality of the new settlements in relation with the city centre.

The main problem of the urban post-industrial transformations is the incapacity of public administrations to control the economic dynamics and their effects on land. This is the consequence of a political problem, but is also due to a cultural approach that sees modernity, or global architecture, as an international trend beyond discussion. The protection of local architecture, with its relation to its specific culture and landscape, can be the only antidote to the international sprawl of 'non-places'[20]. The 'genius loci' has to be defended to increase the appeal cities of knowledge and research against the attempt to globalize their landscapes and souls.

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2 *Venti progetti per il futuro del Lingotto* (Milan: Etas Libri,1984).
3 Raffaele Radicioni and Pier Giorgio Lucco Borlera, *Torino invisibile* (Florence: Alinea, 2009).
4 Egidio Dansero, *Dentro ai vuoti. Dismissione industriale e trasformazioni urbane aTorino*, Collana di studi e ricerche del Dipartimento Interateneo Territorio di Torino (Turin: Libreria Cortina, 1993); Egidio Dansero et al. (eds.), *Se i vuoti si riempiono, Aree industriali dismesse: temi e ricerche* (Florence: Alinea Editrice, 2000).
5 Fondazione Vera Nocentini, *Torino che cambia. Dalle Ferriere alla Spina 3. Una difficile transizione* (Torino: Angolo Manzoni, 2009); Ezio Boero, *La spina 3 di Torino. Trasformazioni e partecipazione: il Comitato Dora Spina Tre* (Turin: Impremix Edizioni, 2011).
6 For examples: Egyptian Museum, Savoy Gallery, Regina Palace and Venaria Palace that has been the biggest restoration site in Europe in the last decade.
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9 Luigi Bobbio et al. (eds.), *Metropoli per progetti. Attori e processi di trasformazione urbana a Firenze, Torino, Milano* (Bologna: Il Mulino, 1990); Egidio Dansero (ed.), *Le aree urbane dismesse: un problema, una risorsa*, Contributo INU alla Conferenza mondiale Habitat II (Turin: 1996); Roberto Gambino, "Aree dismesse. Da problemi a risorse," in Egidio Dansero et al. (eds.), *Se i vuoti si riempiono, Aree industriali dismesse: temi e ricerche* (Florence: Alinea Editrice, 2000); Carmela Gargiulo (ed.), *Processi di trasformazione urbana e aree industriali dismesse: esperienze in atto in Italia*, Atti dei convegni Audis 1999/2000 (Venice: Edizioni Audis, 2001); Guido Callegari et al. (eds.), *Stop & Go. Il riuso delle aree industriali dismesse in Italia. Trenta casi studio* (Florence: Alinea Editrice, 2005).
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15 Enrica Papa, "Un processo di integrazione tra pianificazione e programmazione degli interventi: il caso dell'area dismessa di Bagnoli," in *XXIII Conferenza AISRe* (Reggio Calabria: 2002).
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5. TWENTIETH CENTURY

5.4.5 Rediscovering a Port-city: Genoa's New Waterfront

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Abstract
As part of the session on the rediscovery of the post-industrial city centre, the aim of this paper is to offer an outline of the recent renovation projects of old Genoa's harbour and waterfront.
These interventions and changes, promoted by public and private enterprises in the last twenty years, can be seen as examples of successful goals in the urban regeneration of a harbour-city along the coast of the Mediterranean. Genoa is one of the Italian cities whose centre is exactly coincident with the harbour itself and the life around it, concentrated mostly in the historic centre, and within this frame this paper's intent is to highlight how the Genoese citizens have re-appropriated and re-identified the city's historic values as well as its touristic potential. Moreover the study-cases that will be presented will clarify how this transformation resulted into a re-launch of the waterfront as a suitable area for commercial purposes as well as for entertainment, tourism, real estate and cultural events.
After a brief introduction focussing on the port-city of Genoa from the commercial/industrial era, through the recession of the 1970's and 1980's to the recent development as a post-industrial maritime and liveable centre, the paper will examine other examples, both urban and architectural in scale, located in Italy and in other Mediterranean port-cities.

Keywords
Genova-Genoa, harbour, waterfront, redevelopment, RPBW

'Chi guarda Genova sappia che Genova si vede solo dal mare'
Ivano Fossati, "Chi guarda Genova"[1]

This presentation offers an overview of the recent transformations and renovations of the harbour waterfront of Genoa, seen as a good example of regeneration in a post-industrial society.
Since ancient times, the harbour of Genoa was considered among the most important in the Mediterranean;[2] its position as an important commercial centre was already established during the Middle Ages, when Genoa contended for supremacy with other important Italian harbour cities like Venice, Pisa and Amalfi.[3] The harbour grew fast and made the fortune of the city in the following centuries and through its business policy and strength, Genoa, known as *La Superba*, the Proud, became, in the Renaissance and Baroque times a very powerful, rich and wealthy city.[4]
In the rush of industrialization, occurring during the last two centuries, Genoa turned out to be one of the protagonists of the modernization of Italy, revealing a new aptitude for naval engineering, steel production and heavy industries. In the 1930s, the city became the main centre for state industry, connected through modern infrastructures to other important cities of North Italy like Milan and Turin, establishing the so-called 'Industrial triangle.' Furthermore, Genoa maintained its ruling position as a gate to the seas, commercial harbour and crossroad for emigration towards Americas. Today, even with the transformation of global sea routes, the harbour of Genoa leads all other Italian harbours in volume of cruise line passengers and goods traffic, and remains the main source of income for the city.[5]
The harbour cannot be separated from the rest of the city; what is known today as the Centro Storico, or historic centre, was in the past an integrated part of the harbour life itself. As Nicoletta Artuso states in a recent research: 'A strong relation between the city and the spaces of the harbour is understandable in the richness and complexity of a series of connecting systems, alternating urban, nautical, industrial and commercial functions.'[6]
The crisis generated in the large state-controlled industries[7] was among the reasons that brought Genoa into a slow but inevitable decline. Genoa suffered long term effects from post-industrialization in Italy; the city had to reconvert all the previous industrial activities into a competitive market, looking for new sources and incomes in order to survive and to become a more profitable pole of attraction. According to a study conducted by Chito Guala, the same condition involved many old harbours that have been reconverted after the crisis in those years:

> The processes of recovery and improvement of the values of the old harbours are also the requirements of redevelopment of cities in international competition: the competition, not only at national level, involves more and more metropolitan areas and the macro-region as well. A competition that aims to different goals, sometimes distant from each other; to obtain productive investment through localized marketing actions, to integrate public and private sectors with new approaches to governance, enhance social capital, start a new local model, join forces towards shared goals, and reunify local society and economic factors.[8]

After the collapse of the industrial and harbour activities, Genoa needed also to solve problems related to urban transformation; the historic centre was even more hit and damaged by the crisis, creating unemployment and social malaise among the local population.[9]
Finally, in the Nineties, the harbour of Genoa was renamed as the Porto Antico, the Historic Harbour, emphasizing its purposes as a new centre for culture and entertainment as well as tourism, without losing its primary functions [Figure 1]. The Porto Antico now brings income to the city following a more global trend, an experience visible in the case of other harbours' transformation, like Baltimore, Valencia or Barcelona.[10] The harbour of Genoa has been developed to maintain several different functions, related to a heterogeneous urban region and to promote alternative, productive and autonomous spaces. Guala analyzed these specific stratifications of the harbour of Genoa, asserting that:

Figure 1. The *Porto Antico*. *Source:* photograph by the author.

> In many cases, as happened in Genoa, the old port areas have maintained at least in part a mix of traditional functions, for example, reserving a few piers for cruise ships, navy or coastguard, or the Harbour Authority, together with entirely new functions, related to spare time, cultural events, etc.[11]

Several international institutions have chosen the case of the urban regeneration of the harbour of Genoa to highlight the value of such interventions in a historic area. LUDA project made a research, showing the benefit originated by that regeneration process:

> The regeneration of the city of Genoa is already having results. Apart from the successful staging of international events over the last 15 years, many individual projects have been successfully implemented. Parts of the Centro Storico are now free from traffic, and many of the most important buildings have been renovated and upgraded. These actions have helped to improve the quality of life for the local residents and make the area more accessible.[12]

Many projects in the last years have been part of an effort to regenerate the waterfront; some have been realized, like the Galata Museum of the Sea and the Navigation, [Figure 2] while others instead rejected or left still in a 'stand-by' phase, like the Ponte Parodi multipurpose centre.[13]
The world-reknowned Genoese architect Renzo Piano first started the redevelopment of the old harbour designing a huge project for Expo '92, an international fair organized to celebrate the 500th anniversary of Columbus' discovery of America. This project reopened the city and the historic centre to the harbour, the sea and to the Genoese population as well. Expo '92 transformed the old wharves, piers and berths into a new tourist attraction and multipurpose cultural area by restoring and converting buildings like *I Magazzini del Cotone*, the old Cotton Warehouses, *I Palazzi della Dogana*, the Customs' buildings dated from the 17th Century, Ponte Millo and by building new structures like the Aquarium, the Nave Blu or opening piazze, like Piazza delle Feste, and pedestrian areas as well.
The main landmark of redevelopment in the old harbour is the *Bigo*, a sort of industrial maritime sculpture shaped like a ship's derrick, but its main function is to support a panoramic lift on the quayside - to admire the entire basin of the harbour - and to provide a sort of tent to cover the Piazza delle Feste.
The Aquarium is a linear structure designed as a cargo ship, which holds over 5 million liters of water and authentic Mediterranean and ocean envi-

Figure 2. The Galata Museum. *Source:* photograph by the author.

ronments. The Nave Italia, (now renamed nave Blu) is a continuation of the same concept; a sort of ship-shaped aquarium. During the G8 Summit in 2001, Renzo Piano added *La Bolla*, the Bubble, a glass structure on a floating platform close to the Aquarium, a spherical greenhouse for rain forest plants. More recently, in the summer 2013, a new pool for the dolphins has been added to the complex, between the Aquarium and the Nave Blu.
On the other side, towards East, the Millo docks have been converted in a multipurpose structure, with restaurants and retail activities as well as the Antarctic Museum; the 16th Century Porta Siberia became a museum dedicated to the works of the Genoese artist Emanuele Luzzati; the Navy Harbour Authority and the multi cinemas structure were planned from 'zero,' while the *Magazzini del Cotone* dock was converted into a new congress centre of 8500 square meters and 18 conference rooms with restaurants, bars, shops related to marine and sports activities, a children's library, and a huge playground.

Today, Genoa's waterfront gives the impression that the city itself is ready to sail somewhere at any time. The re-designed waterfront now extends the entire length of the harbour areas, from the Malapaga old walls towards the Lighthouse Cape, a precedent for future interventions in other coastal cities needing to be renovated.
However, there are many problems still to be solved;[14] the regeneration of the harbour of Genoa was possible only thanks to national or international events like the FIFA World Cup – Italy 1990; the Columbus Celebration in October 1992; the G8 Summit during the summer of 2001; and the European Capital of Culture in 2004. In almost twenty-five years of regeneration in the historic centre as well as in the old harbour, public and private investors supported several projects and the transformation of Genoa from an industrial harbour city to an advanced service centre is quite visible today.
Despite all these important changes, especially as regards tourism and cultural offerings, the city is still struggling to get rid of its image as an unpleasant and dirty industrial city, as noted also in the LUDA research. Moreover, the renovation of the city waterfront is going very slowly and it seems that interventions from 'above' or injections of capital for big projects are unlikely to be successful unless they are supported by an effective local policy in the medium and long term.
A new project by the Renzo Piano Building Workshop in 2004, 'A Vision for the Port of Genoa,' opened again a debate on the future of the city. After some initial enthusiastic reactions from the Municipality, the Port Authority and several private investors, the project has unfortunately been abandoned, on account of financial problems and difficulties in find management able to carry out such a big initiative.[15]
Will Genoa, in the next years, be able to change its mentality to reproduce, in macro scale, the successes obtained within the waterfront harbour experience? And even more, will the city be able to generate a real awareness of the possibilities given by such transformations ,and establish an international reputation as a tourist destination, redefining its image and identity abroad?

1 The Genoese singer and songwriter Ivano Fossati wrote this lyric for a song that means that Genoa is a city that shows its best just seen from the sea; the whole greatness of the city with all its contradictions is more clear and visible approaching the city by the sea.

2 For further and more detailed information about the geography and the history of Genoa see: Paolo Cevini and Ennio Poleggi, *Genova. Le città d'Italia* (Bari-Rome: Laterza, 1998); Ennio Poleggi and Luciano Grossi Bianchi, *Genova. Una città portuale del Medioevo* (Genoa: Sagep, 1976) and Ennio Poleggi, *Ripa porta di Genov*a (Genoa: Sagep, 1993).

3 The four cities were known as the 'Four Maritime Republics.' Genoa continued to flourish as a commercial harbour, reaching its peak in the 13th and 14th centuries when the Genoese, the Lords of the Seas, controlled trades throughout the entire Mediterranean, along the coast of North Africa, in the Black Sea region and in the Aegean Sea. Its supremacy and strength is still visible through many traces and ruins of their ancient fortifications, citadels and towns in places like Tabarka (Tunisia), Chios and Lesbos (Greece), Galata district in Istanbul (Turkey) or Teodosia and Sudak (Crimea).

4 The grandeur and the magnificent of the city are still visible in the beautiful examples of artistic expressions, architecture and urban design left in those years.

5 About the harbour of Genoa, the Independent Institute for Analysis and Research (IIAR) presented some years ago a study: Scenari Immobiliari (Indipendent Institute for Analysis and Research) (ed.), "The Property Market in Genoa," (2007).

6 Nicoletta Artuso, "The Harbour and the city," in Simona Gabrielli (ed.), *Genova. Architettura, città, paesaggio*, (Rome: Mancosu editore, 2008), 43.

7 In the de-industrialization process, that started in the Seventies and completed in the Eighties, the crisis effects where visible globally, not only in Italy but also in the other industrialized countries.

8 Chito Guala, "Waterfront e rigenerazione urbana," (2007), 1, found in date 15 March 2014 in: http://www.economia.unical.it/test/sturistiche/collegamenti/56.pdf.

9 For instance, a gap between the historical centre and the harbour was even more emphasized by the construction in the early 1960s of the 'Sopraelevata,' an elevated motorway on pillars, that became an unpleasant barrier dividing the city in two parts: the harbour and its functions on one side and the historic centre on the opposite one. The integration of the two parts is still in the agenda of the city administrators and many intervention projects and competitions have been developed in the recent years.

10 The Porto Antico is currently used as a multipurpose area, including a residential neighbourhood, a tourist and cultural activities and other services. It is divided into two main areas given in concession by the State to the Porto Antico di Genova S.p.A. and Marina Porto Antico S.p.A. and an area directly managed by the Municipality of Genoa.

11 Guala, "Waterfront e rigenerazione urbana", 3.

12 LUDA Project (ed.), "Centro Storico & Porto Antico, Genoa, Italy. E-Compendium: Good Practice Case Studies," (School of the Built Environment at Napier University, Edinburgh and department of Geography and Geology at University of Salzburg, 2005). For more information about the LUDA Project see: http://www.luda-project.net.

13 The following list provides some basic information about the name of the projects, the architects, years of construction, location and the present day status:

(1) The Expo '92 project by Renzo Piano Building Workshop including the Cotton Warehouse, the Harbour Authority, the Porta Siberia Museum, the Millo Docks, the Palaces of the Customs, the Bigo, the 'Piazza delle Feste,' the Aquarium, the Nave Italia, the Bubble and the Dolphins Pool. Years of construction: 1987-2014 (realized in distinct phases, as described in the main text).

(2) The Galata Museum of the Sea and Navigation by Guillermo Vazquez de Consuegra at Ponte Galata in 2004.

(3) The Design docks 'Il Bacinetto' by Studio GAP Associati in Darsena area in 2004 (not realized).

(4) The Marina Porto Antico and the Jolly Hotel Marina by Piero Gambacciani at Ponte Morosini between 1993 and 2000.

(5) The small promenade by Studio 5+1AA in a pedestrian area between the Porto Antico and Galata area, completed in 2007.

(6) The Ponte Parodi multi-purpose centre by UN Studio at Ponte Parodi; project between 2000 and 2015 (not yet completed);

(7) The Faculty of Economy by A. L. Rizzo in Cembalo, after 2001.

(8) The residential buildings and primary school by Studio Patrocchi in Cembalo area, between 2001 and 2004.

(9) The reconversion of the Hennebique silo by Studio Boeri Associati in Ponte Parodi area (designed after 2004 but not yet realized).

(10) The renovation of Ponte dei Mille Terminal, the Maritime Station and Ponte Andrea Doria Maritime Terminal by the technical office of the Municipality in existing buildings back to 1930; first phase 1991-92 and completed in 2001-2004.

(11) The Stazioni Marittime Spa–SIT, including the Ferry Terminal in Calata Chiappella, the 'Docks light box' and the renovation of Ponte Colombo Passenger Terminal (dated 1920) by A. L. Rizzo and Studio 4; year of construction: 1999-2015 (in phase of implementation);

(12) The Lighthouse Promenade by Andrea Marenco, Architettiriuniti and Studio 4, realized in 2001.

14 In 1999 several projects were designed by the Urban Planning Office of the Municipality of Genoa like the reconversion of Hotel Colombia into an university library; the student's lodgings in old houses throughout the historical centre and the restoration of the old docks inside the Darsena area. See: Antida Gazzola, "La città policentrica: il caso di Genova," in Angelo Detragiache (ed.), *Dalla città diffusa alla città diramata* (Milan: Franco Angeli, 2003), 165-84.

15 The first version of the project for the entire waterfront of Genoa, also known as 'The Fresco', was presented on 25th may 2004, during the European Capital of Culture Genoa 2004 events. The project was intended as a 'harbour landscape', involving the entire city; it was the result of a six months intensive work, an overall view of the city of Genoa in the future, an accurate master plan for the city, composed by twenty specific sections. In each section it was possible to see the feasibility of several distinct projects, including some artificial islands like the one for the new airport, a series of new docks for the sea 'motorways', a fishing harbour and a tourist marina in Voltri, the 'City of the Sea' as Exhibition and Fair Centre at La Foce district providing an extension of the waterfront from the harbour towards the seaside promenade Corso Italia, redefining new pedestrian walkways and green urban areas as well. Renzo Piano donated the project to the city of Genoa and today the panels are exhibited inside the spaces of the Galata Museum. See: "Genoa's Waterfront Project," in *B2L – Business to Liguria* 1, n. 3 (2004).

5. TWENTIETH CENTURY

5.4.6 A Return to Growth

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Abstract
Despite its strong system of food markets, Turin relies on its rural surroundings, peri-urban area, and global exchange for production and delivery of its food supply. Can a renovation of Turin's food supply system strengthen its redefinition of its centre while at the same time reducing its dependence on fossil fuels in its food system? If a shift towards the centre took place in which the abandoned factories became hubs of food production, might Turin's historical strength as a capital of labour, productivity and innovation resurface? There are historical realities to consider and address: the industrial heritage leaves a toxic legacy and the existing means of production, largely globalised, are entrenched and its managers reticent to see it replaced.
Imagine a Turin fed from within its urban and peri-urban boundaries. People no longer have to import goods from their homeland or region because they now grow these foods of within Turin's city limits. Prior to any design exercise or at least at the very start of it, though, a thorough consideration of historical Turin's means of agricultural production must take place. Can Torinites rediscover and reinterpret the layers of the city's rich history while unearthing the districts of former and future food security?
The heart of Turin's future, as described in a document by the Città di Torino, is in the city's thriving markets. Porta Palazzo and smaller markets attract the attention of delegates and dignitaries looking for keys to modern food security and urban revitalization. Equally, its citizens look to urban agriculture for employment and a deeper connection with their daily food and the city around them. A design for a new, culturally rich and multi-layered Turin, illuminated by its past and promising of a bright future, must begin with research into Turin's industrial heritage as a stage for feeding its people.

5.5 Strategies and Politics of Architecture and Urbanism After WWII

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5.5.1 From Visual Planning to Outrage: Townscape and the Art of Environment

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Abstract
After the Second World War, many in Britain felt that an army of diligent architects and planners might still wipe out what the bombs had initially missed. Post-war reconstruction, urban expansion and the ongoing modernisation of the Britain's towns, cities and countryside, all contributed to a growing sense of discontentment with what would only later become known as 'the built environment'. Ian Nairn's popular campaigns 'Outrage' (1955) and 'Counter-Attack' (1956) are among the most well-known examples lamenting the resultant blight, visual pollution, sprawl, visual decay and degradation of Britain's town and country in the decade since the war's end.
Nairn's work was part of the broader Townscape campaign run out of the leading magazine of the day, *The Architectural Review* (AR). Although Townscape was first launched in name in 1949, it had a long series of precursors at the magazine. Known variously through the 1940s as 'Visual Planning' and 'Sharawaggi', the *AR* had been highlighting the effects of unchecked urban development and creeping modernisation since the late 1920s. Indeed, this line of critique was not new in Britain, extending back to the early twentieth century and beyond with such notable examples as Clough Williams Ellis, Arthur Trystan Edwards and William Morris earlier still. Underlying the *AR*'s Townscape project, was what Gordon Cullen termed 'the art of environment,' which rather than excluding the miscellany thrown up by modernisation, tried to artfully incorporate it within the remit of those charged with designing the built environment – the 'visual planner'.
This paper seeks to illustrate how Townscape anticipated many aspects of the environmentalist critique that later became part of the mainstream of architectural and urban design culture in the 1960s and 70s.

Keywords
Urban design, townscape, environmentalism, urban planning

5. TWENTIETH CENTURY

The environmentalism of the 1960s and 1970s is often held as one of the key battle lines in the wider rejection of modernism in architecture and planning. This paper discusses the Townscape movement in Britain as a precursor to these environmentalist debates and as a major contributor to the architectural discourse in the post-war period.
Between 1930 and 1980 *The Architectural Review* (*AR*) published over 1400 articles, studies, projects and editorials, on 'Townscape', many of them little known. Some of these anticipate aspects of the environmentalist critique that later became part of the mainstream of architectural and urban design culture in the 1960s and 1970s. Throughout this period, the Townscape circle set about drawing attention to a particular form of degeneracy and debasement of what would later become known as 'the built environment'. In contrast to the mainstream of environmentalism, which was aligned with broader issues such as anti-nuclear energy protest, atmospheric pollution or the preservation of natural landscapes and ecologies, Townscape's interest was in particular subset of environmentalism: visual pollution, blight, visual decay, sprawl and general urban degradation brought about by the effects of urbanisation and modernisation.

A history of blight

The interests pursued by Townscape throughout its campaign were not new, but drew on a strain of architectural and urban writing that had a long tradition in Britain extending back to the nineteenth century. At a lecture at Oxford in 1883, William Morris set the tone of deep discontent with urbanisation – of his contemporary cities, Morris noted:

> Not only are London and our other great commercial cities mere masses of sordidness, filth, and squalor, embroidered with patches of pompous and vulgar hideousness, no less revolting to the eye and the mind when one knows what it means: not only have whole counties of England, and the heavens that hang over them, disappeared beneath a crust of unutterable grime, but the disease, which, to a visitor coming from the times of art, reason, and order, would seem to be a love of dirt and ugliness for its own sake, spreads all over the country, and every little market town seizes the opportunity to imitate, as far as it can, the majesty of the hell of London and Manchester [...] our civilisation is passing like a blight, daily growing heavier and more poisonous, over the whole face of the country, so that every change is sure to be a change for the worse in its outward aspect. So then it comes to this, [...] the very food on which both the

> greater and the lesser art subsists is being destroyed; the well of art is poisoned at its spring.[2]

The degenerative effects of industrialisation and modernisation on cities was a familiar theme in nineteenth century social criticism, and Morris had many antecedents. Out of this line of thought, which was characterised by a combination of political radicalism with an essential conservatism, there developed a strong tradition of anti-urbanism, best exemplified by Peter Kropotkin and by Ebenezer Howard's *Garden Cities of To-Morrow* (1898).[3] In Britain, these traditions were kept alive by the Town and Country Planning Association, and were officially sanctioned with the post-war New Towns programme.[4]

A parallel development at the beginning of the twentieth century was a shift towards the validation of natural sites, in addition to buildings of historical significance. The *AR* and Townscape offered a refinement of these genres of writing, lamenting the visual degradation of cities.

This discourse increased throughout the 1950s, achieving broad resonance by the 1960s. From the 1960s onwards, a variety of authors translated the critique of the negative effects of urbanisation and modernisation into a broader criticism of post-war architecture and urbanism. Well-known examples from the United States include Jane Jacobs's *The Death and Life of Great American Cities* (1961),[5] Christopher Tunnard and Boris Pushkarev's *Man-Made America* (1963)[6] and Peter Blake's well-known *God's Own Junkyard* (1964).[7] In Australia, these studies were complemented by Robin Boyd's *The Australian Ugliness* (1960)[8] and Donald Gazzard's *Australian Outrage* (1966).[9] Twentieth century histories, such as Nan Ellin's *Postmodern Urbanism* (1996) or the various urbanism and urban design readers which emerged from the 1990s onwards, generally point to these texts as the foundational documents of post-war urban critique, all of which focussed on the degradation and poor planning and design of the urban environment.

The origins of Townscape's environmentalism

Townscape has rarely been considered as part of this reformist tendency within modernism. When it has been remembered at all, it has been elided with later, conservative movements in architecture, and its part in the development of this reformist theme within modernism has often been overlooked.

Townscape's foundational moment was in the 1930s where the *AR*'s editors and writers problematised the effects of inter-war expansion and modernisation in British cities, towns, and countryside. In doing so, they drew on a tradition stretching back to Arthur Trystan Edwards (1884-1973) and Clough Williams-Ellis (1883-1978), both frequent contributors at the *AR* in the 1920s. Edwards's *Good and Bad Manners in Architecture* (1924)[10] had advocated a sympathetic approach to inserting new building into existing contexts, and Williams-Ellis's *England and the Octopus* (1928)[11] was a biting and humorous critique of the perils of urban expansion – in which the Octopus was none other than London.

Williams-Ellis's work is of particular interest as it embodies the tipping point where pure conservationism turns into a fascination with – or least artistic stimulation by – the effects of modernisation and urbanisation. In 1937, Williams-Ellis went on to edit *Britain and the Beast*, a collection of essays from prominent British intellectuals and writers pleading the sensitive handling of historical buildings, planning and scenery.[12] Today, he is perhaps more remembered for Portmeirion, the faux historic Welsh town modelled on an Italian seaside village. Begun in 1925, Portmeirion displays an outspoken historicism and is an early example for those groups who would later posit that the only sensible approach to dealing with contemporary building and planning issues was a return to the past.[13] Townscape shares a common heritage with this 1930s moment, and it is for this reason that it has mistakenly been grouped with subsequent reactionary movements.

In 1929, and coinciding with the new editorship of Hubert de Cronin Hastings, the *AR* began a monthly column entitled "Rural and Urban England".[14] These articles documented insensitive advertisements and buildings, much in the manner of Williams-Ellis. In 1931, John Betjeman, then assistant editor of the *AR*, began a series that spotlighted the effects of urbanisation and modernisation in England, and in the process began to reveal the divide between the conservative and progressive elements of Townscape. Betjeman's particular attitude was antiquarian but not revivalist.[15] In a 1932 article, he explained:

> We have created a machine age and we should not be afraid of it, but rather become accustomed to it and control it. […] Two hundred years ago England was a park dotted here and there with mellow towns; now it is a town dotted here and there with derelict parks.[16]

Out of these early articles, Betjeman wrote *Ghastly Good Taste, or, A Depressing Story of the Rise and Fall of English Architecture* (1933),[17] which, minus the pomp, can be seen as a forerunner to many subsequent satirical histories.[18] Other authors such as W. A. Eden sought to recover an 'English' disposition towards the design of cities that would soften the blow of the

rampant inter-war modernisation. Eden found an explicit tradition in eighteenth century landscape gardening (a theme that would take an increasing role in Townscape's theoretical bases) that evidenced a 'desire of man to improve his environment, either economically or aesthetically, and that we may justly claim that the tradition of the English countryside is a tradition of improvement rather than of preservation.'[19]

After the war, Townscape became more international in its scope. This international diffusion of Townscape's message, and its incipient environmentalism, was encouraged by the fact that many of the authors formerly associated with the *AR* were by then working in other countries. Tunnard in the United States and Boyd in Australia had both had been contributors to the *AR* and were wholly familiar with Hastings's ideas. In an address to the New South Wales Chapter of the Royal Australian Institute of Architects in 1948, Clough Williams-Ellis took some time to explain a context that was already very well understood in Britain. He stated:

> Our monstrous towns have been choked by their own waste products. They no longer function very efficiently. They never did function very efficiently, and now their inefficiency is grotesque. They become, most of them, little better than nurseries for barbarians, from which the disgusted and more enterprising people sought to escape into what we had considered our country and inevitably brought that barbarity with them and so spoiled the countryside. It was my despair in seeing the shrivelling, the dishonouring of our lovely countryside by little patches of buildings or individual buildings that did not understand the country in the least – thoroughly urban and shoddy – that drove me to get a real and passionate interest in town planning [...].[20]

Townscape and the postwar campaigns

Throughout the 1940s, the split between the nostalgic revivalism of conservationist groups, and Townscape's advocacy of moderate modernism and 'compromised' town planning, widened. By the 1950s Townscape's message had become a matter of wider public debate, and began to dominate the pages of the *AR*. From the 1940s, Gordon Cullen's memorable illustrations, studies and design projects appeared with increasing frequency, eventually becoming synonymous with Townscape. Later, Kenneth Browne's voluminous output from the 1950s onwards served to cement the public perception of Townscape. But it was Ian Nairn, a twenty-five-year-old ex-airforce pilot with no formal architectural or planning education, who was to produce some of the most influential polemical pieces of the post-war period.

Nairn's major works *Outrage* (June 1955)[21] and its follow-up, *Counter-Attack* (December 1956)[22] (both published as special issues of the *AR*) mark the beginning of a paradigm of built environment writing that, on the one hand, targeted the objects of Morris's nineteenth century fury, but, on the other hand, (and in contrast to the revivalism of Portmeirion), followed Betjeman's call for the mastery of modernisation, seeking instead to transform the mess of the everyday into the new materials of urban design. Specifically, Nairn's work focussed on sprawl and the visual and physical pollution that rapid and ad-hoc urbanisation has brought about. Using a car and his flying skills, he documented places which evidenced the process of vulgar modernisation: electricity pylons and telegraph wires, signage, advertising billboards, street furniture, lighting, road markings, badly hacked-up trees, coarse tasteless buildings and insensitive infrastructure. Today, Nairn's observations seem commonplace, so total has been their acceptance, but in the 1950s Nairn termed this phenomenon 'Subtopia':

> the doom of an England reduced to universal Subtopia, a mean and middle state, neither town nor country, an even spread of abandoned aerodromes and fake rusticity, wire fences, traffic roundabouts, gratuitous notice-boards, car-parks and Things in Fields. It is a morbid condition which spread both ways from suburbia, out into the country, and back into the devitalized hearts of towns, so that the most sublime backgrounds, urban or rural, English or foreign, are now to be seen only over a foreground of casual and unconsidered equipment, litter and lettered admonitions – Subtopia is the world of universal low-density mess.[23]

Nairn was the editor of *Outrage*, but Hastings's editorial influence was never far away. Earlier, in August 1948, an anonymous editorial (most likely by Hastings) termed the *AR*'s subject of interest, 'the submerged third'; the third of the built environment that had escaped the attention of design professionals but which needed to be brought back within the fold: floorscapes, roofscapes, wirescapes etc. Much later, Hastings developed another term, SLOAP (i.e. Space Left Over After Planning), to describe this same phenomenon. Throughout the 1950s and into the 1960s, the *AR* – supported by its parent publishing house the Architectural Press – became the main organ for the English speaking world's fascination with the issue. In December 1950, Christopher Tunnard, a regular contributor to the *AR* in the 1930s, edited a special edition, titled "Man-Made America".[24] After relocating to

the US, Tunnard published *The City of Man* (1953) with the Architectural Press as a plea for a more human approach to urban planning and design.[25] Landscape architect Sylvia Crowe contributed a series of articles in the *AR* on the effects of urbanisation and published two notable books on the subject with the Architectural Press: *Tomorrow's Landscape* (1956),[26] and *The Landscape of Roads* (1960).[27] Elisabeth Beazley's appropriately named, *Design and Detail of the Space between Buildings* (1960),[28] dealt with one of Townscape's enduring preoccupations, and in 1965, Lionel Brett, another early Townscape contributor, published his own ode to blight, again with the Architectural Press, *Landscape in Distress* (1965).[29]

By the end of the 1950s, the neglect of everyday environments was a theme that was being debated beyond Britain. In the United States, J. B. Jackson's publication *Landscape* during the 1950s presented a parallel fascination with the deleterious effects of modernisation. Like Hastings's Townscape, Jackson's point of view was not restricted to attacks on vulgar commercialism, but proposed a more catholic and synthetic approach to the emerging car-based landscape of 1950s USA.[30] Jacobs's landmark *The Death and Life of Great American Cities* (1961), although more social in nature, is clearly a lament on the impoverishment of the urban environment.[31] In 1957, Jacobs had collaborated with both Gordon Cullen and Ian Nairn on their ground-breaking essay "Downtown is for People" as a part in *The Exploding Metropolis* collection which combines Townscape's post-war visual critique, with Jacobs's social reform agenda; a message wholly familiar to the readers of both the *AR* and *Architectural Forum* magazines by the end of the 1950s.[32]

Nairn continued on the lines originally laid down in *Outrage* with two books in the 1960s: *Your England Revisited* (1964),[33] and *The American Landscape. A Critical View* (1965).34 The latter appeared one year after the most famous book in this genre, Peter Blake's *God's Own Junkyard: The Planned Deterioration of America's Landscape* (1964), and although it had been researched and written several years before, is virtually identical in its scope and style.[35]

Beyond Townscape

By the 1960s, a realisation was emerging that damage to the natural environment, unchecked urbanisation and the creeping effects of modernisation were not unconnected. Less clear is how Townscape intended to combat such problems. Townscape's most insightful observation was to widen the scope of design in the built environment, to include the other 'two-thirds' of visible matter that had been routinely neglected by design professionals previsously. The other major conceptual innovation was the move away from the perceived modernist austerity of ideal forms, repetition without difference and stand-alone objects, towards a more synthetic and scenographic approach to urban design. In his landmark "Exterior Furnishing or Sharawaggi: The Art of Making Urban Landscape" from January 1944, Hastings had called for a comprehensive *picture* of planning, intended to include all the miscellany thrown up by modernisation, which, he proposed, could be brought back within the design remit. 'English cities', wrote Hastings in 1944,

> will always be an extraordinary hotchpotch of competing elements; […] the visual problem is to coax these competitors into a larger harmony. Yet surely it is clear by now that the real as opposed to the ideal city, far from being all crystal towers and tennis courts, will be a thing of infinite variety, where for instance the Victorian dolls-house must be politely encouraged to lie down with Mr. Frederick Gibberd's flats.[36]

For Townscape and other allied projects, the blight and deterioration of the urban environment was a battle-cry, a summons to engage more closely with the built environment. But for other groups the problems of urban degradation were met with reactionary solutions – aesthetic control and urban beautification projects, as proposed by Williams-Ellis and practised by many municipal councils, and subsequently, New Urbanists, Prince Charles and his followers. In contrast, Townscape's proponents saw ugliness, sprawl and blight as symptomatic of the general collapse of the design professions' ability to engage with real-world problems. Hastings summarised the situation in "Exterior Furnishing" as being a three-way battle between (Figure 1), the anti-urbanism of the garden city movement and the then budding New Towns movement (Figure 2) the historical revivalism of the British architectural establishment, typified by what Hastings termed 'Bankers Georgian, and (3) the utopianism of international modernism, termed by Hastings, the 'Bauhausians'.[37] 'Exterior Furnishing', wrote Hastings, 'is sympathetic to all three; […] it lends itself to compromise, which is the English form of synthesis.'[38] To carry out this 'synthesis' Hastings invented the role of 'Visual Planner', a recommendation elaborated upon by Nikolaus Pevsner throughout the 1940s and 1950s in a series of *AR* articles in preparation of a book, which was ultimately published posthumously as *Visual Planning and the Picturesque* (2010).

It is easily forgotten how modern the Townscape's proposed architecture was intended to be. Unlike subsequent movements associated with post-modernism where the 'enemy' was modernism, for Hastings and Townscape

it was 'modernisation' – a distinction often passed over in twentieth century histories. Nevertheless, it is also clear that Townscape failed to articulate a satisfactory design methodology – a failure which is the most likely cause for the loss of interest in Townscape and its subsequent mistaken alignment with the culturally conservative and historicist approaches to urban design that emerged in the 1980s.

The fate of Gordon Cullen's most famous book, *Townscape* of 1961, played no small part in the misinterpretation of Townscape. The original edition of *Townscape* was a collection of design studies and projects that had been published in the *AR* over the two previous decades. Many of them demonstrated Townscape's particular approach of fusing modernist architecture within traditional European urban settings. In 1971 the book was abridged and reissued as *The Concise Townscape,* but minus these modernist examples. *The Concise Townscape* is still in print, and has become a reference book for 'sensitive' urban design. It retains nothing of Pevsner's historical framework in *Visual Planning*, nor of Nairn's biting polemic in *Outrage*, nor of Hastings's eclectic Sharawaggi. Perhaps sensing a disappointment and confusion already palpable in the early 1970s, Cullen's preface to *The Concise Townscape* is also a kind of eulogy to Townscape:

> there is an *art of environment*. This is the central fact of Townscape but it has got lost on the way, the environment gladiators have cast lots for it and parted it amongst them. On the one hand is has devolved into cobbles and conservation, and on the other it has hived off into outrage and visual pollution. Neither of these, if I may be allowed to breathe it, is germane to the art of environment. And consequently, ten years later, it becomes necessary to start again. Now is the time to fashion a more realistic tool.[39]

1 This paper is a development of research first presented at the Annual SAHANZ conference at the Gold Coast in July 2013. Aspects of this paper we also published by the author as "The Boyd Ultimatum," *AA Files* 66 (2013), 59-67.

2 See William Morris, *Architecture Industry and Wealth: Collected Papers by William Morris* (London: Longmans, Greens and Company, 1902), 172-3.

3 Such a lineage continues with Lewis Mumford and his call for regionalism in his landmark *The Culture of Cities* (1938).

4 In this history, the planner Thomas Sharp's work in the 1930s and 1940s is of interest as it spanned both sides of the this debate in planning. Sharp was engaged at the Architectural Review throughout this period and published several of his most famous books on planning with the AR's parent publisher, the *Architectural Press*.

5 Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).

6 Christopher Tunnard and Boris Pushkarev, *Man-Made America: Chaos or Control? An Inquiry into Selected Problems of Design in the Urbanized Landscape* (New Haven: Yale University Press, 1963).

7 Peter Blake, *God's Own Junkyard: The Planned Deterioration of America's Landscape* (New York: Holt, Rinehart & Winston, 1964).

8 Robin Boyd, *The Australian Ugliness* (Melbourne: Cheshire, 1960).

9 Donald Gazzard (ed.), *Australian Outrage. The Decay of a Visual Environment* (Sydney: Ure Smith, 1966).

10 Arthur Trystan Edwards, *Good and Bad Manners in Architecture* (London: John Tiranti, 1924).

11 Clough Williams-Ellis, *England and the Octopus* (London: Geoffrey Bles, 1928).

12 Clough Williams-Ellis (ed.), *Britain and the Beast* (London: John Dent and Sons Ltd., 1937).

13 Such historicism continued parallel to other movements in the postwar period, such as Prince Charles's faux-historical town Poundbury, and his well-know architectural lament *A Vision of Britain* (1989) would suggest. HRH The Prince of Wales, *A Vision of Britain: A Personal View of Architecture* (London: Doubleday, 1989).

14 For a discussion of this series, see Robert Elwall, "How to Like Everything," *The Journal of Architecture* 17, n. 5 October (2012), 672-4.

15 John Betjeman, "The Death of Modernism," *AR* 70 (1931), 161; "The Passing of the Village," *AR* 72 (1932), 89-93; "Leeds: A City of Contrasts," *AR* 74 (1933), 129-38.

16 Betjeman, "The Passing of the Village", 93.

17 John Betjeman, *Ghastly Good Taste: Or, a Depressing Story of the Rise and Fall of English Architecture* (London: Chapman & Hall, 1933).

18 See Boyd, Lancaster. For other such works from Betjeman, see John Betjeman, "The Seeing Eye or How to Like Everything,"

AR 86 (1939), 201-4; "Nonconformist Architecture," *AR* 88 (1940), 160-74.
19 W. A. Eden, "The English Tradition in the Countryside. I. Making of the Tradition," *The Architectural Review* 77 (1935), 87-94.
20 Clough Williams-Ellis, "Developments in Town Planning, and New Towns in England," *Journal of the Royal Australian Institute of Architects*, vol. 36, n. 1 (January, 1948), 21.
21 Ian Nairn (ed.), *Outrage* (London: The Architectural Review, 1955).
22 Ian Nairn (ed.), *Counter Attack*, (London: The Architectural Press, 1957).
23 Nairn, "Outrage," 363.
24 Christopher Tunnard (ed.), "Man Made America [Special Edition]," *AR* 108, n. 648 (1950), 338-414.
25 Christopher Tunnard, *The City of Man* (London: The Architectural Press, 1953).
26 Sylvia Crowe, *Tomorrow's Landscape* (London: The Architectural Press, 1956).
27 Sylvia Crowe, *The Landscape of Roads*, (London: The Architectural Press, 1960).
28 Elisabeth Beazley, *Design and Detail of the Space between Buildings* (London: The Architectural Press, 1960).
29 Lionel Brett, *Landscape in Distress* (London: The Architectural Press, 1965).
30 Erik Ghenoiu, "The Resurgence of Visual Urbanism in the American Architectural Discourse, 1954-1972," *Journal of Architecture* 17, n. 5 (2012), 798.
31 Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961).
32 Jane Jacobs, Gordon Cullen, and Ian Nairn, "Dowtown Is for People," in The Editor of Fortune (ed.) *The Exploding Metropolis* (Garden City, New York: Doubleday Inc., 1958.), 157-84.
33 Ian Nairn, *Your England Revisited* (London: Hutchinson, 1964).
34 Ian Nairn, *The American Landscape. A Critical View* (New York: Random House, 1965).
35 A recent article by Gillian Darley shows Nairn's book was researched in a road-trip from late-1959 to early-1960, with a research grant from the Rockefeller Foundation with the working title of "Townscape USA". Gillian Darley, "Ian Nairn and Jane Jacobs, the Lessons from Britain and America," *Journal of Architecture* 17, n. 5 (2012), 741.
36 Hubert de Cronin Hastings, "Exterior Furnishing or Sharawaggi: The Art of Making Urban Landscape," *AR* 95, n. 565 (1944), 5.
37 Ibidem, 6-7.
38 Ibidem, 7.
39 Gordon Cullen, *The Concise Townscape* (London: The Architectural Press, 1971), 193.

5.5.2 Germany's 'Grey Architecture' and its Forgotten Protagonists

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Abstract
The reconstruction of Germany's cities from 1945 to the mid-1960s was the biggest collective building effort in twentieth-century Europe. It is one of the findings of the author's PhD study on the everyday architecture of this period – its Grey Architecture – that it was mainly the achievement of inconspicuous architectural practices and municipal departments largely forgotten today. In the first part of the paper, these protagonists, their way of working, their building tasks and conceptual approaches are introduced. The second part of the paper deals with the limited availability of primary and secondary sources from which the work of these architects can be reconstructed, as their records are not usually found in archives, and their lives and careers are today largely invisible. In the third part, the architect Hans Engels is introduced as a typical case study. Engels started his practice shortly after the war in the city of Essen and subsequently built up a large body of work throughout Western Germany, focusing on administrative buildings and parking garages. Although he had a great impact on the appearance of many cities and was well known while alive, he has been forgotten today, as he left no written accounts and only a single printed inventory of his work. The paper concludes with a call for an increased effort to document these architects' output: Because this inconspicuous form of architecture forms large parts of West Germany's cities and was central for the new identity of these cities after the war, and because an increasing number of these buildings needs to be repaired or replaced, attention to the everyday post-war architecture of western Germany represents an immensely important task for the coming decades, as the limited sources for its understanding are fast disappearing.

Keywords
Grey architecture, post-war architecture, mode, architectural biographies, Western Germany

Introduction

The immense destruction of the Second World War caused by aerial bombing, sieges and other acts of war left their marks on many of Europe's cities. Germany, the originator and main aggressor of the war, was overall probably the most severely affected. To destabilize the country's industry and the morale of its population, the allied forces bombed almost every larger city heavily between 1939 and 1945, to which must be added the immense 'second destruction' that took place in the post-war years, during which much of the pre-war building stock was torn down.[1] The subsequent reconstruction of Germany's urban structure is 'probably the greatest collective building effort of the twentieth century.'[2] The results are decisive for the appearance of most present-day German cities.

Today, the post-war buildings are reaching the end of their life and pose an increasing challenge for authorities, architects and owners. Decisions have to be made about restoration or replacement. Conservators, especially in economically less vibrant cities, struggle to decide how to deal with this architecture. Viewed as individual buildings, the stock is normally not deserving of preservation. But the question remains how to treat it, especially in the case of building ensembles.

For Western Germany, this question is particularly difficult. The country experienced a strong surge of development starting with the introduction of the Deutsche Mark as a currency in 1948, and most of the new development was undertaken by private investors supported by state loans and subsidies. The fragmented pre-war ownership structures as well as divergent regulations and plans largely remained intact.[3] While larger settlements were built outside existing cities, private reconstruction remained small-scale and piecemeal. In contrast to the German Democratic Republic, where reconstruction largely took place along the lines of large-scale, top-down building, most of the West German development cannot be assigned to centrally-determined policies or methods.

Grey Architecture as the fulfilment of modernity

In West Germany, the architecture that replaced bombed and demolished buildings was erected very economically. Time and money were short. Strict control of construction limited possibilities for architectural expression, and until the early 1950s West Germany's future seemed insecure. The populace was largely in favour of reconstructing the cities without major innovations, but there was opposition to the Wilhelminian style of building, as it was a reminder of the pre-war era.[4]

As a result, the overwhelming majority of the built structure of this time is, at first glance, architecturally unremarkable. Up to now, it has largely been ignored by historians and architects, although the discussion of more prominent post-war buildings has been gaining traction.[5]

Most of these everyday post-war buildings employ an architectural mix that refers to both modernism and classicism. Simple window reveals are conventionally arranged in plaster facades and freely combined with elements such as shallow pitched roofs and projecting bays. References to existing buildings are made directly. Some buildings look like the aggregation of separate ideas, but without any ironical purpose. Elements like garages, entry doors and shop windows are often not integrated into the composition but rather merged with the rest of the buildings in an additive fashion. This additive way of working contrasts to the synthesis usually aspired to in 'high' architecture.[6]

Its characteristic mix between modernism – the architecture of the victors – and a more classical form, as well as an indeterminacy in many aspects of the design, make the term 'Grey Architecture' fitting for these buildings, also because it forms a quiet, inconspicuous background of the city, framing the more prominent buildings.[7] This was the result of a conscious choice by its builders. They identified themselves with an evolutionary, as opposed to a revolutionary, strand of modernism. Modern building technology was to enhance existing ways of building in order to serve society, but not to change it.[8]

The Grey Architecture of the West German post-war years was not an antithesis to modern architecture and it would be a more fitting approach to see it as a 'modern vernacular', implying all of the positive connotations usually associated with the term.[9] With – and through – Grey Architecture, modern ideals were introduced and accepted on a large scale. They became part of a new normality being constructed in the post-war cities of Germany:[10] Light and rationally designed buildings were now affordable for everyone, narrow, dark streets were replaced with wider streets easily accessible by car, sanitation was implemented throughout the urban structure, standardized building techniques took hold, and all of this was accepted by the population. In a way the modernists never anticipated, Grey Architecture – together with an extensive infrastructure that connects and supplies it – was the realization of their ambitions and it has considerable architectural and urban qualities. But until now it has been largely ignored as a field for research.[11]

The available tools of architectural criticism are unsuited to describing and understanding Grey Architecture. The usual critical response is to see it as characterized by compromise and inconsequence, and by 'arbitrariness' on the part of architects.[12] It is regarded as a weak solution to problems that could have been solved better – but this is a perspective reached too quickly for it overestimates the control architect had over their designs. Compromises can often only be avoided by resignation in mid-project, not an option

for practitioners who depended upon their commissions for their living. And in any case, many of these architects never aspired to be avant-garde, but were concerned purely with earning a living or serving their client's needs. And many viewed the results of their work as temporary, not permanent, especially so with the buildings of the 'modest reconstruction' up to the middle of the 1950s. They were often meant as a first, quick alleviation of housing shortage.[13] An *ex negativo* description of Grey Architecture as one of compromise thus seems unsatisfactory.

A generation of builders?

Looking at the architects of Grey Architecture, oral history as well as archival research show that the first wave of reconstruction of West Germany's cities was mainly carried out by architect-builders – and not by academically educated architects, who dominate today's perception of architectural history and its discourse. The 'architect-builder' represents a type of architect that, although still existent today, and with a continuing and considerable influence on the built environment, is underrepresented in historical discussion.

The 'Grey Architect's' approach towards architecture came from a practical, artisan point of view. Usually, architect-builders went through an architectural education of around two years after having learned a skilled trade such as mason or carpenter. They focused on practical skills that included financing and the obtaining of subsidies. With the architect-builder, the client could rely on somebody who offered the entire package of planning, regulatory approval, financing and building. From their education and with the limited building technologies of the time, the 'Grey Architects' could oversee the whole building process with the knowledge of a craftsman.

Looking at the buildings and talking to contemporary witnesses, the Grey Architecture of this period appears mainly as the outcome of a certain generation and of its approach towards architecture. This generation seems to have been subsequently overtaken by younger architects by the 1960s, who built in a much more modernistic way, partly maybe because this younger generation often lacked connections to potential clients, while their education had been interrupted or delayed by the war.

Hans Engels, a protagonist of the West German reconstruction

The career of Hans Engels (1918-80), who came from the world of the 'architect-builder' but was of a younger generation and only emerged after the war, somewhat complicates this picture. The records of the municipal building archive of Essen and a surviving monograph – apparently meant for his clients and not for profiling himself before other members of his profession, or critics – show that he produced a large number of buildings typical of the Grey Architecture of post-war western Germany during the 1950s, but later on also built architectural works that deviate from this style of building.[14] His example suggests that the characteristic Grey Architecture was not entirely generational, as it was also produced by younger architects. But it confirms that this architecture was connected to a certain form of education.

Figure 1. Page from Hans Engels, *Bauen in 25 Jahren,* 1971, showing reconstruction projects by Engels in the Limbecker Strasse in Essen

It is not entirely clear how and where this education took place in Engels' case. Apparently he enjoyed no formal training as an architect. In 1939, when the war started, he was 21 years old and had probably learned and executed a craft. During the war, amongst other things he learned to build flak shelters and coordinated building sites all over Germany. After the war, he served an apprenticeship at a local architect's office for about one year, and started his own business in 1946.[15]

Engels established his office in a very insecure situation. At this time it was not clear if Germany and especially Essen would recover economically.[16] But Engels had good contacts with local shop owners, his main clients for the first years of his career. As their stores were their main source of revenue, these clients had a strong incentive to rebuild their shops, despite the insecurity of the situation. Engels subsequently built, amongst other projects, around 70% of the buildings on Essen's most important shopping street, the Limbecker Strasse, which had been severely destroyed during the war. Engels built very quickly, sometimes even before requesting a permit, and sometimes so fast that stairs had to be redone later on. He also aimed at

Figure 2. Page from Hans Engels, *Bauen in 25 Jahren,* 1971, showing postwar social housing projects by Engels in Essen

maximizing the profit of his client – in one case Engels built, despite objections from the authorities, a building higher than initially permitted. He attributed this to a 'misunderstanding' between himself and his staff.[17]

These small commercial buildings, as well as a number of social housing projects in Essen, were the base for the expansion of Engel's practice throughout Western Germany. Two main strands of assignments emerged in the following decades: administrative buildings for breweries and insurance companies as well as inner-city parking garages, for which Engels developed a specialization.

According to his daughters, Engels was neither a 'networker', nor did he participate in local politics. Though he maintained good relations with his clients, he was not interested in building private residences, as they did not pay off financially. For similar reasons, he normally declined to join architectural competitions. He seems to have worked constantly, reading architectural magazines until late at night and getting up at six o'clock in the morning to go to the building site, moving on at seven o'clock from there to his office. Always travelling and working, Engels paid the price for his stressful life at quite a young age. He suffered his first stroke at the age of 58 and passed away at 62.

Hans Engels' projects have no discernible architectural handwriting. Instead, they reveal a great flexibility in terms of formal expression, although all strictly within a modern style. Thus, they do not read like a tour of a single architect's oeuvre, but rather that of an entire everyday West German city: a heterogeneous collection of apartment and shop buildings, administrative buildings, insurance headquarters, hotels, industrial buildings, and parking garages. Some of his buildings, especially from the 1950s, are typical of the Grey Architecture of that time. Later on, Engels also realized projects that speak a much more consequential modernistic language. His work thus mirrors the way in which modernism established itself in all strata of West German architecture during and after the 1960s.

Unfortunately, his methods can only be gleaned through the recollections of his daughters, who were also active in his practice. Statements like the following give hints of his approach: asked whether there were architects whose example he aspired to, such as Le Corbusier, his daughter answered that Engels 'did not regard himself as an artist' – with artist being clearly negative – 'but as a functionalist. For him, function was the most important thing. And a punctual and orderly execution on the building site.'[18]

In formal terms, Hans Engels' architecture cannot be read as a single body of work. Engels did not follow a distinct style. Rather, his way of working can better be described as pragmatically following different architectural modes.[19]

During the first era of the West German reconstruction, Engels, like many architects, worked in the mode of the Grey Architecture of that time, corresponding to his training. But this experience also provided him with a good base from which to develop his reputation and his career and move on to other building tasks. As a result, the work he produced during his lifetime documents the changing conditions of everyday architectural production in Western Germany. Thus, if we are to understand how modern architecture became an important part of normality in Western Germany, the work of these architects and the modal conditions they worked in need to be taken into consideration just as much as the careers and works of the better known architects.

Traces of Grey Architects

Evidence of Grey Architecture should be plentiful, as for the architects of Engels' generation, high productivity was not the exception, but the rule. While the pioneers of modern architecture in Germany, born before 1915, had either to emigrate, cooperate or cease practising during the rule of the National socialists, the generation of Hans Engels (born between 1915 and 1930) did not face such an interruption.[20] Typically, they had just finished or were in the middle of their architectural education when the Second World War started in 1939. Their productive period began around 1950, when the first wave of reconstruction began. Many of these architects worked for the whole of the second half of the twentieth century, when around 60% of the built structure of today's cities was produced.[21]

Accordingly, some of the most prominent members of this generation of West German architects turned out a very extensive oeuvre. In terms of the number of buildings, probably the most productive architect of this generation was Harald Deilmann (1920-2008). Deilmann's work can best be de-

scribed as following the modal conditions of the respective periods, though featuring more prominent buildings than those characteristically undertaken by Grey Architects. Deilmann's output is strangely devoid of stylistic consistency, although many of his projects are conceptually very distinctive. His buildings conform to the standards of contemporary, well-executed schools and other public buildings, as well as private residences. Like Engel's work, an overview of his buildings evokes a strong impression of striding across a typical West German City – although through other parts of it, the world of public buildings and single-family houses.

When looking at the work of more prominent contemporaries of Engels and Deilmann such as Oswald Matthias Ungers (1926-2007), Paul Schneider-Esleben (1915-2005) and Günther Behnisch (1922-2010), or less productive but very influential architects like Gottfried Böhm (born 1920), Ludwig Leo (1924-2012), Frei Otto (born 1925) and Eckhard Schulze-Fielitz (born 1929), a different impression is gained. Each had a clear idea of their own architectural identity, and aspired to transform architecture in one way or the other, but had no desire to traverse architectural modes.[22]

To draw a compelling portrait of this generation and its influence on how the West German cities look today – and to understand them better – architects such as Ungers need to be considered in relation to their contemporaries like Deilmann, as well as to Grey Architects like Hans Engels. But while the archives are well stocked with records of the more prominent architects of this generation, material on people like Engels, who worked below the radar of 'high' architecture, is sparse and fading quickly. Often, there is no incentive to keep material, either on the part of descendants or of archivists. Furthermore, due to their practical orientation and the restraints of their practice, these architects usually left no written testimonials. Their buildings were normally not published, and their records, if they have been kept at all, not transferred to archives. Thus, the main sources that can be employed today to gather information on these architects are the building files in the city archives and interviews with surviving witnesses. Other records of these architects' work are much harder to find.[23] They never aspired to be remembered by posterity, their sole concern was to build. So, ironically, these less prominent architects, who are so important for understanding Germany's cities of the twentieth century, present a much more urgent case for research than their more prominent counterparts.

1 Klaus von Beyme, *Der Wiederaufbau. Architektur und Städtebaupolitik in beiden deutschen Staaten* (München/Zürich: Piper, 1987), 130. See this work also for general reference on the German reconstruction period after World War II.

2 Andreas Tönnesmann, "Vorwort," in Benedikt Boucsein, *Graue Architektur. Bauen im Westdeutschland der Nachkriegszeit* (Cologne: Verlag der Buchhandlung Walther König, 2010), 7.

3 Ibidem, 110.

4 Ibidem, 22.

5 Examples for this recent development are the following publications: Michael Braum and Christian Welzbacher, *Nachkriegsmoderne in Deutschland: Eine Epoche weiterdenken* (Basel: Birkhäuser, 2009); Michael Hecker and Ulrich Krings, *Bauten und Anlagen der 1960er und 1970er Jahre - ein ungeliebtes Erbe?* (Essen: Klartext, 2011); Roman Hillmann, *Die Erste Nachkriegsmoderne: Ästhetik und Wahrnehmung der westdeutschen Architektur 1945-63* (Petersberg: Imhof, 2011); Olaf Gisbertz (ed.), *Nachkriegsmoderne kontrovers: Positionen der Gegenwart* (Berlin: Jovis, 2012).

6 For example, see Peter Eisenman's reference to architecture being determined by certain systems: Peter Eisenman and Werner Oechslin, *Die formale Grundlegung der modernen Architektur* (Zurich: gta Verlag, 2005), 104.

7 For the connotation of modern and other styles, see Beyme, *Der Wiederaufbau* 64. The term Grey Architecture is defined as such in the Author's work for the first time (Boucsein, *Graue Architektur*)

8 Exemplary for this is an article by Rudolf Pfister in the German magazine *Baumeister*, in which he critizises the Weissenhof Estate from the viewpoint of 'common sense': Rudolf Pfister, "Stuttgarter Werkbundausstellung. Die Wohnung," *Der Baumeister* 2 (1928).

9 This is plausible when 'vernacular' is derived from this initial definition: 'Vernacular architecture comprises the dwellings and all other buildings of the people. Related to their environmental contexts and available resources, they are customarily owner – or community-built, utilizing traditional technologies. All forms of vernacular architecture are built to meet specific needs, accommodating the values, economies and ways of living of the cultures that produce them.' Paul Oliver, *Encyclopedia of Vernacular Architecture of the World* (Cambridge: Cambridge University Press, 1997), XXIII. Also see Bernard Rudofsky, *Architecture without Architects: An Introduction to Non-Pedigreed Architecture* (New York: Museum of Modern Art, 1964).

10 Klaus-Jürgen Bauer writes for the example of post-war single family houses, that they can – given that they were cheap, industrially produced, affordable for everyone, typologically consistent, not especially individual and in a sense also classless – be viewed as a fulfilment of the big dreams of the architects of the 1920s. See Klaus-Jürgen Bauer, *Minima Aesthetica. Banalität*

als strategische Subversion der Architektur (Weimar: Universitätsverlag der Bauhaus-Universität Weimar, 1997), 119.

11 In contrast, it was investigated by photographers such as Thomas Struth, Ernst and Hilla Becher, and Michael Schmidt.

12 Georg Franck describes arbitrariness (German: Beliebigkeit), not ugliness, as the opposite of architectural quality. For him, arbitrariness is the big problem of architecture since architecture has become present everywhere throughout the landscape. See: Georg Franck und Dorothea Franck, *Architektonische Qualität* (München: Carl Hanser Verlag, 2008), 16.

13 Jeffry M. Diefendorf, *In the Wake of War* (Oxford: Oxford University Press, 1993) 2.

14 Hans Engels, *Bauen in 25 Jahren,* 1971.

15 This and the following personal information was gathered by the author in an interview with Hans Engel's daughters Brigitte Kruse and Gisela Heitmann as well as two former employees on 16 July 2013.

16 Without the industrial magnate Alfried Krupp, who stayed in prison until 1951, Essen seemed to have no future. Hanke in: Jan-Peter Barbian, *Die Entdeckung des Ruhrgebiets. Das Ruhrgebiet in Nordrhein-Westfalen 1946-1996* (Essen: Klartext Verlag, 1997), 213.

17 Building File Limbecker Strasse 78, Municipial building archives of Essen.

18 Brigitte Kruse in the interview on 16 July 2013.

19 In architectural theory, there are few direct references to mode. One is by Reyner Banham, who differentiates high architecture from other ways of building by identifying it as a specific mode, the 'architectural mode'. Mary Banham (ed.), *A Critic Writes: Essays by Reyner Banham* (Berkeley: University of California Press, 1996), 292. Another definition is given for art theory, where mode is defined as a way of working that is determined by task, type, theme and subject matter of the according work of art: Harald Olbrich (ed.), *Lexikon der Kunst* (Leipzig: Seemann, 2004), 796. Also see Benedikt Boucsein, "Ohne Modus keine Architektur," *Archithese* 6 (2013), 44-5. For a closer description of the mode of Grey Architecture, see Boucsein, *Graue Architektur*, 161.

20 The architects of the generation born before 1915 were extensively researched by the architect and historian Werner Durth: Werner Durth, *Deutsche Architekten. Biographische Verflechtungen 1900-1970* (München: Deutscher Taschenbuch Verlag, 1992).

21 Uta Hassler, *Umbau. Über die Zukunft des Baubestandes* (Tübingen: Ernst Wasmuth, 1999), 51. It is also the time during which architecture changed strongly in technological terms. While these architects, at the beginning of their career, mostly faced only a structural engineer as a counterpart and had to work mainly with limits of economical nature, towards the end of their career they had to work with a multitude of experts and pay attention to a large number of legal and technological factors.

22 For monographies on the mentioned architects, see: Josef Paul Kleihues (ed.), *Harald Deilmann: Ausgewählte Projekte* (Dortmund: Universität Dortmund, 1984). A systematic research on Harald Deilmann is currently being prepared by Stefan Rethfeld; Oswald Matthias Ungers and Heinrich Klotz, *O.M. Ungers 1951-1984. Bauten und Projekte* (Braunschweig/Wiesbaden: Vieweg, 1985); Rolf Beckers, *Der Architekt Paul Schneider-Esleben* (Weimar: Verlag und Datenbank für Geisteswissenschaften, 1995); Heinrich Klotz (ed.), Paul Schneider-Esleben, *Entwürfe und Bauten* (Ostfildern-Ruit: Hatje, 1996); Peter Blundell Jones, *Günter Behnisch* (Basel: Birkhäuser, 2000); Wolfgang Pehnt, *Gottfried Böhm* (Basel: Birkhäuser, 1999); Svetlozar Raèv (ed.), *Gottfried Böhm. Vorträge, Bauten, Projekte* (Stuttgart: Krämer, 1988); Elisabeth Böhm (ed.), *Gottfried Böhm: Bauten und Projekte: Auszug aus den Jahren 1985 - 2000* (Tübingen: Wasmuth, 2001); BARarchitekten and Gregor Harbusch, *Ludwig Leo: Ausschnitt* (Ludwigsburg: Wüstenrot Stiftung, 2013); Winfried Nerdinger (ed.), *Frei Otto. Das Gesamtwerk. Leicht bauen, natürlich gestalten* (Basel: Birkhäuser, 2005); Wolfgang Fiel (ed.), *Eckhard Schulze-Fielitz: Metasprache des Raums/Metalanguage of Space* (Wien: Springer, 2010).

23 One source that will remain accessible for a long time are the building files in the city archives of single buildings. They show ground floor plans, architectural detailing, but also the adaptation of projects to new demands of clients and conflicts with the local building authorities over height limits etc. But other sources are dwindling fast. More and more sources are destroyed as descendants do not know what to do with the material that is still there and don't see a point in keeping it, as no one ever expressed interest in it. Also, sources for interviews which can report first-hand on the reconstruction era are also getting scarce, as more and more contemporary witnesses are getting old or die.

5. TWENTIETH CENTURY

5.5.3 Process Above All: Shadrach Woods' NonSchool of Villefranche

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Abstract
Used in the context of architecture and urbanism, the term 'anarchism' often proves ambiguous and overly-abstract. Focusing on the design process of Shadrach Woods, this paper intends to ground the term concretely in the history of twentieth-century architecture and theory.
In 2000, former Team X member Giancarlo De Carlo noted that the anarchist thought of two late nineteenth-century polymaths, Patrick Geddes and Piotr Kropotkin, had significantly influenced his own work. He also pondered whether Team X, a diffuse assortment of architects organized into a horizontal hierarchy, could be considered anarchist. He asserted that "in Team X many positions and many attitudes were similar to the anarchist movement", and that some members of Team X viewed the means as more important than the ends. In particular, he explained, Shadrach Woods and the Smithsons favored design process over formal results.
Using this measure of process versus formal result as a starting point, my paper explores the relationship between anarchism and Team X, particularly in the work and ideas of Shadrach Woods. In 1966 Woods proposed a radical experiment that he termed "non-school" that was centered on the abolition of degrees and traditional academic curricula, replacing these antiquated requirements with a new system that integrated education with the urban community and expanded its access to people of all ages. Many of his ideas were in part inspired by his encounter with artists from the Fluxus movement, with whom he collaborated at the Non-School of Villefranche in 1966, and again later at the Triennale in Milan in 1968. As I link Woods' theories to the Team X and to the Fluxus thought, I suggest that we might call the non-school approach a "school without walls for architects and artists".

Keywords
Shadrach woods, Team X, Fluxus, NonSchool, process, Berlin Free University

Introduction
During the last decade of his life, the architect Shadrach Woods theorized and proposed a process-centered and interdisciplinary model of university education that was derived from the practices with which he and his circle of artists and architects – most prominently Fluxus and Team X – were experimenting during the 1960s. This paper analyzes Woods' theoretical discourse on education, and then turns to the application of these theories in the case of the Nonschool of Villefranche, a radical experiment conceived in 1966 by Woods and his friend and colleague, Robert Filliou, a French American Fluxus artist. It concludes by situating the Berlin Free University, Woods' bestknown work, in the discourse of the NonSchool and the broader cultural and intellectual projects associated with Fluxus and Team X. While these movements have attracted the attention of many historians, Woods' interest in expanding their experimental practices far beyond elite arts production has, to my knowledge, never been published or presented. This lacuna proves all the more surprising in light of the broad acceptance of many of Woods' once radical positions in today's pedagogical discourses.

From theories of the architecture of education to the NonSchool
A major preoccupation of Shadrach Woods for the last eleven years of his life, from 1962 to 1973, was what he called 'the architecture of education', through which he sought to reformulate ideas of how universities should function and how they should be designed.[1] Woods' interest in universities can be tied to his professional endeavours in the early 1960s. An important theoretician,[2] partner in the firm Candilis-Josic-Woods (CJW)[3] (1955-68) and a core member of Team X (1953-81)[4], Woods collaborated with George Candilis and Alexis Josic on the designs of Bochum University (1962) and Dublin University College (1964), and with Manfred Schiedhelm on the Free University of Berlin (1963) and Brussels Free University (1971). In addition, he taught architecture design studios and lectured at Yale (1962-67), Cornell (1970-1), Harvard (1968-73) and Rice Universities (1970).
In common with many intellectuals who taught at universities in the 1960s, Shadrach Woods found himself caught up in a vortex of change in education. Like architecture, the field of education was searching for new models; thinkers sought to reformulate the basic problems of education, rather than simply seeking new solutions to old questions. The student revolts of the late 1960s and the early 1970s profoundly altered society's political and cultural attitudes, particularly in the academic world. The Cuban Missile


NON-ECOLE DE VILLEFRANCHE

NON-RESPONSABLE : SHADRACH WOODS
16, RUE DAUPHINE
PARIS-6E
TEL. : ODE 20-48

Echange Associatif d'Information et
d'Expérience
Ni élève, ni maître
Parfaite licence,
Parfois parler, parfois se taire

NonSchool in Villefranche, stationery. In: Shadrach Woods Collection, Avery Architectural and Fine Arts Library, Columbia University, New York City (Feld box 09, folder 9.17)

Crisis (1962), the Vietnam War (1963-75), the Civil Rights movement (1968), the Watergate Scandals of the Nixon administration (1972), and the global oil crisis (1973) led students to denounce the poorly functioning political, economical, social and educational systems. They demanded radical institutional change, and many intellectuals and educators, like Shadrach Woods, listened.[5]

Central to these changes was an emphasis on collaborative efforts and an educational model grounded in pluralism – that is, the acceptance of divergent values and multiple perspectives. During the 1968 student occupation of University Hall, Harvard's main administrative headquarters, part of an anti-Vietnam war protest, there had been debates on education. Woods gave a series of lectures exploring these ideas,[6] the most important of which was "The Education Bazaar," where he outlined many of his thoughts about architectural education. The article began as a lecture at Harvard's Graduate School of Design (GSD) in 1969, and it was soon after published in the *Harvard Educational Review*.[7] In the same issue of this journal, Aldo Van Eyck, Giancarlo De Carlo, Herman Hertzberger, Peter Prangnell and others published significant articles on education in schools of architecture too. These authors were all part of Team X, or influenced by this group's work and thought, and they proposed in these writings a pluralistic approach to education.[8] One can especially see ties between Woods' article and Giancarlo De Carlo's: both focused on the idea of the integration of the city and the school, shared a commitment of the architect to society, and showed sympathy to student protesters.

In "The Education Bazaar," Woods describes his concept of a school without walls that is physically integrated into the city, because he sees the city and its streets as places for learning.[9] He summarizes this concept as 'the idea of an Educational Bazaar, of the City as Education.'[10] In four sections entitled 'the gap', 'the removal of barriers', 'the city as a school; the school as the city', and 'man or animal?' he pairs text and image to explain how his theoretical ideas might be translated into university designs, noting especially his work in the Dublin University College design competition (1964) and an outline for the competition on the expansion of the city of Caen in 1961. In developing this idea that the university must be integrated into the city and that the educational process needs to overcome the barriers of the past, he introduces an alternative model of education, which he calls the NonSchool.[11]

In analyzing Woods' writings, we turn to another version of the same lecture, signed, undated, and never published, which can be found in Shadrach Woods Collection at Avery Drawings and Archives at Columbia University in New York City. This second version was probably written sometime between November 1968 and early 1970.[12] Through it, we see the evolution of Woods' concept of the NonSchool through his experience with the 'NonSchool of Villefranche', a radical experiment in the field of education conceived by Shadrach Woods and the French-American Fluxus artist Robert Filliou.

While difficult to classify in traditional art historical terms, Fluxus, following John Hendricks's definition in his 1988 book *Fluxus Codex,* might be portrayed as an informal neo-dada group of artists active in many different artistic disciplines from the beginning of the 1960s.[13]

This second version of "The Education Bazaar," while structurally similar to the published version, differs in content and manner of expression, showing a more open attitude, and revealing close intellectual bonds to the French Fluxus 'movement', especially to Robert Filliou, whose own ideas on education influenced Woods' approach. Indeed, the text includes excerpts of conversations between the artists Allan Kaprow and Robert Filliou, and between Filliou and John Cage. It is clear that this unpublished Shadrach Woods' essay owes a great deal to Filliou's extraordinary book 'Teaching and Learning as Performing Arts.'[14] Woods got to know Robert Filliou through the American architect-tartist Joachim Pfeufer,[15] who first met Woods in 1959 at CIAM XI, worked with Candilis-Josic-Woods from 1960 to 1968, and began collaborating with Robert Filliou on the Poipoidrom project in 1963.[16] The personal and intellectual relationship of the three men can be traced to Villefranche-sur-Mer, a small village in the French Cote d'Azur, where Fluxus artists from around the world gathered between 1965 and 1968. Those artists were part of a movement which 'challenged preconceived notions about art, the function of art, and the role of the artist in society,' promoting a 'nonart'. [17]

5. TWENTIETH CENTURY

In Villefranche-sur-Mer, Fluxus members Robert Filliou and George Brecht[18] established 'La Cédille Qui Sourit', an experimental space or shop, an art laboratory, where Fluxus artists came together to showcase their works in an unusual exhibition-sale in which they sold various creations, such as jewellery and musical instruments. Conceived first as an English bookshop, the site became, in practice, a combination of workshop and shop, or maybe, appropriating Fluxus' terms, a 'nonshop'. 'La Cédille' was created inside of two Filliou's projects, and are all interconnected: 'The Eternal Network'[19] and 'The centre of Permanent Creation.'[20]

Woods travelled frequently to Villefranche during the non-shop's short three-year life from September 1965 to October 1968.[21] He was fascinated by, and influenced by the ideas of Filliou, a prominent figure in Fluxus.[22] While Woods encountered the Fluxus world first at Villefranche, he maintained his relationship with the movement in Paris, and it fundamentally shaped his ideas and theoretical approach to architectural education. In particular, Woods drew upon Fluxus' emphasis on the importance of the arts in the educational process, and also their radical approach to reformulating the relationship between school, city, and world.

The basic idea of 'NonÉcole de Villefranche', or NonSchool, was to refuse any predetermined program, and to create a school that was free, fair, and, most importantly, open to all an anti -school that rejected any relationship with the scholastic institution and broke with past institutions of school. A central characteristic of the NonSchool, as described in 'Teaching and Learning as Performing Arts', was, as Filliou asserted, 'to show how some of the problems inherent to teaching and learning can be solved – or let's say eased – through an application of the participation techniques developed by artists in such fields as: happenings, event, action poetry, environments, visual poetry, films, street performances, non-instrumental music, games, correspondence, etc…'[23] In other words, the arts must have a core role in the educational process: they would enrich it and give it new perspective.

Woods applied the ideas of the 'NonSchool of Villefranche' to the world of college-level architecture, drawing on these notions in the development of his own NonSchool. There are very few primary sources for the NonSchool project. Some documents related to this project are held in Shadrach Woods Collection at Columbia University; these include NonSchool stationery, a statement of NonSchool philosophy, and a description of the program of the Villefranche workshop.[24] Robert Filliou also discusses the subject briefly in his 1970 book 'Teaching and Learning as Performing Arts,' an accessible and poetic book that puts forth on existential problems and seeks to interpret and reinterpret contemporary life.[25] Woods wanted the NonSchool to replace traditional ways of learning at the college level, particularly by introducing a new teaching method, the abolition of grades, and the intervention of the artists. Although Woods' NonSchool was never realized in the field of education, the concepts and ideas influenced the curriculum at Harvard and other architecture schools where he taught. Indeed, in a recent interview, Eric Pfeufer, Joachim Pfeufer's younger brother and a former student of Woods at Harvard, insisted that the NonSchool did exist at Harvard under Woods in the personal and anti-academic way that he conducted his design studios.[26]

Another important principle of the nonschool was the idea of non-specialization, which would open students to various disciplines and help them adapt to shifts to the changing market conditions. Filliou and Woods believed excessive specialization prevented cultural adoptions and also hindered an individual's ability in a continuously changing world and job market. Furthermore, the NonSchool sought to revise modes of teaching. Borrowing from Marxist ideology, Fluxus called for the abolition of classes and applied this to the classroom setting: they wanted to end the fixed rules of the student-teacher relationship and cultivate a new model where teaching and learning were part of a two-way, continuously flowing process. Learning at the NonSchool was not to be based on the transmission of information, but instead students would be given endless ways to analyse problems then would be guided in the direction of their own interests and personal inclinations.

Applying these ideas to the architecture school, Woods called for the 'total revision' of the system of architectural education based on principles of the NonSchool. He explained that

> the urban structures which we know no longer contain our needs, nor do they correspond to the evolving goals which we can occasionally perceive. […] We shall develop non-structures to organize our various activities in ways, places and buildings that relate more directly to a society which is in a state of becoming, that is, in ways that exhibit great potential to change.[27]

He envisioned the administrative management of the NonSchool as constantly changing, with the theoretical direction framed by persons of international standing who would be brought in on a temporary basis.

While Fluxus provided one model for Woods, he also was heavily influenced by Team X.[28] Whereas Fluxus emphasized the role of artists in bringing about social change, Team X believed that students would be the centre of the future society. Unlike CIAM, which would organize through quasi-annual international congresses, Team X's meetings were held in ateliers where real problems and projects could be discussed by many in a common vision

of architecture and urban planning. In thinking about the physical space of the architectural school, Woods drew upon ideas from Team X member and Italian architect and educator, Giancarlo De Carlo. De Carlo argued for the integration of a project with its context, seeing geographical, cultural, and temporal circumstances as essential for the design of a university. This attitude was contrary to the traditional Anglo-Saxon concept of the campus, with its customary extra-urban siting in autonomous isolation. De Carlo developed and implemented his concept in Urbino (1956-94), where he designed an extension of the university in a way that would integrate into the historic city.[29] De Carlo's influence is clearly seen in the section of Woods' lecture titled 'the city as a school; the school as a city', in which he refers to De Carlo's *Harvard Educational Review* essay:

> The school should not be an island, but a part of the physical environment, and – at best – the physical environment should itself be considered and conceived as a whole, according to educational needs: it should not be a finished device, but a structure that branches out into the fabric of social activities, able to adapt to their constant changes [...].[30]

In addition to engagement with the city, Woods insisted that the university should draw upon the knowledge and experience of the larger populace. He explains:

> With the revision of academic structures, where the entire system becomes adaptable to the needs of the entire world and where the global viewpoint can be reflected in the education process, urbanism and education come together. Education will become a necessary part of the physical milieu.[31]

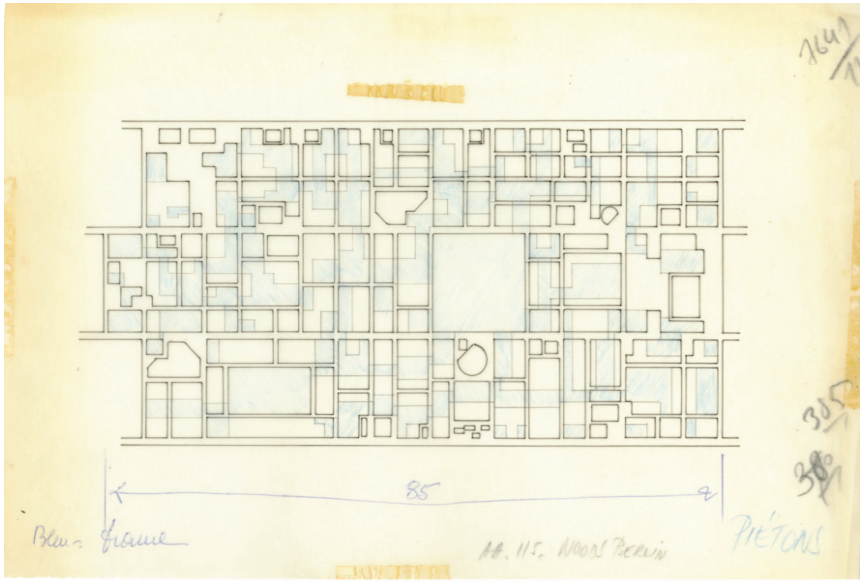
Moreover, in thinking about the city itself as a space of education, he argued 'The cities represent the future of Western society, and schools represent the future of cities. City and school intertwine to an inextricable degree.'[32] The experiment thus aimed to dismantle traditional school hierarchies, and in an engagement with the city, Woods insisted that the university should draw upon the knowledge and experience of the larger populace. He explains:

> With the revision of academic structures, where the entire system becomes adaptable to the needs of the entire world and where the global viewpoint can be reflected in the education process, urbanism and education come together. Education will become a necessary part of the physical milieu.[33]

Moreover, in thinking about the city itself as a space of education, he argued 'The cities represent the future of Western society, and schools represent the future of cities. City and school intertwine to an inextricable degree.'[34] The experiment aimed to dismantle traditional school hierarchies and to integrate the school with the city.

Free University Berlin: concluding thoughts

Woods tried to give form to this theoretical experiment in his design of the Free University of Berlin. In collaboration with Manfred Schiedhelm, a young talented German architect who was working Candilis-Josic-Woods in Paris, Woods won a competition for a university design in West Berlin in 1963. Their proposal reflects the ideas he would later express in the lecture "The Education Bazaar": the oneness of the school, the integration process with the city, the flexibility of spaces and ideas. Described by historian Stanley Abercrombie as 'one of the most radical architectures of the last century,' the Berlin Free University might be read as Woods' manifesto.[35] It was also his last built project, with the first construction phase completed in 1973, the year he passed away. It is based on his process-centred *web* concept,



Berlin Free University. Pedestrian paths grid overlapping open spaces grid. In: Shadrach Woods Collection, Avery Architectural and Fine Arts Library, Columbia University, New York City (Feld box 05)

which he presented in 1962 in the journal *Le Carré Bleu*.[36] Later defined as a 'mat-building' or 'ground-scraper',[37] this architecture was conceived as a platform or slab that would facilitate encounters among students and teachers, helping to overcome the differences between them. In the first years of its life, the school was always left open, but it was soon brutally vandalized. Later, some restrictions were introduced. In the first phase of the project, the young Manfred Schiedhelm strongly insisted on leaving the corridors open, to recall best the idea of a city with its blocks and its streets, and to stress the concept of the school as a city and the city as a school. Furthermore, Jean Prouvé collaborated with Woods in designing its famous Corten façade with the goal of producing a light, modular, steel structure that would allow for a high level of flexibility and adaptability. And indeed, the structure was able to accommodate numerous changes and renovations, the most notable of which was Norman Foster's new library of 1997.

Towards the end of his life Woods seems to have grown more and more convinced that architecture did not in itself hold the tools to realize his idealistic aspirations. But rather than growing disillusioned, he initiated a deployment not of his architecture, but of its methods of operation, including open collaboration, non-specialization, challenges to hierarchy, and the utilization of existing urban networks. These he sought to embed in a new 'architecture of education' that, more than any building, design strategy, or disciplinary movement, might produce profound, long-lasting cultural betterment.

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1 Shadrach Woods, "The Education Bazaar," *Harvard Educational Review*, *Architecture and Education* 4 (1969).
2 Shadrach Woods is mostly known for his articles: Shadrach Woods, "Stem," *Architectural Design* 5 (1960), and Id., "Web," *Le Carré Bleu* 3 (1962).
3 CandilisJosicWoods is a successful partnership of architects (the Greek Georges Candilis, the Yugoslavian Alexis Josic, the American Shadrach Woods), founded in Paris in 1955, and mainly active till 1969 in the European scene of the reconstruction after the Second World War.
4 Team X (1953-81) was an international group of architects born from the ashes of CIAMs (International Congress of Modern Architecture). Among the 'core group' there were: the English Alison and Peter Smithson, the Dutch Aldo Van Eyck and Jaap Bakema, the Italian Giancarlo De Carlo, the French Georges Candilis, the American Shadrach Woods. They met regularly (once a year or twice a year) from 1953 to 1981. The inner circle became a bigger family during some meetings. Each meeting had a subject, and all the members came to discuss projects about this topic.
5 This culture of protest and response can be seen at the Harvard Graduate School of Design. See Antony Alofsin, *The Struggle for Modernism, Architecture, Landscape Architecture and City Planning at Harvard* (New York, London: Norton & Company, 2002).
6 Among Shadrach Woods' lectures we mention: "Dwellings, Ways and Places" (1962), "Discovery of Architecture" (1963), "The Technicosociological hangup" (1967), "Notes on Architectural Education" (1967), "The Incompatible Butterfly", "The Eight Gropius Lecture" (1968), "The future of…" (1968), "The crowded crystal ball" (1969), "The Educational Bazaar" (1969).
7 Woods, "The Education Bazaar," 116-25.
8 Alofsin, *The Struggle for Modernism*, 260.
9 Woods, "The Education Bazaar," 124.
10 Ibidem, 117.
11 Ibidem, 118.
12 Woods was probably working on this lecture writing before April 1969 when he presented it at Harvard GSD. The text contains quotes from November 1968. The final version draws heavily on ideas published in 1970 in Robert Filliou, *Teaching and Learning as Performing Arts* (Koeln, New York: Verlag Gebr. Koenig, 1970).

13 Jon Hendricks, *Fluxus Codex* (New York: Harry N. Abrams Inc. Publishers, 1988).
14 Filliou, *Teaching and Learning as Performance Arts*.
15 Joachim Pfefuer (Boston, 1935) is an architect, urbanist, and artist who worked with Candilis-Josic-Woods from 1960 to 1968. He collaborated with Robert Filliou on the Poipoidrom project beginning in 1963. He lived variously in Boston, Providence, Ulm, Paris, New York and Nantes, and taught at the École des Beaux arts in Nantes. Shadrach Woods and Joachim Pfeufer met for the first time in Otterlo in 1959, at the Congress of International Modern Architecture.
16 Joachim Pfeufer wrote in 1972: 'The Poipoidrom is the functional relation of thinking, activity, and communication. A chair, a workbench, or an open mind can be a minimal Poipoidrom. The combination of a great number of minimums is not simply many chairs or many workbenches a great calm. The Poipoidrom is an expression of this. And it is, at the same time, the matrix of two different routes: that of activity and that of thinking which corresponds to the different dispositions of the co-constructors, Robert Filliou and Joachim Pfeufer. The optimal Poipoidrom is an instantly realizable building of the size of 24x24 meters. What should be put inside, and how it should be built up became clear during ten years of research. The co-urbanists are now working on the designation of the building's site and they welcome any suggestions coming from anyone'. This information comes from a website created to represent the Fluxus movement. See www.artpool.hu/Fluxus/Filliou/Poipoi3e.html (accessed 1 March 2014).
17 Hendricks, *Fluxus Codex,* 21.
18 George Brecht (1926-2008) was an American artist who was part of the Fluxus experiment.
19 It was a large network of artists, introduced by Filliou: 'The artist must realize also he is part of a wider network, […] going on around him all the time in all parts of the world'. In, Robert Filliou, *Teaching and Learning as Performance Arts*, 24.
20 Filliou wrote: 'To be young is to be creative, we may find it worth our while to acquire the knack of permanent creation'. Ibidem, 42.
21 See Woods' calendars and notebooks in Shadrach Woods Collection, Avery Drawings and Archives, Columbia University, New York City – Avery Box 06, Folder 2.
22 The influence of Filliou on Woods can also be seen in the subtitles of the unpublished version of *The Education Bazaar*: 'Doing it ourselves' and 'La Cédille Qui Sourit'.
23 Filliou, *Teaching and Learning as Performing Arts,* 12.
24 Shadrach Woods Collection, Avery Drawings and Archives, Columbia University, New York City – Feld Box 09, Folder 9.17 (Non-School stationary); Feld Box 08, Folder 8.55 (workshop in Villefranche document).
25 There might be other documents related to this project in Filliou's archive.
26 Interview by Federica Doglio, Manhattan, January 2012.
27 Woods, "The Education Bazaar," 121.
28 For chronology see also the most complete anthology about Team X: Max Risselada and Dirk Van Der Hauvel (eds.), *TEAM 10. 1953-1981: In search of a utopia of the present* (Rotterdam: Nai, 2005).
29 Giancarlo De Carlo, "Why/How to Build School Buildings," *Harvard Educational Review*, *Architecture and Education* 4 (1969), 12-34. I have used here the Italian translation: Giancarlo De Carlo, "Ordine-Istituzione Educazione-disordine," *Casabella – Continuità* 3689 (1972).
30 De Carlo, "Ordine-Istituzione," 65-71.
31 Woods, "The Education Bazaar", 119.
32 Shadrach Woods, *The man in the street. A polemic on urbanism* (Middlesex/Baltimore/Victoria: Penguin, 1975).
33 Woods, "The Education Bazaar", 119.
34 Woods, *The man in the street.*
35 Stanley Abercrombie, "Berlin Free University," *Architecture Plus* (1974).
36 Shadrach Woods, "Web", 23.
37 Alison Smithson, "How to recognize and read a MatBuilding. Mainstream architecture as it has developed towards a mat-building," *Architectural Design* 9 (1974), and Manfred Schiedhelm et al., *Free University Berlin* (London: Architectural Association, 1999).

5.5.4 Sacred Buildings in Italy after World War II: The Case of Turin

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Abstract
In the forty years after World War II in Italy about 1200 churches destroyed during the war were reconstructed, and many new places of worship were built in the new suburbs.
Traditionally, churches defined the identities of cities, but many of the new places of worship built in these years seem completely devoid of any architectural character, although they were considered a success from the pastoral point of view.
The emergence of a new morphology, the parish complex, more than just a place of worship, acquired significance and importance in the city, and provided a new centre for the suburbs
Despite the presence of government policy (laws n.2522/52 and n.168/62) to ensure economic contribution by the Italian State to the construction of new parish buildings, poor choices of location, and the need for emergency solutions, often with prefabricated construction, had a negative impact on their architectural value. The over-rapid application of liturgical reform (resulting in the impoverishment and secularization of places of worship) contributed to these problems.
Through the case of Turin, I will attempt to define a model that can serve as a guide to understand how the church's needs were – or were not – reconciled with the city's, so as to weave together urban life, architecture and the liturgy.

Keywords
Parish churches, Second Vatican Council, Turin, liturgy

Many hundred religious buildings have been constructed in Italy since the end of World War II. The precise number is unknown, nor is it possible to draw up a single list of all these Catholic buildings, since they include parish complexes, sanctuaries, chapels, and cathedral churches. Each type has a completely different architectural, liturgical and social layout, so we cannot analyze them all in the same way. The present study focuses on the category of 'parish complexes'. These are particularly emblematic of urban changes after the war; in some cases they reveal a close link to structures that were destroyed and then rebuilt, while in other cases they are an important element in areas of new development on the outskirts of established cities. With parish complexes, we can launch a discussion from three standpoints: urbanistic and architectural (analyzing how this model has changed and what new features it presents), social (understanding its anthropological role in the urban territory), and liturgical-pastoral (guiding us in interpreting formal, functional and symbolic choices).
Our discussion must take into consideration two important historical points of reference – the aftermath of World War II, and the Second Vatican Council (1963-5). Many of Italy's parish churches had been destroyed during the war, along with the surrounding residential areas. '"Reconstruction" was disorganized at first, with little time or attention given either to implementing new trends or reconsidering old ones. In the chaotic landscape that developed, a few isolated buildings stood out.'[1] Architectural attention initially focused on new urban developments, where the various subsidized building programs were mostly concentrated, with the aim of creating whole new residential districts. In this context, plans for religious buildings were divided between rebuilding of structures damaged or destroyed during the war, and the construction of new parish complexes to comply with urban planning law n. 1150/42,[2] which stipulated the percentage in square meters of new construction that should be devoted to religious purposes. This resulted in buildings of varying interest, depending on the individual case and on the features of the area where construction took place. Generally speaking, the examples cited in the literature belong to one of two categories: either they are works by famous architects, or they were the focus of the newly planned residential districts (principally in Milan, Bologna, Turin or Rome).[3] From 1952, most new parish complexes had in common that they were built under Law 2522 of that year, which provided state funds for new churches, and was utilized by the majority of Italian dioceses. Since publication of the inventory of archives of Pontificia Commissione Centrale per l'Arte Sacra in Italia (Central Commission for Religious Works of Art in Italy, PCCASI) last December, it might be now possible to rewrite the history of twentieth century Italian church building.[4] From 1924 to 1990 the PCCASI

was responsible for approval of projects submitted by bishops with respect to compliance with liturgical precepts and requirements for sacred art, both of which gained great importance following Vatican II. The PCCASI inventory for the first time provides a list of *all* religious complexes built in post-war Italy, enabling us to reconstruct the history of the parish centre within the broader context of religious building, dependent not only on architectural and/or liturgical choices but also on social and urbanistic issues.
During a 1989 conference on the theme of sacred architecture, the Bologna architect Glauco Gresleri stated:

> Law n. 2522 was providential and essential. However it found a cultural terrain that was extremely unprepared. It opened the way to a myriad of constructions in the "sacred" field in the face of a nearly total lack of cultural-disciplinary-professional preparation, both among ecclesiastical operators and planners and in hierarchical terms.[5]

Gresleri also drew attention to the fact that there had never been a census of all the churches built, irrespective of their architectural value.
With the more prestigious architecture already well known, what he claimed was necessary for a historical assessment – and is now possible for the first time – is an index of all the buildings regardless of their architectural value.
The many parish churches that exist throughout Italy were, and are a response to the hundreds of requests from Italian dioceses both large and small. The 1952 and 1962 national laws for construction of unfinished parish complexes helps us to understand the fiscal and regulatory framework, within which were developed various architectural directions sensitive to social and political realities.
The PCCASI, under the leadership of Giovanni Costantini (1943-56), began in 1944 to work with the new Italian Republic to enact a law guaranteeing financial subsidies for the reconstruction of church buildings damaged in the war, for the replacement of bells in church towers (many bells were taken down during the fascist regime so that the bronze could be used for weapons manufacture), and above all for the construction of new churches in the working-class suburbs that were springing up around many large urban centers. From December 1952, under Law n. 2522,[6] the Italian state granted bishops money for the purchase of land and for the construction of unfinished buildings. Ten years later, in 1962, Law n. 168 consolidated and replaced the financial arrangements of the previous legislation.[7] Under the presidency of Monsignor Giovanni Fallani from 1956 until 1985, the PCCASI concentrated on new buildings. Its work intensified 'during the years of the economic boom, when internal migration, demographic growth and the expansion of working-class suburbs of large cities increased the need for new places for worship and for pastoral gatherings'.[8] Bishops' tried to make their pastoral program a part of urban policies, so that religious building could go hand-in-hand with new residential construction. However it was not always possible to keep pace with the rate of residential construction, and even if new places of worship satisfied pastoral needs, they frequently lacked architectural value.
The diocese of Milan is an example. In the first period, thanks to the work of Cardinal Giovanni Battista Montini at the beginning of the 1950s, the city of Milan produced churches of generally high architectural standard. Architects worked on religious building with attention to research on liturgical space, and using contemporary shapes but also traditional and local materials. In the following period, in the 1960s, a more urgent need for new churches led to the drafting of a program of standardization covering more than a hundred building projects. As a consequence, variation was limited to 'two extreme parochial situations, types A and B' justified by constructive pragmatism and utilized in different zones of the city.[9] There were neither funds nor time to design more interesting new places of worship.
The second decisive stimulus for the transformation of religious space was the liturgical reform introduced by the Second Vatican Council (1963-5). In the assessment of the churches built following Vatican II what is at issue is no longer traditional or modern design, but the extent to which individual projects conformed to the new provisions of the Council, although these were not simple norms. Christian liturgical space is the fruit of the encounter between *ars celebrandi* ('the art of celebration') and *ars aedificandi* ('the art of building'), and this encounter can never be isolated from the urban and social context. *Actuosa partecipatio*, or active participation, the inspiration behind the innovations, implies the need for complex spatial articulation that guarantees liturgical functions by supporting the actions of the faithful and the clergy in a liturgical space consisting of various topographies. The many different positions adopted towards the liturgy makes it difficult to tell how far new ideas of revelation (*Dei Verbum*), of the way the church should present itself (*Lumen gentium*), and of the relationship between the Christian faith and civic culture (*Gaudium et spes*)[10] determined the architecture of new churches.
The case of Turin[11] serves as a model for some of these discussions. At the end of World War II the city was a laboratory for liturgical architecture. The sheer number of new constructions was the expression of a city that had nearly doubled in population, a result of immigration triggered by expansion of the engineering industry. An existing framework for diocesan control of parish church building had been established under the episcopacy of Car-

dinal Maurilio Fossati (1930-65), with the creation of the diocesan offices for the Doctrine of the Faith in 1935.[12] The first building projects were begun in the 1950s, with an increase from 1954 to 1955; forecasts for the number of religious complexes needed over the whole diocese of Torino were translated into actual planning programs. From 1960 until 1965 the journal *I cantieri dell'Arcivescovo* (The Archbishop's Building Works) was published to report on diocesan projects and to publicize the new programs, in which the planning of new parish centers appeared as the central theme in the relationship between parish and neighborhood.

Construction of religious building was gradual and took place over several phases: the initial phase, before purchase of land, was a creation of a liturgical hall on a temporary site to gather the community together: these were often similar in form to a 'warehouse-church'. After that, a church hall would be built (the future parish hall of 350 sqm) to serve temporarily as a church, with a presbytery. The definitive church was only built when the parish counted 8000-10,000 inhabitants.

In this first intense phase of construction, from 1955 until 1965, with the help of state funding, parish complexes that were both harmonious and functional were realized through a combination of architectural research,

Figure 1. Parish complexes built under the episcopate of Cardinal Fossati, from 1930 to 1965. *Source:* photographies by the author

Figure 2. Parish complexes built under the episcopate of Cardinal Pellegrino, from 1965 to 1977. *Source:* photographies by the author

experimentation with new materials (including reinforced concrete), structural innovation and consultation with outside experts. There was a deliberate restraint and simplicity in ornamentation, in order to focus on the essential religious service. Buildings were carefully positioned in relation to the layout of the whole new residential zone, giving them an identity that is still easily recognizable in the urban context. We find the church, the rectory, the parish centre with its cine-theatre, the bell tower, the churchyard opening towards the surrounding neighborhood, and sometimes also a building intended as a nursery school. The liturgical spaces usually feature a longitudinal plan with a single nave according to the traditional model.

Construction of religious centres doubled in the following twelve years (1965-77) under the episcopacy of Cardinal Pellegrino, but the architectural quality declined. Continuing immigration meant that the provision of churches remained insufficient, and on 8 May 1966, on the occasion of the annual 'New Churches Day'[13], Cardinal Fossati's successor, Cardinal Pellegrino, declared that 'the population increase has led to an urgent need for a large number of centres of religious life'.[14]

In 1969 he provided his own interpretation of Vatican II, setting out a policy for future churches in the diocese:

> We are very aware of the Council's admonition: diocesan authorities should strive after noble beauty rather than mere sumptuousness […]. In the construction of sacred buildings we should be concerned with their ability to allow celebration of liturgical services and active participation of the faithful (SC n. 124). So let us not try to emulate our forefathers who left us monumental churches, but aim instead at creating functional buildings and containing expenditure within the limits of the strictly necessary.[15]

The result was extensive building in both the city and the immediate periphery favoring repetition of standard models with few variations. The church was no longer church-as-monument, but the House among the houses of the Christian community, poor among the poor. Attention to the morphology of the place of worship faded into the background, and technological innovations were introduced purely to speed up construction. Prefabrication became the preferred construction technique. The *standard* model became the technical *optimum*, highly functional with little architectural experimentation. The typical liturgical hall provided a centralized interior that, in accordance with Council guidelines, allowed greater community participation in the celebration of the Eucharist, but whose multi-functional flexibility generally rendered the space dull and formless.

In the Catholic Church's evolution of its relations with society, the Turin case concentrates attention on the problem of the identity of the new churches. By the 1970s, the need to provide sufficient religious centers and ancillary services in new residential areas was affecting the architectural quality. Nevertheless, these buildings play, at the pastoral level, a central urban role for the population. The scope of church building changes from a representational model to a functional one; and, amongst so much mediocre architecture, for us identify works of significance, we must turn to an assessment of how relations between the faith community and the episcopal institutions were negotiated during the construction process, and of the role church building has played in forming the identity of entire neighborhoods.

1 Leonardo Benevolo, *L'architettura nell'Italia contemporanea* (Rome/Bari: Editori Laterza, 1998), 146.

2 Article n. 7 of national urban law n. 1150 of 17 August 1942 states: 'A municipality's development plan must indicate the areas to be reserved for public buildings or public usage, as well as buildings and facilities of collective or social interest.'

3 See the following recent publications: *L'Architettura delle chiese in Italia* (Comunità di Bose: Edizioni Qiqajon, 2012); Giancarlo Santi, *Nuove chiese italiane (1981-2010)* (Milan: Vita e Pensiero, 2011); Giancarlo Santi, Andrea Longhi, and Carlo Tosco, *Architettura Chiesa e Società in Italia (1948-1978)* (Rome: Edizioni Studium, 2010); Virginio Sanson, *Architettura Sacra nel Novecento. Esperienze, ricerche e dibattiti* (Padova: Edizioni Messaggero, 2008); Stefano Mavilio, *Guida all'architettura sacra. Roma 1945-2005* (Milan: Electa, 2006); Frédéric Debuyst, *Chiese. Arte, architettura, liturgia dal 1920 al 2000* (Milan: Silvana Editoriale, 2003), Sandro Benedetti, *L'architettura delle chiese contemporanee. Il caso italiano* (Milan: Jaca Book, 2000). The relationship of new religious construction with contemporary trends in architecture has been the subject of debate in various international liturgical conventions at Bose Monastery and in the international conventions in Venice coinciding with the Biennale. Concurrently the CEI (Italian Episcopal Conference) proposes educational programs for the design of new churches through a multidisciplinary approach, along with other schemes including publication of the feature 'one church every month', edited by Professor Andrea Longhi, to interpret and assess the architecture of Italian churches in the second half of the twentieth century.

4 Until publication of Daniele De Marchis (ed.), *L'Archivio della Commissione Centrale per l'Arte Sacra in Italia. Inventario* (Città del Vaticano: Archivio Segreto Vaticano, 2013), there were no comprehensive publications on the role of the Central Papal Commission for Religious Works of Art in Italy (hereafter PCCASI). The inventory of PCCASI documents, held in the Vatican's Papal Archives, is composed of some 6000 units and covers a chronological period from 1924 by Pope Pius XI with Secretary of State circular n. 34215 of 1 September , when the Commission was created, until 31 December 1989 when its activities ended. The classification consists of four series: General Archive, Church Bell Archive, Capo I, and Capo II. The third and fourth groups from 1952 onwards contain documentation regarding construction of new churches, a huge undertaking which was made possible by state funds provided under Law n. 2522 of 1952 and n. 168 of 1962. Thousands of projects from every diocese in Italy were sent to the Central Commission for examination. The Capo I series refers to Law N. 2522 and successive amendments, Capo II to Law N. 168 of 1962. The type of documents contained in the individual envelopes of these two series is usually the same: letters from bishops or from diocese of-

fices, Central Commission minutes, acts of the Ministry of the Interior and Ministry of Public Works, less frequently from local civil engineering offices or cultural assets administrations, along with plans for building projects, which in turn include drawings, reports, and other technical documents. Often the projects include photographs of the location where construction was to take place, and of its plastic model. For a more detailed account of PCCASI activities, see Carlo Galassi Paluzzi, "Come nacque la Pontificia Commissione Centrale per l'Arte Sacra in Italia," *Fede e Arte* 7 (1953), 202-9; Paolo Rabitti, "La tutela dei beni artistici al servizio della missione pastorale della Chiesa," *L'Osservatore Romano* 4 (13 December 1989), 4; Giancarlo Santi, "La Santa Sede e i beni culturali della Chiesa in Italia" *Communio* 140-141 (1995), 108-17; Francesco Marchisano, "Il ruolo della Pontificia Commissione Centrale per l'Arte Sacra in Italia nella costruzione delle chiese nei decenni successivi alla guerra," in Unione Cattolica Artisti Italiani (ed.), *Profezia di bellezza. Arte sacra tra memoria e progetto. Pittura-scultura-architettura. 1945-1995* (Rome: Ciscra, 1996), 17-19.

5 Glauco Gresleri, "Architettura sacra in Italia dal dopoguerra al Concilio Vaticano II," in *Il Sacro. L'architettura sacra oggi. Atti del Congresso Internazionale di Pescara Gennaio 1989* (Rimini: Stauròs Internazionale-Il Cerchio, 1990), 184-91.

6 Law n. 2522 of 18 August 1952 regarding contributions for the construction of new churches; see Giovanni Costantini, "La legge per il concorso dello Stato nella costruzione di nuove chiese," *Fede e Arte* 1 (1953), 52-6. The law stipulated that the Ministero dei Lavori Pubblici (Ministry of Public Works) should grant bishops funding equal to the cost of purchase of land, if it was not donated by other bodies, and the construction of unfinished buildings. Funds were granted after building was completed and tested.

7 Law n. 168 of 18 April 1962 (Capo I) State intervention in construction of places of worship; (Capo II) Concession of financing for the construction of places of worship and annexed facilities. In Capo I the innovation lies in the fact that financing could be requested not only for unfinished buildings, but also for completion of facades with plaster work. In Capo II, there was additional financing spread over 35 years (to the amount of 4% of the cost for completion of construction work) and corresponding to a sum that varied by several million lire. The contribution was raised to 5% for works in southern Italy and the islands (Law n. 646 of 10 August 1950).

8 Daniele De Marchis (ed.), *L'Archivio della Commissione Centrale per l'Arte Sacra*, VII.

9 Maria Antonietta Crippa, "L'architettura postconciliare: un caso nella diocesi milanese," *Il Sacro. L'architettura sacra oggi. Atti del Congresso Internazionale di Pescara Gennaio 1989* (Rimini: Stauròs Internazionale – Il Cerchio, 1990), 200-5.

10 Giuliano Zanchi, "L'assemblea liturgica: tipologie e topografie," in Goffredo Boselli (ed.), *Assemblea Santa. Forme, presenze, presidenza*, (Comunità di Bose: Edizioni Qiqajon, 2009), 69.

11 Carla Zito, *Casa tra le case. Architettura di chiese a Torino durante l'episcopato del cardinale Michele Pellegrino (1965-1977)* (Cantalupa: Effatà Editrice, 2013).

12 In individual Italian dioceses, in the same way, offices were created to preside over the construction of parish religious buildings. In chronological order, the most important were in Rome, Torino, Milano and Bologna. The Office of the Curia of Rome, which is responsible for church building, was introduced in 1930 by *Motu proprio* of Pope Pius XI, who established the Pontificia Opera – now Opera Romana – for the Doctrine of the Faith and the Provision of New Churches in Rome, with the purpose of creating a new and specific body whose mission was 'novas erigere, instituere ac dotare paroecias areas acquirere, templa extruere itemque de necessariis veniis cum civitatis magistratibus agere'. In Torino the diocesan office for the Doctrine of the Faith was established in 1935 under Cardinal Maurilio Fossati, while in Milano Archbishop Ildefonso Shuster created the New Temples office in 1937. In 1954 he also set up a Committee for the building of new parochial churches in the diocese of Milano, later administered by Cardinal Montini, with the purpose of supporting new church construction and administering the funds needed for the organization's operation. In Bologna, in 1960, Cardinal Lercaro established the archiepiscopal centre for sacred architecture, encompassing the Office for New Churches. In all dioceses this office, as an executive body reporting directly to the archbishop, comprised a board of directors, an office of religious urban planning, a technical-artistic office to engage planners and building contractors, prepare contracts and manage building sites, an administrative office, a section for notarial procedures, and another for promotional activities and collection of donations.

13 'New Churches Day', also known as 'Torino Churches Day', was inaugurated in 1957 by Monsignor Enriore to solicit financial contributions from the faithful of the diocese, without which it would have been impossible to undertake many of the new projects. During the episcopacy of Cardinal Fossati the event was repeated annually. During Padre Pellegrino's episcopacy In 1969-70 the event became the day of 'Diocesan Cooperation', aimed at providing concrete support to various diocesan initiatives, including construction of new churches.

14 "Giornata delle nuove chiese – 8 maggio 1966," *Rivista Diocesana Torinese* 5 (1966), 1-7.

15 "Atti del card. arcivescovo. Per la Giornata delle nuove chiese - 24 marzo 1969," *Rivista Diocesana Torinese* 4 (1969), 150-1.

5. TWENTIETH CENTURY

5.5.5 Architecture Resisting Political Regime: The Case of Novi Zagreb

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Abstract

This paper examines the extent to which architecture can resist political authority, using the case study of Novi Zagreb, a major city area built along the modernist lines south of the river Sava after World War II. In the immediate post-war period in Croatia, one of the six Yugoslav Republics, the socialist regime had strong control over artistic production and Socialist Realism was imposed upon architecture as the official poetics. However, acting against official policy, Croatian architects constructed Novi Zagreb as a modernist city.

Although the circumstances of Novi Zagreb's conception are as yet obscure, the argument made here is that it came into existence as a result of both political and formal resistance. In contrast to existing studies that view Novi Zagreb as a group of independent settlements across the river, the hypothesis here is that there was a project for a modernist city from the very beginning, long before the first Plan for South Zagreb in 1962. Preliminary archival research shows that the majority of strategic decisions about the construction of infrastructure south of the river Sava, which enabled the construction of the new modernist city a decade later, were taken by local authorities in the late 1940s and the early 1950s; at the same time, in the late 1940s, there is evidence of resistance by Croatian architects towards the imposition of Socialist Realism, resulting in official acquiescence in the modernist paradigm of the 'functional city' as a model for the construction of the new socialist reality. Thus, the actions of Croatian architects in going against the aesthetic doctrines of the state may be considered as evidence of architecture's capacity to develop autonomously when restrictions are put in place by authoritarian powers.

Keywords

Novi Zagreb, modernist city, functional city, architectural autonomy, resistance of architecture

Introduction

Novi Zagreb was planned as a modernist city for 250,000 inhabitants and was built during the 1960s and 1970s to accommodate a new class of workers in the young socialist society.[1] Never completely finished, nowadays it is a home to around 120,000 residents.[2] Although it was criticized for years by both sociologists and architects, and was perceived as a failure of modern urbanism, a recent anthropological study has shown that it offered excellent living conditions.[3] However, the circumstances of its inception are still obscure. The Plan for South Zagreb[4] (1962) appeared 15 years after the competition for New Belgrade's state and party buildings (1947) and almost a decade after the construction of the first urban complexes, the Naval Institute (1949-59) and the Zagreb Fair (1954-6), south of the river Sava. On the basis of archival research, which shows that the decisions about those first infrastructural projects were made in the late 1940s and early 1950s, when the state was enforcing Socialist Realist poetics in the arts, I argue that the construction of those complexes was part of a thoughtfully engineered strategy to circumvent the regime and to build a distinctively modernist city. The hypothesis is that Novi Zagreb was conceived as an act of resistance by Croatian architects towards the state architectural doctrine, making it a suitable case study for exploring to what extent and under what circumstances architecture is able to resist political authority.

Architectural autonomy

In the relationship between 'architecture' and 'society', there is on the one hand a position that perceives architecture as an instrument of culture' dependent on external realities such as socioeconomic, political and technological forces; alternatively, on the other hand, architecture is presented as 'autonomous form creation', immune to external influences.[5] This latter position relies on the concept of 'architectural autonomy',[6] of architecture's capacity for 'an internal exploration and transformation of its own specific language.'[7] While architecture may be seen as an autonomous discipline, it is at the same time determined by social circumstances, which is why Hays positions it 'between culture and form' and why Anderson calls it 'quasi-autonomous'.[8] The reciprocal influences of architecture and society are further explored in a recent study[9] that analyses in what ways architecture is affected by social transformations and how it can resist them. Kaminer shows that the discipline of architecture during times of social crisis cyclically passes to the route of recovery by first withdrawing from the need to address reality, followed by a period of reinvention that takes place in the realm of 'ideal', before finally it is able to engage once again with the realm

of the 'real'.[10] According to his thesis, the 'resistance of architecture' is its capacity to counter existing social and political forces by withdrawing into the realm of the ideal, resuscitating itself, and eventually returning to reality ready to face the logic of the new society.
With the emergence of a concept of autonomy,[11] it has been said that architecture becomes a discipline, and as an 'intangible institution', has exercised power in society through mechanisms different to those of official institutions. According to a Foucault, the discipline is, in its mechanism, 'counter-law', because it seems to extend the general rules defined by law to another level of individual lives based on the 'private' links between individuals, 'a relation of constraints entirely different from contractual obligation.'[12]
In line with Kaminer's thesis, I claim that Novi Zagreb was an autonomous project. Claiming that it was a project does not necessarily mean that there was a drawing from which something was built, but rather that there was a strategy by which something came into existence. The project here is understood along the lines of what Aureli has called 'autonomy of a project' meaning that there is 'the possibility for architectural thought to propose an alternative idea of the city rather than simply confirming its existing conditions.[13] As cities are centres of political power, I focus on the relationship between architecture and politics.

Novi Zagreb - a group of fortuitously connected neighbourhoods?

There is a lack of literature on the urban development of Novi Zagreb.[14] Although the study by Gulin Zrnić provides the most comprehensive overview of its urban development to date, it does not clearly explain the reasoning behind Novi Zagreb's planning. Gulin Zrnić describes it as 'the city of modern architecture and functionalist urban planning', but, citing Fisher, somewhat contradictorily goes on to claim that 'Novi Zagreb consists of a group of "spatially independent settlements" which together do not form a coherent whole.'[15] She further asserts that during the construction of the Naval Institute and the Zagreb Fair in the mid 1950s, there were no plans for the construction of mass housing, nor for an urban master plan for Novi Zagreb,[16] and referring again to Fisher's paper states that even by the time the first urban complexes had been built there was still no declared intention of building housing south of the river Sava.
In contrast to Fisher and Gulin Zrnić, this study argues that the construction of the Naval Institute and the relocation of the Fair were part of a strategy to prepare a framework for the future construction of a modernist city by offering 'radical solutions' to the then urgent need for housing in Zagreb.[17]

The proposition that these first infrastructural works were part of one project implies that the inception of Novi Zagreb had begun earlier, in the late 1940s and the early 1950s, which is why I focus my archival research on the political decisions of that period. Ongoing oral history interviews with the architects who took part in the planning have given vital direction to the archival research and have provided a more insightful account of the conception of Novi Zagreb.
According to the recollections of Josip Uhlik,[18] an architect who actively took part in the planning of South Zagreb, after the war

> there was strong industrialization in Zagreb. The workers were coming from all over Yugoslavia and there was a pressing need to build housing. Hence, the local authorities were in search for the space where an organized construction could take place [...] and where nothing

Figure 1. *The Bridge of Freedom* under construction in the early 1950s, enabling the city's expansion southwards and the later construction of modernist city of Novi Zagreb. *Source:* HR-MGZ-PA [41.310], 1958, Milan Pavić

> needed to be removed and demolished. […] It was them, of course, who took the decision to cross the river and build south of Sava.

The possibility of expansion to the south has been continuously present in Zagreb's urban history. Zagreb developed on the southern slopes of the Medvednica mountain, far from the alluvial river to the south, and the adjacent land which was marshy, foggy and wet. Regardless of the natural disadvantages and the constant threat of flooding, the idea of the expansion to the south across the river had come up whenever the city needed to expand further.[19]

Uhlik further asserts that: 'The Fair was probably Holjevac's decisive stroke – "Let's go over the Sava River."' He remembers that it was absolutely clear that the relocation of the Fair would open the possibility for the city's extension south of the river.[20] There are also several studies that claim that the relocation of Zagreb Fair was the generator of urban development of Novi Zagreb. In *Project Zagreb,* Blau and Rupnik claim that 'the Zagreb fair enabled the city to embark on the planning and construction of Novi Zagreb.'[21]

Over the course of a century, Zagreb Fair was relocated to the city's outskirts no less than five times, on each occasion as an instrument for the city's expansion.[22]

According to archival findings,[23] the first urban complex to be built on the south side of the river Sava was the Naval Institute.[24] After Većeslav Holjevac became a mayor in 1952, four further steps were engineered by local authorities: the territorial division of the city, the construction of the Bridge of Freedom, the relocation of Zagreb Fair, and the construction of the thermal power plant with the heating plant.[25] They were outlined in the Annual Report of the President of the city authorities as the General Working Guidelines for 1954. This series of seemingly unconnected infrastructural projects south of the river Sava, starting in the late 1940s and continuing into the early 1950s, made possible the later construction of Novi Zagreb. Hence, I argue that all five strategic moves were part of a single autonomous project, a unique endeavour, which had the idea of a modernist 'functional city' as a guiding principle – which is why I refer to Novi Zagreb as 'a city', rather than just a part of the city. Even though no plan was drawn up, the local authorities had a strategy for building a modernist city.[26]

Novi Zagreb - an autonomous project?

As there is a considerable gap between what has been written about Novi Zagreb[27] and my findings, I will use Kaminer's theory to test my hypothesis that Novi Zagreb was an autonomous project. This theory posits that the discipline of architecture is capable of transforming itself autonomously during times of social upheaval by withdrawing into the realm of the 'ideal', and resuscitating itself in order to be able to face reality. The sequence of reactions that the discipline takes on the route to recovery starts as a 'withdrawal, escapism, resistance, resuscitation and finishes with the acceptance' of a new social order.[28] My hypothesis is that the construction of Novi Zagreb was the final step on architecture's route of recovery, while its conception was the result of the resistance of architecture towards the imposition of the Socialist Realist aesthetic doctrine.

Throughout its history, Zagreb has undergone frequent political changes, yet showed surprising continuity in artistic production.[29] As the city had always been peripheral to centres of power located elsewhere, whether in Vienna, Budapest or Belgrade, the local authorities were forced to negotiate the city's development.[30] From the early nineteenth century, nationalist aspirations for independence required a national capital through which they might be focused.[31]The city, instead of reflecting social circumstances and being an 'instrument of culture', became an 'autonomous project' for changing those circumstances.[32]

In line with Kaminer's thesis, I argue that the transformation of the discipline

Figure 2. Novi Zagreb in the mid-1990s; airplane photographs of Novi Zagreb. *Source:* Andre Mohorovičić et al. Zagreb, a Millenium (Zagreb, Studio Hrg, 1999), 167

of architecture started earlier, with the social crisis following the dissolution of Austro-Hungarian Empire in 1918. At the end of WWI, Croatia became a part of the Kingdom of Serbs, Croats and Slovenes, and the two following decades were marked by political instability because of the 'conflict between the Serbian dominated central government and Croatia,' which was an economically more developed part of the Kingdom.[33] During that time, Zagreb had to cope with the post-war housing crisis, the rapidly growing number of its inhabitants, and the economic consequences of the 1929-33 world crisis. Those major political and social changes launched the inherent autonomous disciplinary transformation of architecture that starts with the withdrawal into the realm of 'ideal', adjusting 'its procedures, methodologies and self-understandings' in order to face changes in society.[34] The type of modern architecture adopted in Zagreb before WWI in the work of Viktor Kovačić, Otto Wagner's disciple, proved inadequate to the demands of the new capitalist society. It still did not develop methodologies to cope with the then urgent problem of providing a large number of housing units, and instead of actively participating in the construction of a new reality, it withdrew from it, reinventing itself by adjusting its operations and overall agenda to the new circumstances.

The crucial move towards the redefinition of the discipline of architecture was the establishment of public architectural competitions as obligatory[35] for the procurement of all significant buildings and urban master plans, stimulating architectural experiment and innovation through 'paper architecture'. What followed was the foundation of formal institutions, such as Schools of Architecture and Urban Planning Offices,[36] as well as the formation of various informal cultural groups and affiliations within those groups. A close collaboration of young Croatian architects with international teachers such as Loos, Le Corbusier, Poelzig, Behrens in great part contributed to an early emergence of an architecture of functionalism and international modernism in Zagreb. Le Corbusier's close associate, Ernest Weissmann, initiated an international collaboration with CIAM. The national group of CIAM for Yugoslavia, the Zagreb Group, presented an analysis of Zagreb at the 1933 CIAM conference on the 'Functional City', and upon their return implemented the idea of 'functional city' in the 1936 Regulation Plan.[37] Realizing that architecture has the power and potential to change society, architects suddenly became aware of its responsibilities and started to actively collaborate with progressive artists on a cultural scene that was permeated with social ideas of collectivity.[38]

After WWII, Croatia became a part of the multinational Federal People's Republic of Yugoslavia. In the immediate post-war period, the Yugoslav regime exercised strong control over the arts and as in other Eastern Bloc countries Socialist Realism was imposed as the official poetics, but after Tito's radical split with Stalin in 1948, ideological pressures on the arts started to abate, as Yugoslavia, caught between East and West, opted for a geopolitical 'non-alignment'.[39]

However, the idea of the modernist city in Yugoslavia was defined during the brief period after the war (1945-52) when the regime's influence on art was strong and the war-stricken country was searching for ways to build the new socialist society. Croatian architects, who believed that 'the architecture of 'functionalist modernism' was a more than appropriate tool in such radically new social circumstances,'[40] actively participated in creating the concept of the modern city by resisting Socialist Realist poetics in the realm of the 'ideal', both in the 1947 competition for the new administrative capital city New Belgrade, and in the professional discourse.

Although the competition for New Belgrade's two party and state buildings asked for a 'monumental and representative architecture', most of the competition entries, including those by Croatian architects, who won two out of three first prizes, demonstrated modernist poetics in a decisive shift away from the then dominant Socialist Realism and towards a new discourse of modern architecture.[41]

After the competition, resistance continued in the professional press. In the first number of the newly founded journal *Arhitektura* in 1947, straight after the pages on the Five Year Plan for the country's construction, Andre Mohorovičić, a distinguished Croatian architect and theoretician, put forward a concept of 'comprehensive functionalism', implicitly suggesting the approval of 'functional modernism' as the official poetics, which for the city planning meant the acceptance of the modernist paradigm of 'functional city' as the appropriate representation of the new socialist order.[42] This was followed by a fierce critique by Belgrade architect Maksimović that further polarized the positions between Socialist Realism, imposed by the regime, and modernism, advocated by Croatian architects, but was concluded with editor's affirmation of 'comprehensive functionalism' as an adequate representation of the new socialist order.[43]

Once political pressures started to abate (1952), the discipline of architecture was ready to face reality.[44] In 1952, Mohorovičić, a zealous advocate of functional modernism and an active participant in post-war Zagreb's urban planning,[45] wrote the text that could be considered as a proposal for the city's southward expansion.[46] In the same year (1952), Većeslav Holjevac became the mayor in Zagreb. Aware of the regime's lack of enthusiasm for Zagreb's expansion,[47] and having had the experience of operating under unstable political conditions, the local authorities decided to make a series of strategic moves that would make possible the later construction of South

Zagreb. Although the mayor's importance in carrying out the project is indisputable, it is plausible that a larger group of intellectuals was also involved in bringing it about.[48] It seems that the group of Croatian architects active from before the war formed an autonomous local network of interpersonal relationships, and a Foucauldian disciplinary 'counter-law' mechanism based on 'private-links' came into play to overpower the regime's opposition to the development of Zagreb across the river.[49] A series of strategic decisions were made to realize a plan for South Zagreb, though it did not actually exist on paper until after all of the infrastructure for the city was already in place on the ground. In this respect Novi Zagreb can be considered as a paradigmatic example of an autonomous project, because architectural innovation and experimentation overcame external realities, and the institution of architecture, embodied in a local circle of Croatian architects, surmounted the political opposition of the ruling regime and was able to realise a plan for a new modernist city.

Conclusion

The case of Novi Zagreb shows that architecture is indeed capable of resisting political authority, and of being more than a mere servant to ideological forces. It reveals that the actions of Zagreb's architects, who exercised power in a disciplinary manner based on interpersonal ties, succeeded in resisting the political forces. Regardless of the fact that some of them were party members, their professional non-institutional cooperation and their affiliations with other intellectuals enabled the realization of their clearly defined architectural ideas. The outcome was the construction of a city that nowadays provides conditions than those in other parts of Zagreb that came into being through *ad hoc* planning processes.

As the discipline of architecture managed to develop autonomously in the post-war period even when restricted by authoritarian powers, the question is whether it would be equally able to cope with the other external influences nowadays, such as a neoliberal economy or free-market capitalism. The case of Novi Zagreb opens up the possibility for reconsidering 'architectural autonomy' as a means of resistance against the current post-socialist landscapes of spatial disorder in Zagreb. It also shows that the agents who addressed the social issues most responsibly were not the institutions, but rather, the architects themselves, through their non-institutional informal cooperation and affiliations with other cultural groups, which implies that a capacity to conceive changes to the contemporary city still lies with the architectural

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*This text is a shortened version of the article by Dubravka Vranić, "The Resistance of Architecture to Political Regime(s): the Case of Novi Zagreb," *Sociology and Space* 52, n.1 (198), (2014), 41-67.

1 *Plan for South Zagreb* was published in magazine *Čovjek i Prostor* in 1962 and has proposed the city for 250,000 inhabitants with functions of dwelling, work, recreation, transportation and centres. It was situated on 2350 hectares with 78,200 housing units. The whole area was supposed to be divided in neighbourhoods, micro-rayons (residential communities) and rayons. The neighbourhoods were smaller units consisting of 2500-3000 people on 5-6 hectares. The basic unit was the micro-rayon or residential community consisting of 10,000-12,000 inhabitants on 20-30 hectares which was planned for the one primary school. 4-6 micro-rayons would form rayon with a belonging centre. Rayon would have 50,000 to 70,000 inhabitants. South Zagreb was supposed to have 3 independent rayons, while the amenities for the fourth rayon would be located in the centre next to the Zagreb Fair. The area of south Zagreb was supposed to have 76 neighbourhoods, 24 micro-rayons, 4 rayons, with amenities in its center. The planned density was 264 inhabitants per hectare. Zdenko Kolacio, "Južni Zagreb," *Čovjek i proctor* 116 (1962), 4-6.

2 Valentina Gulin Zrni´c, *Kvartovska Spika. Zna˘cenja grada i urbani lokalizmi u Novom Zagrebu* (Zagreb: Jesenski i Turk, 2009), 85.

3 Novi Zagreb was criticised both by Croatian architects and sociologists (Gulin Zrnić, *Kvartovska Spika*, 54-61), as well as international architecture critics such as Peter Blake who saw it as 'a dead city, a place of loneliness and alienation,' Peter Blake, *Form Follows Fiasco. Why Modern Architecture Hasn't Worked* (Boston/Toronto: An Atlantic Monthly PressBook Little, Brown and Company, 1977), 86. However, a recent anthropological study by Gulin Zrnić, *Kvartovska Spika,* has shown that nowadays, some 50 years after Novi Zagreb was built, its residents enjoy living there.

4 *Plan for South Zagreb* was made by *Urbanistički zavod grada Zagreba* (Zagreb's Urban Planning Department). It was planned by a group of architects: Neda Bešlić, Vojteh Delfin, Vladimir Ivanović, Grozdan Knežević, Zdenko Kolacio, Mirko Maretić, Zdenka Smolej i Josip Uhlik and other professionals in 1962. HR-GUSPRG – technical documentation – 0.10-5.1 – urban program – Urbanization of Novi Zagreb.

5 Hays describes these two positions as 'architecture as an instrument of culture and architecture as an autonomous form'. The first view sees 'culture as the cause

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and content of the built form'. The opposite position considers the autonomy of an abstract formal system disengaged from the historical contingency and circumstances as the main constituting factor of architectural form. Michael K. Hays, "Critical Architecture: Between Culture and Form," *Perspecta* 21 (1984), 16.

6 The word 'autonomy' comes from the Greek *auto* (self) and *nomos* (law) which means to give to oneself one's own laws. Only an autonomous system is capable of resisting external forces. The concept of autonomy originates from Kant's idealist thinking which presupposes an active participation of human mind in a cognitive process, in which observer (subject) through his/her pure 'forms of intuition and forms of thought', regulates conceptual structuring of the world (object). Thus, cognitive process precedes artistic activity that consequently becomes autonomous - independent from political, social and religious processes that have previously constituted it. The emergence of concept of autonomy has radically changed the world of arts and the course of its development. While its emergence in fine arts breaks its connections with society, disengaging it from the statecraft and religion, its emergence in architecture, which remains dependent on authority and power, makes their relationship more complex and ambivalent. Harry Francis Mallgrave and Eleftherios Ikonomou (eds.), *Empathy, Form and Space Problems in German Aesthetics 1873-1893* (Santa Monica, CA: The Getty Center Publication Programs, 1994), 5-7.

7 According to Vidler, 'the idea of architectural autonomy is the notion that architecture, together with the other arts, is bound to an internal exploration and transformation of its own specific language'. The one to introduce the concept of autonomy in architecture was Viennese architecture historian, Emil Kaufman, who connected Kant's philosophical position of 'autonomy of will' with architecture. Analyzing works of Claude-Nicolas Ledoux, he discerned the emergence of the composition of autonomous entities in contrast to the Baroque principle of concatenation. In his 1933 pamphlet *Von Ledoux bis Le Corbusier*, *Ursprung und Entwicklung der Autonomen Architectur*, he proposed that the development of modernism emerged in the work of Claude-Nicolas Ledoux in the 1770s and culminated in the work of Le Corbusier in the late 1920s. It was Kaufman who introduced the ideas of autonomy and modernism to subsequent generations of architects, starting with Philip Johnson in the 1940s, followed by Colin Rowe in the 1950s and Aldo Rossi in the 1950s and 1960s, and continuing with Peter Eisenman and M.K. Hays from the 1970s up to today. Anthony Vidler "The Ledoux Effect: Emil Kaufmann and the Claims of Kantian Autonomy," *Perspecta* 33 (2002), 16.

8 Michael Hays, "Critical Architecture: Between Culture and Form," *Perspecta* 21 (1984) 14-29; Stanford Anderson, "Quasi-Autonomy in Architecture: The search for an 'In-between'," *Perspecta* 33 (2002), 30-31.

9 Tahl Kaminer, *Architecture, Crisis and Resuscitation. The Reproduction of post-Fordism in late-twentieth-century Architecture* (Abingdom: Routledge, 2011).

10 The 'ideal' refers to everything that prioritizes 'consciousness over matter' in contrast to the 'real' which is obsessed 'with the concrete matter, ' just as Plato's world of ideas is opposed to the material world. This duality of ideal-real that corresponds to the subject-object dichotomy arises from the idealist roots of architecture, and is responsible for architectural autonomy. Tahl Kaminer, *Architecture, Crisis and Resuscitation. The Reproduction of post-Fordism in late-twentieth-century Architecture* (Abingdom: Routledge, 2011), 5.

11 With the Renaissance invention of perspective, drawing and geometry became architecture's main constituting elements. Architecture is no longer a building, a material object itself, but becomes an ideal object, 'a product of the mind.' It ceases to be a craft and becomes a discipline. Kaminer, *Architecture, Crisis and Resuscitation*, 4.

12 'Although the universal juridicism of modern society seems to fix limits on the exercise of power, its [discipline's] universally widespread panopticism enables it to operate, on the underside of the law, a machinery that is both immense and minute, which supports, reinforces, multiplies the asymmetry of power and undermine the limits that are traced around the law. The minute disciplines, the panopticisms of every day may well be below the level of emergence of the great apparatuses and the great political struggles. But, in the genealogy of modern society, they have been, […], the political counterpart of the juridical norms according to which power was redistributed; Michel Foucault, *Discipline and Punish; The Birth of the Prison* (New York: Vintage Books, 1977), 223.

13 Pier Vittorio Aureli, *The Possibility of an Absolute Architecture* (Cambridge, Massachusetts: The Mit Press, 2011), XIII.

14 In the available literature there are few studies that deal with the urban development of Novi Zagreb (Miljenka Fisher, "Neke Primjedbe o Oblikovnim Značajkama Nove Izgradnje u Južnom Zagrebu," *Radovi Instituta za povijest umjetnosti* 9, (1985), 88-91; Eve Blau, and Ivan Rupnik, *Project Zagreb: Transition as Condition, Strategy, Practice* (Barcelona: Actar, 2007); Gulin Zrnić, *Kvartovska spika*, 42-97; Borka Bobovec, Ivan Mlinar, and Domagoj Sentić, "Zagrebački Velesajam kao poticaj razvoju novozagrebačkog centra," *Prostor* 20 (2012), 186-197; and several about the modernism or the post-WWII architecture and urbanism of Zagreb, which usually either do not mention Novi Zagreb, implicating it is not considered to be a modernist city (Žarko Domljan, "Poslijeratna arhitektura u Hrvatskoj," *Radovi Instituta za povijest umjetnosti* 10 (1969), 3-45; Eugen Franković, "Urbanističko planiranje Zagreba od 1945 do 1985," *Radovi Instituta za povijest umjetnosti* 9 (1985), 3-45; Tomislav Premerl, *Zagreb, Grad moderne arhitekture: Stoljeće Zagrebačke arhitekture* (Zagreb: Durieux, 2003); Sandra Križić Roban, "Obilježja modernosti na području arhitekture, urbanizma i unutrašnjeg uredenja nakon drugog svjetskog rata," in Ljiljana Kolešnik (ed.), *Socijalizam i Modernost: Umjetnost, kultura, politika 1950-1974* (Zagreb: Muzej suvremene umjetnosti, 2012), 55-125, or do not mention it in a sufficient manner (Darja Radović Mahečić, "Architecture and Modernization of the City," in Fedja Vukić (ed.), *Zagreb, Modernity and the City* (Zagreb: AGM, 2003), 62-84. Although most studies agree that its neighbourhoods were planned along the modernist lines (Radović Mahečić, "Architecture and Modernization," 82; Blau and Rupnik, *Project Zagreb,* 246; Zrnić, *Kvartovska spika*, 61), none of them states clearly how, why and when exactly Novi Zagreb was conceived or the reasoning behind its planning.

15 Gulin Zrnić, *Kvartovska Spika* (2009), 44, 61; Fisher, "*Neke Primjedbe*," 88.

16 Zrnić, *Kvartovska Spika,* 44, 69.

17 The lack of housing was one of the most acute problems in post-war Zagreb. After WWII, the population grew at a rapid pace (from 258,024 in 1931 to 478,076 in 1962), a trend that started with industrialization after WWI, when the population doubled in the between-war period (from 136,351 in 1910 to 258,024 in 1931). The gravity of the housing problem can be traced in both magazines, *Čovjek i Prostor* and *Arhitektura*, as well as in the Records of the City Committee of the City of Zagreb from 1952-7. On the cover page of the first issue of *Čovjek i prostor* (1954), there was an article, "The Right to an Apartment" while in the same magazine in 1957, an article by Milan Despot, "Housing Situation in Zagreb seeks Radical Solutions," *Čovjek i prostor* 69 (1957) suggested that 30,000 housing units were needed in Zagreb to accommodate existing needs, plus 4000 for each coming year because the population was growing by 15,000 inhabitants every year. In 1956, *Arhitektura* was devoted to the housing problem and the report from the first Yugoslav conference on housing in the cities concluded that there was indeed a huge shortage in housing ("Zaključci prvog jugosl. savjetovanja o stambenoj izgradnji i

stanovanju u gradovima," *Arhitektura* 1-6 (1956), 30). Šegvić wrote a text on the topic of 51,576 apartments a year that were missing (Neven Šegvić, "Na temu 51,576 stanova godišnje," *Arhitektura* 1-6 (1956)). Housing as a main problem in Zagreb was discussed on the 22nd city assembly NOGZ, 25 January 1954. President's Annual Report about the work of NOGZ in 1953. 19 January 1954. p.44/29. HR DAZG-37-NOGZ-1954/I, sig.38.

18 Josip Uhlik (1921-) was one of the most important architects of South Zagreb. He was the right hand man of Zdenko Kolacio, a manager of Zagreb's Urban Planning Department which was in charge of the planning of Novi Zagreb. He designed Zagreb's airport, Micro-rayon Novi Zagreb, Zaprude, and was the author of Zagreb's 1972 masterplan. An interview with Josip and Nada Uhlik was conducted on the 5 February 2013.

19 Lenuci's Regulation Plan from 1907 to 1910 (Tihomir Jukić, "Strukturalne promjene rubnih dijelova grada-Prilog proučavanju urbanističkog razvoja Zagreba," (PhD diss: Arhitektonski fakultet Sveučilišta u Zagrebu, Zagreb 1997), 117-9) was the first to propose the city's development across the river. The idea was further explored in the open international competition for a new regulation plan for Zagreb, which was held in 1930/31. (Aleksandar Laslo, "Internacionalni natječaj za generalnu regulatornu osnovu grada Zagreba, 1930/31," Čovjek i prostor 370 (1984), 25-31). The results of the competition served Antolić and the City Regulation Office as a basis for the development of the 1936 and 1947 Regulation plans for Zagreb, which announced the possibility of expansion to the south, and served as effective plans for the construction of the city although neither of them was ever officially accepted.

20 The other interviewees Bogdan Budimirov, Boris Magaš and Branko Kincl confirm this.

21 Blau and Rupnik, *Project Zagreb*, 246.

22 Snježka Knežević, *Zagrebačka Zelena Potkova* (Zagreb: Školska knjga, 1996); Blau and Rupnik, *Project Zagreb*, 66-73; Bobovec, Mlinar, and Senić, "Zagrebački Velesajam".

23 For the purposes of this study, I investigated the records of the meetings of NOGZ-National Committee of the City of Zagreb from 1952-7 (Zapisnici sjednica gradskog vijeća NOGZ - Narodni odbor grada Zagreba) HR-DAZG-37-NOGZ and the Collection of building documentation (Zbirka gradevinske dokumentacije) HR-DAZG-1122-ZGD, the Naval Institute archive (BI) which was not open until the mid-1990s because it was a military institution, archives of the City Office for Strategic Planning and Development (Gradski Ured za strategijsko planiranje i razvoj grada) GUSPRG, and Zagreb City Museum - photo archive (Muzej grada Zagreba - fototeka, HR-MGZ-PA, and Croatian State Archives - photo collection (Hrvatski državni arhiv -Fond fotografija Agencije za fotodokumentaciju) HR-HDA-1422.

24 Naval Institute (Brodarski Institut) was founded by Marshal Tito in 1948, for the purposes of the Yugoslav Navy, just a few months after the radical break with Stalin. Already, in 1949, it was decided that it would be located south of the river Sava because of its urban potential and the "suitability of the gravelly soil" due to the technical requirements. The construction started in the late 1950s, and the majority of the buildings were built by 1953. Prior to its construction, the extensive expropriation of the land was carried out and the roads that connect it to the city had been built. Dubravka Vranić, "The Resistance of Architecture to Political Regime(s): The Case of Novi Zagreb," *Sociology and Space* 52 (2014), 50-1.

25 After becoming a mayor, Holjevac initiated a territorial reorganization of the city. 'During 1953, he started the division of the city into municipalities, which would later enable the incorporation of the municipality of Remetinec, the future location of South Zagreb, thus preparing for the further expansion of the city's territory to the south. […] The crucial strategic move across the river was the construction of the Bridge of Freedom that connected the city in the north with the airport and the Fair in the south. In 1953, the mayor saw 'the construction of new a modern bridge over Sava River' as an important task that would open 'the possibility of realizing the perspective of the city development towards the south'. The plans for the bridge started in 1950 and the bridge opened in 1959, while the decision for its construction was made in 1954. The drawings of the bridge sections made in 1956 clearly illustrate that the plumbing that passed through the bridge was intended for a large part of the city, and could be added if needed.

Upon his arrival, being fully aware that the Zagreb Fair was the basic core of the city's commercial life with a long tradition, the mayor asked for an economic study for the construction of Zagreb Fair south of the river with the intention of relocating it there. In early 1954, the local authorities decided to relocate it to the right bank of the river. […] The International Fair 'brought technical infrastructure (gas, electricity, water, and transportation) to the area south of the river, something the city had neither the authority nor the means to achieve on its own' (Blau and Rupnik, *Project Zagreb*, 221), and thus, it has indeed served as an urban generator for the further construction of Novi Zagreb.[…]

Wanting to keep the character of the industrial and commercial centre, the city authorities were aware that Zagreb needed to provide a sufficient supply of electrical energy that would enable efficient functioning of its industry. After the analysis affirmed that Zagreb was indeed a proper location for a new thermal power plant, in 1954, they have strategically approved its location on the northern bank of the Sava River, in close proximity to the future Novi Zagreb in the south and the new industrial zone in the east. Not only would the Savica power plant later provide heating for Novi Zagreb, but due to its construction the electrification of the whole city was redone, including laying cables underground, which facilitated the city's development towards the south. Vranić, "The Resistance," 51-4.

26 The strategy that the local authorities used for the construction of Novi Zagreb reminds us of the formation of Lenuci's Horseshoe, a series of parks with public buildings, similar to Vienna's Ring of Parks. In the period from 1880-1925, the local authorities protected the grounds in Zagreb's Lower Town block tissue from the construction by staging diverse activities, such as ice skating, tennis. Nowadays, Lenuci's Horseshoe is the most significant urban ensemble in Zagreb's urban tissue, and has a very strong presence in the collective consciousness of the city. The Horseshoe's plan did not exist on the paper until it was actually constructed on the ground - a strategy which has been efficiently used under the unstable political conditions. Knežević, *Zelena potkova*; Blau and Rupnik, *Project Zagreb*, 64-73.

27 Domljan, "Poslijeratna arhitektura u Hrvatskoj," 3-45; Fisher, "Neke Primjedbe," 88-91; Franković, "Urbanističko planiranje Zagreba," 85-8; Premerl, *Zagreb, Grad moderne arhitekture*; Radović Mahečić, "Architecture and Modernization," 62-84; Gulin Zrnić, *Kvartovska Spika*; Bobovec, Mlinar, and Sentić, "Zagrebački Velesajam"; Križić Roban, "Obilježja Modernosti".

28 Kaminer, *Architecture, Crisis and Resuscitation,* 7.

29 Šerman, "The New Reality," 138; Zagreb and Croatian history since 1848: 1848-67 Austrian Empire, 1868-78 Austro-Hungarian Empire, 1878-82 – Annexation of military frontier to kingdom of Croatia and Slavonia, 1918 Kingdom of Slovenes, Croats and Serbs, 1929 Kingdom of Yugoslavia, 1941-45 NDH – Ustase run Independent State of Croatia; 1946-91 Yugoslavia (1946-63 Federal people's Republic of Yugoslavia, 1963-91 Socialist Federal Republic of Yugoslavia); 1991 Republic of Croatia; Blau and Rupnik, *Project Zagreb*, 32-3.

30 Zagreb's peripheral position enabled 'intensification of culture' that could not be so easily controlled by the ruling power as military and economic forces could be.

Ljubo Karaman, *O djelovanju domaće sredine u umjetnosti hrvatskih krajeva* (Zagreb: Društvo historičara umjetnosti NRH, 1963).

31 As a Croatian peripheral society required a national centre – a recognizable place of its social and cultural representation – 'the perception of Zagreb as Croatian metropolis' conditioned city's further development. Rogić, "What Has Happened," 21.

32 The cities usually reflect social circumstances, like, for example, Brasília which is a paradigmatic case of a planned modernist city, and was conceived as a reflection of social and political circumstances. The idea of developing the country by moving the capital city into the interior was conceived as early as 1789. During the centuries, the idea was constantly linked with democratic hope and it reappeared in the public debate after the dictatorship was defeated. Once Juscelino Kubitschek, who promised 'fifty years of prosperity in five', decided to build it, the competition was held, and the city was constructed in only four years, from 1956-60. Lúcio Costa's *Plano Piloto* became the materialization of Brazilian society's positivist belief in *Ordem e Progresso*. Cees de Jong and Erik Mattie, *Architectural Competitions 1950-today* (Köln: Benedikt Tashen, 1994), 61.

33 Blau and Rupnik, *Project Zagreb*, 97.

34 Kaminer, *Architecture,Crisis, and Resuscitation*, 7.

35 In 1920, the Association of Yugoslav architects adopted the new regulations for architectural competitions which included the obligation of organizing public competitions. Since 1905, members of the Club of Croatian architects demanded the obligation of public competitions for all mayor buildings, and recognition of architecture as art. Darja Radović Mahečić, *Modern Architecture in Croatia 1930's* (Zagreb: Školska knjiga, Institute of Art History, 2007), 16.

36 In 1920s, two schools of Architecture were founded: the Technical University in 1919 and the Master Class (Meisterschule) of the Academy of Fine Arts in 1926, directed by Drago Ibler, which would educate the following generations of Croatian architects, and two institutions: the City Building Department in 1928, directed by Ivan Zemljak, and the Regulation Office in 1928, directed by Stjepan Hribar. Blau and Rupnik, *Project Zagreb*, 98.

37 Zagreb Group was a national group of CIAM for Yugoslavia. Members of the group were: Vladimir Antolić, Viktor Hećimović, Zvonimir Kavurić, Josip Pičman, Josip Seissel, Bogdan Teodorović, and Ernest Weissmann. Antolić, Teodorović and Weissmann took part at IV CIAM conference 'Functional city' in Athens and upon their return Antolić had given lecture and presented the principles of 'functional city' to a wider public. Tamara Bjažić Klarin, "Zagreb Group-Foundation and Public Activities in Croatian Cultural Context," *Prostor*13 (2005), 41-53.

38 The vibrant cultural climate of the 1920s and 1930s in Zagreb was initiated with the flourishing of avant-garde periodicals such as Aleksić's *Dada journals* and Ljubomir Micić's *Zenit*. It continued with formation of diverse cultural groups including *Zemlja* (Earth) Group (1929-35), that was founded by architect Drago Ibler who gathered a group of progressive and highly socially engaged artists. The group struggled against the imposition of the Socialist Realist doctrine, just as their intellectual 'godfather', writer Miroslav Krleža, did in the literature, which led to the banning of the group in 1935. Zemlja's founding members were: architect Drago Ibler; sculptors: Antun Augustinčić, Frano Kršinić; painters: Vinko Grdan, Krsto Hegedušić, Leo Junek, Omer Mujadžić, Oton Postružnik, Kamilo Ružička, and Ivan Tabaković. Šerman, "The New Reality," 138; Blau and Rupnik, *Project Zagreb*, 100; Stanko Lasić, Sukob na književnoj ljevici 1928-1952 (Zagreb: Liber, 1970).

39 In the early 1950s, the Yugoslav regime focused on creating an independent route for socialism based on autogestion (*samoupravljanje*), which was a foundation for the establishment of the system of self-management that was introduced in the 1974 constitution. The project was significant because it set up the socio-economic basis for 'withering away of the state' and fostered a comprehensive democratization of society. Klaus Ronneberger, "Henry Lefebvre and the Question of Autogestion," in Sabine Bitter and Helmut Weber *(eds), Autogestion; or Henri Lefebvre in New Belgrade*, 89-117.

40 'So after 1945, the newly established socialist system must have appeared for the majority of them [Croatian architects], as the fulfilment of a great deal of their strivings: it suited their leftist ideas properly and it gave them a collective society as their long-awaited client. What was most rewarding was that they thereby had the mechanisms of architectural intervention already developed and prepared. From their point of view, the architecture of functionalist modernism was more than appropriate tool in such radically new social circumstances. […]For them, socialist progress has indisputably taken on the shape of modernism.' Šerman, "The New Reality," 140.

41 The competition for New Belgrade's state and party buildings was organized in the late 1946, and was finished in May of 1947. Although it was organized for the buildings of the Central Committee of the Communist Party of Yugoslavia and the Presidency of Government of Federal People's Republic of Yugoslavia, on the basis of Nikola Dobrović's sketch for Novi Beograd, the architects were asked to develop urbanistic schemes compliant with their respective proposals for the buildings. Ljiljana Blagojević, "Strategije Modernizma u planiranju i projektovanju urbane strukture i arhitekture Novog Beograda: period konceptualne faze od 1922. do 1962 godine" (PhD diss., Beograd: Arhitektonski fakultet, Univerzitet u Beogradu, 2004), 40 and 207. The winning project for the Presidency of Government was designed by architects from Zagreb: Vladimir Potočnjak, Zlatko Neuman, Anton Urlich and Dragica Perak; and the winning project for hotel Yugoslavia was designed by architects from Zagreb: Mladen Kauzlarić and Lavoslav Horvat. Croatian architects won two out of three first prizes. Vedran Ivanković and Mladen Obad Šćitaroci, "Planiranje i gradnja Zagreba 1945-1952," *Prostor* 19 (2011), 362-375.

42 Andre Mohorovicić, "Teoretska analiza arhitektonskog oblikovanja," *Arhitektura* 1-2 (1947), 6-8;

'… serious accusations were raised from official Party circles about the Croatian penchant for functionalism [Maksimović]. It was labeled as empty, fruitless and purely mechanical, devoid of real inner human substance and as such a clear signifier of the decadent West. To these accusations the Croatian architectural theorist Andre Mohorovicić, a convinced communist himself, replied by constructing a breakthrough-term of a "generalized" or "comprehensive functionalism", as a unique broad concept which embraced (as Mohorovicić claimed Croatian functionalism had always done), besides the necessary layers of function, construction and economy, so many other levels such as aesthetics, history, regional morphology, politics, culture and psychology. […] In that way, Mohorovicić claimed, although Croatian modernism indeed did rely on international, Western models, it "transcended" the mere mechanical, technical dimensions and became a sort of "humane functionalism", "functionalism with human face", and was thus fully in line with the broad humanistic aspirations of the ambitious socialist system'. Šerman, "The New Reality," 141.

43 Branko Maksimović, "Ka diskusiji o aktuelnim problemima naše arhitekture," *Arhitektura* 8-10 (1948), 73-5; Neven Šegvić, "Ka diskusiji o aktuelnim problemima naše arhitekture," Ibidem, 76-80.

44 As a sign of a definitive liberalization of arts, Miroslav Krleža, a leading Croatian writer and prime literary and cultural authority in Yugoslavia, pronounced the 'freedom of choice of artistic expression and a possibility of relying on (and using) Western cultural models' in a speech given at the third Congress of the Union of Yugoslav Writers held in Ljubljana in 1952. Šerman, "The New Reality," 138.

45 Mohorovicić was the first Secretary of Temporary National Committee of Zagreb-Narodni gradski odbor Zagreba (GNOZ) since 27 May 1945 and was wholly aware of the pressing need for housing and the impossibility to meet those demands on Trnje, as proposed by existing plans. Ivanković and Obad Ščitaroci, "Planiranje i gradnja Zagreba," 364.

46 "The development of new Zagreb has to be situated on the new grounds which allow a free expression of new city-planning ideas which will meet functional demands of life in a new social reality. At the same time it will interpret emotions of artistic experience expressed in urban and architectural compositions of socialist realism. […]The City of Zagreb is currently in the phase of an impending crystallization and establishment of the urban concept of its new parts. This phase should see its life perspective established through a scientific analysis tied with the new conditions of development in the framework of socialist society and embrace the perspective with an adequate artistic expression both in urban and architectural design. Andre Mohorovièiæ, "Analiza historijsko-urbanističkog razvoja grada Zagreba," in Tomislav Krizman and Vinko Žganec (eds), Rad Jugoslavenske akademije znanosti i umjetnosti (Zagreb: JAZU, 1952), 50-1.

47 Rogić, "What Has Happened in Zagreb," 31.

48 As a larger group of people was involved in planning and completing the Lenuci's Horseshoe, that is even attributed to him. Hence it is plausible to assume that a larger group of intellectuals stood behind the conception of Novi Zagreb. Snješka Knežević, *Zagreb - Grad, Memorija, Art.* (Zagreb: Meandar, 2011), 41-2.

49 To name but a few: Zdenko Strižić, Poelzig's student in the 1920s, who worked in the City Regulation Office and was a member of the Zemlja group during the 1930s, after WWII became a teacher at the Faculty of Architecture educating the new generations of architects which would not only build South Zagreb but also change the direction of art in Croatia, because all of the architects members of EXAT' 51 were his students; Vladimir Antolić, who took part in the CIAM congress IV in 1933, was the main city planner until 1953; Drago Ibler, founder of the Zemlja Group and Meisterschule, continued to teach generations of post-WWII students; Josip Seissel who was a major contributor to the avant-garde Zenit movement in the 1920s, was a member of Zagreb Group and worked in City Regulation Office in the 1930s, after the war continued working as a professor at the Faculty of Architecture in Zagreb at the Department for Urban Planning; Miroslav Krleža, a leading Croatain writer, who zealously struggled for the autonomy of literature and the arts in the interwar period, and after the WWII became the primary literal and cultural authority in Yugoslavia, took part in architectural competitions as a jury member, became a personal friend of Tito and mayor Holjevac.

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6.1 Afterlife of Byzantine Architecture in the Nineteenth and Twentieth Century

SESSION CHAIR:
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The nineteenth and twentieth centuries witnessed a continuous, controversial and unexpectedly complex revival of Byzantine architecture. This process left its mark in Europe, USA and beyond, where a significant number of buildings associated with the Byzantine style altered the appearance of many urban landscapes, including Sainte-Marie-Majeure in Marseilles (1852-93), San Spiridione in Trieste (1858-69), Westminster Cathedral in London (1893-1903), Notre Dame d'Afrique in Algiers (1858-1872), the National Shrine in Washington (1919-61), the Cathedral of Christ the Saviour in Moscow (1883, 2000), Saint-Espirit in Paris (1828-35) and the Australian War Memorial in Canberra (1927-41). Yet there is no clear overview of this rich tradition of neo-Byzantine architecture, which remains marginal and largely incomprehensible due to rigid national or regional patterns of interpretation, scholarly disinterest and historiographical reluctance.
This session considers the discrepancy between the plenitude, diversity and importance of re-imagined and re-used Byzantine architecture and its persistently peripheral status in historiography. This paradox is especially apparent in the context of Byzantine and neo-Byzantine architecture, frequently perceived as both a model for, and a precursor of, architectural modernism. A link between Byzantine and modern architecture, based on the ideas of structural rationalism, tectonics, truthfulness and anti-naturalism, as represented in neo-Byzantine architecture and elaborated by various historians and theoreticians - from John Ruskin and Henri Labrouste to Henry-Russell Hitchcock and Philip Johnson, Roger Fry and Clement Greenberg – seems to be, however, only part of an unexplored kaleidoscopic picture. The question of the origins, importance and roles of architecture associated with the Byzantine style in different contexts throughout the nineteenth and

twentieth century remains obscure and elusive. Nevertheless, this architectural tradition has been developed under different social, ideological and political circumstances associated with concepts as diverse as nationalism and modern imperialism; clericalism and religious messianism; authoritarianism, monarchism and conservatism; spiritual regeneration and the reinterpretation of classical antiquity.

This session invites participants to investigate the complex and still largely unacknowledged architectural and ideological legacy of neo-Byzantine architecture, which has appeared across the globe in a dizzying array of building types: from Roman Catholic cathedrals to Protestant churches; from congregational temples for the Eastern Orthodox Christians to synagogues; from war memorials to exhibition pavilions and other secular buildings.

6.1.1 Suburban Byzantine: Tradition and Modernity in the British Catholic Church

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Abstract

The predominant style of church design for Roman Catholic churches in Britain from around 1920 until 1960 was a simplified Romanesque or Byzantine revival based loosely on north Italian models. Many of the architects who favoured this style remain little known, as regional architects specialising in a mode of architecture deliberately opposed to the development of modernism. F. X. Velarde in Liverpool; Reynolds & Scott in Manchester and E. Bower Norris in the Midlands; H. S. Goodhart-Rendel and Adrian Gilbert Scott, and many others, favoured variants on the style. Few needed to explain their motivations, since they were always in demand by the clergy, who were aware that the Church explicitly required 'traditional' forms. Those who attempted an explanation articulated a defence of a Catholic tradition of church building. It was a tradition, however, that only began in the early twentieth century with the completion of J. F. Bentley's Roman Catholic Cathedral at Westminster, and was actualised by architects who derived their designs from this model, from books on Italian Romanesque and Byzantine architecture, from their travels and from each other. At the same time many architects proposed that their tradition was also modern, often embracing new materials and techniques and incorporating aspects of modern styles. In some extraordinary cases, church buildings in a fully understood modernist style accommodated historicising elements to express a development of this supposed Catholic tradition. This paper will consider the ways in which such church architecture could be conceived of as simultaneously adhering to 'tradition' and to the 'modern'. Bringing both terms into tension, neo-Romanesque and Byzantine church architecture of this period can be considered less as the retrograde rejection of modernism by an "other" branch of architectural practice than as highly symptomatic of twentieth-century anxieties and contexts.

Keywords

Church, architecture, modernity, tradition, neo-byzantine

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6.1.2 To Find the Right Style: Byzantine Revival Synagogues in America

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Abstract
This paper examines an architectural phenomenon that flourished for little more than a decade – the Byzantine Revival synagogue of the 1920s. From the beginning of the nineteenth century, when synagogue architecture emerged from the shackles previously imposed upon it, until the triumph of international Modernism after World War II, synagogue architects embraced a bewildering array of historical revival styles. The objective was usually the same: to discover a style that could be readily identified as Jewish. This goal was hampered by the lack of suitable precedents for monumental synagogues, and each effort at achieving consensus was destined to be temporary. The Byzantine Revival was perhaps the most anachronistic, certainly the last, but surely one of the most brilliant of these attempts to find the right style. Nearly every major American city came to possess an example of the genre. My paper will examine three of the most imposing of them: the Temple (Congregation Tifereth Israel) in Cleveland, Temple Isaiah in Chicago, and Temple Emanu-El in San Francisco. Each of these structures was built for a well-established congregation that had no qualms about claiming its place in the cityscape, and each one was designed by an architect who had little or no previous experience working with the Byzantine Revival style. The focus of my paper will be Chicago's Temple Isaiah (Alfred S. Alschuler, architect, 1923-4), which is one of the purest examples of the style. I shall explore the reasons why the Byzantine Revival became so popular, as well as how it was justified as the most appropriate solution to the architectural problem of the synagogue. I shall also try to explain why this proved to be a singularly American phenomenon, without substantial parallels in European synagogue design.

Keywords
Synagogue, Byzantine revival, Chicago, Cleveland, San Francisco

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The very idea of the Byzantine Revival synagogue may seem perfectly ludicrous today. The buildings produced by this idea were not based on any actual Byzantine precedents endowed with Jewish pedigrees; there seems to be little affinity between the Jewish tradition and that of the Orthodox churches that produced the original monuments. Who can argue with the question posed by that pioneering historian of Jewish art, Rachel Wischnitzer, back in 1947: 'What can a Byzantine cupola possibly mean to us Jews? The Byzantine period of our history contains little to endear it to our hearts and make it worth remembering in our prayers.'[1] And yet during the Roaring Twenties, this particular branch of eclectic architecture was all the rage among American synagogue designers. However much we may look askance at their choice, it was not any more illogical than any of the other historical revival styles available in the history books. Alfred Alschuler of Chicago, one of the leading architects involved in the creation of the Byzantine Revival synagogue, put it this way:

> Centuries of persecution so scattered the Jewish people that no great ancient edifices definitely point to a distinctive Hebrew style. Nor are the temples erected during the past few decades in the Greek, Roman, Gothic, Moorish, or Renaissance styles particularly expressive of their function as Jewish houses of worship. It therefore seemed advisable to strike a different architectural note, the early Byzantine…[2]

The answer as to why Alschuler and others believed that the Byzantine Revival could fill this expressive deficit will be the subject of this study.
In the United States of America, synagogue building began in earnest at the precise moment when that building type was released from its shackles, the host of design restrictions imposed upon it by governmental fiat and by the widely perceived necessity to keep a low profile.[3] The emancipation of the Jews in the West coincided with age of eclecticism in architecture; thus synagogue builders were immediately faced with a difficult question: In what style shall we build? A broad consensus initially emerged around the Moorish Revival style, which was particularly prized for its non-Western associations. Taking their cues from Berlin and Budapest, American synagogue architects started erecting these turreted temples in the 1860s and 1870s. The most celebrated survivors of this moment in American architectural history are the Plum Street Temple in Cincinnati and the Central Synagogue in New York, although there were once many more of them to be found from sea to shining sea. This choice may seem exceedingly strange in the twenty-first century, but it was accepted almost without question in an architectural world that placed a high premium on historical precedents.

By 1900, the Moorish Revival seemed hopelessly out of date, and Beaux-Arts Classicism was quickly ushered in as a replacement. The oldest Jewish congregation in the country, Shearith Israel of New York, erected an impeccably Classical structure along Central Park West just before the turn of the century. The architect was Arnold Brunner, who wrote the following in 1907: 'I am unhesitatingly of the opinion that the [classic style] is the one that is fit and proper for the synagogue in America.' He justified this assertion by touting the discovery of ancient synagogues of the Roman period in the countries of the Eastern Mediterranean; he even went so far as to fantasize that 'the style of the early Judean buildings, if it had been allowed to progress and develop, might not unreasonably have become to-day what we may call modern classic architecture.'[4] Fifteen years later, when the famous industrial architect Albert Kahn designed a similarly Classicizing synagogue for Temple Beth-El of Detroit, there were murmurs of discontent; in the words of Lewis Mumford:

> The new Temple Beth-El in Detroit is a well proportioned and carefully designed building, one would judge from its photograph; but for all its external treatment shows it might as well be the Public Library or the County Court House. That is assimilation with a vengeance![5]

Enter the Byzantine Revival. In the *annus mirabilis* of 1923, three prestigious buildings were designed that set the pattern for this revival style in American synagogues. They emerged virtually simultaneously in places spread far across the North American continent. In that year, The Temple, as Congregation Tifereth Israel of Cleveland, Ohio is generally known, was designed by the Boston architect Charles Greco, and Alfred Alschuler designed Chicago's Temple Isaiah. At the present time it is not possible to determine which design came first; both buildings were completed in 1924. The third synagogue under consideration, Temple Emanu-El in San Francisco, was most likely designed during the latter part of 1923 by the firm of Bakewell & Brown, in association with Sylvain Schnaittacher. Newspaper reports indicate that the congregation approved their plans on 25 January 1924, although construction did not begin until February 1925. The first portion of that building was completed in April 1926, the second in January 1927.[6]

Of the architects involved in these three projects, none had any prior experience with the Byzantine Revival. Only Alfred Alschuler had any previous synagogue commissions to his name, and Alschuler was the only one of the three who attempted to justify his choice with a plausible rationale. In the Chicago Jewish publication called *The Reform Advocate*, Alschuler wrote that he chose the 'early Byzantine' style because it

> embraced and incorporated existing themes of Palestinian origin. In fact during the development of the design of Isaiah Temple, Professor Slouschz, the eminent archeologist, visited Chicago with photographs of fragments of a Synagogue, of the second century, unearthed by him at Tiberias, Palestine, containing motifs that closely resemble those used in the architecture of the Byzantine period. It is highly interesting that the interior and exterior ornamentation of this newest of temples has been suggested by that oldest of synagogues.[7]

But as we shall see, it is not the use of historically derived ornament that binds these three Byzantine synagogues together; rather it is their overall physical form. All three synagogues have the same essential massing: they are built on centralized plans with large hemispherical domes.

Let us examine these buildings, in geographical order from east to west. The Temple in Cleveland is a seven-sided polygon in plan, with the front portals facing the apex of its narrow triangular site. According to a report in the *Architectural Forum*, this shape was chosen because it fit the irregular shape of the building lot perfectly.[8] This heptagon is crowned by a large dome, and the low block of the entrance vestibule is flanked by two domed heptagonal towers housing the stairs leading to the sanctuary balcony. Aside from these three domes, the main Byzantine forms consist of screens of arches, both open and blind; these forms are repeated on the interior. The austere sanctuary space has a dome that reaches the impressive height of 27 m, but it features very little Jewish symbolism. The only overt reference I could find, other than the Hebrew text of the Ten Commandments flanking the ark, is the decoration of the column capitals of the bottom story with the seven-branched candelabra or *menorah*.

Chicago's Temple Isaiah is shamelessly extroverted by comparison. The body of the building is a domed octagon, with two octagonal stair towers flanking the triple arched vestibule attached at the front. The walls are of a brick and stone of varying sizes designed to 'produce the soft effect of old, hand made, sun baked bricks,' according to the architect's own description.[9] One of the more curious historicizing details is the zigzag brick frieze that runs across the top of both the vestibule block and the octagonal sanctuary. Jewish symbolic content is present in the sculpted decoration of the tympana over the entrance doors, the Hebrew inscriptions on either side, and the Tablets of the Law over the center door. But as Al Jolson might have said, you ain't seen nothin' yet. The interior of the sanctuary presents a lavish spectacle with a plethora of Jewish symbols. The six-pointed Star of David appears in the center of the Guastavino tile dome, on each of the eight pendentives, on all four sides of the impost blocks above the pier capitals, above

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the choir loft, flanking the triumphal arch over the ark, between the small arches decorating the balcony parapet, at the top of every lancet of the stained glass windows, and on the wooden panels at the end of every row of seats, upstairs and down. Trying to count them all would be a daunting task.
Several observers have deduced that the octagonal plan of Temple Isaiah is derived from the famous Early Byzantine church of San Vitale in Ravenna, but the architect deviated from that model by virtually eliminating the ambulatory and reducing it to what he called 'vaulted penetrations' around the base of the dome. Alschuler admitted that his plan was 'somewhat influenced' by the recently built Steelerstrasse Synagogue in the German city of Essen, which he judged as 'one of the few really meritorious examples of Jewish Temple architecture.'[10] The volumetric relationships of Alschuler's interior do resemble those of Edmund Körner's impressive Romanesque style synagogue of 1911-13, which survives today because the Nazis deemed it too expensive to demolish. But other elements lead back to Byzantium. Alschuler's original project for Temple Isaiah, seen in an early presentation drawing, shows a feature that was most likely borrowed from the most famous Byzantine monument of all, the Hagia Sophia in Istanbul. The dome is shown lifted up on a row of round-headed windows set between flaring buttresses, which were eliminated in the final design. Another feature most likely derived from the Hagia Sophia is not shown in this drawing. It is Alschuler's solution for aestheticising the smokestack that served the building's heating plant: he designed it as a minaret. Alschuler probably sensed that he was on shaky ground here, for he wrote that he 'felt justified in applying the tower of prayer – a Moslem origination – to the Synagogue, feeling that its aesthetic meaning and picturesqueness were preferable to the factory-like appearance the stack otherwise would have assumed.'[11] At least one contemporary critic, Arthur Woltersdorf, objected to this flight of fancy. But he also objected to the use of what he called 'opera chairs' instead of pews, because he felt this contravened what he judged to be 'the best thought to-day on Christian church design.'[12] Perhaps this critic was unclear on the distinction between a synagogue and a church.
Arthur Brown Jr.'s design for the new home of San Francisco's Temple Emanu-El is less pure in its 'Byzantineity' than the two previous examples. The most obviously Byzantine feature is once again the large Hagia Sophia-type dome set atop the square sanctuary, this one clad in bright red tiles. The sanctuary is housed in a separate building block entered through an enclosed courtyard. The facade facing this courtyard, which looks decidedly Romanesque, is the locus of the most explicit Jewish imagery to be found in the whole building. The Tablets of the Law surmount the gabled composition over the main door, an outdoor Eternal Light is hung just beneath them, and a curvy Star of David is inlaid into the mosaic pavement in front of the portal. The most interesting Jewish reference is one that is far more indirect: the two large square pylons topped with what look like Romanesque *tempietti*, flanking the arched recess in front of the portal. Although I cannot find an explicit confirmation of this, I believe that they must be allusions to the brass columns named Jachin and Boaz which stood in front of the Temple of Solomon in Jerusalem.[13] While the San Francisco temple's rabbi preferred to compare his courtyard to that of the Grand Mosque of Paris, Arthur Brown does make a glancing reference to the courtyards of the Jerusalem temple in describing the forecourt at Emanu-El.[14]
The interior of Temple Emanu-El's sanctuary is a vast square hall covered by a broad pendentive dome and lined with arches carried on verde antique marble columns. Its most unusual feature is the free-standing ark, which sits high atop the *bimah* (the raised reader's platform) under a four-columned baldachin. Despite its lofty dimensions, this room is completely disconnected from the 46 m high dome seen from the exterior. The section shows how the 'dome room' above the sanctuary is physically cut off from the rest of the structure; this space is accessible only by steep service stairs. It is well known that Arthur Brown was enamored of domes of all kinds; he is best remembered today as the designer of the monumental domed edifice of the San Francisco City Hall (1912-16). In an article explaining his synagogue design, he wrote that 'of all the architectural forms yet imagined by the mind of man, the dome is, I feel very strongly, the most superb, the most noble and most deeply inspiring.'[15] Clearly the dome was important enough in the minds of the client and the architect for them to go to the considerable expense of adding it just for effect.
But perhaps that effect was precisely the point of the whole exercise. Rachel Wischnitzer suggested as much in a short article published in *Commentary* in 1947, when she wrote that 'the ambition to have a dome crowning the prayer hall may have been the unconscious motive behind the popular acceptance of the Moorish influence in Synagogue design in Europe.'[16] How much more important is the dome for Byzantine synagogue design in America! The immense popularity of the dome among the Jewish congregations that could afford them was emphasized by Rabbi Alexander Kline when, after recounting the story of Justinian's claim of 'vanquishing' Solomon at the dedication of the Hagia Sophia, he went on to say, 'in our days the sons of Solomon, the vanquished, have outdomed Justinian.'[17] Lewis Mumford recognized as much in the article he wrote for the *Menorah Journal* in 1925:

> If it were possible for the dome to be used consistently in synagog architecture in America, a very definite step would be taken towards a coherent

> architectural style, which would give the stamp of Judaism to a synagog, as plainly as the baroque gives the stamp of the Jesuit order to a church.[18]

It could very well be that the desire for a dome was the prime motive behind the choice of the Byzantine Revival in the first place. Besides embodying the practical advantages conferred by the centralized plan under the dome, a Byzantine Revival building could not be easily mistaken for anything else. And if there is one axiomatic rule of synagogue design it is this: the synagogue must not look like a church. Of course, what a church 'looks like' can vary widely from country to country. This stricture would explain the virtual exclusion of the Gothic Revival in its various forms from synagogue design in all Western lands in modern times; it also explains the enthusiasm for the Moorish Revival in the second half of the nineteenth century. While it is true that today a domed Byzantine synagogue might be mistaken for a Greek Orthodox church, that was not nearly so likely in America in the 1920s. The Greek immigrant community in the USA did not begin building Byzantine style churches in earnest until after the Second World War. In fact, the American denomination most likely to erect Byzantine Revival churches in the first half of the twentieth century was the Roman Catholic Church.[19] Therefore the domed cubical form of the Byzantine Revival synagogue, when it made its grand entrance, simply did not gibe with the classic American image of a church. For synagogue architects, the Byzantine Revival's outstanding merit lay in its very rarity on the American architecture scene. In his exhaustive catalogue of architectural styles both eclectic and progressive, Marcus Whiffen lists 40 different styles of post-colonial architecture in the United States, with nary a word about the Byzantine Revival.[20] This made it plausible for G. H. Edgell, the dean of architecture at Harvard, to publish a survey of American architecture in 1928 and write this about Temple Isaiah: 'It fulfils its purpose, avoids any suggestion of the Christian Church, and gives the Jew a religious architecture which he can frankly consider his own.'[21] That is why Rabbi Louis Newman, the spiritual leader of Temple Emanu-El, could insist that 'no one looking upon the Temple can for a moment doubt that it is a synagogue.'[22]

It is nonetheless worth noting that this search for a distinctly Jewish architectural style was pursued most avidly by that portion of the American Jewish community which was most intent on assimilation: the Reform movement. In the United States, the Reform congregations, which were then overwhelmingly made up of so-called 'German' Jews, formed the wealthiest stratum of the Jewish community; they were the ones best able to spend large sums of money to build architecturally impressive synagogues. This means that those who most fervently wished to blend into American society by shedding their Jewish particularities in everyday life were also those who most wanted their buildings to be prominent and distinctive in the cityscape. By any material standard, the Reform Jews had certainly 'arrived' in America by the 1920s, but they did not want to vanish into the proverbial melting pot. This must be the major reason for the brief but brilliant career of the Byzantine Revival synagogue. Before postwar modernism scattered all the historical revivals to the four winds, it offered American Jews and their architects one last chance to find the right style.

1 Rachel Wischnitzer-Bernstein, "The Problem of Synagogue Architecture: Creating a Style Expressive of America," *Commentary* 3 (1947), 241.
2 [Alfred S. Alschuler], "Dedication of New Isaiah Temple," *The Reform Advocate* 68 (1924), 200.
3 The standard work on the subject is still Rachel Wischnitzer, *Synagogue Architecture in the United States: History and Interpretation* (Philadelphia: Jewish Publication Society of America, 1955); more recent works include Samuel Gruber, *American Synagogues: A Century of Architecture and Jewish Community* (New York: Rizzoli, 2003) and Henry Stolzman and Daniel Stolzman, *Synagogue Architecture in America: Faith, Spirit & Identity* (Victoria: Images Publishing Group, 2004).
4 Arnold W. Brunner, "Synagogue Architecture," *The Brickbuilder* 16 (1907), 37.
5 Lewis Mumford, "Towards a Modern Synagog Architecture," *The Menorah Journal* 11 (1925), 227.
6 Jeffrey T. Tilman, *Arthur Brown Jr.: Progressive Classicist* (New York: W. W. Norton, 2006), 132.
7 [Alfred Alschuler], "Dedication of New Isaiah Temple," 200.
8 Richard R. Stanwood, "Temple Tifereth Israel, Cleveland," *The Architectural Forum* 43 (1925), 257.
9 Alfred S. Alschuler, "Isaiah Temple, Chicago, Ill." *The American Architect – The Architectural Review* 126 (1924), 626.
10 Ibidem, 624.
11 Ibidem, 626.
12 Arthur Woltersdorf, "The Architecture of the Jews," *The Western Architect* 34 (1925), 64-5.
13 I Kings 7:15-22; II Chronicles 3:15-17.
14 Louis I. Newman, "The New Temple Emanu-El of San Francisco," *Pacific Coast Architect*, 30 (1926), 55; Arthur Brown, Jr., "The Temple Emanu-El, San Francisco," *The Architect and Engineer* 86 (1926), 58.
15 Ibidem, 53.
16 Rachel Wischnitzer-Bernstein, *Commentary* 3 (1947), 239.
17 Alexander S. Kline, "The Synagogue in America," in Peter Blake, ed., *An American Synagogue for Today and Tomorrow* (New York: Union of American Hebrew Congregations, 1954), 43.

18 Lewis Mumford, "Towards a Modern Synagog Architecture," *The Menorah Journal*, 11 (1925), 232-3.
19 See Robert S. Nelson, *Hagia Sophia, 1850-1950: Holy Wisdom Modern Monument* (Chicago: University of Chicago Press, 2004), 187-203.
20 Marcus Whiffen, *American Architecture Since 1780: A Guide to the Styles* (Cambridge, Mass.: MIT Press, 1969), xiii-xiv.
21 G. H. Edgell, *The American Architecture of To-day* (New York: C. Scribner's Sons, 1928), 215.
22 Louis I. Newman, "The New Temple Emanu-El of San Francisco," *Pacific Coast Architect* 30 (1926), 15.

6.1.3 France-Byzantium: The Authority of the Sacré-Cœur

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Abstract
Building churches was integral to the resurgence of pilgrimage in France that began in the mid-nineteenth century and continued into the twentieth century. The most famous of the shrines is the Sacré-Cœur on Montmartre in Paris (1874-1919). Conceived as an act of expiation in response to the crisis of 1870-1, plans to build the church developed at the height of the pilgrimage movement. Paul Abadie designed it in the Romano-Byzantine style, inspired by the domed Romanesque churches that he had restored in southwestern France, which were thought to be linked to the Hagia Sophia by way of Saint Mark's in Venice. Soon after, Byzantine-inspired pilgrimage churches began to multiply. This paper analyzes the influence of the Sacré-Cœur, focusing on three pilgrimage churches: Léopold-Amédée Hardy's Basilica of Notre-Dame du Rosaire in Lourdes (1883-19); Victor Laloux's Basilica of Saint-Martin in Tours (1886-1925), as well as the competing, unbuilt project of Alphonse-Jules Baillargé (1872-4); and Louis Cordonnier's Basilica of Sainte-Thérèse in Lisieux (1929-54). By incorporating Byzantine architectural forms, pilgrimage churches evoked the campaign of national reparation embodied by the Sacré-Cœur. They reflected the theories of archaeologists such as Albert Lenoir, Félix de Verneilh, and Jules Quicherat on the interaction between Byzantine and Western medieval architecture. And the exotic forms of Byzantium embodied ultramontanism: a commitment to a centralized Church, tied to legitimism, which dominated French Catholicism. Furthermore, they encapsulated the internationalism of the pilgrimages. In 1937, two hundred thousand pilgrims from around the world attended the benediction of the Basilica of Sainte-Thérèse that was presided over by papal legate Cardinal Pacelli. In sum: this paper addresses important, overlooked questions about the relationships between Christian archaeology, ultramontanism, and the revival of Byzantine forms in modern architecture.

Keywords
Church architecture, Sacré-Cœur, Byzantine architecture, pilgrimage, modern architecture, France

Pilgrimage flourished in France in the nineteenth and early twentieth century, and the construction of pilgrimage churches was essential to its success.[1] The most famous of the shrines is Paul Abadie's Sacré-Cœur on Montmartre in Paris (1874-1919), but it is only the tip of the iceberg, as pilgrimage churches were built throughout France (Figure 1). After work began on the Sacré-Cœur in 1875 they frequently resembled the Montmartre church, which was designed in a style influenced by Byzantine architecture. This paper will assess the long-standing impact of the Sacré-Cœur, focusing on three pilgrimage churches: Léopold-Amédée Hardy's Basilica of Notre-Dame du Rosaire in Lourdes (1883-9); Victor Laloux's Basilica of Saint-Martin in Tours (1886-1925), as well as the competing, unbuilt project of Alphonse-Jules Baillargé (1872-4); and Louis Cordonnier's Basilica of Sainte-Thérèse in Lisieux (1929-54) (Figure 2). By incorporating Byzantine architectural forms, pilgrimage churches evoked the national vow of atonement fulfilled by the Sacré-Cœur. They also reflected the theories of archaeologists on the interaction between Byzantine and Western medieval architecture. Moreover, the exotic forms of Byzantium expressed the ultramontane politics associated with the pilgrimages, as well as their international scope.

Figure 1. Paul Abadie, Basilica of the Sacré-Coeur, Paris, 1874-1919. Photograph by the author.

Figure 2. "Perspective de la Basilique de Sainte Thérèse de l'Enfant-Jésus: Le Projet a subi quelques modifications en vue d'une meilleure adaptation au terrain." *Annales de Sainte Thérèse de Lisieux* 5, n. 1 (1929), 16-17.

The pilgrimage movement of the nineteenth century appears in sharp contrast to religious practice under the Ancien Régime. Whereas before the French Revolution, religious participation was near-universal and the Catholic clergy had tolerated or outright suppressed popular practices, in the Revolution's aftermath, religion was less a matter of conformity than of individual choice and priests sought to re-establish their influence. One way they did this was by promoting pilgrimage and working to make it orthodox.[2] The peak of the resulting pilgrimage movement occurred in the early 1870s and belonged to a religious revival in the wake of the Franco-Prussian War, Paris Commune, and fall of papal Rome.[3] Most Catholics understood the *année terrible* in terms of the Christian narrative of transgression and atonement: the Revolution was a sin, recent events were divine punishment, and pilgrimage and pilgrimage church construction were means of collective repentance.[4] A missionary order known as the Assumptionists channelled the impulse of repentance by coordinating a circuit of organized pilgrimages.[5] At the same time, priests developed new projects for the construction of pilgrimage churches, particularly the Sacré-Cœur.

The Sacré-Cœur

The Sacré-Cœur was dedicated to the Sacred Heart because its long history was weighted with the spirituality of atonement and, since the Revolution, it had become a symbol of ultramontanism and legitimism.[6] Ultramontanism was a commitment to the authority of a strong, centralized Church and an infallible pope, which, in the nineteenth century, became aligned with legitimism, that is, with support for the restoration of the Bourbon monarchy.[7] Parisian members of the Society of Saint-Vincent-de-Paul, a Catholic lay organization, initiated the project to build the Sacré-Cœur, which they conceived as the fulfilment of a national vow: to make amends for the national crimes for which France had been punished and to free the pope from captivity in the Vatican.[8] In 1874, a jury selected Abadie's design, whose sources are primarily Romanesque and Byzantine, and which draws in particular on the Romanesque churches in south-western France, already interpreted as Byzantine, that Abadie had restored beginning in the 1850s.

The main features of the plan are a porch and shallow narthex, a centrally planned nave, and a chevet with nearly the same dimensions as the nave. The nave is surmounted by a massive dome buttressed at the four corners of the crossing by smaller cupolas, and the axial chapel serves as the base for an enormous bell tower. The arcuated porch and pediment flanked by turrets resemble Abadie's reconstruction of the north façade of Saint-Front in Périgueux (1125-50), which he restored beginning in 1852.[9] The equestrian statues were an idea he proposed for the Saint-Front north façade but did not execute, and which he traced to the bronze horses of Saint Mark's in Venice, looted from the Hagia Sophia in Constantinople in 1204.[10] The conical domes, lanterns, turrets, and campanile likewise resemble those of Saint-Front, as well as Saint-Pierre in Angoulême (1105-28), which Abadie restored starting in 1853–especially after Abadie restored them.[11]

Abadie's work on the churches in south-western France was informed by Félix de Verneilh's book *L'Architecture byzantine en France* of 1851, in which Verneilh, an associate of Adolphe-Napoléon Didron and founder of the *Annales archéologiques* in 1844, argued that the Byzantine lineage of the churches could be traced by way of Saint-Front to Saint Mark's in Venice.[12] Verneilh argued that Saint-Front was a kind of copy of Saint Mark's, designed by an architect from Venice or Constantinople, and called for the removal of the roofs added in the eighteenth century that hid the domes from view–a task which Abadie carried out.[13] However, if Verneilh called Saint-Front 'another Saint Mark's minus the mosaics', the Sacré-Cœur has a rich mosaic decoration, completed from 1901 to 1923.[14] This belongs to the revival of the medium in France that began with the mosaic decoration of Charles Garnier's Paris Opera, inaugurated in 1875, and reinforced the Byzantine references of the architecture.[15]

Notre-Dame du Rosaire, Lourdes

As the vow to build the Sacré-Cœur took shape in the early 1870s, pilgrimage to Lourdes increased at an astonishing rate, providing the impetus for the construction of a new church at the site. One of the most visited Catholic pilgrimage sites,[16] Lourdes emerged as a shrine following the 1858 claim of Bernadette Soubirous that she had seen a girl all in white, in a grotto by the river near the town. When Bernadette asked her who she was, the girl responded in the local dialect, saying: 'I am the Immaculate Conception.' The authentication by the local bishop four years later of this and other apparitions that Bernadette reported may be understood in part as an expression of ultramontane support for Pius IX's proclamation on the Immaculate Conception in 1854, as well as for the temporal power of the pope, then threatened by Italian political unification. The bishop's endorsement went hand in hand with his construction of a church directly above the grotto. Priests used the Basilica of the Immaculée-Conception (1862-72), designed by Hippolyte Durand in a Gothic style, to turn the developing pilgrimage away from practices they deemed to be superstitious, towards the reception of sacraments and interpretation of the apparitions as evidence in support of the dogma of the Immaculate Conception. Building on top of the grotto was necessary to ensure that Bernadette's visions were subsumed into Catholic orthodoxy; however, the site greatly restricted the size of the church, which could only accommodate one thousand people. This was a small fraction of the crowds that assembled there on major occasions–fifty thousand on a pilgrimage in October 1872, for example.[17]

Indeed, in the 1870s, the pilgrimage to Lourdes grew at a startling pace, fostered by the arrival of the railroad in 1866, the completion of the first basilica in 1872, and the invigoration of the pilgrimage movement following the crisis of 1870-1. In response to the influx, the priests in charge of the shrine realized improvements and new buildings. Notably, in 1874 the bishop received Pope Pius IX's blessing to build 'a monumental rosary at the foot of the Basilica of Notre-Dame de Lourdes.'[18] Erected from 1883 to 1889 by Léopold-Amédée Hardy (1829-94), the Basilica of Notre-Dame du Rosaire provided space for more pilgrims and facilitated processions–with elliptical ramps curving around its façade–but avoided detracting from the Basilica of the Immaculée-Conception. Indeed, owing to its low and wide dimensions, Romanesque and Byzantine style associated with earlier historical periods, as well as its rusticated masonry, Notre-Dame du Rosaire serves, visually, as a base for the first church.[19] The interior nevertheless can fit three and a half times more people. Hidden on the exterior by the ramps are elements that make reference to Byzantine churches: a centralized Greek-cross plan, with a dome over the crossing–bulbous and squat so as not to block the view

of the first church–and an apse and transepts that are each semi-circular and have five radiating chapels. Mosaics decorate the interior, with those in the chapels representing the mysteries of the life of Christ, so that the basilica did in fact function as a monumental rosary, and thereby associated the pilgrimage to Lourdes with the rosary devotion's avid promoter, Pope Pius IX's successor Leo XIII.[20]

The Basilica of Saint-Martin, Tours

The construction of the Basilica of Saint-Martin in Tours began while work was underway on Notre-Dame du Rosaire, but the story leading up to its construction starts long before. Since Saint Martin's death in the fourth century successive churches had been built on his tomb, which was one of the most important pilgrimage sites in medieval Europe.[21] During the French Revolution, the eleventh-century Romanesque church was demolished, and all that remained were two towers.22 Beginning in the 1850s, another Catholic charitable group, the Œuvre de Saint-Martin, revived the pilgrimage to Martin's tomb and worked to rebuild the church.[23] After the Franco-Prussian War, pilgrimage to Tours grew owing to the successful promotion of Saint Martin as patron of France and of soldiers.[24] At the peak of the pilgrimage movement, in the early 1870s, the Œuvre commissioned plans for the reconstruction from the architect Alphonse-Jules Baillargé (1821-82).

The resulting 1874 project was conceived as the reconstruction of the eleventh-century church. At the same time, it shows the strong influence of Abadie's project for the Sacré-Cœur, chosen that July, and incorporates features of the Romanesque churches in south-western France that Abadie restored, with their Byzantine associations. Beyond Baillargé's design, there is documentary evidence of his knowledge of the Sacré-Cœur and its sources: among his papers in the basilica archives are photographs of Abadie's plans for the Sacré-Cœur dated July 1874,[25] as well as of Saint-Front and Saint-Pierre, signed and sent by Abadie to a leader of the Œuvre in October 1873.[26] Like the Sacré-Cœur, Baillargé's façade has a pediment, arched niches containing figurative sculpture, and an arcuated porch. The Sacré-Cœur has equestrian statues of Saint Martin and Saint George; Baillargé's façade has an equestrian statue of Saint Martin. Like the Sacré-Cœur, the focus of Baillargé's design is a massive crossing dome that tapers to a point and is topped by a lantern.

The formal resemblance between Baillargé's design for Saint-Martin and the Sacré-Cœur communicated the closeness between the meanings of the projects. Both were initiated by lay groups as atonement for collective crimes. A leaflet published in support of Baillargé's design, presumably by the Œuvre, explicitly connected the design and expiation. It argued that 'atonement for the crime committed, at the end of the last century, will be more complete, and piety more satisfied, in rebuilding the same building.'[27] The text is ambiguous about whether the crime was the destruction of the Romanesque basilica or the Revolution as a whole. However, a late nineteenth-century biographer of the local bishop argued that for the founder of the Œuvre, Léon Papin-Dupont, the crimes were conflated, as were the material reconstruction of the basilica and the moral reconstruction of France.[28]

The mood of national reparation gave momentum to the Œuvre's project to rebuild the Basilica of Saint-Martin, as it had to the construction of the Sacré-Cœur and Notre-Dame du Rosaire. But in 1879 elections brought an end to favourable political conditions and donations fell short.[29] Then in 1884 a new, liberal bishop arrived in Tours and embraced a more modest design by Victor Laloux (1850-1937). This design was explicitly based on the graphic reconstruction by archaeologist Jules Quicherat (1814-82) of the fifth-century Basilica of Saint-Martin and was executed instead of Baillargé's design.[30] Quicherat was one of many nineteenth- and twentieth-century scholars who tried to reconstruct in words and pictures the church built on Martin's tomb in 471. The key evidence they drew from was Saint Gregory of Tours' sixth-century *Historia francorum*. An important precedent for Quicherat's reconstruction was a plan published by Albert Lenoir (1801-91) in 1836. Lenoir proposed that the fifth-century basilica incorporated a centralized sanctuary and an oblong nave and he later extrapolated from the round sanctuary that it was the first church in Europe north of the Alps that was influenced by Byzantine architecture.[31] In contrast, Quicherat proposed that Saint-Martin had a rectangular basilica plan and a crossing tower, and he interpreted it as proof of the emergence, already in the fifth century, of a specifically French adaptation of the Latin basilica.[32]

Like Quicherat's plan, Laloux's plan represents a basilica with a central nave separated from single side aisles by simple columns, a crossing separated from implied transepts by heavy piers, and a semi-circular apse embedded within a polygonal chevet. However, Laloux departed from Quicherat's reconstruction, including by incorporating references to Byzantine architecture into his design, references such as the hieratic representations of Christ, Mary, and Joseph in the chevet, and the dome. The monumental wall decoration was not carried out in the completed church, but its rich abstract geometric and vegetal stone ornamentation was inspired by Norman churches in Sicily, which were in turn inspired by Byzantine architecture.[33] The finished building nevertheless evokes the fifth-century church as reconstructed by Quicherat, with its basilican forms, exposed wooden trusses, and the emphasis given to its crossing. Thus, it contrasts strikingly with the project of Baillargé and the

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Œuvre de Saint-Martin. Whereas Baillargé's design symbolized the old order in which the Church and State were an inseparable unity and religious practice was near-universal, Laloux's church drew a parallel between the role of the Church in the nineteenth century as one public service among others and the missionary status of the Church in late Roman Gaul.

The Basilica of Sainte-Thérèse, Lisieux

After its peak in the early 1870s, the pilgrimage movement declined along with the impulse of repentance that had spurred it. Nevertheless, pilgrimage remained widespread and popular in the twentieth century. One of the most important shrines to emerge was that in Lisieux, dedicated to Sainte Thérèse. A Carmelite nun who died of tuberculosis at the age of twenty-four in 1897, Thérèse became globally famous owing to her theology of the 'little way', of trusting in God's love in a childlike manner, which was disseminated through the posthumous publication of her autobiography.[34] It was Thérèse's sisters – also nuns in the Carmelite convent in Lisieux – who promoted her cult after her death, and who oversaw the construction of a pilgrimage church.[35] Designed by Louis-Marie Cordonnier (1854-1940), the Basilica of Sainte-Thérèse shows the influence of the Sacré-Cœur more than any other pilgrimage church, with its colossal scale – it was larger than the Sacré-Cœur and the third largest church in the world after Saint Peter's in Rome and Saint Paul's in London[36] – references to south-western Romanesque churches, including its stone-covered dome and campanile, and its mosaics. In addition to Thérèse's sisters, the pope, Pius XI, played an important role in building the church. He disliked the dome in an early design – Cordonnier changed it accordingly[37] – and publicity for the construction project frequently trumpeted his support (Figure 2). Furthermore, he sent his legate and the future Pope Pius XII, Cardinal Pacelli, to preside over the crowd of two hundred thousand pilgrims from around the world who gathered for the benediction ceremony of 1937.38 As a result of his support, the Basilica of Sainte-Thérèse was associated with the pope's centralized and far-reaching authority. The connection was reinforced by the choice of a quasi-Byzantine style, whose origins lay outside of France; it spoke to the authority of the Vatican over the French Church following the 1905 Law of Separation and to the internationalism of the devotion to Thérèse.

Conclusion

It is clear that late nineteenth- and early twentieth-century pilgrimage churches in France responded to the Sacré-Cœur. François Loyer has even argued that 'the model of Montmartre totally dominated the architecture of pilgrimage churches for over a half-century.'[39] The question this raises is: why? Why did patrons choose to emulate the Sacré-Cœur? What meaning did they hope to impart by doing so? The case studies presented here suggest that they sought to evoke the politics of the national vow of the Sacred Heart. Notre-Dame du Rosaire and Baillargé's project for Saint-Martin were, like the Sacré-Cœur, spurred by the pilgrimage movement of the 1870s, whose goals were to restore the monarchy and the temporal power of the pope.[40] The Lourdes pilgrimage was interpreted by the clergy as a reinforcement of Pius IX's proclamation on the Immaculate Conception, which consolidated his authority and cleared a path towards his 1870 declaration of papal infallibility.[41] Notre-Dame du Rosaire's Romanesque and Byzantine forms drew a parallel between the ultramontane dimension of the Lourdes and Sacred Heart devotions. The proposed reconstruction of the eleventh-century Basilica of Saint-Martin, incorporating references to Romanesque churches in south-western France, likewise drew a parallel between the architectural projects of Catholic lay organizations and their accompanying religious and political goals: to expiate the Revolution and re-establish the old order in which the Church and State were one. Laloux's design abandoned the Montmartre model even if it incorporates some Byzantine features; in doing so, it communicated a different, liberal view of the status of the Church in modern France. Finally, the Basilica of Sainte-Thérèse resembles the Sacré-Cœur more than any other church. Thus, while the immense appeal of Thérèse's message reflected a shift away from the theology of expiation that had permeated French Catholicism in the nineteenth century, towards an emphasis on God's love, Thérèse's basilica was entrenched in the architectural tradition of the church of national reparation. Furthermore, its resemblance to the Sacré-Cœur emphasized its similar association with the papacy; in this case, with Pius XI's ardent support for the project. In spite of their differences, Notre-Dame du Rosaire, Baillargé's project for Saint-Martin, and the Basilica of Sainte-Thérèse are unified by their common reference to the architecture of the Sacré-Cœur, and by their patrons' shared political motivations for making this allusion.

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1 I would like to thank the Archives et patrimoine des sanctuaires de Notre-Dame de Lourdes, the Sœurs Bénédictines du Sacré-Cœur de Montmartre of the Basilica of Saint-Martin, Tours, the Direction du Pèlerinage Sainte-Thérèse, and the Carmel de Lisieux.

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25 Archives de la Basilique Saint-Martin, Album 1.

26 The photographs are signed: 'A Monsieur Ratel homage de respectueuse affection 21 8bre 1873 P. Abadie'. Archives de la Basilique Saint-Martin, Portefeuille D, nos. 4-5.

27 'La réparation du crime commis, à la fin du siècle dernier, sera plus complète, et la piété plus satisfaite en relevant le même édifice.' "Basilique de Saint-Martin restituée sur ses fondations du XIe siècle: Notice à l'appui des plans," December 14, 1874, p. 4, Archives de la Basilique Saint-Martin, Album 1.

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39 "… le modèle de Montmartre a totalement dominé l'architecture des églises de pèlerinage pour plus d'un demi-siècle." Loyer cites the following examples to back up his point: Notre-Dame du Rosaire, Saint-Martin, Notre-Dame de Brebières in Albert (1883-97), the Basilica of the Sacré-Cœur in Koekelberg, Brussels (1905-70), and the Basilica of Sainte-Thérèse. François Loyer, "Une Basilique synthétique," in Claude Laroche (ed.) *Paul Abadie, architecte: 1812-1884*, (Paris: Réunion des musées nationaux, 1988), 193.

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6.1.4 Architectural Explorations of Byzantine Revival in 1920s Greece

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Abstract
The assessment and incorporation of Byzantine heritage in the national historiographies of the nation-states that succeeded the Ottoman Empire took many forms and have become a point of strong intellectual debates. In the Greek context, the theory of continuity of the Greek nation, which established Byzantium as the intermediate inextricable link between antiquity and the modern times, provided a necessary ideological background for architectural explorations of the Byzantine Revival Style. This was manifested to a full extent during the reconstruction of the city of Thessaloniki after a massive fire had consumed its historic centre in 1917; the architectural committee in charge for the new design, including prominent figures such as Ernest Hébrard, Thomas Mawson and Aristotelis Zahos. They employed the Byzantine Revival as the appropriate architectural style for the facades of the main streets of the new city centre. Zahos, who was influenced by Jugendstil and searched for an authentic modernity in the local tradition, would later follow similar lines in the construction of the University of Ionia in the then Greek-occupied Izmir. Yet the Byzantine Revival itself was not a homogenous movement and its proponents often came from very different ideological backgrounds. These two case studies, an urban scale application in Thessaloniki and a building scale intervention in the newly acquired territory of Izmir will serve as a window through which I will address issues of the agency, representation and fluidity of meaning in a period of competition among national, religious and imperial identities.

Keywords
Byzantine Revival, Greece, nation building, Izmir, University of Ionia, Aristotelis Zachos, Thessaloniki

> … The Greek administration who decided to create a 'Hellenic University' there, […] in order to destroy the Turkish architectural style almost completely changed the windows and the doors and added columns to the building.
> Yaşar Ürük, "Izmir Kız Lisesi"[1]

On the site of a Jewish cemetery on the Bahri Baba hill in the centre of Izmir, in May 1919, the Greek Administration of Smyrna[2] found a half-completed building that had been initiated by the Union and Progress Party to become a school.[3] Izmir had been annexed by Greece in 1919 according to the Sevres Treaty following the First World War and this structure was selected as the physical basis for the realization of the University of Ionia, a vision of the Prime Minister Eleftherios Venizelos and the Governor of Izmir Aristotelis Stergiadis for an institution open to all ethnic groups of the city and paramount to the best universities of the West.
In the three-year period of the Greek Administration, until the expansionist campaign of the Greek Army into Anatolia collapsed against the Turkish troops in 1922, the university project was the major spatial intervention untertaken. The prominent Greek architect Aristotelis Zahos was invited to supervise the architectural project, which completed the building in a Byzantine Revival style, drawing the criticism of the Muslim community at the time and even of contemporary Turkish historians, as demonstrated by the above quote.
This project was clearly invested with a significant ideological weight. It would be the second only university of the Greek Kingdom after the University of Athens, and was intentionally being established in the newly acquired lands of the country. However, instead of choosing Thessaloniki, in which the Greek authorities had consolidated their presence since 1912, newly acquired Izmir was selected as an embodiment of Greek presence in the Near East.
Meanwhile, other major projects where taking place in Thessaloniki, which was being reconstructed from its ashes after its devastation by fire in 1917.
In this presentation I will start by examining the case of the University of Ionia, and link it, through its above mentioned architect Aristotelis Zachos, to the restoration of the church of St Demetrius in Thessaloniki, a project he was working on at the same time. Subsequently, St Demetrius will lead our discussion to the employment of Byzantine Revival on the buildings of the main axes of the new city of Thessaloniki.

The University of Ionia – A mixture of revival styles

As the building (Figure 1) was completed in phases by different authorities, it is difficult to draw the lines between these different layers of intervention.

Figure 1. The entrance of Izmir Kız Lisesi, previously the University of Ionia. Photo by the author, 2013

At a first glance one can recognize the symmetrical layout of the orthogonal building, inspired by the Beaux-Arts tradition and typical of the revivalist styles that were popular in both countries at the time. The entrance clearly belongs to the Ottoman Revival style, consisting of a marble porch with pointed arches. The column capitals, the marble screens on the balcony and the triangular carvings with a reference to muqarnas are all very typical of this early twentyeth century style. They are accompanied by other fundamental elements of the building, such as the wide roof overhangs with the wooden panels underneath and the supporting brackets, which are based on stone extrusions on the wall.
Ottoman Revival was related to the successive ideological movements of Ottomanism and Turkism in the Empire. Ottomanism, the idea of keeping the Empire together by instilling loyalty to an all-encomassing Ottoman identity irrespective of religion, was replaced by Turkism in the Young Turk era, as the separatist movements of the ethnoreligious communities of the Empire were multiplying. Ottoman Revival emerged initially in relation to Ottomanism, was appropriated by Turkish nationalism and used even in the early years of the Republic, in the end overshadowed by modernism in the 1930s.[4]
However, despite these explicit Ottoman Revival elements which suggest their construction prior to the 1919 Greek landing, the language changes completely in the areas between the extruded pillars. The intermediary parts of the wall which contain the windows are built by visible masonry with local limestone[5] and include extensive decorative zones made of brick, typical of the Byzantine masonry system. The double semicircular arches above the windows and the crafted marble lintels also allude to the Byzantine architectural tradition, making the front marble porch entrance look foreign to the wall behind it. Meanwhile, in parts of the building that are not very prominent, the pointed arches return. This evidence suggests that the Greek administration intervened to change parts of the walls between the pillars on the most prominent facades.

A photograph from the time of the Greek Administration shows that the portico with the Islamic arches was already there when the Greek troops arrived in Izmir. Zachos designed a proposal for it to be replaced – the pointed arches would become semicircular, and the column capitals where replaced with Theodosian-style ones. On top of that we can see the introduction of neoclassical elements; in the outdoor space of the building we notice a proposal for a street-level portico with Doric columns, as well as two monumental free standing Ionic columns in front of the building entrance. These carry the statues of Apollo and Athena, just like Theophil Hansen's Neoclassical Academy of Athens.

Byzantine references continue in the interior of the building, which can be more safely attributed to the Greeks. The interior had not been constructed yet by 1919, and indeed the most prominent space, the entrance with the marble staircase, directly alludes to Byzantine architecture, as we can see from the column capitals and the arches.

The turn towards Byzantium as the driving reference for a new revival style is not coincidental. On the one hand, all over Europe there was a re-appreciation for the Middle Ages as non-naturalist, non-academic sources of aesthetic form, which could give new life to the fine and decorative arts and were appropriated by different movements such as the French Symbolists, the Arts and Crafts Movement and the Bloomsburry group, and the German Romantics.[6]

On the other hand, this ideological reappreciation for medieval architectural styles coincided with and fueled the emergence of Byzantium as a major component of Greek national identity. The theory of continuity, most notably advocated by Constantine Paparrigopoulos- the most prominent nineteenth-century Greek historian-, restored the Byzantine era as a crucial link connecting the Ancient Greek civilization with Modern Greece. It was this ideological turn that led to the formation of the *Megali Idea*[7] and fueled the expansionist Asia-Minor Campaign that made the University of Ionia a reality. Dimitri Stamatopoulos[8] has demonstrated how Byzantium was negotiated and re-invented in Balkan and Turkish historiographical debates during the respective nation-building processes. In the case of Greece, Byzantium was a way to project a medieval civilization equal to the the West, to reclaim Classical antiquity from Western appropriation and to resist the hegemony of Catholicism and the Orientalist gaze. This paved the way for a historically inclusive (but still selective) identity for the nation-state, in opposition to the existing hegemony of the classical age.[9]

These two streams, the international re-emergence of Byzantium and its national appropriation, met at the life and work of one person, Aristotelis Zahos. Educated in Germany and influenced by the Jugendstil and the Arts and Crafts movement, he was a great admirer of vernacular architecture and the Byzantine tradition. His underlying rationale was the same as that of the Ottoman Revival – that an authentic, genuine modernization of the national architecture would be not achieved through Western formalism but through an exploration of the vernacular traditions and the country's heritage, which carried the essence of the nation, the *Volkgeist*.[10] Zachos is the earliest modern architect to foster an appreciation for Byzantine architecture and its employment in the creation of a modern Greek identity.[11]

Hence the use of Byzantine architectural language and its mixture with the Islamic forms in the University was in fact very well aligned with its stated purpose and ideology. Karatheodori believed that the establishment of the University would serve the preparation of the new generations who would contribute to the economic development of the country, as will as that it would allow the familiarization of Greeks with the 'Slavic and Eastern languages' and hence with the variety of ethnic groups under Greek administration. Moerover, it would push forward the familiarization of the minorities with the Greek language, which would ultimately allow their successful integration into the Greek Kingdom[12]. In that sense the underlying ideology of the project, was close to the views of the intellectual and diplomat Ion Dragoumis, who believed in the 'the peaceful coexistence of Greeks and Turks', but combined them with the nationalist territorial claims. 'Coexistence' would provide the legitimacy for the enlarged borders.

Meanwhile, echoing the anti-academic movements abroad, according to Karatheodori, this University would not be a mimesis of German or British universities, nor a copy of the Athens Capodistrian University which was focused on Classical Antiquity.[13] Rather, it was aimed as a counterbalance, as an institution which would be complementary to the Classical Schools and would voice the New Lands of Greece and their importance as contributors and recipients of Greek culture.

At the same time, Aristeidis Stergiadis, the Governor of Smyrna, aimed to create a new 'Eastern Civilization' as 'a response to the efforts of the West to intrude into the Near Orient'[14]. As the Ottoman Empire was dissolving, the Western powers, who already dominated its economic and political life, aspired to take large zones under their control. Although this became more evident when the treaty of Sevres was signed in 1918,[15] the 'Eastern Question' had a long history and the Greek *Megali Idea* was a reaction especially towards the aspiration of France to set foot on those lands.[16]

An inclusive but still clearly nationalist understanding of identity, a diversion from the classical hegemony of Athens and a counterbalance to European hegemony in the area are hence the main ideas embodied by the building's revivalist forms.

St Demetrius and Byzantine revival in Thessaloniki

The column capitals of the University had a very straightforward reference, which permanently links this building to Thessaloniki. They are exactly the same with the ones Zachos drew for the church of Saint Demitrius in Thessaloniki, a fifth-century structure that was destroyed in the 1917 fire.[17] Dedicated to the city's protector, Saint Demitrius, whose tomb on the North-western corner of the building survived the fire, the church's loss was considered, an 'irreparable disaster for the city'.[18]

It had only been five years that the building had been returned to the Orthodox Christian community. Before the annexation of the city by Greece in 1912 and ever since the city's conquest in 1430 by the Ottomans, it had been used as a mosque, its mosaics and frescoes plastered, and a minaret added on the south-western corner.

čfter the fire was extinguished, two important issues came into question- first, the scrutinous study of the building in order to determine its original form, and second, its restoration, two processes very strongly linked to each other and to the city's urban identity. Like the University of Ionia, this building was also very layered. Built on the ruins of a Roman stadium and baths, parts of which were incorporated in the structure, it was badly damaged by fire and rebuilt in the 7th century. Further alterations followed in the late Byzantine and Ottoman periods. This long history of the monument made it remarkably difficult to determine the spatial limits and architectural elements of each phase. The supervisor of the exchavations, archaeologist Georgios Sotiriou, later stated that the archarchaeological survey set as a goal

> on the one hand to release the walls from the buttresses and the Turkish filling ups of the openings in order to reveal the ancient form of the facades, and on the other hand to conduct excavations at the floor of the monument and outside it, in order to solve the question of the original form of the fifth century basilica, the determination of the limits of the space where it was founded, the alterations it went through in the 7th century, and the later repairs and additions[19]

The Turkish interventions where to be completely reversed, whereas the Byzantine period repairs and restorations were treated differently, appreciated as an archaeological layering of the monument. The walls were cleansed of the plastering and original openings that had been closed by the Ottomans were reopened.[20] The minaret, ironically largely surviving the fire, was demolished.

During the process of the restoration, an important disagreement emerged between the architect Zahos and the archaeologists. The issue in question was whether the project was a *restoration* or a *reconstruction* of the monument. In Zahos's view, a reconstruction was necessary in order to simultaneously preserve the old parts but serve the new needs of the building. A bell tower was designed as well as a staircase tower, while the western court of the church was redesigned to include a Byzantine museum with an arcade which would exhibit the archaeological findings of the city. The restored and new parts of the basilica were built in *cloisonné* masonry, in order to distinguish them from the original parts of the monument which were in brick, bringing Zachos in conflict with the archaeologists involved in the project.

Zachos saw St Demetrius as a functional church, not as an exhibit that only had symbolic capital as an embodiment of collective identity and memory.[21] However the predominence of the symbolic function of the building was already secured through its positioning in the new urban layout of the city. Lying in the centre of a wide urban space, its role determined by the post-imperial context of central administration and uniform citizenship, St Demetrius lost its imperial function as a cluster of administrative and religious life of its immediate surroundings and became an urban exhibit.

This was the case for all the religious buildings in the city. The new plan of Thessaloniki, designed mainly by Ernest Hébrard but also including in the planning committee the British Thomas Mawson, the German-educated Konstantinos Kitsikis and Zachos himself, proposed an orthogonal grid of wide streets intersected by diagonal bulevards which directed the gaze to important buildings, mainly churches, situated in the middle of squares.*22* Although St Demetrius lost its Byzantine identity in terms of its institutional role and its spatial relation to the city, it lent its forms to the urban landscape.[23] The 1919 building regulation regarding the new constructions in the centre of the new city, imposed a uniform architectural style for the buildings lining the central boulevards[24] (Figure 2). Treated more as a 'dress', than as an architectural style, this architecture doesn't have the

Figure 2. Aristotelous square in Thessaloniki. Photo by the author, 2010

elaborateness of Zahos's University of Ionia. The main characteristic of the street facades were the tall arcades on the ground floor, supported by columns with capitals alluding to Byzantine forms, and accompanied by arched windows in the upper floors.
However, the repeated and standardized neobyzantine arcades of the city, seen as a reflection of the city's Greek idenity, lent themselves to other interpretations by the French architect involved and by French historians of the time, testifying to their fluidity of meaning. As historian Pierre Lavedan wrote on a special issue of the journal *Urbanisme* dedicated to Ernest Hébrard,

> Hébrard's plan provisions the disengagement of the two most important byzantine edifices still standing, Saint Sophia and Saint Paraskevi […]. But he does not isolate them on the open squares. Hébrard's designs […] show them surrounded by gardens and cypresses and desire an adapting spirit for the neighbourhing houses, a spirit which, while making Thessaloniki a modern city, wont make it lose its character of an oriental city[25]

Hébrard, in accordance with the French urbanist school, had a consideration for 'local conditions and traditions', and saw the neo-Byzantine arcades not only as a reflection of cultural identity, but also as a necessity dictated by tradition and geography.

Conclusions

As we have seen, the archaeology of Byzantine churches was more than pure scholarship; it offered guidance in the creation of a modern Greek ecclesiastical style[26] as well as in the construction of secular buildings such as the University of Ionia and the facades of the new city of Thessaloniki. Its columns copied in the university building, and its arched section transposed in the urban space, St Demetrius emerges as an strong link between Izmir and Thessaloniki.
However we notice important differentiations in the use and acquired meaning of Byzantine Revival, even in the same sociocultural context. In Izmir, it accompanies a nation building project which aims to communicate cultural inclusiveness and to counterbalance both the hegemony of classical Athens and the European imperialist visions in the area. In Thessaloniki, in the resonstuction of St Demetrius, Byzantine Revival is torn between its perception by German-educated Zachos as an authentic expression of Greekness and a functional, organic space and its reduction to an urban exhibit within the Beaux Arts urban layout of the new city. Last, the Byzantine dress of the new facades of Thessaloniki, introduced by Hébrard and Kitsikis, is employed as a visual representation of the city's collective identity, and carries a flavour of colonial architecture and the Beaux-arts adacemic understanding of eclectic styles.
These case studies, added to the multiplicity of Byzantine Revival movements in the rest of the world, highlight the complexity of the rediscovery of Byzantium and the fluidity of symbolic meaning, which is conditioned each time by specific ideological debates, escapes its crystallization into given forms and changes as we shift geographical or socio-political contexts.

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1 Yaşar Ürük, "Izmir Kız Lisesi," *Izmir, Tarih ve Toplum* 3 (2008), 90.
2 The names Smyrna and Izmir are both symbolically charged in the respective Greek and Turkish historiographies. Internationally the city was still known as Smyrna in the 1910s and 1920s before the official use of the name Izmir took over. Here when specifically speaking of the pre-1922 history of the city in relation to the Greek administration I will use the term Smyrna.
3 It would become a *ticaret mektebi* (trade school). For its construction, allegedly the archaeological site of the Değirmentepe temple nearby had become a convenient source of marble fragments, which were used as building materials. See also Despina Karatheodori-Rodopoulou and Despina Vlachostergiou-Vasvateki, *Konstantinos Karatheodori, o Sophos Ellen tou Monachou (Constantine Caratheodory, the Learned Greek of Munich)* (Athens: Kaktos, 2001). Morever, marble plates from the Jewish cemetery that existed on the site were used both by the Union and Progress administration and by the Greeks.
4 Sibel Bozdoğan, *Modernism and Nation Building - Turkish Architectural Culture in the Early Republic* (University of Washington Press, 2001), 16-46.
5 Eleni Fessa-Emmanouil and Emmanouil Marmaras, *Greek Architects of the Interwar Period* (Athens: Crete University Press, 2005), 25.
6 J.Barrie Bullen "Byzantinism and Modernism 1900-1914" *The Burlington Magazine* 141, n. 1160 (1999), 665.
7 Formulated around the end of the 19th century, it was an aspiration of the Greeks to recreate a state that would incorporate all the lands with historically Greek presence.
8 Dimitris Stamatopoulos, *To Vyzantion meta to Ethnos* (Athens: Alexandreia, 2009).
9 Kostis Kourelis "Byzantium and the Avant-Garde: Excavations at Corinth, 1920s-1930s" *The Journal of the American School of Classical Studies at* Athens 76, n. 2 (2007), 393.
10 'He was the first to dispute the Greekness of neoclassicism and the Western formalism of urban architecture including superficial neo-Byzantinism. Rejecting as well the sterile reproduction or imitation of the traditional style, he fought passionately for the authentic modernisation of Greek architecture.' Emmanouil and Marmaras, *Greek Architects,* 9,13.
11 Kourelis "Byzantium and the Avant-Garde," 409. Also Dimitris Philippidis *Neoelliniki Arhitektoniki* (Athens: Melissa, 1984), 175-8, 205-8.
12 Maria Georgiadou, *Konstantinos Karatheodory* (Irakleio: Crete University Press, 2007), 330.
13 Victoria G. Solomonidis, "The Smyrna University of Ionia. Contribution to a peaceful Coexistence" (paper presented at the International Symposium 'University: Ideology and Education- The Historical Dimension and Potentials,' Athens, September 1987), 391.
14 Solomonidis bases her analysis on an interview of Stergiadis at Eleftheros Typos, 7 April 1929. More about the Greco-Turkish Theory and the Intermediate Area, see Dimitri Kitsikis, *Comparative History of Greece and Turkey in the 20th century* (Athens: 1978), 45, 217.
15 In the treaty of Sèvres, France was given Syria and the neighbouring parts of southeastern Anatolia, while large areas up to Sivas and Tokat were declared a zone of French influence.
16 Stamatopoulos, *To Vyzantion*, 68.
17 The columns of the church had been calcined because of their exposure to the high temperatures of the fires, and were therefore replaced by hand-chiseled marble copies.
18 "The causes of the fire - Material Losses," in *Report by the Directorate of Fire Victims 1-14 February 1919*, Thessaloniki Historical Archive.
19 Georgios Sotiriou, *I Vassiliki tou Agiou Dimitriou Thessalonikis* (Athens: I En Athinais Arheologiki Etairia, 1952), 67.
20 Ibidem, *foreword*.
21 Zachos's disagreement with the epidermic appropriation of Hébrard's Neobyzantinism can be paralelized to the disagreement between the historians and intellectuals Emmanuil Gedeon and Konstantinos Paparrigopoulos. The first argued for a literal restoration of Christian Orthodox hegemony in the Empire and fort he priority of ecumenicism, whereas the second embraced the idea of the nation-state separatism from the Ottoman Empire and the selective appropriation of Byzantium mostly as a heritage rather as a living reality.
22 Kostantinos Kitsikis, the Greek architect in the committee, specifically mentions that: 'The Committee used […] the churches as a starting point for the new layout. Hence we succeeded first in highlighting them by suitably positioning them in contrast to their old hidden nature, and second in allowing the city to acquire characteristic 'points de vue', enough in order to give it an appropriate character.' Kostantinos Kitsikis, *I ktiriologiki apopsis tou Neou Shediou Thessalonikis* (Athens: Blasoudaki, 1919), 12.
23 Vasilis Kolonas, "Opseis tis Thessalonikis prin kai meta to 1912," (paper presented at the conference 'Thessaloniki, mia poli se metavasi 1912-2012', Thessaloniki, October 18-21, 2013). See also Vasilis Kolonas, *I arhitektoniki mias ekatontaetias: Thessaloniki 1912-2012,* (Thessaloniki: University Studio Press, 2012).
24 Alexandra Yerolympos *I Anoikodomisi tis Thessalonikis Meta tin Pyrkagia tou 1917* (Thessaloniki: University Studio Press, 1955).
25 Pierre Lavedan, "L 'Oeuvre d'Ernest Hébrard en Grèce," *Urbanisme* 14 (1933), 148-62 (translation by the author).
26 Kourelis "Byzantium and the Avant-Garde," 408-9.

6.2 Building by the Book? Theory as Practice in Renaissance Architecture

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The rise of theory is one of the distinguishing traits of Renaissance architecture. Taking different formats – manuscript and printed, and ran-ging in genre from the instruction manual addressing the specific needs of the practitioner to the learned dissertation feeding the interests of the intellectual elite – architectural treatises flourished across fifteen- and sixteenth-century Europe, becoming the primary means for the dissemination of architectural knowledge past and present. Furthermore, Renaissance treatises shaped generations of professionals, informed the choices of their patrons, defined the contours of the profession and established models for the organization of field-specific information.
Renaissance theoreticians were also practitioners. Their understanding of the classical past was based as much on the reading of ancient texts as it was on the excavation and surveying of the physical remains of Antiquity. Antiquity itself was both the object of their humanistic curiosities and a repository of ideas and models for their design practices. And writings provided broad historical narratives on architecture, its origins and its developments as well as recipes, technical solutions, and practical prescriptions. This integrated approach, bringing together theory and practice, was the very basis of the success of Renaissance architectural treatises and their impact the cultural and built environment. Yet, scholarship typically analyses Renaissance theory of architecture as a field of its own, independent from practice. Such separation prevents, rather than promotes, our understanding of how architectural knowledge was produced, disseminated and received in the Renaissance.

This session seeks to bridge the current epistemological divide by focusing on the connections between the theory and the practice of architecture in fifteenth and sixteenth-century Europe. It welcomes papers dealing with the variety of ways in which the practice and theory of architecture informed each other; with the ways in which theoretical texts were conceived, produced, and illustrated to facilitate comprehension; and how architects and humanists read, understood, or misunderstood theoretical texts. A case-study approach is preferred.

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6.2.1 'Restauramenti e restitutioni di case.' Book VII on Architecture by Serlio and the Dissemination of the Classical Order in the Language of Monumental Architecture and Basic Building in Ferrara

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Abstract
The years when 'Liber Septimus' was in circulation, written by Sebastiano Serlio and posthumously published in 1575 in Vienna, correspond to the postseismic period of reconstruction in Ferrara. Pirro Ligorio directly investigates the damages caused by the earthquake of 1570, describing a city destroyed by collapsing, badly built, old medieval constructions, weakly put together and with no substance. Sebastiano Serlio's technical solutions and practical rules – illustrated in the Seventh Book with examples where the language of medieval architecture is updated with 'modern' solutions – perhaps find in Ferrara one of their first cases of practical application, thanks to the presence of architects like Aleotti, a faithful connoisseur of Serlio's writings (as well as Vignola's), and to the treaty's recognised value as an operational tool. It was a treaty that 'ha restituito l'Architettura, e fattala facile ad ogniuno,' as Jacopo Strada would later introduce it to readers in editio princeps. The aim of this contribution is to investigate the relations between Serlio's theoretical and practical postulations and the reconstruction and restoration that began in Ferrara in the 1570s, both in the field of architectural heritage, and the field of basic building. The latter is a specific object of study for the author, who devotes an important part of Book VII to it. The contribution will develop various topics, in order: The city of Ferrara before the earthquake of 1570: a typical medieval city; Exempla of modern architecture in Ferrara: the sixteenth century palaces of the Herculean Addition; Serlio's *Regola* and architectural language in Ferrara: churches and palaces at the end of the sixteenth century; Serlio's *Regola* and construction language in Ferrara: basic building at the end of the sixteenth century; Conclusions: the importance of Serlio's treaty in the reconstruction of Ferrara.

Keywords
Ferrara, earthquake, reconstruction, Serlio, language, architecture

The city of Ferrara before the earthquake of 1570: a typical medieval city
This contribution should be introduced by a brief description on the territorial situation of Ferrara and the structural features that characterize its architecture. The stages of its urban development,[1] which in some ways was spontaneous and in others intentional (thanks to the historical urban planning operations of the *Addizioni*, that were made by the Dukes Niccolò II d'Este 1361-88, Borso d'Este 1450-71, Ercole I d'Este 1471-1505), are also evident on the architectural scale by the quality of construction. This information is essential for understanding the different effects that the earthquake of 1570 had on various areas of the city.

Morphological characteristics on an urban scale
The Ferrara area is extremely complex from a hydrographic point of view: the changes that occurred over centuries on the Po river's main branch, which progressively moved from the south to the north (the current 'Po di Venezia'), have completely influenced the land and the city's morphology.
The commercial focus of the earliest settlement, due to the control of river navigation, gradually led to the structuring of a unified urban layout, stretched along the length of the river bank; hence, the description of a linear city and the development of types of construction that combined residential and merchant use.
The growth and progression of the medieval urban structure is spontaneous until the planned additions of the fourteenth and fifteenth centuries, implemented in order to annex areas that were still substantially undeveloped – or at least outside the city limits – to the urban aggregation. Of these, the most important is clearly the Herculean Addition that from 1492 was used to trace the new northern defense perimeter and annex a very large, almost completely undeveloped area.

Structural features on an architectural scale
It is for these territorial and urban-morphological reasons that the damages caused by the 1570 earthquake primarily affect the oldest urban fabric, that of medieval origin, and involve the renaissance era constructions of the Herculean Addition only selectively. During that year, Pirro Ligorio was in the city and gave a detailed description of the earthquake's effects. The year 1570, for us, constitutes the exact chronological watershed moment to investigate the architectural consistency of the city before and after this event.
In his book *Treatise on various earthquakes*,[2] Ligorio gives us an interesting

description of the damages caused to residential buildings and monumental architecture, such as churches: the oldest buildings are those that suffered the most damage – the ones located in the southern part of the city that existed prior to the great urban planning operations of Ercole I d'Este (duke between 1471 and 1505) – and they were typically characterized by cheap materials and unsophisticated construction techniques, without an established masonry art.

Even today, the conspicuous presence of exposed brick walls reveals these characteristics: Ferrara walls are generally thin, usually two or three heads thick equal to about 25-40 cm, arranged irregularly, often made using salvaged bricks and clay-rich mortars, and are doomed to quickly disintegrate. Ligorio describes a city where 'all buildings are badly built with thin parts, they are without substance, unstable'. [3]

Examples of modern architecture in Ferrara: the sixteenth-century palaces of the Herculean addition

The sixteenth-century palaces located in the Herculean Addition were generally built with material and techniques of higher quality compared with the residential buildings in the medieval area. For typological reasons, they are also otherwise resistant to the effects of earthquakes compared with compact medieval buildings, which are characterized by wall structures shared between multiple residential units and those alterations due to usage that over time altered, and often weakened, the resistant structure.

Yet beyond the limited seismic effects these buildings could have undergone in 1570, it is interesting to reflect on the role that the codified renaissance language had on such an urban context. Keeping in mind the fact that in general the architectural situation in Ferrara does not show a widespread use of the language of antiquity, as it was firmly anchored to the local linguistic stylistic features of Gothic Po Valley origin, it is however possible to identify a few notable exceptions where the language of antiquity becomes a distinctive code, even while staying faithful to local established typologies.

Palazzo Naselli Crispi (built between 1527 and 1538), for example, on which rigorous and in-depth investigations have recently been done, [4] and on which a concrete interpretation of the structure was made from an accurate survey of the architectural order and its elements. Breaking down the components of the palace's building typologies and its orders by architectural lines, identifying the overlaps, intersections, rules and syntax, offers useful elements for understanding its stylistic characteristics and to begin an interpretation of comparison with contemporary Roman works. The reference to classical architecture results in an organic and proportionate composition of the Doric-Ionic orders in the courtyard, in a system of elements (arch, entablature, column or pilasters, pedestal) arranged in accordance with the grammar of antiquity. That is taken for the most part of the elements by Vitruvius but with significant findings in detail commented by Serlio in *Book IV*, especially for what concerns the use of the base and the pedestal.[5] The Doric entablature confirms this rule with the use of an odd number of triglyphs: two corresponding to the pilaster's axis and three on the span of the arch. The Doric order is represented in every component: the pedestal on which the attic base rests, the pilasters, the capital with necking, the echinus and abacus, the architrave, the frieze with triglyphs and metopes, and the cornice. The Ionic order is rendered in its decorative richness through the use of the capital with thin abacus, a curved pulvin in two wide volutes and echinus with eggs. The volute of the capital rests on the terminal astragal of the pilasters.

While for Palazzo Naselli Crispi recent studies have suggested that Sebastiano Serlio had a primary role, and have challenged the traditional attribution to Girolamo da Carpi, [6] the question of whom to attribute the Casa di Ludovico Ariosto in Contrada Mirasole (Figure 1) – a residential area of *Terranova*[7] – is still unanswered. The building is traditionally attributed to Girolamo da Carpi (1501-56), but without any documentary evidence. [8] The *terminus post quem* for the construction is set at 1526, when Ariosto purchased the first of various built-up lots. Therefore, it consisted in the modernization of an already existing building and not a brand new construction; an accurate, ongoing survey campaign is refuting that geometric regularity – both in terms of construction and wall positioning – that until now had been considered as an unequivocal clue of new construction. Concerning the façade, the effectiveness of simple classical language is left to architectural lines, proportions, the predominance of horizontal lines over vertical ones, enhanced by the stringcourse along the window sills that coincides with the tall,

Figure 1. Ludovico Ariosto's mansion in Contrada Mirasole. *Source:* Storia dell'Architettura italiana. Il primo Cinquecento, Milano: Electa, 2002.

smooth necking of the order placed at the end of the façade, and the string-course along the window heads of the main floor. Two overlapped orders close the façade laterally: the first can be seen in the pedestal, on which the attic base, shaft and capital with tall, smooth necking are set on; the second is directly set on the first order capital through a smaller podium. The order of the second level is complete: attic base, shaft, capital with tall pulvinated necking, an entablature with frieze, also pulvinated, that goes around the corner. Though simplified, the effectiveness of the language is influenced by a cultured and mature source that could involve prominent figures of the early sixteenth century architectural culture.

The same prominent figures of architectural culture in Ferrara are mentioned by Serlio in the first edition of *Book IV* on the general rules of architecture. Serlio dedicates the book to the duke of Ferrara, Ercole II d'Este, he cites Palazzo Naselli Crispi as the most important evidence of Giuliano Naselli's architectural culture, and he describes Celio Calcagnini, a friend of Giuliano Naselli and Ludovico Ariosto, the tutor of Ludovico Ariosto's son, as a great connoisseur of architecture. [9] From these relations, it is necessary to continue the historical research, in order to clarify the different roles that these figures, together with that of Serlio, have had as part of the sixteenth-century architectural production.[10]

Serlio and architectural language in Ferrara: churches and palaces at the end of the sixteenth century

The post-seismic reconstruction between the sixteenth and seventeenth centuries constitutes an operational context, still yet to be investigated, that is very important for understanding the process of the linguistic development of Ferrara architecture. While the knowledge of the attributions, commissions and dates is still very imprecise, it is possible to build an initial catalogue of architectural works, beginning precisely with the buildings damaged by the 1570 earthquake that Pirro Ligorio listed in his treatise, and that for chronological reasons play a significant role in spreading the codified architectural language in Ferrara. After the 1570 earthquake, the names of the Ferrara architects working on this front are well-known (Alberto Schiatti 1500-86, Galasso Alghisi around 1523-73, Alessandro Balbi around 1530-1604, Marc'Antonio Pasi 1537-99, Giovan Battista Aleotti 1546-1636) but their authorships of architectural works are not as well known. [i11]

For now, attention is focused on a few buildings listed by Ligorio in the chapter *On the first known earthquake tremor*:

> Besides the Cathedral, where the façade of the Duomo detached and returned to its place, the church of San Giovanni Battista, the façades of churches San Paolo and San Francesco all crumbled, the church of Certosa suffered a lot of damage, including the bell tower. The churches of Santa Maria del Vado and Sant'Andrea "shook", and their pediments were damaged, as well as other parts. The church of San Domenico lost its façade and in some parts its roofing. Subsequent tremors caused further damage to the church, as well as the convent of San Benedetto. All monasteries were damaged, and in particular the monastery of Corpo di Cristo collapsed entirely. [12]

For the most part, these are religious architectural works where the interventions made mainly on the façades after the collapse show a linguistic affinity with Serlio's repertories. In particular, the churches of San Paolo, Santa Maria della Visitazione, and Gesù, three architectural works attributed, based on documentary findings,[13] to the architect Alberto Schiatti, who was esteemed by Pirro Ligorio and was a connoisseur of ancient architecture thanks to his stays in Rome.

The figurative repertories of Serlio's *Books*, especially Books IV and VII, constitute an extraordinary catalogue of formal solutions from which to draw liberally, whether to qualify small details or the entire architectural composition.[14]Whether it was the surrounding architectural works or straight from the pages of the treatises that suggested new formal solutions for basic building as well does not matter: the innovation in linguistic use brought by Serlio is still an essential key to understanding the formal evolution that from the sixteenth century onwards has characterized the buildings created by every local construction culture.

In the final decades of the sixteenth century, the urban reconstruction stage concerning churches, palaces and houses, overlaps with the building activity aimed at increasing the city's defenses, and which used almost all of the Duchy's financial resources. This activity will continue even after the Devolution of the Duchy of Ferrara to the Papal States in 1598 and – thanks especially to Giambattista Aleotti who stayed in Papal Ferrara – will enjoy a substantial linguistic continuity even in the architectural works produced during the seventeenth century. Evidence of this continuity are the architectural works of Porta Paola, whose construction began in 1612 along the southern defense perimeter, and which due to its stylistic characteristics can reasonably be viewed in relation to Serlio's *modus operandi* and the repertories of compositional solutions in *Book IV*, *Book VII* and the *Extraordinario*. Attribution of this work has been established thanks to the project designs signed by Giovan Battista Aleotti,[15] who was an expert of Serlio and Vignola's treatises, and himself the author of a still unpublished treatise.[16]

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This initial catalogue of monumental architecture constitutes an additional field of investigation on sixteenth-century Ferrara architecture. The influence of the architectural codification spread by the treatises on these architectural works is still rather evident in spite of the late chronological placement and, for this reason, can only be understood against an initial cognitive development concerning prior architectural works, which consolidated into the role of model at the local level.

Serlio and domestic language in Ferrara: basic building at the end of the sixteenth century

The codification of architectural orders made by Serlio and disseminated from 1537 onwards is the expression of an architectural culture that became the foundation for all types of construction and that characterized all building productions without distinction: it is a codification that involves the lexicon as well as the syntax and grammar of architecture, and as such produced innovations on all construction scales, from the individual construction elements to façade compositions. Concerning the achievement of the architectural order in construction practices, it is essential to consider the role of treatises that, from the fifteenth century onwards, became established as the main vehicle for the principles and rules of the architectural order.

Christof Thoenes believes that:

> It is clear that the history of Renaissance orders was not and could not be the history of a return to antiquity. Doubtless, it was an idea inspired from classical, Roman architecture. Yet, the more its sources were known, both literary and monumental, the more there was a need to understand that they did not contain what was being sought and was most needed: a rational method for applying the language of antiquity to the architecture of one's time. In fact, within the dialogue with ancient architecture developing during the renaissance, the orders assumed the role of intermediary between the study of Roman buildings and contemporary, modern practice. We followed some of the research of the fifteenth century, which is mainly theoretical in nature, with few effects on the architectural works built at the time. During the sixteenth century, the focus shifted on their application. Serlio's *Fourth Book*, which aims to give general rules on the five styles of buildings, the theory of the orders appears for the first time in the form of an independent manual, separated from the treatise on antiquities, in *Third Book*. Behind it, a new, much more radical question is taking shape: to find rules in antiquity, or create them oneself, according to one's own rational calculations. Serlio still did not want to choose: in controversial cases, he limited himself to giving "a general rule, leaving many things up to the decision of a judicious architect.[17]

Concerning Ferrara, Ligorio's descriptions offer an interesting view of basic building and the relative construction methods concerning earthquake damages: 'all buildings suffered damages, and the tallest suffered the worst damages, causing further damage by collapsing onto smaller structures. Now the city will become stronger and more beautiful, because this earthquake taught us how to build with safety in mind'.[18]

A large part of medieval construction was destroyed in the 1570 earthquake: the widespread reconstruction was an occasion to put empirical knowledge and experience into practice, since this earthquake taught us how to build with safety in mind,[19] but it can certainly also be investigated as a great opportunity for linguistic updating. In this context, as we have seen with what happens to "high" architectural construction, these years are still rather central to the circulation of the tools drawn up by Serlio and additionally coincide with the publication of *Book VII* (1575).

A very important example from where to begin an investigation on the role of the language of antiquity in Ferrara construction, is that of cornerstones, which even Ligorio recommends as excellent earthquake-resistant structural safeguards for buildings with brick walls: corner reinforcements with stone elements are very useful as they keep the walls' corners secured and the walls together.[20] Serlio also dedicated two pages of treatise on the construction of cornerstones: he's treating separately the cases of structural cornerstones, where the stone blocks are embedded in masonry, from simple coating examples, where the corner element is added on the existing brick structure.

The historical city of Ferrara is characterized by compact aggregations of medieval rows of buildings where generally the last unit of the block, on the corner between two roads, is characterized by the presence of a stone element, more resistant than the simple brick wall, placed there to confer that stability otherwise given by the continuity of the building. This practice has a wide spread over time so as to be used even when the need is not structural but only formal. The presence of these elements is particularly interesting, both from a quantitative standpoint and concerning the extraordinary variety of form that characterizes building units that are often very humble (Figure 2). The solution to a need for stability is gradually drawn up in accordance with the need to update the technological-construction component according to the linguistic effects of monumental architecture,

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Figure 2. Some examples of cornerstones in historical city of Ferrara. *Source:* photographies by the authors.

particularly with the use of the architectural order that, not surprisingly, is also the corresponding reference model for the structural idea of the corner element. In Ferrara, there are solutions that involve the addition of a simple squared stone element or a staggered ashlar pillar along the edge of the wall, or ashlars of a more or less regular shape along the edge of the wall with a base, up to more complex solutions, such as a pilaster or a column projecting from the wall surface, or pillared, whose construction spans the height of the building.

The use of elements that constitute the architectural order can be seen in a sequence of variations that tend to progressively enrich the cornerstone with parts and decorations: the order is initially borrowed through the simple beveling of the corner profile of the stone element, until it is the hint – through a connection to the sharp edge of the element itself – of a basic capital; or by the addition of an architrave portion over the capital itself, also roughly outlined in the profile; or still, by adding the capital element at the closing of the simple squared stone slab characterized by a minimal sequence of moulding (fillet-astragal-necking-fillet). The most complex solutions involve the use of stone elements as proper corner pilasters, with leafy capitals and crested shafts, with or without a base, up to the variants elevated by pedestals and plinths.

These initial observations on the formal findings that can still be seen on minor constructions introduce a primary element of the relationship between codified language and basic building, within the context of a very interesting study that so far has not been investigated much.[21]

Conclusions: the importance of Serlio's treatise in the reconstruction of Ferrara

Reconstruction in Ferrara after the earthquake should still be closely investigated, and the relationship Sebastiano Serlio had with the Este family, the local architectural culture and the city is yet to be illustrated.[22] This contribution has been an attempt to focus attention on the relationship between architectural language codified in treatises and local architectural works, showing, as a preliminary measure, that the city's reconstruction in the 1570s was a fertile ground for practicing Serlio's language and vocabulary, both in monumental architecture and basic building.

In light of the above, it would seem rash to consider 1570 as a decisive chronological threshold to study any changes in their course that Ferrara's architectural tradition and culture may have undertaken; rather, it is a historical event that will be of tremendous consequences for the urban and architectural image of Ferrara, and will constitute an opportunity, for the circle of known architects as well as communities of buildings, to recall those models, written about and built, that already in the first decades of the sixteenth century were present in the city.

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Serlio, Sebastiano, *Regole generali di architetura sopra le cinque maniere degli edifici, cioe, thoscano, dorico, ionico, corinthio, et composito, con gli essempi dell'antiquità, che, per la magior parte concordano con la dottrina di vitruvio* (Venice: Per Francesco Marcolini da Forlì, 1537)

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1 On the state of progress of the studies of urban morphology and construction types in Ferrara, the main reference point should be the writings of Riccardo Dalla Negra from 2009 to the present day, particularly Riccardo Dalla Negra, "Ferrara: contributi per una lettura fenomenologico-strutturale finalizzati alla sua conservazione," in Riccardo Dalla Negra and Alessandro Ippoliti (eds.), *La città di Ferrara: architettura e restauro* (Roma: GB Editoria, 2014).

2 Emanuela Guidoboni (ed.), *Pirro Ligorio, Libro di diversi terremoti* (Roma: De Luca Editori d'Arte, 2005).

3 'Nulla fabbrica fatta con prudentia per che tutte sono malamente fabbricate et sono molte vecchie et sottili, senza nessuno difesa d'artificio e senza sostanza, et sono veramente pariete caduche', Foglio 81, Ibidem, 128.

4 Costanza Cavicchi, "Note sull'architettura del palazzo a Ferrara nella seconda meta del Cinquecento: nobili facciate all'epoca del Tasso," in Gianni Venturi (ed.), *Torquato Tasso e la cultura estense* (Firenze: Leo S. Olschki, 1999), III, 817-27; Bruno Adorni, "L'architettura in area lombarda ed emiliana," in Arnaldo Bruschi (ed.), *Storia dell'architettura italiana. Il primo Cinquecento* (Milano: Electa, 2002) 272-305; Francesca Mattei, *Eterodossia e vitruvianesimo: Palazzo Naselli a Ferrara 1527-1538* (Roma: Campisano, 2013).

5 Sebastiano Serlio, *Regole generali di architetura sopra le cinque maniere degli edifici, cioe, thoscano, dorico, ionico, corinthio, et composito, con gli essempi dell'antiquità, che, per la magior parte concordano con la dottrina di vitruvio* (Venezia: Per Francesco Marcolini da Forlì, 1537).

6 In particular, see Mattei, *Eterodossia e vitruvianesimo*. The latter, beginning from an in-depth analysis of Palazzo Naselli that highlights the relationships between archival documents, architectural forms and inscriptions, tends to preclude the participation of Girolamo da Carpi in this work, instead attributing a decisive role to the commissioner, Giuliano Naselli, and hypothesizing the involvement of Sebastiano Serlio, at least as a design consultant.

7 On Terranova see Charles Rosenberg, *The Este monuments and urban development in Reinassance Ferrara* (Cambridge: Cambridge University Press, 1997), 143.

8 For example, Adorni "L'architettura in area lombarda," 300. For a complete bibliographical survey of the contributions of Girolamo da Carpi, see "Divagazioni intorno a Girolamo da Carpi architetto" in Mattei, *Eterodossia e vitruvianesimo*.

9 'Meser Celio calcagnino, che non pur di tutte le scientie è peritissimo, ma di questa intende quanto alcun altro si sia […] e

Messer Iulian Nasello il quale ha voluto che si veda imparte quanto sia grande il suo concetto ne l'Architettura, con una sua fabrica, ordinata in cotesta Città di Ferrara, con gran testimonio de la sua multa scientia', in Serlio, *Regole generali*.

10 This research takes place under the Memorandum of Understanding signed in 2010 between the University of Ferrara, Department of Architecture, and the Superintendence for Architectural Heritage and Landscape of Ravenna, Ferrara, Forlì-Cesena and Rimini, with the title: *Caratteri stilistici e costruttivi dei monumenti ferraresi durante il ducato estense (1471-1598)*, scientific directors professor Alessandro Ippoliti and architect Antonella Ranaldi. Cf. Alessandro Ippoliti, "Per lo studio dei caratteri stilistici e costruttivi dei monumenti ferraresi," in Dalla Negra and Ippoliti (eds.), *La città di Ferrara: architettura e restauro*. For a careful preliminary investigation of these figures, see Mattei *Eterodossia e vitruvianesimo*.

11 Giovanni Leoni, "Ferrara una capitale al tramonto," in Claudia Conforti and Richard J. Tuttle (eds.), *Storia dell'architettura italiana. Il secondo Cinquecento (*Milano: Electa, 2001).

12 'Staccossi dal corpo la facciata davanti et ritornò al suo luogho, cosa maravigliosa […] , rovinò affatto la chiesa di San Giovanni Battista, la facciata davanti della chiesa di San Paulo, et fracassolli i fianchi, la cima del frontespitio, et facciata de la chiesa di San Francesco li guastò li volti; la chiesa della Certosa la quale in molte parti mutilò, et gli mutò la cima del campanile in mala forma […] Santa Maria del Vado, et quella di Santo Andrea si guastarono nelli fastigii et in altre parti […] Intraperse la parte anteriore di San Domenico et in alcuni luoghi gli caddeno degli ornamenti suoi nel proprio tetto et lo sfondarono […] Colli tremiti che poi successero rovinarono, et il dormitorio di San Benedetto et la parte della chiesa del sudetto San Domenico. Li monasterii hanno tutti patiti et, particolarmente, quello delle monache del Corpo di Christo è caduto affatto dalle radici' (Foglio 74, in Guidoboni, *Pirro Ligorio*, 116).

13 The document preserved at the Archivio di Stato of Modena is published in Marcolini Marcon (1987), 213-16.

14 On Sebastiano Serlio's role as innovator, cf. the studies of Mario Carpo, particularly, Mario Carpo, "Ancora su Serlio e Delminio. La teoria architettonica, il metodo e la riforma dell'imitazione", in Christof Thoenes (ed.), *Sebastiano Serlio* (Milano: Electa 1989) and Id., *Alberti, Raffaello, Serlio e Camillo: metodo e ordini nella teoria architettonica dei primi moderni* (Geneva: 1993), and those of Myra Nan Rosenfeld: Myra Nan Rosenfeld, "Sebastiano Serlio's Contributions to the Creation of the Modern Illustrated Architectural Manual", in Christof Thoenes (ed), *Sebastiano Serlio* (Milano: Electa 1989).

15 Costanza Cavicchi, Francesco Ceccarelli, and Rossana Torlontano, (eds.), *Giovan Battista Aleotti e l'architettura (*Reggio Emilia: Diabasis, 2003).

16 Francesca Mattei, "Giambattista Aleotti (1546-1636) e la Regola di Jacopo Barozzi da Vignola della Biblioteca Ariostea di Ferrara (ms. Cl. I, 217)," *Annali di Architettura* 22 (2010).

17 Christof Thoenes, *Sostegno e adornamento. Saggi sull'architettura del Rinascimento: disegni, ordini, magnificenza* (Venezia: Marsilio, 1998), 130.

18 'Finalmente, tutte le case hanno partecipato del medesimo male, et quanto più le fabriche erano alte, tanto più sono pericolate in quel primo assalto più crudele, et le altehanno fatto male alle basse, cosa veramente calamitosa et degna di essere pianta con lachrime di sangue, in quanto ad una certa bellezza et maestà che s'è perduta nell'edificii, ma circa all'animi, alli desiderii degli huomini, la città si ritorna a fortificarsi et farsi anchor bella, et questa calamità ha insegnato a fabricare con più sicurtà', Foglio 74, in Guidoboni, *Pirro Ligorio*, 116.

19 'Questa calamità ha insegnato a fabricare con più sicurtà', Ibidem.

20 'Giovano li rinforzi delle parastate et anteridi delle cantonate per che queste serrano et tengano insieme li cantoni delle pariete', see Foglio 59, in Guidoboni, *Pirro Ligorio*, 94-5.

21 The study subject has been partly tackled in Veronica Balboni's doctoral thesis, "Construction language in pre-industrial basic building. Definition of the instruments for interpreting the process of technological and linguistic characterization, with operational objectives for the urban fronts of historical cities. A case study: Ferrara." See Veronica Balboni, "Linguaggio edilizio nell'edilizia di base pre-industriale. Definizione di strumenti per la lettura del processo di caratterizzazione tecnologica e linguistica, con finalità operative per i fronti urbani della città storica. Un caso studio: Ferrara". (PhD diss, 2013) and Veronica Balboni, "Linguaggio edilizio. L'edilizia di base tra spontaneità costruttiva e intenzionalità formale nel caso studio di Ferrara," in Alexandra Filipovic, William Troiano (eds.), *Strategie e programmazione della conservazione e trasmissibilità del patrimonio culturale* (Roma: Edizioni Scientifiche Fidei Signa, 2013), 136-43.

22 For an initial look at the subject, see Loredana Olivato, "Sebastiano Serlio e Ferrara," in Luciana Finelli (ed.), *Il duca Ercole I e il suo architetto Biagio Rossetti: architettura e città nella padania tra Quattro e Cinquecento* (Roma: Kappa, 1995), 89-93.

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6.2.2 'Libri tre nei quali si scuopre in quanti modi si può edificare vn Monast.o sÿ la Chiesa:" Architectural Treatise of Capuchin Friar Antonio da Pordenone

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Abstract
The Order of Capuchins, which diverged from the Observant Franciscans in 1528, strived to live more strictly than their predecessors. Therefore, they also tried to recreate the physical world of the first S. Francis's followers which they enriched with modern knowledge. For this reason, they elected four friars per province – the so-called fabricieri – who were responsible for building and who assured that their convents were constructed according to the Capuchin constitutions. In several cases, fabricieri were well educated in architectural knowledge and wrote interesting architectural treatises, which were regularly used in practice. One of them, Antonio da Pordenone (1560-1628), a Venetian Capuchin, wrote in 1603 a very detailed architectural treatise, which he supplemented several times in the first quarter of the seventeenth century. In this work, he united knowledge of the classical and Renaissance treatise writers such as Marco Vitruvio Pollione, Gaio Plinio Secondo, Sebastiano Serlio, Leon Battista Alberti, Andrea Palladio, Daniele Barbaro, Giovanni Antonio Rusconi, Giovanni Nicolò Doglioni etc. Da Pordenone applied and combined his expertise with the tradition of building a Capuchin convent, which developed during the sixteenth century, and the tradition of the region, in which the monastery was constructed. Based upon the exceptional insights of classical and Renaissance architectural theory, da Pordenone's treatise was easily put into practice in the following centuries. It leaded Capuchin's fabricieri step by step in their attempts to raise a cloister; consequently the constructed convents deviate insignificantly from the ideal proposed in the theory. The application of the treatise will be illustrated with the architecture of the former Styrian Capuchin province where, according to the specific construction and ground floor characteristics, his work was probably known through copies.

Keywords
Capuchins, Capuchin architecture, architectural treatise, Antonio da Pordenone, *fabricieri*, order-architects

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Antonio da Pordenone, the Capuchin *fabricier*
The Capuchin architecture derives from the primary architecture of the order of Friars Minor and is, therefore, extremely modest, strictly following the spirit of the Saint poverty. The Capuchins rigidly obeyed the constructional rules that were written in the constitutions. The entire sixth Chapter of the constitutions was devoted to the construction of the monastery, wherein it was written under what conditions the monastery could be built, who had the right of the ownership, how is ought to be built and when the rebuilding the dwelling was permitted. Furthermore, they precisely determined the dimensions of some rooms in the monastery. Each province was also obligated to elect four friars, the so-called *fabricieri,* who were in some cases also qualified architects and builders and who kept a vigilant eye on the entire construction activity.[1] One such was Antonio da Pordenone. He was born around 1560 in Pordenone as Antonio Pisollo. It is not known where, how and from what source he gained a profound knowledge in construction and architectural techniques. The only proved information is that between 1577 and 1580 he volunteered and worked as an assistant to Andrea Palladio, who was then building the Capuchin Church Il Redentore in Venice. In 1581, a year after Palladio's death, Antonio joined the Capuchin Order. Two decades later he was named one of the four *fabricieri* of the Venetian Capuchin province.[2] In 1603 he wrote his first manuscript, an architectural treatise on the Capuchin monastic architecture. The treatise was based on the constitutions mentioned above, but Antonio expanded them to the utmost, when determining step by step the construction of the monastery and precise dimensions of every room in the dwelling. From the year 1605 he supervised the construction of monastic houses in Lower Bavaria. In 1607 while resident in Rosenheim he wrote the second part of his manuscript, which in contrast to the first described the building of monasteries in countries with colder climatic conditions. In the third decade of the seventeenth century he constructed a new monastic home in Oderzo.[3] There in 1620 he amended his first manuscript from the year 1603 by adding the plans for cloisters of greater dimensions. Three years later, the third amended issue of the same manuscript followed. In it he combined the knowledge from the first and the third edition. He died in 1628 in Castelfranco Veneto.[4]

Manuscript of 1607 'for countries with colder climatic conditions such as Germany'
The manuscript, which is chronologically the second, has minor differences in the contents than the other three. This edition was written in 1607 in Rosenheim in Bavaria and is kept in the provincial archive of the Capuchin

monastery in Innsbruck. It was written in Italian or rather Venetian dialect, as it was meant mainly for the *fabricieri* of the Venetian region, who were the first to build in Tyrol and Bavaria. Its title is very eloquent:

> Three books in which it is revealed, in how many ways one can build a monastery and a church situated towards four parts of the World one desires, for here it can be found with the plan, corresponding the tradition of the Capuchin Order in favour of which they were composed by friar Antonio da Pordenone, Capuchin priest of the Province of Saint Antony or Venice, especially for countries with colder climatic conditions such as Germany, where by the help of stoves or refectory the cells are warmed, it was composed in the place Rosenheim. Province of Tyrol under the duchy of Bavaria in 1607. And this is the second part.[5]

What attracts attention is the mentioning of the monasteries that were built in colder countries. The architecture presented is adapted to specific climatic conditions, which were typical of the newly established Tyrolean province,[6] and presumably had a great impact also on the Capuchin architecture of the major Central European area.

The manuscript of a 41,5x30 cm format is bound in pigskin and it consists of approximately 260 pages. Just as with all his other manuscripts, it is divided into three books, regarding the orientation of the church.[7] Every plan comprises two folios; the first represents the ground floor whereas the second the respective upper floor. Individual chambers in the convent are designated according to their intended purpose with the plotted dimensions. The plans represent designs of ideal cloisters, which have three tracts in the ground floor, and (regarding the cell number) two or three tracts on the upper floor, where the number of the cells varies from 11 to 29. Every plan has also a measurement scale.

The mainly illustrative tract part is followed by concise and carefully selected instructions with practical hints on how to construct a monastery. The Capuchin architect accumulated the knowledge on construction mostly from the older architectural treatises mentioned below, which he also quotes with a relevant instruction. The text is divided in various chapters, which coincide with various chambers in the convent.[8] In addition to strict construction instructions, the text explains also how to make the monastery interior fittings of wood such as pews, candle-holders, kneelers, pulpits, tables etc. However, the Capuchin did not embark into the realm of art, painting and sculpture. The work was completed with illustrations of some architectural elements.[9]

At the end of the text Antonio lists the treatise writers of great renown and those a little less well known, including Vitruvius, Pliny the Elder, Leon Battista Alberti, Sebastiano Serlio, Daniele Barbaro, Giovanantonio Rusconi, Andrea Palladio, Giovanni Nicolò Doglioni, Cesaro Padoano, Zacharia Greco and Alberto Veronese. [10] In some cases he quotes them almost literally in other he summaries the original treatise.

Influence of known and less known treatises on the work of Antonio da Pordenone

The Capuchin cites the treatise authors on various occasions, whereby he indicates the book[11] and the chapter,[12] from which he draws information for his instructions. In other cases a profound knowledge of the works is required to be able to draw parallels between them.

In chronological order, from the oldest to the youngest, we first come across Vitruvius (80/70 BC-15 AC).[13] His *De Architectura Libri Decem*, which is assumed to have been written between 27 and 25 BC, Antonio quotes several times, mostly within the practical instructions on construction, such as: where to set the building in order to avoid the unhealthy conditions (I/4-6), the method of how to define the meridian or the north-south direction without a compass (I/6), construction of foundations (III/4) and an additional wall as a protection against the northern winds and drainage of water from the moist walls (VII/4), description of seven ways of finding water sources (VIII/1) and the inclination of the water supply (VIII/6).[14] It is interesting that Vitruvius talks about placing certain chambers in the building towards various points of the compass (I/2, VI/1 and 4),[15] mostly because the orientation is important in building the Capuchin dwellings too.[16] Also with the church proportions, the Capuchin is searching for examples from the ancient theoretician, because Vitruvius suggests the sanctuary length to have two times of its width (IV/4), whereas Antonio says the Capuchin church should be 25 Venetian feet wide and 50 long.[17] In the last part of the memorandum, construction of the staircase is described, which the Capuchin took from Vitruvius word for word (preface to IX). As the plans in the Capuchin treatise can be adjusted to the number of friars living in the convent, it is important to expose also the so-called modular order (I/2, III/1 and VI/2), which Vitruvius in his work explains in detail. Nevertheless, modular proportion in building monasteries was common already in the medieval ages.[18]

The next author from antiquity cited by Antonio was Pliny the Elder (23-79), who in the year 77 issued 37 books on the natural science titled *Historia Naturalis*, from which the Capuchin draws the information on how to find the water sources (he cites XXXI/3, but actually this is Chapter 27).

In addition to Vitruvius's and Pliny's work, Antonio took most of the hints from the treatise of Leon Battista Alberti (1404-72) *De re aedificatoria*, which was

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first published in print in 1485 and to a great extent followed the example of Vitruvius' *De Architectura Libri Decem*. Again, this is a selection of entirely practical instructions such as: choosing the construction location (I/5), defining the main lines of a building (III/2), designing a device to lift up heavy burdens (VI/8), paving the terrace and the upper floor (III/16 and V/13), plastering the walls (VI/9) and building the chimneys and fireplaces (V/17). By Vitruvius and Pliny's side he also places Alberti, when he talks about finding sources of water (X/4 and 5).

In the fifteenth century various architectural treatises, which did not include only theoretical polemics but also graphical material, were extensively issued. One of the most important authors, who continued this tendency in the sixteenth century, was Sebastian Serlio (1475-1553/54).[19] For Antonio the first book, which was issued together with the second in 1545 from Paris, is the most important as it deals with geometry. The Capuchin drew from it mostly the illustrative material with practical instructions, which he added to his manuscript. Among other items, it described how to form the portal and oculus of the main facade. In addition to the first book, the Capuchin also used the second, in which how to build a staircase was precisely described.

One of the Venetian humanists of the sixteenth century was also Daniele Barbaro (1513-70), who in 1556 issued a translation of Vitruvius' architectural treatise with comments referred to above. Antonio quotes Barbaro several times. In most cases, we are dealing with matching of the Vitruvius treatise with the translation and comments. Exceptions are only the chapters that deal with the issues regarding chimneys and leaking smoke (VI/10), from which the Capuchin copied the chimney illustrations of Andrea Palladio, which he added to the manuscript, and chapters that describe setting of solid foundations (VI/11) and making of the sundial (IX/8). Due to the extraordinary resemblance of Barbaro's and Antonio's work, it is necessary to consider the chapters that deal with the winds (I/6).[20]

An important representative of the Venetian humanists was also Andrea Palladio (1508-80), who in 1570 issued *I quattro libri dell'architettura*, and who most certainly had a great influence on the Capuchin, as he had been his disciple for a certain time. Like Palladio Antonio gives the major importance during the process of construction to the *disegno* (I/1). Palladio's work mirrors in Antonio treatise in the description of various types of sand and its usability (I/4), in foundation excavation (I/7 and 8), window ratio (I/25), orientation of chambers with different intended purpose facing various compass points (II/2) and in selection of the area, where the sanctuary was supposed to be constructed (IV/1).

In treatise writing, Antonio uses works of some other lesser renowned authors, who are interesting mainly for specific topics they discuss. Among those, whom it was possible to identify during the research, is the Venetian Giovanni Nicolò Doglioni (1548-1629), who published his work *L'anno riformato* in 1599. In this work, the Capuchin found much information on winds and their characteristics (I/18 and 19).[21] In respect to planning the sundials - the time namely dictated the entire monastic life - the Capuchin suggested reading his second book (II/10-14).

Importance of the architectural treatise of Antonio da Pordenone

Antonio's treatise was based on the Capuchin architecture of the Venetian Province towards the end of the sixteenth century, which influenced the Capuchin architecture in the major parts of Central Europe. Antonio's greatest merit is in forwarding the knowledge on how to build a Capuchin monastery in a written and visual form. His treatise was proved to be used for the construction of the monasteries in the former Tyrolean province[22] and was most probably known also in other provinces established by Venetian Capuchins as the former convent of Ptuj, Slovenia, demonstrates below.

Antonio was a typical representative of the Venetian humanists of the sixteenth century. His main goal was to give practical information on how to build a monastery.[23] His language was explicit and understandable to everyone. In addition, the work itself has a great practical value. Partition of chambers in the interior is mostly functional and practical. Such thinking is typical for the Venetian circle of humanists, who were not satisfied only with beautiful buildings, but they had to be functional and durable above all. As the order had very strict rules on the construction, the beauty in this case remains in the rear. The acrostic that the Capuchin adds in the postscript for the reader is also of great significance, e.g. 'do not imagine that you know how to build, if you haven't tried first to design.' The *disegno* shows a great deal of practical orientation of the constructional specialists. Despite being also extremely important in the previous centuries, at the end of the sixteenth and at the beginning of the seventeenth century it played an important part in constructing, as the illustrative represented monastery plans prove. In his treatise the Capuchin does not set fixed models, but rather a typology that is based upon his experience and can adjust to the area, local construction techniques and the needs of the religious community.[24]

Influence of the Antonio da Pordenone's treatise on the design and construction of the former Capuchin convent in Ptuj, Slovenia

The second Capuchin monastery in Ptuj – a first location was dismissed as

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inappropriate – commenced construction in 1623. It operated until 1786 when it was suppressed. Subsequently, it was handed over and used for the military purposes. In 1991 archaeological research was conducted at the site. On the basis of the excavated foundations of the Capuchin monastery and older plans, it is possible to quite accurately describe the architectural design and construction of the former dwelling.[25]

The monastery plan, its orientation and arrangement of chambers within the monastic complex (Figure 1) comes very close to the plan of the Capuchin *fabricier* Antonio da Pordenone in his third book (Figure 2). The church was oriented to the north-west; the monastic building was adjoined to its south-western side.[26] The monastery had a typical ground plan, described in detail in Antonio's treatise and represented in the literature as Venetian Tyrolean type of the Capuchin monastery. In the floor plan the church was composed of a rectangular nave with two almost square side chapels in the north-east, a bit narrower square presbytery, and a square choir behind it. The presbytery and the choir were separated by an altar partition. On the right of the choir, a rectangular sacristy was built. From the choir one could come to

Figure 1. A view of the discovered foundations of the Capuchin monastery in Ptuj from the seventeenth and eighteenth century within archaeological excavations in the year 1994. *Source:* ZVKD OE Maribor, Documentation on archaeological excavations of the area of the former Capuchin monastery in Ptuj, author Mrs. Marija Lubšina Tušek.

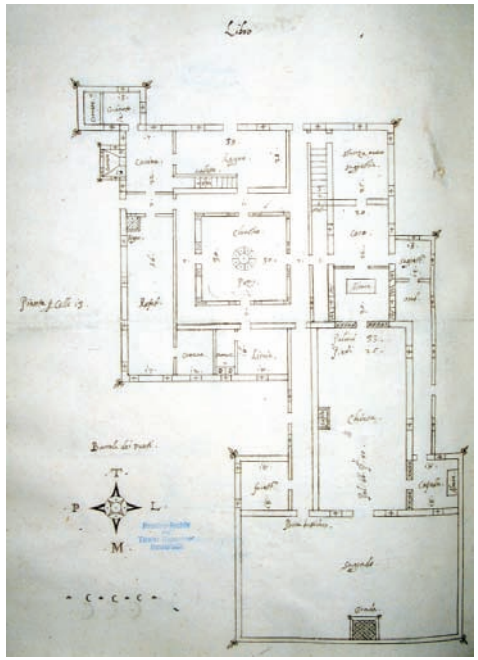

Figure 2. Plan of the Capuchin convent ground floor: Antonio da Pordenone, Libri tre nei quali si scuopre in quanti modi si può edificare vn Monast.o sÿ la Chiesa situata uerso qual delle .4. parti del Mondo si uogli, che quiui la si troverà col suo disegno, conforme all'uso della Nostra Religione à beneficio della quale sono stati composti da Frate Antonio da Pordenon Sacerdote Capuccino Della Prouintia di Santo Antonio ouero Venetia, et in particolare per li paesi frigidi come di Germania, doue con le stuffe, ò Refettorÿ si scaldano le Celle, nelqual paese sono stati composti nel luogo di Rosnam. Prouintia del Tirol sotto il Ducato di Bauiera l'anno 1607. Et questa è la secunda parte (Rosenheim, 1607), 89v.

the right oratory, while on the left of the presbytery there was another, smaller oratory. The nave, presbytery, choir and the chapels were barrel vaulted. In the church, four crypts made of brick were found. The monastic complex comprised three tracts placed around the rectangular atrium with a round fountain in the centre. Left from the main church facade, there was an entrance to the monastic complex. Right beside the door, there was a chamber for the porter. Through the covered hall along the church one could come to the hall (on all four sides) that rounded the atrium with a fountain and connected individual chambers on the ground floor. In the south-eastern tract the chambers were most probably meant for the foreign visitors; in the south-western tract there were a taproom and a refectory, underneath which there was an open vaulted cellar, and most probably the kitchen chambers with a chimney kitchen; whereas the western corner of the monastery most probably consisted of a preserved cesspit. In the north-western part of the monastery, some chambers were vaulted (taking into consideration the excavations). There were probably pantries and woodshed. The monastery's upper floor stretched over three tracts. There were typical two staircases leading to the dormitory, one bigger and well seen at the choir and the other one somewhat smaller just beside the kitchen chambers. The cells in the south-western and north-western tracts with the *infermeria* went left and right from the hall (*dormitorio doppio*), whereas in the south-eastern part they were facing

south-east (*dormitorio semplice*). Beside cells there were also the library and the community chamber. The utmost western corner of the upper floor was reserved for the bathroom facilities.

Also, regarding the manner of building the foundations, walls, plaster, double wall and other constructional solutions, we can draw parallels with the Antonio's work. The archaeological excavations prove that monastery in Ptuj was built as Antonio suggested. However, we must also take into consideration the local building tradition, mainly regarding selection of the building material which was at hand, such as gravel-stone from the nearby river Drava. In the foundations of the presbytery there were found already used architectural elements such as Jewish headstone.

The monastery in Ptuj, too, does not deviate significantly from the precise dimensions given in the constitutions and the suggested ratios in the Capuchin treatise. Moreover, some rooms match the Antonio's instructions almost to a centimetre (Table 1).

Owing to the typical ground plan, selection of constructing materials and some practical solutions, considering the specified dimensions and practical instructions for convent building, we can most certainly prove that the Capuchins of the former Styrian Capuchin Province, to which the Capuchin convent of Ptuj once belonged, were very well familiar with the architectural treatise of Antonio in addition to the obligatory constitutions. If not in the original, the knowledge concerning the construction of the Capuchin dwellings was without any doubt communicated to the newly-established provinces by the Capuchins themselves,[27] who were passing over from one province to the other. Perhaps the key role as knowledge communicator was played by the copies of the treatise[28] or some form of sample books that were typical for the Capuchin Order.[29] In this way the knowledge of great antiquity and renaissance theoreticians was transferred, through a Capuchin agent, also to the monastic architecture of the Central European area.

Chamber in the monastery	Dimensions in Venetian feet (f) and palms (p), as illustrated at the beginning of the treatise	Dimensions according to the old Capuchin constitutions, as illustrated at the beginning of the treatise (transposed in the metric system)	Dimensions according to the new Capuchin constitutions, as illustrated at the beginning of the treatise (transposed in the metric system)	Dimensions of the former Capuchin monastery in Ptuj according to the archaeological excavations (metric system)
Church nave	25x50 f	8,70x17,40 m	8,30x16,60 m	9,00x18,00 m
Side chapel	18x18 p	4,68x4,68 m	4,50x4,50 m	4,05x4,20 m
Presbytery	20x20 p	5,20x5,20 m	5,00x5,00 m	4,76x5,00 m
Choir	20x20 p	5,20x5,20 m	5,00x5,00 m	4,76x5,00 m
Under structure of the altar in the presbytery	3,5x7 f	1,22x2,44 m	1,16x2,32 m	1,40x2,50 m
Under structure of the altar in the side chapel	3,5x6,5 f	1,22x2,26 m	1,16x2,16 m	1,25x2,25 / 2,50 m
Crypt in the side chapel	5x7x5 f	1,74x2,44x1,74 m	1,66x2,32x1,66 m	2,30x4,30x1,80 m / 2,00x3,80x1,65 m
Sacristy	16x16 p	4,16x4,16 m	4,00x4,00 m	3,50x4,90 m
Width of the corridor connecting the sacristy with the side chapel	5 p	1,30 m	1,23 m	2,10 m
Atrium	30x30 p (at least)	7,80x7,80 m	7,50x7,50 m	12,00x10,75 m
Width of the atrium's hall	7 p	1,82 m	1,75 m	1,75 m
Length of the refectory	30 p	7,80 m	7,50 m	8,00 m
Length of the kitchen	22 p	5,72 m	5,50 m	5,50 m
Chimney kitchen	18x18 p (big) /			
12x12 p (small)	4,68x4,68 m /			
3,12x3,12 m	4,50x4,50 m /			
3,00x3,00 m	2,80x3,10 m			
Staircases beside the choir	5 p	1,30 m	1,23 m	1,50 m
Staircases beside the kitchen	4 p	1,04 m	1,00 m	1,00 m
Cell	9x9 p	2,34x2,34 m	2,25x2,25 m	2,20x2,20 m
Bathroom facilities	13x13 d	3,38x3,38 m	3,25x3,25 m	3,90x4,20 m

Table 1. Dimensions of some chambers in the Capuchin monastery represented in the Antonio da Pordenone's treatise compared with the dimensions of the former Capuchin monastery in Ptuj, Slovenia, according to the archaeological excavations.

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1 For more information about the Capuchin architecture see: p. Justinian "Das Kapuzinerkloster als Ausdrucksform des franziskanischen Gedankens," in Chrysostomus Schulte (ed.), *Aus dem Leben und Wirken des Kapuziner-Ordens: Mit besonderer Berücksichtigung der deutschprachigen Provinzen: Festschrift zum 400 jährigen Jubiläum des Ordens* (München: Hanns Eder, 1928), 62-7; Gaudentius Koch, "Anlage eines Kapuzinerklosters," in Chrysostomus Schulte (ed.), *Aus dem Leben und Wirken des Kapuziner-Ordens: Mit besonderer Berücksichtigung der deutschprachigen Provinzen: Festschrift zum 400 jährigen Jubiläum des Ordens* (München: Hanns Eder, 1928), 60-2; Karl Suso Frank, "Gebaute Armut: Zur südwestdeutsch-schweizerischen Kapuzinerarchitektur des 17. Jahrhunderts," *Franziskanische Studien* 58 (1976), 55-77; Francesco Calloni, "Interpretazione iconologica della architettura cappuccina," '*Le case die preghiera*' *nella storia e spiritualità francescana: Studi scelti di francescanesimo* 7 (1978), 151-77; Walther Hümmerich, *Anfänge des kapuzinischen Klosterbaues: Untersuchungen zur Kapuzinerarchitektur in den rheinischen Ordensprovinzen* (Mainz: Selbstverl. d. Ges. für Mittelrhein. Kirchengeschichte, 1987); Stuart Patrick Lingo, "The Capuchins and the Art of History: Retrospection and Reform in the Arts in Late Renaissance Italy" (PhD diss., Harvard University, 1998); Tanja Martelanc, "Kapucinska arhitektura: Izhodišča za obravnavo svetokriškega in škofjeloškega samostana," *Acta historiae artis Slovenica* 17, n. 2 (2012), 71-89.

2 At the same time he was appointed the *superior* or the head of convent construction in Arzignano. For changing the convent plans without the knowledge of the other *fabricieri* - what was considered as *fabbrica superflua*, which is in the Capuchin constitutions strictly forbidden - Antonio was dismissed and imposed a strict punishment. Flavio Schimenti, "Antonio da Pordenone: La trattatistica e l'edilizia cappuccina nel Veneto e nella provincia Bavaro-Tirolese" (bachelor's thesis, Università IUAV di Venezia, 1985), 7.

3 The convent guardian of Oderzo, Samuele da Udine, thought highly of him and described him as experienced in constructing. Francesco Calloni, "P. Antonio da Pordenone: Notizie bio-bibliografiche," in Costanzo Cargnoni (ed.), *I frati cappuccini: Documenti e testimonianze del primo secolo* vol. 4, n. 5 (Perugia: EFI, 1992), 1549.

4 Flavio Schimenti, "Antonio da Pordenone: La trattatistica e l'edilizia cappuccina nel Veneto e nella provincia Bavaro-Tirolese" (bachelor's thesis, Università IUAV di Venezia, 1985), 10-4; Agostino Colli, "Un trattato di architettura cappuccina e le 'Instructiones fabricae' di San Carlo, " *San Carlo e il suo tempo: Atti del Convegno internazionale nel IV centenario della morte (Milano, 21 - 26 maggio 1984)*, n. 1 (Roma: Edizioni di Storia e Letteratura, 1986), 664; Walther Hümmerich, *Anfänge des kapuzinischen Klosterbaues: Untersuchungen zur Kapuzinerarchitektur in den rheinischen Ordensprovinzen* (Mainz: Selbstverl. d. Ges. für Mittelrhein. Kirchengeschichte, 1987), 29, 222-9; Francesco Calloni, "P. Antonio da Pordenone", 1549-50.

5 Antonio da Pordenone, *Libri tre nei quali si scuopre in quanti modi si può edificare vn Monast.o sÿ la Chiesa situata uerso qual delle .4. parti del Mondo si uogli, che quiui la si troverà col suo disegno, conforme all'uso della Nostra Religione à beneficio della quale sono stati composti da Frate Antonio da Pordenon Sacerdote Capuccino Della Prouintia di Santo Antonio ouero Venetia, et in particolare per li paesi frigidi come di Germania, doue con le stuffe, ò Refettorÿ si scaldano le Celle, nelqual paese sono stati composti nel luogo di Rosnam. Prouintia del Tirol sotto il Ducato di Bauiera l'anno 1607. Et questa è la secunda parte* (Rosenheim, 1607).

6 In 1605 the Venetian Capuchins established now a former Tyrolean Capuchin Province. Agapit Hohenegger, *Geschichte der Tirolischen Kapuziner-Ordensprovinz: (1593-1893)*, n. 1 (Innsbruck: Verlag der Wagnerischen k. k. Universitäts – Buchhandlung, 1913), 1-20.

7 The first book outlines the churches with a facade facing north, the second those facing east and west, and the third one describes in detail the churches, the facades of which are facing south. In respect of the church orientation and wind direction that the monastic complexes were trying to avoid (see also the Chapter: Influence of known and less known treatises…), the *fabricier* chose a book in which he found the right plan.

8 Those are: church, chapel, choir, presbytery, sacristy, atrium with a fountain, chambers on the ground floor and those on the upper floor.

9 At the end of the treatise three illustrations of staircases, bell-towers, chimneys, church portals and oculus as well some sketches of geometrical shapes, through which some construction elements can be planned, are represented.

10 Antonio da Pordenone, *Libri tre nei quali si scuopre in quanti modi si può edificare vn Monast.o sÿ la Chiesa situata uerso qual delle .4. parti del Mondo si uogli, che quiui la si troverà col suo disegno, conforme all'uso della Nostra Religione à beneficio della quale sono stati composti da Frate Antonio da Pordenon Sacerdote Capuccino Della Prouintia di Santo Antonio ouero Venetia, et in particolare per li paesi frigidi come di Germania, doue con le stuffe, ò Refettorÿ si scaldano le Celle, nelqual paese sono stati composti nel luogo di Rosnam. Prouintia del Tirol sotto il Ducato di Bauiera l'anno 1607. Et questa è la secunda parte* (Rosenheim, 1607), 129r.

11 In the present article marked with Roman numeral.

12 In the present article marked with Arabic numeral.

13 The author is indicated as Lucio and as Marco, as the Capuchin most probably used more translations of Vitruvius' work from the sixteenth century, in which the author is sometimes signed by one name and in other case by another one. In 1521 Cesare Cesariano (1483-1543) issued the first full translation of Vitruvius' work, from Latin to Italian *Di Lucio Vitruvio Pollione de Architectura*, which was distinguished mostly for the illustrative woodcuts and refined Cesarian comments. The second important translation with comments came from the pen of Monsignore Daniele Barbaro (1513-1570), the Aquileia Patriarch, who in 1556 together with Andrea Palladio, who contributed illustrative material for the work, issued *I dieci libri dell'architettura di M. Vitruvio tradutti e commentati da Monsignor Barbaro, eletto patriarca d'Aquileggia*. In 1567 the second issue of the translation was published, with the title *I dieci libri dell'architettura di M. Vitruvio, tradotti & commentati da Mons. Daniel Barbaro*, and in the same year also *M. Vitruvii Pollionis De Architectura Libri Decem, Cum comentariis Danielis Barbari*. Barbaro had an important influence on the architectural theory in the following two centuries. In 1590 Vitruvius' translation of Giovanantonio Rusconi (around 1520-1587) titled *Della architet-*

tura di Gio. Antonio Rusconi, con centosessanta figure dissegnate dal medesimo, secondo i precetti di Vitruvio, e con chiarezza e brevità dichiarate, libri dieci… was issued. It served with new and for that time revolutionary illustrations. Hanno-Walter Kruft, *Geschichte der Architekturtheorie: Von der Antike bis zur Gegenwart* (München: Beck, 2013), 72-9, 95-7; Fedja Košir, *K arhitekturi: Razvoj arhitekturne teorije* (Ljubljana: Fakulteta za arhitekturo, 2006), 135.

14 He mentions also Chapter 7 of Book 8, where he speaks about the construction of cisterns and fountains, which we will in vain try to find in the Vitruvius' original text. Namely, Chapter 7 of Book 8 exists in Barbaro's translation.

15 Many authors also took into consideration the orientation of certain rooms regarding the four points of the compass (e.g. Francesco di Giorgio Martini's *Trattato di architettura, ingegneria e arte militare,* which was written between 1470 and 1490. Corrado Maltese (ed.), *Tratatti di architettura, ingegneria e arte militare* (Milano: Edizioni Il Polifilo, 1967).

16 Some chambers in the monastery (e.g. refectory and the cells) are not supposed to be facing north, so that they have more light in the winter time and are not exposed to the cold northern wind.

17 Antonio da Pordenone uses Venetian measurements also in the newly established Tyrolean province probably because he and also the other *fabricieri* of the former Venetian province were familiar with them. He also illustrated them with the scale at the beginning of the treatise.

18 The most important dimensions in a monastery were those of the choir, which is the intersection point between the church and the monastic complex. The basic module in this way measures 20x20 Venetian palms (5x5 m) and can be – with regard to the needs of the monastic community - increased for more than twice. At the same time, concurrently with the basic module, all other rooms of the monastery are also increased. Wolfgang Braunfels, *Abendländische Klosterbaukunst* (Köln: Verlag M. DuMont Schauberg, 1969), 62-4; Flavio Schimenti, "Antonio da Pordenone: La trattatistica e l'edilizia cappuccina nel Veneto e nella provincia Bavaro-Tirolese" (bachelor's thesis, Università IUAV di Venezia, 1985), 72-3.

19 Hanno-Walter Kruft, *Geschichte der Architekturtheorie: Von der Antike bis zur Gegenwart* (München: Beck, 2013), 80-7; Fedja Košir, *K arhitekturi: Razvoj arhitekturne teorije* (Ljubljana: Fakulteta za arhitekturo, 2006), 136-46.

20 The weather vane and Daniele Barbaro's explanation of different directions from which the wind blows attracted more attention and it plays one of the most important roles in the Capuchin treatise, where how to orientate the Capuchin monastery to avoid cold winds is precisely described.

21 Consequently, also on the basis of above mentioned authors, he found the key for appropriate building of a correctly oriented monastery, wherever and at any latitude. Based on this, he developed an operative method, which considers the angle of the sun rays and the wind direction. Flavio Schimenti, "Antonio da Pordenone: La trattatistica e l'edilizia cappuccina nel Veneto e nella provincia Bavaro-Tirolese" (bachelor's thesis, Università IUAV di Venezia, 1985), 64-5.

22 One of the plans was explicit designed for the Capuchin monastery in Rosenheim as notated in the treatise. Antonio da Pordenone, *Libri tre nei quali si scuopre*, 35r.

23 As it can be seen here in the above, when writing his work based on the older texts Antonio da Pordenone chose mostly the technical-constructional solutions that the Capuchin *fabricieri* used in their practical planning of new monastries, and he did not only pore over the architectural theory. Merely thinking or discussing were not in his interest, his intention was not to observe the Corint or Composed order, as he wrote at the beginning of the treatise, but only to serve the order rules. This factor was due to the low construction quality of the Capuchin monasteries and their constant need for repair, Antonio da Pordenone systematized the monastic architecture and optimized it to the utmost.

24 The adjustment of the convent on the region, local techniques and requests of the order is not characteristic only for the Capuchins but was frequently used when building Mendicant monasteries. Corrado Maltese (ed.), *Tratatti di architettura ingegneria e arte militare* (Milano: Edizioni il Polifilo, 1967); Tommaso Scalesse, "Note sull'architettura dei Cappuccini nel Cinquecento," *I Francescani in Europa tra Riforma e Controriforma: Atti del XIII Convegno Internazionale: Assisi, 17-18-19 ottobre 1985* (Perugia: Università di Perugia, Centro di Studi Francescani, 1987), 205, 216; Flavio Schimenti, "Antonio da Pordenone," 4; Sergio Giovanazzi, "Un trattatista cappuccino tra Cinquecento e Seicento," in Lino Mocatti (ed.), *Un convento: Architettura trentina nel Seicento* (Trento: Gruppo culturale Civis, Biblioteca Cappuccini Trento, 1992), 53-5; Fedja Košir, *K arhitekturi*, 155.

25 The valuable data on the archaeological excavation in this area was most kindly forwarded to us by Mrs. Marija Lubšina Tušek, the leader of the archaeological excavations, whom I would like to express my sincerest thanks. Furthermore, when preparing the chapter, also the following literature was used: Jože Curk, "O samostanih in samostanski arhitekturi po letu 1200 na slovenskem Štajerskem (gradbeno-zgodovinski oris)," *Časopis za zgodovino in narodopisje* 64, n. 2 (1993), 148; Lubšina Tušek Marija, "Gli scavi archeologici nel convento dei cappuccini di Ptuj," *Ceramica dal Bassomedioevo al Rinascimento in Italia nordorientale e nelle aree transalpine: Atti della giornata di studio: Udine, 16. Marzo 1996* (Trieste: Editreg, 1999), 163-5; Vinko Škafar, "Nekdanji kapucinski samostan na Ptuju (1615-1786)," *Časopis za zgodovino in narodopisje* 75, n. 2-3 (2004), 270-86.

26 The entire monastic complex was in this way protected against the cold northeastern winds and at the same time facing the warm sun as required by the Venetian Capuchin.

27 The Venetian Capuchins also founded in 1600 the former Bohemian-Austrian-Styrian commissariat, later divided into provinces. Benedik Metod, "Kapucini na Slovenskem v zgodovinskih virih: Nekdanja Štajerska province," in Metod Benedik (ed.), *Acta Ecclesiastica Sloveniae* 16 (Ljubljana: Inštitut za zgodovino Cerkve pri Teološki fakulteti Univerze v Ljubljani, 1994), 10.

28 One of such short transcripts is a work of the Venetian Capuchin Francesco Pizzetta da Venezia from around 1650, which is kept in the archive of the Venetian Capuchin Province in Mestre, Italy.

29 One of such sample books or the so called *Musterbuch* is kept in the archive of the Capuchin monastery in Vienna, Austria.

6.2.3 Foundations of Renaissance Architecture and Treatises in Quentin Massys' S. Anne Altarpiece (1509)

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Abstract
The architectural settings in the paintings by Quinten Massys have not received the necessary scholarly attention. Remarkably different from those of his contemporaries, like the Antwerp mannerists, his architecture presents an elegant mix of flamboyant Gothic and supposedly fantasized Italianate decoration. However, no one has been able to pinpoint with conviction the doubtless Italianate architecture or painted sources which he may have known and used for his famous S. Anne Altarpiece (Brussels, Royal Museums). Moreover, the architecture has been restricted to the second plan, and considered as the necessary background for the theological subject. The association with the brother of the artist, who acted as architect for the church in which the altarpiece came to hang, has been underexposed. Recent technical research revealed a complex system of incised and underdrawn construction lines, a construction based on an in-depth knowledge of perspectival theories. Moreover, there are similarities between architectural annotations in Renaissance treatises and painterly construction and mathematical insights. We therefore demonstrate a very decisive role for the architecture and we will try to identify the relationships between early sixteenth-century built, theoretical and imaginary architecture. Although the composition of the work is seen as an appropriate translation of a strict medieval religious motive, we will demonstrate that Massys transformed the iconographic program according to innovative Renaissance insights. We will show that Massys relied on mathematical treatises and managed to integrate them discretely into a pictorial masterpiece. Therefore, this paper studies the architectural sources for the built system, the vocabulary used, and the underlying mathematics and Renaissance principles through computer animated 3D reconstructions and mathematics. It highlights another facet of architectural production at the beginning of the Renaissance.

Keywords
Massys, painting, IRR, cross-ratio, perspective, architecture

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> I would pay a great deal to find someone who would teach me what it takes and what measure should be used to make a building (well) proportioned, the source of these measurements, and why one reasons and builds in this manner. I would also like to know what their origins are.[2]

Filarete used the dialogue as a trope in his vulgarising treatise to explain the methodology of constructing to his readers. We would like to review another architectural dialogue: how in some early sixteenth century Flemish paintings, Italianate architecture was treated and how theoretical architectural knowledge got transmitted.

Since 2007, our research group, the Ghent Interdisciplinary Centre for Art and Science,[3] has been working on a new *catalogue raisonné* of the oeuvre of Quentin Massys, the early sixteenth century painter whom tradition has always been considered as the 'founding father of the Antwerp School of Painting'. The purpose of this study is to come to grips with the master's painting technique, his workshop methods, their diffusion within and outside his workshop and his artistic and theoretical sources.

In 2010, we received the permission of the Royal Museum of Fine Arts of Belgium, to investigate the quintessential *Triptych of Saint Anne* [4] (Brussels, Royal Museums), signed and dated 1509. Documented as a commission of the Leuven Confraternity of Saint Anne in the Church of Saint Peter's, it is known that the altarpiece was installed in 1511. The architectural setting of the *Holy Kinship* in the central panel, an impressive Italianate portico, has been commented on at large in the literature. However, no one has been able to pinpoint with conviction the doubtless Italianate architectural or painted sources that Massys may have known and used. Although the composition invites analysis, no attempt has been made to determine the methodology that could have been used to construct perspective on such a monumental scale.

When we directed our photographic lamps to the central panel, the raking light revealed something that hadn't been mentioned in the literature at all: incised construction lines in the coffered vaults of the architecture. Through the examination of the painting with infrared at wavelengths between 900 and 1700 nm, we also discovered a complicated set of drawn construction lines,[5] both freehand as well as aided ones, created with several tools and techniques. Not only has such a complex construction system not been observed in Northern paintings of this period, Massys must have used a mathematically based procedure to construct the complex *loggia*. Both the application of such a comprehensive system and the architectural typology are unrivalled in the Low Countries at the dawn of sixteenth century. Soon, it

became obvious that we needed to understand fully this construction system before we would be able to draw further conclusions on his theoretical and visual sources.

The IRR-images revealed a meticulous outlining of forms and details for which he used a large vocabulary of graphical styles with variations in thickness of strokes, the use of incisions and even transferred patterns. Most of the architectural design, however, was made with the help of instruments, in thin, barely visible lines. For the arches, he used wider strokes as accents, aided or by hand. During the preparatory phase of the design, he applied only some necessary indications. The original setup of the architectural underdrawing had already begun with the assembly of the planks of the central panel, as one of the joints coincides with the central axes of the painting. Moreover, Massys adapted the length of the preparatory vertical lines of the architectural elements in such a way that there is almost no interference with the characters in front of them.

The identification of the construction method required a systematical approach. For that purpose we made an elaborate digital database, based on sets of high resolution images and infrared reflectograms. Applying CAD-software, we took into account the thickness, visibility, directionality and size of all lines visible in the underdrawing.[6] Because we did this for both painting and underdrawing, we were able to compare the original architectural construction with the final paint layers, as well as to identify and analyze Massys' architectural blueprint.[7]

At the outset of our analysis, we would like to focus on some intriguing features in the underdrawing, especially in the upper part of the truncated dome and in the left arcade. To design the contours of the truncated dome and its decoration, Massys hardly used any lines, but preferred points. The lower arch has been defined by several very short curved segments, which he didn't connect as nicely and fluently as the segmented arches in the arcaded vaults. It is however strange that for such a prominent area, the accuracy in the preparation was noticeably less than in several minor components of the portico. When we zoom in on the dome, some horizontal lines appear in the upmost part of the architecture, parallel with the bottom side of the painting. The highest and shortest one is hardly visible in infrared because of the presence of carbon in the superimposed paint layers in this dark area. The lowest one starts at the utmost right hand side of the dome and extends towards the arcade to the left. While following this line in the direction of the left arcade, noticing that it also coincides with the lower part of the highest abacus of the frontal column at the left, another unexpected detail appears. Close to the bottom of the capital, Massys added a few separated letters, presumable a '*z*', '*e*' or '*c*' and '*l*' or '*e*'. Because of their position close to the element, and the fact that, e.g. Piero della Francesca had already used a similar system with numbers and letters in his drawings in *De Prospectiva Pingendi* ('On the perspective of paintings', about 1480), there are reasons to assume a link with the outline or the composition of the column.

Although they are placed close to the capitals, we could not find any similarity between the lineament of the moldings and the shape of the letters, like Alberti mentioned in Book Seven of his *De re aedificatoria*.[8] Since these letters are accompanied by points, placed upon what seems to be a construction line, they rather may have had a function in the application of the linear perspective.

Like in many other paintings, Massys used a central vanishing point by which he placed the architectural structure parallel to the picture plane.[9] Whether he obeyed the rules of linear perspective, cannot sufficiently be judged by assessing only the consistency of the location of the vanishing point because the rate of diminution may be incorrect. While normally, based on a plan and section, a mathematically correct single point perspective could easily be elaborated into a distance point diagram, we applied this technique in reverse, in order to analyse the composition and its accuracy.[10]

It appeared that the architectural underdrawing was carried out neatly, very methodical, systematical and even symmetrical. The reconstruction of the perspective revealed that the loggia had been shaped onto a square patterned grid, on which he systematically placed the columns and walls, each with an interval of two units so that all of the arcades were of equal length and depth. Because of the deviation in size of the grid-elements is limited to 1 or 2%, it proved that Massys designed a symmetrical structure of 8 units wide by 4 units deep. Although the difficult composition and the artistic improvisation in the capitals, it also appeared that the diagonals of the abacuses intersected at the central joint. If this suggested that Massys didn't make a lot of compromises towards accuracy, we tried to find a mathematical proof.

Since simple algebraic techniques allow us to rate the regularity of recurrent patterns, both in the painted projection as on the plan, we were able to quantify the regularity of the vaults in the arcades on the left and right.[11]

As mentioned above, Massys combined points and lines to mark the structure of the Italianate coffered ceiling, which, as we discovered trough the mathematical reconstruction of the architecture, was most likely intended as consisting of squares.

For recurrent patterns, like the squares of the ceiling, we can apply what has been called amongst mathematicians the 'cross-ratio' or 'double ratio'. Associated with an order quadruple or collinear points, it provides a specific

ratio for those points, only specified by their individual distance.[12] Because this number doesn't change by any kind of transformation, like trough painterly perspective, it comes very handy to asses the correctness of the geometry of receding regular patterns, like the decorated vaults in the arcades. We would have to take two cassettes in the same row and compare the results of the cross-ratio of each side that is not parallel with the image plane in perspective. If Massys was very accurate in his design, we should be able to find that it is the same for each couple of corners in the coffered ceiling. Because we can do this both for the perspective and the orthogonal projection, we can even make an estimation of the error.

When we apply this formula to the left arcade, we see that for each of our selected four pair of points, the cross-ratio is almost the same. When we also take into account that there is a margin of error, which we calculated for each pair of points, it becomes even more clear that variations between the different cross ratios are absolutely minimal or even non-existent. Similar results are obtained by analyzing the arcade on the right. In other words, Massys was very correct, indeed. This accuracy is even more astonishing when we take into account that all these squares are only between 5 and 15 cm long.

By this method, we have found an objective way to show the accuracy of the architectural composition. Massys shows his competence in matters of perspective, equal to Italian renaissance standards. His ability to exploit an accurate perspective as an established part of his technique, rather than a new illusionistic device which needed explanation, comes as a surprise for a painter who presumably stayed in the north. The question is how this distance point construction became known to one of the prominent early sixteenth century Antwerp painters.

The first important printed and illustrated text on perspective, Jean Pélerin's *De artificiali perspectiva*, who wrote under the name of Viator ('voyager'), shows a rather similar bifocal constructional scheme. [13] Published in 1505, it was the first book on artistic perspective North of the Alps, as well as the first to be illustrated with examples of perspective. Because of these easily accessible and comprehensible illustrations, Pélerin's treatise immediately became widely disseminated through several editions. He uses both a central as well as two lateral points, which he referred to as '*tiers points'* or 'third points'. Unfortunately, Viator's treatise is merely emphasizing how an artist should construct angled views of architectural structures in perspective. Viator, who employed very little text and only showed results, lacks the pedagogic vision of Piero Della Francesca's *De prospective pingendi* since he did not feel compelled to prove any geometrically or theoretical explanation about the construction. [14] Neither did he explain anything on the relation between the distance point and the viewpoint or, the position of the viewer. However, it seems as though Massys paid attention to it.

Let us shift our attention from the construction method to the artist's attempt of creating a convincing three-dimensional illusion on a two-dimensional picture plane. With imaging software one can easily adapt the perspective of an image to recreate the three-dimensional structure around it adapted to the focal point and length of the existing image. Such an approach allows considering the visual impact of the altarpiece within its original architectural setting. Obviously, a perfect match of the 3D-construction onto its 2D-projection would only be viewed correctly from one spot only, the vanishing point. When the observer stands at this location, he would see the perspective like it is meant in the painting. Through our mathematical approach, we have found that this point is located at a distance of 250 cm from the painting. While attempting it through 3D, it is only a bit further away, at about 277 cm. The little variation between both approximations is hardly noticeable, and shows very clearly how two completely different approaches prove Quentin Massys's meticulous accuracy and the architectural craftsmanship.

Such early northern renaissance architectural representations have never been studied in relationship to contemporary architectural and perspectival treatises. Jan Gossart is considered as one of the earliest painters who brought the '*Rinascimento*' to the Low Countries, after his journey to Rome in 1508, in the following of his patron Philip of Burgundy.[15] The latter was supposedly already acquainted with the writings of Vitruvius.[16] However, Gossart and other contemporary painters, like the Antwerp mannerists, seem to have struggled with the fusion between the flamboyant late-gothic tradition and novel Italianate imagery.[17] Therefore, it has been assumed generally that it was not before Pieter Coecke Van Aelst's Dutch translations of Vitruvius in 1539,[18] and Serlio's books since 1553,[19] that theoretical knowledge on Italianate architectural design found its way in Northern art. The discovered construction method in Massys' *Saint-Anne Altarpiece*, precedes this by thirty years and bears witness of the master's in-depth knowledge which enabled him to fuse the local fifteenth-century tradition with Italianate design.

Various sources have been suggested for the portico. Because many works by Perugino from the period between 1480 and 1490 consist of portico structures in which linear perspective has been applied in such a way that the vaults could be observed rather prominently, he is referred to as a source of inspiration.[20] However, the spaces of Perugino are rather series of arches than single vault constructions and also lack the dominant form of the open dome in Massys' triptych.[21] Because of the truncated dome, scholars have also cited a comparison with Cima da Conegliano.[22] In the

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absence of better suited references to triple-arched openings in both Italian as Netherlandish tradition, is has been presumed that Massys' architectural setting of the altarpiece, unique in Northern art, was 'fantasized'. Our observations on the systematic construction strongly counter this supposition. The gaps in his known career and the scanty information of the painter's life in contemporary archival sources, like those of the Antwerp painter's guild, have fuelled the hypothesis of a possible trip to Italy. However, until today, nothing has been found to substantiate undeniably such a journey.

The catalyst for the portico on the central panel of the *Saint Anne Altarpiece* may not have come from across the Alps. There was a special relationship between the Louvain church of St Peter's and the Massys family. His father as well as his brother, both called Joost, were involved in shaping and decorating this most prominent church in the city. At about the same time as Quentin worked on the altarpiece, his oldest brother was designing an impressive new Western *façade*, which by its size and layout was a concept beyond comparison in the Low Countries.[23] Some scholars even assume that the commission for the altarpiece was granted to Quentin through mediation of his brother Joost.[24]

Where the architectural construction of the portico in the altarpiece is concerned, one may wonder whether Quentin was aided or advised by his brother-architect. The sophistication of the construction raises the possibility of collaboration. How tempting would this possibility of collaboration be? It would be paralleled by Vasari's account that Bramante aided Raphael in his *School of Athens*.[25] In any case, the activity of his brother as an architect, may explain very well Massys' familiarity with architectural construction methods. This is particularly interesting, as close professional ties between painters and architects seem to have been rather exceptional in the North as opposed to practice in Italy.

Another northern source, which may have influenced the design of the three-partite construction of the portico is the gothic jube.[26] This rich ornated three-piece construction separated the choir from the rest of the church. The curious use of energetic sculptures above the capitals on either side of the central arcade, after all, are quite comparable to sculpture on the jubes.[27]

The discovery of the tremendous effort put in the architectural construction raises the question why Massys was so pre-occupied with space and perspective, very much alike Italian Renaissance artists. In any case, such an endeavour is lacking in any of his other works, even in the other large *S. John's Altarpiece* (Antwerp, KMSK). Both Alberti's and Leonardo da Vinci's treatises deal with the concept 'decorum'. Perhaps the unfamiliar architectural style and its unprecedented size for a traditional religious theme, was his way of constructing the right 'decorum' in the direct vicinity of the intellectual environment of Louvain University. It is not far-fetched to suppose that the theoretical knowledge was at hand precisely there. Because of these easily accessible and comprehensible ready-made examples, Jean Pélerin's text immediately became widely disseminated, not in the least through pirated editions. It may have been such a publication that served Massys as a practical guide.[28] However, there is no illustration in Viator's treatise, which could have served as a model for the composition of the altarpiece.

Our analysis indicates a direction towards several influences, although no irrefutable sources can be pin-pointed.The painter's friendship with prominent humanists, like Erasmus, Petrus Egidius, Thomas More and Dürer, is only attested one decade later, nothing excludes that he already maintained contacts with intellectuals while he was working on the altarpiece for Louvain.

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1 Quinten Massys, Louvain about 1466 – Antwerp 1530.
2 Antonio di Piero Averlino (Filarete), *Trattato di Architettura*, Book I, I, folio 1 v. Adapted from: John R. Spencer, *Filarete's Treatise on architecture/being the treatise by Antonio di Piero Averlino, known as Filarete* (New Haven and London: Yale University Press, 1965), 4.
3 Ghent Interdisciplinary centre for arts & science, www.gicas.ugent.be
4 Quentin Massys, *Triptych of Saint-Anne*, 1509, oil on panel, 224,5x219 cm, Brussels, MRBAB, inv. n. 2784.
5 Infrared reflectograms (IRR) were made with an OSIRIS infrared camera by Opus Instruments ltd, operating at wavelengths from 900 to 1700 nm. The Osiris camera has an InGaAs array sensor with an object resolution down to 0.05 mm. The 150 mm lens consists of 6 elements and has a focal length from f/5.6 to f/45. The image size is user selectable horizontally as well as vertically between 512x512 to 4096x4096 pixels. The practical advantage of this infrared camera is that it produces single, finished images rather than multiple images, which require further processing and stitching.
6 We digitalized this amount of information into a layered and vector based data matrix, in a one to one scale, based on high-resolution infrared recflectography. In this way, every line, point or indication not only got categorized by medium, thickness, application of instruments, visibility and position, but also was vectorised in its actual size so that directionality and relative dimensions could also be taken into consideration.
7 Because we also wanted to see if the choice for a certain method could be based or related to the transparency in a specific location of the painting, we applied the

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same technique onto a high-resolution visible image of the central panel.

8 If these letters would have been associated with the molding of the capitals, because of the similar curve, it would have been more logic if Massys had been written an 'l' and an 's'.

9 Unfortunately, not all of these lines diverged into a single point, but into a vanishing area. Because this was far more the result of the sloppiness of Massys than the thoroughness of nowadays-precision instruments, not to mention the undersized deviation, – not even a few cm wide –, we could safely assume a single vanishing point without having to make a lot of concessions.

10 This method is obviously only workable when the perspective is assembled carefully enough, and if we make an assumption of the position of the image plane. We assumed that the image plane coincides with the front of the upper capitals. Moreover, in order to be able to reconstruct an architectural perspective, the two distance points (D1 and D2) should exactly be placed in a straight line, and symmetrically with respect to the central (vanishing) point (V). Since the deviation of the distance points was very limited, highly remarkable considering the dimensions of the work, we could safely apply this technique.

11 A method which has been presented already by Kemp, Criminisi and Zimmerman in their inspiring article on the use of mathematical and computer-based techniques for the study of painting; Martin Kemp, Antonio Criminisi & A. Zimmerman, "Bringing pictorial space to life: computer techniques for the analyses of paintings," in A. Bentkowska-Kafel, T. Cashen, and H. Gardner (eds.), *Digital art history: A subject in transition* (Bristol: Intellect Books, 2005), 77-100.

12 As a precondition, each of those totally different points have to be located on the same straight line. By this, only depending on the order in which these points are presented, this value expresses the distances of the various points as a ratio of a two-part relationship. For four points, a, b, c and d, with the distance between points a and b noted as ab, the cross-ratio [a, b, c, d] is represented by $[a, b, c, d] = \frac{(ab)\cdot(cd)}{(ad)\cdot(cd)}$

13 Jean Pélerin (Viator), *De artificiali perspectiva* (Toul, 1505).

14 It is not until the sixteenth-century French theorist Jean Cousin and his *Livre de perspective* (1560), the '*tiers points*' construction became perfected and explained.

Lyle Massey, "Configuring spatial ambiguity: picturing the distance point from Alberti to Anamorphosis," in Id. (ed.), *The treatise on perspective: Published and unpublished – Studies in the history of art – National Gallery of Art, Washington* (New Haven: Yale University Press, 1997), 162.

15 Passages in the biography of Philips of Burgundy regarding this trip, recorded by his secretary and chaplain, Gerardus Geldenhauer of Nijmegen, mention that between 1508 and 1509 Gossart has made several drawing of the ancients monuments in Rome, while he also visited Venice, Padua and Verona. Rutger Tijs, *Renaissance en barokarchitectuur in België/Vetruvius' erfenis en de ontwikkeling van de bouwkunst in de Zuidelijke Nederlanden van renaissance tot barok* (Tielt: Lannoo, 1999), 14-16.

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23 After the demolition of the Western entrance of the S. Peters church (1499), Joost Massys was commissioned to design and govern the construction of the new façade. This resulted in a drawing (ca. 1505) and a model (ca. 1525). Due to an inadequate foundation, the design has never been fully realised. It's 175 m high tower, unparalleled in the Low Countries, gave evidence of an incredible ambition of both church and architect. The drawing is one of the oldest preserved architectural plans from the Low Countries.

Joost Massys, *Design for the Western towers of St. Peter's Church*, ca. 1505, drawing in pen and ink on parchment (5 sheets stitched together to a roll) 260x82 cm, Louvain, Museum M.

Guido-Jan Bral, "De westtorens van de Sint-Pieterskerk in Leuven. Architectuurtekeningen en een stenen maquette van Joos II Metsys," *Arca Lovaniensis artes atque historiae reserans documenta/De vrienden van de Leuvense Stedelijke Musea* 33, (2004), 139-60.

24 Léon Van Buyten, "Quinten Metsys en Leuven, ibidem, 53.

25 In his *Vitae*, Vasari mentions that Bramante, a sort of mentor for Raphael of Urbino, 'sketched for him the buildings which he afterwards draw in perspective in the Pope's chamber, representing Mount Parnassus'. Raphael, *School of Athens*, ca. 1510-1511, fresco, ca. 500x770 cm, Stanze della Segnatura-Rome-Vatican. Giorgio Vasari, *The Lives of the Painters, Sculptors, and Architects* (London-New York: Dent Dutton, 1963), 187.

26 One of the last remaining late-gotic examples still exists in the Louvain church of St-Peter. However the statues above the capitals have been lost. a greater resemblance with regard to the sculpture can be found in the jube of St.-Gumaris in Lier (Belgium).

27 One of the best examples can be found in the sculptures of the jube of St-Gumaris (Lier, Belgium) like in sculpture of the apostle Luke.

28 It became accessible at a large scale, being used as a pirate appendix in Georg Reish' *The Margarita Philosophica* of 1508 and a revised edition of *De artificiali perspectiva*, also printed by the same editor in Toul, in 1509.

6.2.4 An Invented Order: Francesco di Giorgio's Architectural Treatise and Quattrocento Practice

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Abstract
Francesco di Giorgio Martini could represent the epitome of the Renaissance artist/architect of fifteenth-century Italy, as he exemplifies all the characteristics that traditionally we associate with that period. An 'uomo universale', he was trained as a painter, but he also practiced sculpture and architecture. In addition, he engaged in the writing of an architectural treatise, which survives in a number of manuscripts and successive stages of preparation. Scholars have identified in the evolution of the text Francesco's transformation from a practicing artist to a humanist. The architect's long-standing interest in Vitruvius has substantiated this conclusion. Francesco included passages from *De Architectura* in his treatise and also undertook a separate, almost integral, translation of Vitruvius. Despite Francesco's Renaissance pedigree, his architecture, his theory and their interrelation remain understudied. This is all the more surprising as Francesco's oeuvre could provide us with a representative case study of Quattrocento architecture. Unlike Alberti's humanistic enterprise and Filarete's utopian vision of architecture, the treatise of Francesco di Giorgio appears to be closely related to his Quattrocento practice. Some sporadic attempts have been made to correlate diagrams/plans found in Francesco's treatise to his buildings. In this paper, I will focus on Francesco's discussion of the columns and his reception of antiquity. In particular, I will argue that the entablature, as discussed in Saluzzianus 148, is not related to Vitruvius, but reflects Quattrocento practice, as it can be seen in the buildings by both Francesco di Giorgio and Alberti. Combining this "Quattrocento entablature" with the Vitruvian columns, Francesco invents and proposes a new order for Quattrocento architecture.

6.2.5 Donami tempo che ti do vita – Francesco Laparelli (1521-70). Envisioning the New 'City of the Order', Valletta

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Abstract
Valletta was conceived as a new fortified city for the knights of the Order of St John in Malta. In the aftermath of the Great Siege in 1565 and the defeat of the Ottoman Turkish army, it became critical to build a new fortified city on the Sceberras peninsula that separated the two natural harbours. The eminent soldier and military engineer Francesco Laparelli from Cortona was entrusted with the design and planning of the Order's new city. Laparelli not only submitted four plans which delineated the new city in accordance with Renaissance urban planning but also wrote an architectural treatise which forms an integral part of the Codex Laparelli. This paper will explore the relationship between various theoretical concepts and principles as expounded by Laparelli and the physical evolution and development of Valletta, as one of the finest Renaissance cities in Europe during the second half of the sixteenth century. Aspects of military defense, city planning, service infrastructure and architectural principles will be considered in studying the dialectic between theoretical issues emanating from Laparelli's treatise and the physical process of creating the city of Valletta. The new 'city of the Order' represents an ideal case study of 'theory as practice' within the historical milieu of the sixteenth century. During his brief but eventful stay on the island Laparelli created the physical framework of the city conceived primarily as a fortified military city that would be able to safeguard the Order of S. John from impeding threats by the Ottoman Turks. The convergence of theoretical principles and physicality of the construction and building process will be one of the main themes of the paper.

Keywords
Valletta, Francesco Laparelli, fortified towns, Renaissance architectural treatises, military engineers

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The victory of the knights of the Order of St John and the Maltese over the Ottoman Turks at the Great Siege of 1565 had served to make it abundantly clear that the building of a new city on the barren Sciberras peninsula was now a matter of the utmost priority. Even before the Great Siege, the knights had recognised that the promontory that separated the two main natural harbous would afford a strategic location for any invading enemy forces to launch artillery attacks on Fort St Angelo and the nearby settlements across the harbour. The Order had already invited a number of established Italian military engineers to study and consider this issue and two of them Bartolomeo Genga and Baldassare Lanci from Urbino had even submitted tangible proposals for a new fortified city to be built on the site.[1] However, indecision on the part of the Order mainly due to an acute shortage of finances had ensured that these urban visions were destined to remain on paper.

The victory over the Turks was the impetus for the construction of a new city for the Order. If anything the Siege victory had served as the ideal public realtions opportunity for the Order to appeal to the European courts to provide much needed finances and technical expertise.[2] It was within this context that Pope Pius V had offered to send Francesco Laparelli to Malta. (Figure 1) Laparelli was originally from Cortona and had assisted the eminent military engineer Gabrio Serbelloni with the defences of his hometown. Prior to his arrival in Malta, Laparelli had been in the employment of Pope Pius V and his predecessor Pius IV on works ranging from the fortifications of Civitavecchia, the pentagonal bastions of Castel Sant'Angelo and fortification works on the Vatican Hill. He even had the opportunity to assist Michelangelo with the ongoing construction of the dome of St Peter's basilica.[3]

Figure 1. Engraving, portrait of Francesco Laparelli (1521-70). *Source*: Filippo Venuti, *Vita del capitano Francesco Laparelli*, (Livorno, 1761).

The Order entrusted Laparelli with the design of a new fortified city named Valletta after Grand Master Jean de Vallette. Time was of the essence as it was feared that the Turks would return again and it is against this backdrop of the threat of another immenent attack that Laparelli set to work. This is well reflected in the architect's plea *Donami tempo che ti do vita* ('Give me time and I will give you life'). Upon his arrival on the island on 28 December 1566, just a couple of months after the lifting of the Siege, Laparelli immediately set to work, surveying and measuring the land, and making tentative notes and sketches, before presenting a set of four city plans to the Order's Council.[4] His notes and reflections on the design and construction of the new city form part of the *Codex* which today resides in the archives of the Museo dell'Accademia Etrusca di Cortona.[5] Valletta is one of the most well-documented cities of the sixteenth century and eminent historians such as Paolo Marconi, Quentin Hughes, Albert Ganado and Roger Vella Bonavita have through their extensive research provided us with a comprehensive and detailed overview of the genesis and evolution of Valletta.[6] My main objective in this paper relate to Laparelli's urban concepts as influenced by contemporary Italian architectural treatises and to discuss some shortfalls between the theoretical principles and the actual construction of the city.

The prime generator of the new city was the need for military defence. The city was first and foremost a war machine, that was very much its *raison d'être* and all other considerations regarding urban form and aesthetics were secondary in importance. With this defensive programme in mind, strategic military considerations by far outweighed the needs of the inhabitants residing within the city. In fact in the formulation of the four plans Laparelli was initially more concerned with establishing the optimal outline of the fortifications along the enceinte with the elaboration of the landfront fortifications complete with bastions, raised cavaliers, ravelins and dry ditch to guard the more vulnerable landfront approach. The logic of defence ultimately dictated that the planning of the enclosed spaces within the city walls was subservient to the military defence requirements. Basically the configuration and design of the fortification walls and bastions were of critical importance. In as much as Leon Battista Alberti had written:

> Should you examine the various military campaigns undertaken, you would perhaps discover that the skill and ability of the architect have been responsible for more victories than have the command and foresight of any general; and that the enemy were more often overcome by the ingenuity of the first without the other's weapons, than by the latter's sword without the former's good counsel.[7]

Urban concepts for the new city

Although the final plan which was the basis of the city as actually built adopts a strict orthogonal grid-iron street pattern and a few urban spaces hemmed

in within the fortifications, there are clear indications that initially Laparelli had another urban model in mind. The architect uses the words 'piacevole e dolce storte' in describing the street layout and makes specific reference to the serpentine streets of Pisa:

> I shall make for beauty only one large street in the middle of the city, the others being narrow and with a pleasant and sweet serpentine way, and this I shall do because a city in a dry, hot place must have narrow streets, whereas cities in humid climates should have wide streets so that the wind and the sun can take away the humidity. Narrow streets are cooler because they are not dominated by the sun. For windy places like Malta, it is necessary to find a way to break the wind with trees or high walls, but this cannot happen here because all the Island and especially this place is bare and without trees, so it will help to make the streets serpentine with sweetness like Pisa, which is fine to see and certainly was made in this way to break the strength of the winds. People should plant trees around the walls which will be useful in peace-time and and, in war-time, as wood is one of the most important munitions. Trees which grow quickly should be planted.[8]

His specific reference to Pisa is a rather strange one considering that the city's terrain is completely flat having been built on reclaimed marshlands at the mouth of the river Arno. Bonavita states that 'the gracefully curved streets that so impressed Laparelli were originally estuarine waterways which were gradually filled in and turned into streets.'[9] Laparelli's initial urban concept for the new city was to have one main wide street intertwined with a series of serpentine, picturesque streets, justifying this on the basis of practical and aesthetic reasons. He was certainly influenced by Alberti and Vitruvius who praised the virtues of the beauty of winding streets in small towns and their value from a defence point of view:

> If the city is noble and powerful the streets should be straight and broad, which carries an air of greatness and majesty; but if its only a small town or fortification, it will be better and as safe for the streets to run straight to the gates, but to have them wind about, sometimes to the right, sometimes to the left, near the wall and especially under the towers upon the wall, and within the heart of the town it will be handsomer not to have them straight, but winding about several ways backwards and forward like the course of a river…[10]

This model may initially appear to run counter to the ethos of the Renaissance city on the basis of straight lines set along an orthogonal grid or a radial-centric plan. Most of the architecture treatises of the fifteenth and sixteenth century are replete with examples of ideal planned cities.[11] Laparelli was well aware of the anthropomorphic principles of city planning as espoused by Francesco di Giorgio Martini (1439-1501).[12] Evenmore so, refering to the Laparelli passage previously cited, it is also clear that he was well attuned with the Aristotelian qualities of dryness, humidity, cold and heat. In this aspect he appears to have been familiar with Pietro Cataneo's treatise *I Quattro Primi Libri di Architettura*, published twelve years prior to Laparelli's *codex*. Cataneo writes:

> Most cities in a cold climate should have wide roads because by means of their wideness they will be more healthy, more commodius and more beautiful; and even if the air is cold it will be less sharp and will not give people colds. And the more a city is in a cold climate and in thin air, and the higher the buildings, the wider should be the roads. But if the city is in a hot climate, if its roads are narrow and buildings are high, they will temper the heat of the site and they will be healthier.[13]

Conceptualizing the form of the city

Laparelli's original concept of having a main central axis interspersed with serpentine streets as described in his written account was not pursued further. There is no evidence that he actually drew a plan based on this idea or if he actually did do so, such a plan has to date not surfaced. It is not clear what motivated Laparelli to change course. One can only speculate as to the reasons that led to the abandonment of this initial concept. The Sciberras peninsula upon which the new city was to be founded was entirely devoid of any buildings or structures except for a small rudimentary fort at its tip. The elevated promontory sloping steeply to the foreshore along its sides was totally unlike that of Pisa. The architect himself or the Order considering the local context could have decided that having serpentine streets weaving along a central axis was too experimental and impractical to implement. The centuries-old practise of subdividing land into a regular grid was considered to be a safer and more straightforward method of planning and of overseeing the construction of the new city within the shortest period of time possible. Having serpentine winding streets would also have proved unpractical in terms of allocating different blocks to the individual *langues* of the Order in what would have been irregular plots of land. There could also well have been serious objections to having winding narrow streets from a defence and military point of view.

The four known plans prepared by Laparelli and submitted to the Order's Council for its approval instead adopted a strict orthogonal grid of streets of varying widths. There are variations in the different plans as Laparelli modified the earlier larger square block subdivision into a city plan that presented a greater variety of rectangular blocks narrowing in depth as one moved away from the city centre.[14]. Giacomo Bosio, the contemporary historian of the Order, describes Valletta as being much more attractive than any other Italian city stating that its true design was drawn from life and given its natural shape in the way in which it is now to be seen by the knight Fra Francesco dell'Antella from Florence.[15] The splendid aerial view of Valletta was apparently displayed in Bosio's own personal residence and was later reproduced in the form of an engraving by Vallamena as one of the illustrations in his book on the history of the Order of St John.[16] (Figure 2)

Figure 2. Engraving by Vallamena of map drawing *Valletta Citta Nova di Malta* by Fra Francesco dell'Antella. *Source*: Giacomo Bosio, *Istoria della Sacra Religione Militare di S. Giovanni Gerosolimitano*, (Roma, 1594-1602).

The enterprise of building the city

Once the plans for the new city were approved, Laparelli immediately embarked on translating his urban vision from paper into stone and mortar. The urban morphology of the city as realized closely reflects the final plan that was approved. However there were a few important urban concepts that never came to fruition. In his third and final fourth plan of the city, Laparelli had delineated a fine red line around the main central blocks which boundary has been interpreted as defining the footprint of the *collachio*. Prior to the Order's arrival in Malta when based in Rhodes, the knights had resided in an urban enclave that was set apart and physically segregated by walls from the rest of the local population.[17] The various auberges or hostels of the various langues constituting the Order, the conventual church, hospital, armoury and other facilities were all originally accommodated within the *collachio* that was reserved exclusively for the Order's use. Although in his plan Laparelli did delineate the precise boundaries of the *collachio,* the Order decided not to adhere to it. The Order's various buildings were dispersed throughout the city. It could well have been the case that the Order had re-evaluated the *collachio* model and deemed it to be too restrictive in physical terms and an anachronism from medieval times.

In his third and fourth plans, Laparelli had proposed the creation of a *mandracchio* on the side of the city facing Marsamxett. The *mandracchio* was a small inland harbor that would be connected to the sea by means of a narrow channel cut through the fortifications. It was intended to provide shelter to the Order's galleys in times of inclement weather. Laparelli first delineated it in the form of an oval or kidney-shaped harbor and subsequently in his fourth and final plan, simplified it into a plain rectangular form. The Order appeared to be keen on realizing this concept and one of the planning and building regulations explicitly stated that stone to be used for the construction of buildings within the city could only be procured either from the excavation of the actual building site or procured from the site where the *mandracchio* would be formed.[18] However, it soon transpired that the limestone quarried from the area was of poor quality which rendered it unsuitable for construction. Furthermore, it became evident that the Order's fleet of galleys could not realistically be accommodated within the project man-made harbor. The *mandracchio* project was abandoned and the area soon degenerated into an unregulated maze of hovels and ramshackle structures that was dysfunctional and morphologically unrelated to the rest of the city.

Laparelli should not be percieved as an idealistic architectural theoretician. He was first and foremost a pragmatist with a keen interest in the physical properties of building materials, construction methods and resolving

challenges encountered on the site. Insights of these can be gleaned from his notes in the *codex*. Laparelli complained about the scarcity of building materials, labour resources and even basic provisions of food in Valletta. He stated that

> in this place, there is no lime, water, sand, timber, iron to be worked, earth, fascines, men and every other kind of wood, because this Island is really a bare rock. Also for vitals, there is no bread, wine, meat, oil and, considering we are in the middle of the sea, we get little fish.[19]

This statement implied that most of the building material had to be brought over to the building site and that workmen had to be engaged from abroad. Laparelli discussed in specific detail technical issues relating to the building materials and their properties. He noted that since there was no supply of hard stone like travertine in Malta, it was not possible to span certain distances as local stone was weak in tension and would crack when loaded. He was particularly concerned that if the rock was newly cut the exposed faces of the fortification walls could collapse when under enemy attack. Laparelli stated that local stone resisted artillery fire well but time eroded it. He recommended that newly-constructed walls were to be kept damp so that the mortar had time to set, and the mortar itself had to be kept wet so that the heat would not damage it.[20] In May he was overseeing works on the ramparts so that the heat and the wind would not dry out the mortar and cause it to pulverise into powder. Infact he gave explicit instructions that during the hot summer months from June to September construction works be suspended although stonework should still be cut so as to be ready when works resumed in the cooler season.

By 1567 Laparelli reported that the fortifications could now resist enemy attack and that the critical landfront with its ramparts and cavaliers was at an advanced stage of construction. The bastions and curtain walls were progressing well. The Italian architect was by now becoming restless and relishing a new challenge overseas. In 1569 Laparelli volunteered for service with the papal fleet and sailed from Malta. The realisation and completion of the blueprint of the new city was entrusted to his assistant, the capable Maltese engineer and architect Gerolamo Cassar.[21] Prior to his departure from the island, Laparelli offered some valuable advice:

> No fortifications is an end in itself – when there is a siege it is always necessary to get help from outside. It is important that the fortifications should resist long enough for the allies to be able to prepare a good relieving army. Everyone knows that Malta is important to Christianity. The Island has been called many things including a 'thorn in the eye of the Infidel'. The Order must always spend much money to defend the Island when others have easier tasks.[22]

Laparelli would never return to Malta. He did not have the satisfaction of seeing the city he created completed. In 1570, whilst serving on the campaign at Candia in Crete he contracted the plague and died at the age of forty-nine.

1 Albert Ganado, *Valletta Città Nuova – A Map History (1566-1600)* (Malta: PEG Ltd, 2003); Francesco Menchetti, *Architects and Knights – Italian Influence in Malta during the Late Renaissance* (Malta: Progress Press, 2013).

2 D.J.Calnan, *The True Depiction of the Investment and Attack suffered by the Island of Malta at the hands of the Turks in the year of Our Lord 1565 by Matteo Perez d'Aleccio,* (Malta: Progress Press, 1965), third edition.

3 Francesco Laparelli was born in Cortona in 1521. He participated in the War of Siena and the fortifications of Cortona in 1554. He worked with the eminent engineer Gabrio Serbelloni and collaborated with Michelangelo on the building of St Peter's, Rome. The main biographical texts on Francesco Laparelli are: Filippo Venuti, *Vita del capitano Francesco Laparelli* (Livorno, 1761); Pier Luigi Occhini, *Un grande Italiano del 500: Francesco Laparelli a Malta* (Arezzo: R. Deputazione di Storia Patria per la Toscana, 1937); Eduardo Mirri (ed.), *Francesco Laparelli architetto cortonese a Malta* (Cortona: Tiphys Edizioni, 2009); Roger Vella Bonavita, "Capitano Francesco Laparelli and Valletta," in *Proceedings of History Week* (Malta: Malta Historical Society, 2013), 1-28. The most recent and comprehensive biographical account is that of Roger Vella Bonavita, "A Gentleman of Cortona: the Life and Achivements of Capitano Francesco Laparelli da Cortona (1521-1570)" (PhD thesis, University of Malta, 2011).

4 Quentin Hughes, "Give me Time and I will give you Life – Francesco Laparelli and the building of Valletta, 1565-1569," *Town Planning Review* 49 (1978), 61-74.

5 The Laparelli *Codex* was orginally in the private archives of the Contessa Laparelli Pitti Magi Diligenti. In 2009 it was donated to the Accademia Etrusca in Cortona.

6 Paolo Marconi, "Progetti Inediti della Valletta: Dal Laparelli al Floriani," *L'Architettura a Malta. Atti del XV Congresso di Storia dell'Architettura*, (Roma: Centro di Studi per la Storia dell'Architettura, 1970), 353-86; J. Quentin Hughes, "The Planned City of Valletta," ibidem, 305-33; Quentin Hughes, "Documents on the Building of Valletta," *Melita Historica* VII (1976), 1-16; Albert Ganado, *Valletta Città Nuova. A Map History (1566-1600),* (Valletta: Peg Publishing, 2003).

7 Leon Battista Alberti, *On the Art of Building in Ten Books*, translated by Joseph Rykwert, Neil Leach, Robert Travernor (MIT Press, 1988), 4.

8 Francesco Laparelli, *Codex*, (written in Malta, 1566-1567), Museo dell'Accademia Etrusca di Cortona, 27B.

9 Roger Vella Bonavita, "Capitano Francesco Laparelli and Valletta," *in Proceedings of History Week 2011*, Malta Historical Society, (Malta, 2013), 7, fn. 21. Bonavita identifies the urban district along 'the gentle curves of Via Santa Maria' as potentially be-

ing the area to which Laparelli was alluding to.
10 Leon Battista Alberti, *Ten Books on Architecture*, James Leone's translation, (London, 1755), Book IV, chapter 5, 85.
11 Maurice J.D. Cockle, *A Bibliography of Military Books up to 1642*, (London: Holland Press, 1957), lists 71 books and editions of fortifications published during the sixteenth century alone.
12 Francesca P.Fiore and Manfredo Tafuri (eds.), *Francesco di Giorgio Martini architetto* (Milano, 1998); Francesco de Marchi, *Della Architettura Militari* (Brescia, 1599).
13 Pietro Cataneo, *I Quattro Primi Libri di Architettura* (Venezia, 1554), Lib. 1, Cap. 6, 8R.
14 T. Jäger, "The Art of Orthogonal Planning, Laparelli's Trigonometric Design of Valletta," *Journal of the Society of Architectural Historians,* vol. 63, n. 1 (2004), 11.
15 Giacomo Bosio, *Istoria della Sacra Religione Militare di S. Giovanni Gerosolimitano* (Roma, 1594-1602), vol. 3, 872.
16 For detailed accounts on the building and planning regulations promulgated by the Order refer to Stephen Borg Cardona, "The Officio delle Case and the Housing Laws of the earlier Grand Masters 1531-1569", *The Law Journal* vol. 3, n. 1 (1951); Edward Sammut, "L'Officio delle Case ed i regolamenti per la fabrica della Valletta (1556-1629)," *L'Architettura a Malta - Atti del XV Congresso di Storia dell'Architettura*, (Roma: Centro di Studi per la Storia dell'Architettura, 1970), 387-97.
17 Quentin Hughes, "Documents on the Building of Valletta," *Melita Historica*, vol. 7, No. 1, (1976) 4.
18 Stephen Borg Cardona, "The Officio delle Case and the Housing Laws of the earlier Grand Masters 1531-1569", *The Law Journal*, vol. 3, n. 1 (1951).
19 Laparelli*, Codex*, 26B.
20 Ibidem, 20B, cited in Quentin Hughes, "The Planned City of Valletta," *L'Architettura a Malta – Atti del XV Congresso di Storia dell'Architettura* (Roma: Centro di Studi per la Storia dell'Architettura, 1970), 329-30.
21 Giovanni Mangion, "Girolamo Cassar architetto maltese del Cinquecento," *Melita Historica*, vol. 6, n. 2 (1973), 192-200; Quentin Hughes, *The Building of Malta during the Period of the Knights of St John of Jerusalem 1530-1795* (London: Alec Tiranti, 1956).
22 Laparelli*, Codex*, 62B-63.

6.3 European Architecture and the Tropics

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Europeans have a long history of social, cultural and economic contacts and exchanges with the people of the Tropics. Although this history can be traced to an earlier time, it intensified in the past few centuries, with extensive formal and informal colonization of tropical territories by Europeans. The circulation and translation of architectural knowledge and practices between Europe and the Tropics is an inextricable part of this long and rich history.
By choosing the Tropics over other geographic categories, this session foregrounds the environmental and climatic dimensions of this history of exchange. This session will focus on how European architectural knowledge and practices were 'acclimatized' to the ecologies, heat and humidity of the Tropics. However, tropicalization entailed more than just environmental and climatic adaptations. Scholars in various interdisciplinary fields, particularly environmental and medical history, have shown that the tropicalization of European knowledge and practices involved social, cultural and political transformations too. David Arnold developed the concept of tropicality to suggest that tropical nature – of which climate is an important component – could be understood along the lines of Saidian Orientalism as an environmental "other", deeply entwined with social, cultural, political, racial and gender alterities in contrast to the normality of the temperate zone. Tropicality is, however, not a monolithic category. Not only have the constructions of the Tropics varied with the changing social, cultural and political conditions of European colonization in the past few decades, they have also changed based on the shifting medical, environmental and other scientific paradigms of understanding the Tropics. How this climatic "other" has been addressed architecturally by various actors at different historical moments

has likewise been characterized by multifarious approaches.
This session invites papers that examine in a situated manner how European architecture has been tropicalized in any historical period at any tropical site. Tropicalization is of course not a one-way diffusionist process. Just as this session explores European architecture in the Tropics, the very notion of European architecture is neither immune to outside influence nor necessarily produced solely by Europeans. This session also, therefore, invites papers that explore how European architecture outside the Tropics was transformed by tropicalization and how European architecture might have been a hybrid entity coproduced by non-Europeans.

6. CIRCULATION OF ARCHITECTURAL CULTURE AND PRACTICES

6.3.1 The Afro-Brazilian Portuguese Style in Lagos

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Abstract
This paper seeks to re-evaluate the categorisation of 'Brazilian' style architecture on Lagos Island. For long the notion of the Brazilian style, *Aguda* houses on the island has allowed for an exotic reading of the built form, allegedly transmitted to Lagos through the labour and construction skills of mainly Yoruba repatriated African slaves from Brazil and elsewhere in South America. Whilst the original owners of these buildings would have had contact with Brazil, the essential styling can be traced back to Portugal, and indeed is seen in earlier traditional architecture in locations such as Benin (Nigeria) and parts of coastal West Africa, which had centuries earlier had contact with Portuguese traders. The paper seeks to question the labelling of the Afro Brazilian style on these buildings in Lagos, with no reference to earlier Portuguese-European influences on their styling. What does this tell us about the embodied identity of the built form and its presentation within a richer African mediated cultural discourse related to past remembered and forgotten histories? I will be relying on the use of textual histories of Lagos, as well as existing records of buildings in areas such as Campos Square in Central Lagos, the epicentre of what was considered to be Lagos's Brazilian Quarter.

Keywords
Afro-Brazilian architecture, Lagos, housing, Aguda, Saro

Introduction

Much has been written about the city of Lagos, Nigeria. The historical records stretch far back to its first mention as a small fishing outpost near to the more powerful slave trading town, Badagry, and seat of the local *oba* (king). This paper however considers the Lagos in the mid nineteenth to early twentieth century, when it had become one of the major coastal 'cosmopoles' in West Africa. It focuses specifically on the architecture and culture associated with a group of repatriated indigenes of mainly Brazilian, extraction, the *Agudas*.[1]

The spatial and cultural focus of this group, has centred on the island area in Lagos, specifically around Campos Square. The logic behind this, relates to their ability to purchase land for their residence and businesses, in and around this area. The most noted example would be Water House, built by the *Aguda* businessman, Joao Esan Da Rocha, who had once been a native of Salvador, in Bahia, Brazil.[2] They were also involved in the construction of institutions such as the Holy Cross Catholic Cathedral of Lagos, and premises of other middle class or elite members of Lagos society, such as Vaughan House, built for the same named family, who were of *Saro* origin.

This paper seeks to investigate the reality, and contrast this with the narrative of origin, cultural transfer and authenticity of *Aguda* culture to Lagos in the nineteenth century from its 'Brazilian' origins. Its focus is on the built environment and landscapes in which this indigenous sub-group inhabited, and also their interaction with other Lagos associated migrant groups, who were also identifiable and prominent in their own right at the same time; such as the *Saros*, *Amaros*, and others, whose cultures it is argued also at this time had a significant influence at this same period.

The main sources for the paper are narrated records of residents and others who lived, or had interests, related to the group and their sphere of influence, current photographs of the buildings, and plans, both from earlier research and also inferred from this material. Also the paper refers to published historical documentation relating to this period and group.[3] Finally academic papers, and relevant books and publications that make mention of the *Agudas*, *Saros, Amaros*, and other groups, and also the Campos Square area, and Creole Lagos are also referred to.[4]

From the study and analysis of the material gathered, the paper suggests a re-evaluation if not reinterpretation of the existing canon of residence culture and settlement of the Agudas in central Lagos, and suggests in its place a more globally engaged interpretation of this culture's encounter with Lagos and vice versa.

The socio-spatial context to early Lagos

In the 1800s Lagos was a relatively small city, with the main business and residential areas on Lagos Island, and with only a small population resident on the mainland in the Ebute Metta area. The integrated community of Lagosians, despite living in close proximity to each other, formed distinct cultural groups who occupied delineated territories on the island. The local indigenous Lagosian families, with links to the *Oba* of Lagos, living near the Oba's residence on the Island, the *Saro*-descendant families living near the Breadfruit street area of the city, whilst the *Aguda* group, that this paper focuses on, lived near and around the Campos Square area of the Island.

Definitions are important to this paper. *Lagosians* as a term relates to all residents of Lagos, irrelevant of their group affiliations. The 'indigenes' however refer to the group of Lagosians who claim prime 'ownership' of Lagos and its lands, claiming as they have always been resident in Lagos, they are effectively the true owners and keepers of the land and also cultural traditions on the Island. The *Saros*, the next most populous group on the island in the 1800s, were an educated group who traced their ancestry to repatriated slaves and freemen, who had either been freed from illegal slaving ships off the West African coast, or had been emancipated from slavery, and had elected to return from the USA and re-settle in Western Nigeria, most being able to trace their 'roots' to Yoruba families in the areas in and around Lagos, Abeokuta, and Akure.

Amongst the resident expatriate population in Lagos were the colonial rulers, the British, the traders, contractors and businessmen involved with Lagos' mercantile trade in goods and raw materials. Whilst the British were exclusively white, there were also a number of West Indians, Sierra Leonians, and nationals of other ex-British colonies, who were also resident in Lagos. This group also had to be allocated 'residential quarters', built by the colonial government, and larger businesses at the time. Finally the *Agudas*, who like the *Saros*, were a distinct group that had resettled in Lagos from principally Brazil but also Cuba and other areas of the West Indies, who again could trace their roots to Western Nigeria.[5]

Location and culture also are key features in this analysis. For the expatriates who were civil servants and workers in the associated service and educational establishments, Staff quarters were often on site, (in the case of the railways, the Public Works Department (PWD), and most residential high Schools). Culturally also for these expatriates, the Anglican Church, St Saviors and the Ikoyi Club formed the focal points religio-culturally. For the Saro's, most of whom were well educated, and running their own professions and businesses in the areas of law, raw materials export, (such as cocoa) or banking for example, the Ebute Ero (Anglican) Church, was their

religious focus, whilst their activities of moral improvement such as concerts and debates were held at publicly built edifices such as the Glover Hall. The *Agudas*, according to the research 'canons' were more likely to have come back to Nigeria with practical, (as opposed to academic) credentials and had the city's catholic Holy Cross cathedral, close to the Campos square area, as their focal point, and the area surrounding Campos Square, incorporating Odunlami Street, Campbell Street, Igbosere Road, etc. as the heart of their community where the residences and business premises of prominent scions of their community lived, such as the aforementioned Water House. The expatriates from the West Indies, Sierra Leone and other Empire dependencies and also traders involved in managing trading outlets such as the UAC, GB Ollivant and other British companies' Nigerian HQs, had a more fluid, less demarcated residential area.

Analysing spatial identity in eighteenth-century Lagos

Given this described background context to Lagos, it is clear that this association with location was critical to family and social identity in the city. However, whilst the early historical records might suggest there was a clear demarcation or delineation of specific parts of the city to the different local identities; *Saro*, *Aguda*, expatriate etc, the picture it is suggested was more fluid.

Figure 1. Holy Cross Catholic Cathedral.

As with other social hierarchies, particularly those in British colonies, class identity and wealth often ensured that families and individuals were able to improve or consolidate their social status through marriage into families of equivalent or higher wealth, despite their initial origins.[6] Thus the distinction of extraction, i.e. between being an *Aguda*, or *Saro*, it is suggested is less clear, as most of these groupings had family links via inter-marriage, trading and religious affiliations with other identified groups[7].

When translated to architecture, the issue of attribution and origin becomes more complex. It is not clear that there were distinctly different construction practices in place amongst the different groupings, although stylistically the *Saro* style might be viewed differently from the *Aguda*-Brazilian style. In Vlach's (1984) view, there is a clear distinction between the *Saro* architectural heritage, which is grounded in the importation of styles, and even wholesale prefabricated housing from Europe. This is whilst the Brazilian house plan layout as well as its external architectural styling he argues can be traced back to the construction style of 'Brazilian-Portuguese' houses in Bahia, where most of the *Aguda* population had lived before their voluntary repatriation.

He suggests that the local Yoruba elites from all cultural backgrounds adopted and assimilated the 'Brazilian' plan and stylisms, and this, as opposed to the British PWD bungalow, formed the basis for the evolution of the typical domestic house type in Western Nigeria, with the storey building being a further adaptation on the initially imported 'Brazilian' house style.

Since Vlach's thesis, more prominence has been given to the British bungalow thesis being also assimilated into local housing design and style across the post-empire, mainly through King's (1984) publication, *The Bungalow*. It is suggested here that this thesis is of equal importance to our analysis of evolved architectural style in Lagos, where there was a considerable amount domestic housing provided by the PWD and similar large expatriate employers, whose houses did influence all Lagosians. Thus the purity of stylistic transmission to buildings in Lagos, and elsewhere in emerging parts of urban Western Nigeria needs to be interrogated.

The main difference in plan styles is the courtyard layout (Brazilian) vs the elongated PWD bungalow layout with the PWD remaining generally a ground floor or elevated ground floor dwelling, whilst the Brazilian style could be one or even two stories high, wealth and status permitting. Lifestyle and use of these dwellings was initially more culturally differentiated, with the *Saros* being seen to imitate closely the Victorian social customs and mores of the Europeans, whilst the *Agudas* were more affiliated to the local Lagosian indigenous residential and cultural practices.[8]

In the late nineteenth century, when much of the Brazilian architecture in

Lagos was built , it seems unlikely that the tradesmen employed in the construction of Water House, would have been exclusively *Agudas*. It is more likely that there would have been a mix of artisans, possibly with an *Aguda* master mason, who would ensure that the final edifice built was made to look like, the received Lagos 'Brazilian' style, but cater for the cultural lifestlye of the cosmopolitan Lagos elite.

Certainly the most skilled craftsmen in Lagos would have been able to deliver different stylistic interpretations to buildings. They could also have taken their cue from the original, institutional edifices such as the Holy Cross Cathedral, also said to be Brazilian style in design and construction, and initiated to serve the religious needs of the initial group of repatriated slaves from Brazil, who were Catholics.[9] This group had successfully sued for the establishment of a catholic church in Lagos.[10] Again however we cannot fully validate this, as the original ecclesiastical building was rebuilt in the 1930s under the management of an Irish Priest, which does not suggest there was any residual Brazilian architectural influences in its rebuilt style, except possibly for the wooden fretwork on the main doors.[11]

A further complication when identifying Brazilian style, is the inclusion of the *Amaros*, who were repatriates of Cuban extraction, and would have brought with them Hispanic cultural influences in style. Both the *Agudas* and the *Amaros*, were terms used used together and interchangeably to

Figure 2. Water House.

describe the non-*Saro* returnees to the Lagos. Stylistically then it is argued 'Brazilian style' might include traces of *Amaro*, *Saro*, Colonial British and indigenous Lagosian style in its compositon. Existing literature suggests that the Aguda / Brazilian style shows a distinctiveness, which we can read, as different from any of the other styles mentioned. In the analysis of Water House and Campos Square, it is argued that the style may have had some unique features but can be more accurately read as a 'metize' configuration of styles and influence from Lagos at the height of its nineteenth century cosmopolitan cultural era.

Interpreting authentic Brazilian Style

The case study examples discussed here are; Vaughan House, residence of the Vaughan Family, near to Campos Square, on Lagos Island. The other is the now demolished Shitta Bey Mosque, formerly on Martins Street, Lagos Island.

Vaughan house

The 29 Kakawa street residence of the Vaughan Family, , was built in similar style, to Water House, has been extensively refurbished but demonstrates the mixed nature of the Brazilian style construction process. The Vaughan's were Saros, and related to the Pearse Family by marriage, also Saros, but whose Elephant House, now pulled down, was also considered a 'Brazilian House' of note.

Vaughan House is stylistically rich in design, with the tracery and use of motifs, characteristic of 'Brazilian' style architecture. There is no record of how the craftsmanship for the building was procured, and it is this writer's supposition that given the affluence of its commissioning patron, Dr Vaughan, he could also, as his Water House colleague da Rocha, have commissioned the best tradesmen in Lagos to build his house. The U-shaped plan also suggests the courtyard style feature which would have been in keeping with the original Portuguese-Brazilian style, although as an educated Saro family, is likely that residential use would have been more formerly after a Victorian fashion.

Shitta Bey mosque

'[The mosque] reflects the essential eclecticism that is Lagos. Financed by a Sierra Leone-born merchant, designed by a Brazilian, built by a Nigerian, and opened by an Englishman.'

Located at Martins Street, on Lagos Island , this mosque was commissioned in 1892 by the freed Muslim Sierra Leonean slave, Mohammed Shitta-Bey, who had made his fortune trading in the Niger Delta region of South-Eastern Nigeria. It was designed by the repatriated Afro-Brazilian

craftsman Senor Joao Baptista Da Costa, whose Braziilian influence could be seen in the decorations in and around the mosque. It was built on site by a Nigerian builder, Sanusi Aka, and was finally opened by the then Governor of Lagos, Mr Carter in 1894. Now demolished, the building did symbolize clearly the interaction and collaboration that existed between the different social religious, business and ethnic groups in that era. Its use as a mosque followed more Spanish-moorish cultural influences, possibly via the *Amaro*, than the *Aguda* settlers.

Architectural fluidity analyzed

What these two case studies show is the fluid nature of architectural construction in Lagos in the mid nineteenth century. Whilst the buildings and many more were stylistically 'Brazilian', their ownership, provenance, and construction tell a different story. Also the notion of what was 'Brazilian' suggests that the styling developed in isolation and as a 'pure' version. The records seem otherwise. As the Shitta Bey Mosque case study shows, the myriad of actors involved in the delivery of the project.

For most of the architecture in Lagos of the period, it is suggested that this mixing of authenticity and provenance is the norm. Not factored in here are the other external influences that would clearly have had an effect on Lagosian architecture of the time. The Saros and British Colonial administration were also involved in their own building projects at the time and would by association their work have had some influence on the *aguda* craftsmen involved in the construction of the iconic Brazilian architecture buildings.

Furthermore who or what as authentically *Aguda* or 'Brazilian' is called into question. Many Lagosian families did marry across indigenous or associational groups, therefore the authentic purist 'aguda' craftsmen by the late nineteenth century, would have been a dying breed. Most of the craftsmen involved in the construction of later houses such as Water House and as we already know the rebuilt Holy Cross Cathedral in Lagos would have had little direct knowledge of the historic *Aguda* craftsmanship that would have reached its peak in the late nineteenth century.

Instead this paper suggests that what was most distinctive about the 'Brazilian' style Architectural heritage of Lagos, was its variety and fluidity in its representation and interpretation, Whilst this did initially derive from the different and distinct identities of the different groupings, freed slaves, colonial rulers, and locals, who all brought with them, their culture and also their representations of the built environment, this separation became less distinct as African Lagos society grew and intermingled relatively freely, both socially via marriage, and in business, dealings. It therefore argues that it is more accurate to talk of a Lagosian-Brazilian architectural style emerging from the legacy of workmanship and construction brought in by the original Brazilian-repatriated craftsmen who built the foundations for the distinctive Lagos style Architecture.

In architectural categorization and history it is important to take a critical but not exclusively purist attitude to architectural style. This should in turn encourage, researchers and historians to take a more lateral approach to material and information analysis, understanding that there are few specific categorisations of the buildings viewed, instead it is important to construct a broader frame from which to view Lagos architecture, which should also pay closer attention to spatial and cross-cultural use analysis.[12] Even more important is the call to create a more accurate identity that responds to the fluid nature of Lagos architecture and craft in the mid-1800s.

In so doing it calls for Lagosian architecture to be considered cosmopolitan in design and provenance, and difficult to categorise or define as being distinct of any indigenous group as the fluidity of cultural exchanges and connections in the city have always ensured that the metize culture, that is able to appropriate from a range of sources is the norm and not the exception to how we should view Lagos Architecture, with terminologies such as *Aguda* style giving an over-simplistic view of these complex relationships, which contribute to the 'style'.

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1 *Aguda* is a term used to identify the first settlement area given to these repatriated persons, a marshland part of Lagos island called *popo Aguda*. Kunle Akinsemoyin and Alan Vaughan Richards, *Building Lagos* (Lagos: 1977). However the *Amaros* who were Cuban repatriated *Yorubas*, were also often included within this grouping. Solimar Otero, *Afro Cuban Diasporas* (New York: University of Rochester Press, 2013) 71. The *Saros*, who were returnee *Yorubas* who had come back from American plantations were distinct from this grouping.

2 Anthony B. Laotan, "Lagos a History in Pictures," *Nigeria Magazine* 69 (1961). Anthony B. Laotan, *Brazilian Influence on Lagos*, and J. Brook, "Touches of Brazilian Style," *New York Times*, March 26, 1987. Sunmi Smart-Cole, "The late Ghanaian Nigerian Lawyer B.J.K. da Rocha Remembered in Lagos 29th August, 2010," Sunmismartcole.com http://photonews.sunmismartcole.com/2010/08/29/the-late-ghanaiannigerian-lawyer-b-j-k-da-rocha-remembered-in-lagos/ Accessed, 31/3/2014

3 Alister Macmillan, *The Red Book of West Africa* (London: W.H. Collingridge, 1920).

4 These would include the following: Akinsemoyin and Richards, *Building Lagos* and Michael Echeruo, *Victorian Lagos* (London: Macmillan, 1977). See also the recent scholarship on West Africans with trans-atlantic connections, such as Otero, *Afro Cuban Diasporas* and Elisée Soumonni, "The Afro-Brazilian Communties of Ouidah and Lagos in the Nineteenth Century: A Comparative Analysis," in Jose C. Curto and Renée Soulodre-LaFrance (eds.), *Africa and the Americas: Interconnections during the Slave Trade*, (New Jersey: Africa World Press 2005), 231- 42.

5 For more on the Cuban repatriates see Otero, *Afro Cuban Diasporas*.

6 Kristin Mann, *Marrying Well, Marriage, Status, and Social Change among the Educated Elite in Colonial Lagos* (Cambridge UK: Cambridge University Press, 1985)

7 John Michael Vlach, "The Brazilian House in Nigeria, the Emergence of a 20th Century Vernacular House Type," *Journal of American Folklore* 97, 383.

8 Echeruo, *Victorian Lagos*. Mann, *Marrying Well*.

9 This is of particular interest, as it was noted that the then Governor of Lagos was so impressed by the masonary skills of the Aguda tradesmen involved in the construction of the cathedral, that he initiated draughtsmen training schemes for African Public Work Department employees to go to London to learn the trade, thus this set of trained craftsmen would also have brought back a different set of construction practices and aesthetics to contribute to the 'Lagos-Brazilian style'. Laotan, "Lagos a History in Pictures".

10 Lagos had at that point only Wesleyan, Presbyterian and the British Colonial Government's affiliated CMS-Anglican churches. Allu Babs Fafunwa, *A History of Education in Nigeria* (London: Allen and Unwin, 1974)

11 Laotan believed that that the main altar was retained and had been carved by the famous Brazilian craftsman, however during a visit in 2014 (image in presentation) there were no remains of this, although the fret work on the wooden doors might be traced back to the original workmanship. Laotan, "Lagos a History in Pictures".

12 Dell Upton, *Holy Things and Profane: Anglican Parish Churches in Colonial Virginia* (Cambridge Mass: MIT Press 1986); William J. Glover, *Making Lahore Modern: Constructing and Imagining a Colonial City*, (Minneapolis: University of Minnesota Press, 2007), who, together with Vlach, "The Brazilian House in Nigeria," have successfully undertaken detailed studies in the re-imagination of spaces in the USA and Lahore.

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6.3.2 Tectonics of Paranoia: The Tropical Matshed System within the First Fabrication of Hong Kong

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Abstract

Emerging at the very beginning of subtropical Hong Kong's colonial development in 1841 was a building system known as the 'matshed'. Seeming to arise from indigenous southern Chinese construction, yet akin to rural Indian construction technologies, this bamboo-framed, palm-leaf-roofed, and woven-cane-walled entity had started life as an endlessly adaptable construction kit suited to the pragmatic needs of both the Anglo-Indian military and Anglo-Chinese commerce. Rapidly deployable, it transformed into almost every building typology conceivable: from the storage of troops (the barracks), to the storage of cotton (the godown); and from the place of mammon (the market bazaar), to the place of worship (the colonial 'mat church'). However, following the Hong Kong Fever of 1843, more solidly constructed buildings were demanded as being both safer and morally respectable. The matshed, therefore, began to acquire a dubious character. It had become the prototype of paranoia: as if a progenitor of disease, criminality and conflagration. In addition, the existence of the matshed had become an anachronism: the dated component of a founding mythology. The physical state that urban Hong Kong had been in a mere three years before was now viewed through the collective memory of European residents with some incredulity. And yet, the matshed stubbornly endured. This paper will trace the environmental politics of this early transformation and how it fed into a founding narrative utilizable on both sides of a community unsure of the island's permanent viability as a British possession. Sitting chronologically between two significant architectural theoretical models, respectively, of neoclassicism and tectonic romanticism: Marc-Antoine Laugier's primitive hut (*Essai sur l'Architecture*, 1753) and Gottfried Semper's Caribbean hut (*Der Stil*, 1860-63), it will also examine the wider discourse of contemporary debates and thoughts between Europeans and their colonial counterparts in the tropics.

Keywords

Hong Kong, matshed, primitive hut, malaria, medical topography, tectonics

The matshed – indigenous, highly adaptable, made from bamboo, cane and woven-leaf – was the earliest building system used in the construction of colonial Hong Kong. Resident Europeans, throughout this first decade of the colony's expansion in the 1840s, saw the system as increasingly representative of much wider debates concerning health, security and morality against a backdrop of shifting politics and power relations on the island. This paper will briefly look at the development and layers of this involvement. In the process the matshed went through three perceptual phases. The first, from 1841, framed it as rudely utilitarian, later to be romanticized and linked to the harsh but vigorous, entrepreneurial life of the very first settlers. The second phase, from 1843, joined it to a wider politics, when, due to an epidemic of malaria – wherein the very nature of Hong Kong's political existence seemed to hang in the balance – the matshed fused with the wider topography both metaphorically and literally. Following a reassurance of continued British sovereignty the third phase, from 1845 onward, saw the colony's population return to health, a transformation of construction methods with more permanent materials and building codes, and the introduction of finer European styles. Hence, there developed a disdain for native construction, and with it, a clearer racial inscribing. It was the initial frenzied alliance then decoupling of European interests with the matshed system that allowed an unstable 'otherness' to play out upon this architectural system, partly suppressed, partly declared.

In Timothy Mo's novel, *An Insular Possession*, the protagonist Gideon Chase marvels at the rapid spread of dwellings on the island of Hong Kong in 1841. Among the crowd of hucksters, fishermen, lascars and laundry girls were the white pepper-pot

> tents of the military lines… outnumbered now by the ugly mat-shed constructions: wooden huts some 100 feet long, with chinks in the walls crudely plastered in mud, or often not at all, and rude grass-weave roofs. They can glimpse through the crowds the men lying on their palliasses inside, or smoking while they clean their accoutrements.[1]

Mo's depiction of life on shore during those chaotic first months suggests familiarity with the diary of naval surgeon Edward Cree:

> *Mon. 19 April* Dined with the 18th officers. Afterwards went over to Hong Kong, where the people all living under canvas. A great influx of natives – all the ruffians from Canton – have erected huts and shanties, where are drinking booths and gambling booths and every kind of debauchery.[2]

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Cree distinguished between European canvas and Chinese matshed: the latter a concealment for immoral, native behaviour. Despite this, it was the adaptable matshed, not the tent, which would supply European interests with the initial means of hastily constructing the first components of the new settlement by Victoria Harbour.[3]

What were these 'matsheds'? Rapidly deployable – and known as 戲棚 (hei3 paang4, literally 'play shed') by the Cantonese – matsheds transformed into almost every building type conceivable: from the storage of troops (the barracks), to the storage of cotton (the godown); and from the place of mammon (the market bazaar), to the place of worship (the colonial 'mat church'). The matshed was also used as scaffold – in this case known as 搭棚 (daap3 paang4, literally 'build shed') by the Cantonese – a fully framed and roofed structure to protect enclosed construction. English clumsily elides these two distinctions together as 'matshed'.

When dealing with a construction system so basic and adaptable, so transposable and transportable, it becomes difficult to determine lines of genealogy – a different matter than discussing the mobility of form types such as the bungalow or use types such as the godown or church. However, in the minds of contemporary Europeans – despite certain adaptations by merchants and military – the system was considered indigenous. Skeletons of lashed bamboo, these structures had walls of woven cane or mud, with window or door openings cut out. The roofs were covered in palm leaves locally called *kwai*.[4] (Figure 1).

Matshed construction in locations prone to typhoons, yet with an abundance of surrounding granite, such as found in Hong Kong can, in part, be attributed to communities without the skills or traditions of stone building. While the Punti and especially the Hakka were reputed stonemasons on the island, the boat dwelling Tanka and Hoklo were not.[5] Their preferred water-based existence may explain why they saw no need in investing in more secure structures upon land. Further, this system suited the needs of early European settlers, since the Chronicle of Heung-Shan recounts that in 1553 the first Portuguese to Macau, Western sailors, constructed, with local labour, storage matsheds on the peninsula before their merchants stealthily started building in stone.[6]

It may be wishful to link the matshed, as encountered by European colonists, too closely to contemporary Western architectural theory. Nevertheless, certain re-evaluations and shifts in attitude at home within historicism, geographic and climatic determinism, and concepts of national character, formed part of a wider debate, contributing towards and being influenced by colonial experiences within tropical climates. For instance, gone were the static, rationalist eighteenth – and early-nineteenth-century origin stories of

One of the matshed "barracks" which were erected for the Sepoys.

Figure 1 A matshed barracks for 'native' (non-European) troops in Hong Kong. *Source: Illustrated London News*, 1857.

architecture. Whether it be Marc-Antoine Laugier's singular primitive hut or Quatremère de Quincy's tripartite sources of cave, tent and hut (with its new suggestion of climatic variation); a move was underway towards a more dynamic, positivist notion of origins as constituted in anthropological studies of native island tribes, and a plethora of travel literature that began to gain popular readership. Laugier's primitive man constructing his first *cabane* might be languid and easily receptive of Nature's training, but Viollet-le-Duc's primitive man, in the words of Joseph Rykwert, had become, one hundred years on, 'brutish, beastial, barely recognizable as human'.[7] Such a dramatic shift reflected not just a new, unsentimental notion of the primitive state, but rather, through repeated colonial encounter, a familiarity of the primitive as a present and not just as an historical condition, of peoples perceived as being of lesser development. Gottfried Semper, in 1860, argued as much in his introduction to *Der Stil* connecting simple hut construction to cultural degeneracy, of time going backwards, writing:

> The most primitive tribes known to us do not give a picture of the original condition of humanity, but rather of its degeneration and impoverishment… Their provisional tents…an be seen more correctly as

> an image of their present alienation and homelessness than as the origin type of Oriental architecture.[8]

The British, with greater exposure than the other European nations to a wide range of South and South-East Asian peoples, underwent a similar sea change in attitude. Seventy years before Semper's remarks, with almost Piranesi-ian iconoclastic delight, an architectural treatise written by the English painter William Hodges attempted to show that Hindu and Mughal 'prototypes, or first models of architecture' possessed their own historical and cultural validity and distinctiveness, while being in no way poorer counterparts to those in the Western classical tradition against a supposed master prototype, the Greek hut.[9] They were equally authentic, Hodges argued, since they arose out of their own climate, material and social conditions.[10]
However, by the second quarter of the nineteenth century, as ideologies and strategies among the British ruling elites altered, the British began to bodily distance themselves from the populations they governed. Suspicions of the unfamiliar accompanied new tropes of backwardness and degeneracy, consigning the vast mass of encountered natives into the category of an unwashed lower class through their 'impoverished' architecture, their modes of dress, their physiognomy. In this light, as the matshed began to secrete its way into the domestic lives of early European Hong Kong settlers, certain disturbing proximities arose. The danger of 'going native' or of placing tremendous hardships upon the white body became articulated fears while the matshed began to be read simultaneously against concerns over climate and the physical environment.
One of the earliest examples of travel reportage on Hong Kong is entitled *Hong Kong and the Hongkonians*.[11] Published between 1841-2, it contrasted the living conditions of a native Chinese fisherman's family with those of a British regimental officer. Both occupied a matted hut. But while that of the fisherman's was described as simple-hearted, honest and fitting, the quarters of the officer was considered ill-served as even a basic means of shelter.[12] Such a European had become, in the writer's words, *Hongkonian*, melded in some dangerous way to his surroundings, irrespective of the antidotal book of Shakespeare and the toothbrush resting on his corner table.[13]
Still, for a British army accustomed to tents, and especially for the troops of the Chusan (Zhoushan) campaign in July 1840, matsheds were already a considerable improvement. The white-coned tents had been a disaster. Pitched improperly on uneven ground, they contributed to solar exposure, and consequently one year after embarkation from Calcutta 500 men had died from fever.[14]
Native roadside market stalls in Hong Kong had been covered in simple palm leaves, but military residences went through required adaptation. The *kwai* were now carefully woven together against bamboo strips into boarding that could be positioned as operable doors and windows. Other building types such as warehouses extended this further, using a double layering of boarding and even constructing internal rooms made entirely of brick for added security and stability.[15] In addition, the matshed's physical adaptability was essential in generating building structures that could quickly exploit the island's irregular terrain while road construction and levelling attempted to catch up. For instance specially designed and privately owned matshed bazaars open to the street were strategically inserted where there was maximum growth potential – within ravines between the descending ridges of hills.[16]
Ironically, while the army persisted for some time living in draughty matsheds, as did the first Deputy-Governor,[17] the merchants quickly began to produce the most sturdy and permanent structures upon the island, not least as storage facilities. For example, the American entrepreneur Charles Vanbruggen Gillespie – like the wisest of the Three Little Pigs – soon realized that for security purposes, protection from arson, resistance to typhoons, and repeated breaches in his walls from attempted larceny, the double matted walls of his godowns in Wanchai had quickly to change to brick, and eventually to local granite.[18] Competitors vied with each other in newspaper advertising, describing their storage facilities as 'extensive' and 'substantial' as well as 'spacious, dry and secure',[19] words soon transferred to the selling of domestic luxury property on the island. Thus, matshed use would soon divide along the lines of wealth, class, and institution: that is between the armed forces, civilian government and European commerce. To be fair, the military were obliged to tread carefully: more permanent construction could be misconstrued as implying that the settlement of Hong Kong was covertly to become a military garrison town, thus a dissuasion to commercial investment, particularly sensitive, since the treaty for the colony's existence was anticipated shortly to be ratified between Peking and London.[20]
The military and their matsheds became the bellwether for malaria attacks upon the colony. Principally afflicting the European and South Asian sepoy troops – constituting about ninety percent of the non-Chinese population – it struck sporadically in 1842, and then more virulently in 1843, after which it was christened the 'Hongkong Fever', since it had become, at that stage, so indiscriminate and widespread.[21]
The West Point Barracks was the first to be struck. Lying to the extreme west of the city, these matshed-type structures, raised on brick bases, were arranged on the terraces of abandoned paddy fields. Theories abounded as to the source of the fevers. First, blame was placed upon the land it-

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self. Poorly drained, uncultivated terrain was thought to harbour dangerous gases, marsh miasma, which crept out at dawn and dusk to assail those unfortunate enough to be exposed. But, as the city rebuilt itself in the following couple of years, residents began to reflect upon the materials of the buildings themselves. Medical topography was now allied with architectural scrutiny; context and construction were read together for the first time by the medical establishment.[22] Where previously, disarticulated notions of climate, height and general location were thought as principal factors of malaria, now a wider yet more precise assemblage of parts were placed under observation. At last the island was considered tectonically, as a discreet articulation of components needing to work properly together if good health was to be maintained: that is, concerns with height, orientation, dryness and ventilation of the site upon which would be placed substantial, well-shaded and voluminous enclosures. The matshed represented in its parts a microcosm, indeed an allegory, of this wider tectonic paranoia.

Two technologies that aided this new scrutiny were first, the introduction of contour lines on military maps to designate height with scientific precision, from 1845 onwards. The second was the building boom, now with properties constructed entirely of brick and/or granite. And just as Semper was soon to dissect the Carrib Hut as a means of explaining his four elements of architecture: of (clay) hearth, (stone) mound, (woven textile) wall and (timber) roof, so too the matshed constituted the paranoid tectonics of 'enclosure' with its woven wall in relation to the island's granite mound, raised or sunk into the malarial morass of a waterlogged or ill-ventilated granite terrain.[23]

The year following the fever, while one senior government official insisted to a worried Colonial Office in Whitehall that the island possessed an irredeemable pathology, its broken granite surface 'decayed… rotten… putrescent,'[24] West Point, now abandoned, revealed its secret. As the boards were lifted from the platforms in preparation for the barracks' removal it was found that 'the floors were totally rotten, and beneath them a quantity of water was lodged'.[25] This account was recalled in 1846, the healthiest year to date. West Point's lingering importance was that it, together with the matshed system, would serve as the ideal *anti-model* in almost all respects of how *not* to build in Hong Kong, whereby all of its essential, experienced detriments of dampness, poor ventilation and ground-hugging cramped-ness was reversed and keenly focused upon by developers and landlords with their fixations on airflow, volume, dryness and position.[26]

Disease was now one of three interconnecting prongs of attack by European authorities upon the beleaguered matshed. The second was its perceived susceptibility to fire (including fears of arson by Chinese spies), which led naturally to the third criticism, the harbouring of Chinese criminals, and the concealment of immoral acts. This third perception, of course, was always latent in the minds of the authorities.

These prongs finally connected during the annual ball celebrating Queen Victoria's birthday on 24 May 1845, when a massive matshed enclosing the military hospital under construction at the Admiralty docks caught fire. All the carpentry was destroyed. Notwithstanding their vulnerability, such matsheds had been hailed by one Royal Engineer on the works as 'specimens of Chinese ingenuity in scaffolding', whereby he noted 'when they are about to build a house in Hong Kong, they put up a shed of the length, breadth & height of the house before they do anything else'.[27] The Royal Engineers were so fascinated by this practice that they produced a study of it in their *Professional Papers*. (Figure 2). In a rare gesture Major Aldrich and Lieut. Collinson's study demonstrated a sincere interest in and admiration for local construction and craftsmanship.[28] This was significant since, apart from the comprador system, it could be said that the building industry contained the most sustained set of forced relations between the Chinese community and the British in the colony.

Despite several fires, the government and military continued to support the building of such flammable matshed scaffold enclosures and, hypocritically, those despised matshed barracks for non-European troops. Yet, sufficient

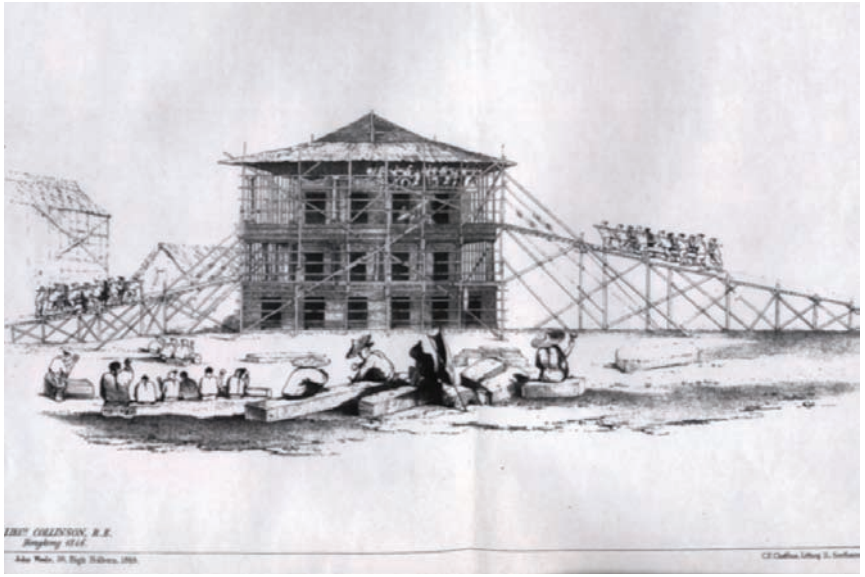

Figure 2 E. Aldrich & T.B. Collinson, 'Mat covering sheds' used to construct the Ordnance buildings. *Source: Professional Papers of the Royal Engineers* 10 (1849), Plate 5.

reasons were now given to remove those other matshed structures entirely within the native districts.[29] A notice was published in September 1845 declaring that, due to frequent fires, police would now forcibly remove any 'mat sheds or grass buildings of any description' still standing after 1 October.[30] After the notice's release raids were made by police upon Chinese areas. Under this logic, the activities these remaining structures contained had to be illicit since their envelope was now illegal. It seemed that the worst the police uncovered were gambling establishments, all promptly closed down and their proprietors and customers arrested.[31] The matshed's mere existence was justification enough for such random, warrant-less forays each and every time a crime elsewhere was committed.[32]

Matshed dwellings for Europeans had transformed back into entirely native objects becoming, once more, foreign and suspicious. By 1844 the local press felt sufficient historical distance to be able to romantically reminisce upon the early hardship of William Caine, Hong Kong's elder statesman and Chief Magistrate, having been 'cast, as it were, on the side of a barren mountain, with literally nothing but a mat hut to shield him from the weather… [and] without Architect or Engineer, a suitable Jail, Court-house, &c., rose under his indefatigable industry and auspices'.[33] Like the primitive hut in architectural theory, the matshed had been comfortably relegated to that of a founding, heroic myth, while simultaneously, its continued physical presence posed a hindrance to modern Western progress and civil order, particularly when those architects and engineers that had been lacking were now making up for lost time.

Fear of malaria linked to matsheds persisted throughout the nineteenth century as Hong Kong expanded its territory north into Kowloon and beyond, with the requirement of speedily constructed accommodation for members of the colonial civil service placed within local Chinese populations.[34] This ever-adaptable system haunted such expansion and stubbornly endured. Yet, in a fin-de-siècle act of ironic reversal the matshed was salvaged by Swiss bacteriologist Alexandre Yersin, discover in Hong Kong of the bubonic plague bacterium in 1894. Against medical advise, 'he built a laboratory for himself close to the Plague Hospital, and… so earnest was he that alongside the laboratory he put up a mat-shed dwelling, so that he might not waste time going to a fro to his work'.[35] Hovering slightly above the uneven ground, housing both Yersin's bedroom and a home laboratory, it commanded strange nobility. Its temporariness and bespoke purpose suggested both clinical newness and functional clarity. And while the nearby brick hovels of the Chinese western part of the city were found diseased and subsequently torn down, the matshed stood aloof and detached, renewed and redeemed, at least for one more brief, mythic moment.

1 Timothy Mo, *An Insular Possession* (London: Chatto & Windus, 1986), 512.
2 Michael Levien (ed.), *Naval Surgeon: The Voyages of Dr. Edward H. Cree, Royal Navy, as Related in His Private Journals, 1837-1856* (New York: E.P. Dutton, 1982), 78.
3 Ibidem, 79.
4 *Canton Press*, 15 January 1842; S.F. Balfour, "Hong Kong Before the British," *Journal of the Royal Asiatic Society Hong Kong Branch* (hereafter JRASHKB) 10 (1970), 139.
5 Ibidem, 139, 147.
6 C.A. Montalto de Jesus, "Origins of the Colony of Macao," *China Review* 24, n. 3 (1899), 138.
7 Joseph Rykwert, *On Adam's House in Paradise: The Idea of the Primitive Hut in Architectural History*, (Cambridge, Mass.: MIT Press, 1981), 46.
8 Gottfried Semper, *Der Stil*, vol. 1 (1860), 3, also quoted in: Mari Hvattum, *Gottfried Semper and the Problem of Historicism* (Cambridge: Cambridge University Press, 2004), 65.
9 William Hodges, *Travels in India During the Years 1780, 1781, 1782 & 1783* (London: Printed for the Author, and Sold by J. Edwards, 1793), 64-5.
10 Ibidem.
11 A pun on a recent rash of such titles, all from the stable of the London publisher Richard Bentley, as begun with Edward Bulwer-Lytton, *England and the English* (London: Richard Bentley, 1833), continued with Frances Milton Trollope, *Paris and the Parisians* (London: Richard Bentley, 1835), and soon followed by her *Vienna and the Austrians* (London: Richard Bentley, 1838).
12 *Canton Register*, December 2, 1841; *Supplement to the Canton Register*, January 11, 1842.
13 *Supplement to the Canton Register*.
14 "Art. VIII. Some account of Her Majesty's Twenty-Sixth, or Cameronian Regiment, from its formation to the present time," *Chinese Repository* 12, n. 3 (1843), 160-1.
15 *Canton Press*, January 15, 1842.
16 National Archives, Kew (hereafter NA), Foreign Office (hereafter FO) 925/2427, 'Pottinger Map'.
17 *Canton Register*, December 7, 1841.
18 As advertised in *Canton Register*, September 14, 1841; *Canton Register*, January 25, 1842; *Canton Register*, March 21, 1842.
19 For example: *Canton Press*, July 16, 1842 (Advertisement dated: February 23, 1842); *Canton Press*, August 23, 1842 (Advertisement dated: July, 12 1842).
20 For example, the shrewd letters of James and Alexander Matheson of the Scottish hong Jardine Matheson & Co. are peppered with such suspicions in the early years. See: *Jardine Matheson Archives* C5 & C6 files, Department of Manuscripts and University Archives, Cambridge University.
21 *Canton Press*, August 12, 1843.
22 For example: Colonial Surgeon of Hong Kong Dr Francis Dill's paper read before the China Medico-Chirugrical Society, 1845, as quoted in William Tarrant, *Hongkong Part*

1, 1839 to 1844 (Canton: Friend of China, 1861), 65.
23 For example the evolving 'site lore' of newspaper editorials, such as: *Friend of China*, July 10, 1844, which quite carefully describes a run of barracks matsheds as 'damp… mat hovels' upon a site 'wet and spongy' and 'placed in a low flat between two ridges, with a gulley on one side and a stagnant ditch on the other'.
24 NA, Colonial Office (hereafter CO) 129/7: 50a-51a, Robert Montgomery Martin, *Report on the Island of Hong Kong*, 1844.
25 CO 129/17: 96, Dill to Davis, August 14, 1846 (as recollected).
26 For example: *Friend of China*, September 20, 1845 (as advertised by W.H. Franklyn and dated: September 2, 1845); *China Mail*, February 5, 1846 (advertisement dated: January 29, 1846); *London Evening Mail*, September 29, 1845, as reprinted in the *Hongkong Register*, May 12, 1846.
27 Hong Kong Public Records Office (hereafter HKPRO), Lieut. T.B. Collinson, *Transcripts of Correspondence*, HKMS 140-1-1, T.B. Collinson to Rev. J. Collinson. Boldon Rectory, Gateshead (Hong Kong, August 17, 1845).
28 Major Edward Aldrich, "VI. – Description of the Mat Covering Sheds used at Hong-Kong in the erection of the Ordnance Buildings, and of the mode adopted by the Chinese in transporting and raising heavy Weights for these Buildings," *Papers on Subjects Connected with the Duties of the Corps of Royal Engineers* 10 (London: John Weale, 1849): 153-5.
29 *Friend of China*, November 1, 1845.
30 *China Mail*, September 11, 1845 (advertisement dated: 5 Sept. 1845).
31 *Friend of China*, September 24, 1845.
32 *China Mail*, October 9, 1845.
33 *Friend of China*, July 27, 1844.
34 "Hong Kong," *British Medical Journal* 1, n. 2091 (1901), 246, as cited in Robert Peckham, "Matshed Laboratory: Colonies, Cultures, and Bacteriology," in Robert Peckham and David M. Pomfret (eds.), *Imperial Contagions: Medicine, Hygiene and Cultures of Planning in Asia*, (Hong Kong: Hong Kong University Press, 2013), 132.
35 James Cantlie, "The Bacteriology of Plague," *British Medical Journal* 1, n. 1882 (1897), 238, as cited in Peckham, "Matshed Laboratory," 130.

6.3.3 Architecture of Sun and Soil. European Architecture in Tropical Australia

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Abstract
Substituting climatic theories of difference, a conception that was common to the eighteenth century, with biological propositions – an approach advanced in the nineteenth century by Victorian theorists of race – aided Britain's territorial interests in tropical India[1] (Harrison 1999). Breaking the association between racial distinctiveness and climate and identifying difference and superiority with biological attributes effectively negated questions relating to the viability of white settlement within the world's tropical regions. Parallel strategies, as Evans (2007) and Anderson (2002) have argued, were also evident within early twentieth-century Australia. Here a 'series of influential scientific and medical writers boosted a vision of virile whites defeating the sickness and neurasthenia in the tropics.' Previously positioned as a 'hot bed of disease,' tropical Australia now became the 'staging ground' for a 'higher type' of white Australian – a distinctive 'tropical type […] a new race, bred of sun and soil'[2] (Evans 2007: 173-5). The aim of this paper is to consider the strategies developed in the first half of the twentieth century that permitted the acclimatisation of the white man and his architecture to tropical Australia. A particular focus will be the correlation between an emerging discourse on a tropical architecture in northern Australia and the writings of Anton Breinl, Rapheal Cilento and Jack Elkington, directors of the Australian Institute of Tropical Medicine. Demonstrating the Institute's interest in theories of racial segregation and eugenics in addition to preventative medicine and hygiene (Anderson 2002), the paper suggests these writings offer an alternative "Rationale" for the tropical architecture of twentieth-century Australia revealing a logic which extends beyond the instrumental concerns of comfort and amelioration to consider more broadly theories of race, culture, politics and place.

Keywords
Tropical, subtropical, neurasthenia, fatigue, climate, post-war

> While the attention of the world has been directed with incredulity and amazement upon small colonies of Europeans striving to obtain a footing in Brazil and Peru, Rhodesia, German South-West Africa and other localities, thousands of Australians have been living in identical latitudes unaware that by doing so they were controverting the old-established, generalised dictum that the white man cannot persist under tropical conditions.[3]

In 1944, the German émigré architect Karl Langer (1903-69), in a short pamphlet titled *Subtropical Housing*, argued for the necessity of housing that was responsive to the social and climatic conditions of subtropical and tropical Queensland. Central to Langer's thesis was the rejection of the domestic architecture he confronted when first arriving in Brisbane in the early 1940s; multiple variants of the timber cottage, with single skinned walls, highset and elevated on stumps, surround by screened verandahs and roofed in corrugated iron. Suggesting the Queensland house failed climatically on multiple fronts, the focus of Langer's critique settled on the 'fatigue' of the Queensland housewife. [4] This idea, I will argue, links Langer's thesis to a long running debate within Queensland concerned with the degenerative effects of tropical and subtropical climates and the ability of the 'white man' and 'women' to acclimatise to such contexts.[5] While Langer's contribution to the debate on climatic architecture within Australia has long been recognised, the debt of his ideas to the above discourse, and its implications, has yet to be considered

White man in the tropics

In *White Man and the Tropics* (1925), the medical practitioner and public servant, Raphael (Ray) Cilento (1893-1985) put forward an argument for continuing European settlement in Australia's tropical north. 'To the great majority of the inhabitants of temperate climates,' Cilento noted, the tropics conjured:

> Visions of sweltering mangrove flats, the haunts of the crocodile; or rank and steaming forests that exhale the musky odour of decaying vegetation and conceal within their leafy depths 'miasmic' swamps; of deadly snakes and of the skulking savage with his poisoned spear. They have heard travellers tales of the mildew that lays it damp hand on paper, cloth, or leather, and brands it with its blue-green scurf; of the ravenous swarms of white ants; and the dense clouds of disease-bearing mosquitoes that blacken the skies at sunset. Returning settlers wrecked by alcoholism, but labelled by a kindly practitioner as 'tropical neurasthenia,' justify their collapse to their sympathising friends by tales of enervating heat that drains the energies and saps mental vigour.[6]

Seeking to debunk such negative tales of tropical enervation and mental decline Cilento pointed to Australia which had the 'distinction of having bred up' over the course of seventy years 'a large, resident, pure-blooded white population under tropical conditions'; approximately '103,000 along the eastern coast of Queensland alone.'[7] Collectively, this community, 'some of them the second and third generation,' represented for Cilento the largest population of white Europeans settled in any part of the tropical world. Offering a living and 'unconscious experiment' in acclimatisation, the interest of this community lay in its success and specifically the absence of any evidence of degeneration or racial decline. Families within the region, Cilento wrote, show no 'disability from climate'. 'Nor is the fertility of the women lessened' or 'the children in any sense handicapped.' The product of large families, the physical ability, stature, weight and mental reactions of the children all compared favourably, Cilento concluded, with those born in temperate climates.[8] The success of white settlement within Australia's northern tropics could be attribute, Cilento suggested, to two factors. The first was the 'relative absence of tropical diseases and… [a] resident native race.'[9] While Cilento failed to elaborate on this point in any detail in this early publication, his later writings indicate that he associated the former with the latter and viewed the success of the European within the north (and Australia more generally) as being dependent on its segregation from any indigenous populations.[10] This absence in turn generated the second condition for the white man's success in the Australian tropics; the necessity to undertake 'every occupation, from the work of the labourer to the highest intellectual pursuits.'[11]

> The one feature in common with all these colonies where success is recorded is that the residents worked, and worked hard, and it is probable, that, far from being an impossibility for the white man, work is the factor which will render it ultimately possible for him to adapt himself entirely to his new environment.[12]

The interest of Cilento's thesis lies in its adherence to the idea that the gradual adaptation and acclimatisation of the European body to the northern tropics had generated a new racial type. 'The [white] race is in a transition stage and it is very apparent that there is being evolved precisely what one would hope for, namely, a distinctive tropical type, adapted to life in the tropi-

cal environment in which it is set.'[13] He identified the outcome this process of transformation as the 'North Queenslander,' a viable example of a 'tropical born [white] Australian.' [14]

It is useful to compare Cilento's thesis with Hardy Wilson's (1881-1955) contemporary account of the tropical problem.[15] In *The Dawn of Civilisation* (1929), the architect and author, like Cilento before him, asserted the superiority of the white man over his native counterpart when placed within the context of the Australian tropics.[16] While the 'white [man]' in Australia 'was harassed by the heat,' he was in Wilson's opinion 'the more vigorous type' due to his cooler climatic origins, one which had 'enabled him to improve the energy of [his] species.'[17] Yet, while the native of such regions was enervated by a tropical climate, this did not, in Wilson's opinion, result in 'physical' or biological inferiority. Rather it simply limited the ability of such groups to 'perform those tasks by which a nation maintains itself.' Removed from this context, such capacity would be quickly restored.[18] Likewise, the long-term occupation of the world's warmer climes by people originating from cooler latitudes would quickly eliminate any advantage that this group initially held. 'In the long run', and over a number of generations, 'the white, would reach the same level' of tropical enervation and decline.[19] Suggesting that the differences that distinguished 'the races of mankind were slight,' Wilson's promoted a theory of race that was clearly biased but also fluid and malleable, and which allowed for both improvement and degeneration for all races.[20] Depending on the climatic context all 'men' could be vigorous or enervated, primitive or civilised. For this reason alone – the inability of the European settler to avoid the inevitable decline that had historically been associated with the tropics – Wilson did not support the long-term settlement of Australia's northern tropics by white communities.

Cilento replaces the sliding scale of improvement and degeneration suggested by Wilson by one of biological difference and fixed racial distinctions. The gradual development of the tropical Australian was for Cilento 'one of natural selection.'[21] There is no doubt, he claimed, that, 'both mentally and physically, certain people are better adapted to a life in the tropics than other people of the same stock and strain.'[22] While the European male had thrived in the context of northern Queensland, resulting in a new racial type, others, Cilento suggested, had not. The 'resident native race' or Aboriginal peoples, for example, were largely 'absent' within Cilento's scheme.[23] While this absence appears to have been essential to Cilento's solution to the tropical problem – in that it minimised the European's exposure to tropical diseases – the fate of Australia's native races within his thesis remains unclear. Some insight is perhaps found in Cilento's discussion of Pearl's 'vital index', a mathematical measure used to ascertain the supposed healthiness of any race, and its application to the population of the 'American Negro'. It would be difficult, Cilento argued:

> To find a more complete and critical demonstration than that furnished by these indices of the fact that the negro is biologically a less-fitted animal in the American environment physically, socially, and generally than the white. Under conditions as they are, nature, by the slow dreadfully sure process of biological evolution, is apparently solving the negro problem in the United States in a manner which when finished will be like all of nature's solutions, final, complete and absolutely definitive.[24]

Identified by Pearl and Cilento as biologically distinct from the white man – who had racially adapted to his new climatic context – the American Negro (and presumably Australian Aboriginal) was deemed by the author as remaining susceptible to the degenerative influences of his climatic context.

Cilento expressed a similar concern for the white women of Queensland. Two factors, the author suggested, could limit the capacity of the white woman to acclimatise to her tropical and subtropical context: a sedentary life in which every form of exercise was avoided; or, at the other end of the scale, fatigue caused by excessive levels of physical labour. Neurasthenia continued to occur in women who otherwise 'pass the borders of physical resiliency' when they were exposed to 'unjustifiable labour, day in day out, in grossly hot, ill ventilated, and ill built kitchens.'[25]

Draft report on tropical housing

In 1943, many of the ideas explored by Cilento in his 1925 text were revisited in a draft 'Report on Tropical Housing' submitted to the Director of the Bureau of Industry. The report was prepared by a committee which included Cilento, then Director-General of Health in the Department of Health and Home Affairs, Douglas H.K. Lee, Professor of Physiology at the University of Queensland, E.J. A. Weller, Queensland architect and President of the Institute of Australian Architects, and Robert. P. Cummings, Professor of Architecture at the University of Queensland. [26] The report considered the quality of housing in Australia's tropics and concluded that existing models were 'working strongly against the physical and mental well-being and efficiency of [the] people.'[27] A widespread 'lack of… modern features which improve home-life… labour saving devices, refrigeration, attractive and efficient kitchens, improved ventilation, and social amenities of various kinds' had col-

lectively contributed to a lack of 'household pride' and 'fostered discontent, poor morale and neurasthenia' throughout tropical Australia.[28] Suggesting the tropical house should work to 'improve' its residents the committee recommended the future development of guidelines and designs suited to the various climates of Queensland.[29]

Recalling Cilento's concern for the women of the tropical north the committee 'fatigue' and its prevention, particularly to the housewife, as the most important item to be addressed. All the items learnt in the control of industrial fatigue' should, the report suggested, 'be applied to the home wherever possible.' 'Labour-saving devices, organisation of work in continuous sequence, adequate lighting, accessibility of materials, freedom from insects, attractiveness and variety of outlook' were all to play a part in this process.[30]

Subtropical housing

In Langer's 1944 pamphlet *Subtropical Housing* the problem of fatigue is once again identified as the primary consideration of the architect interested in the development of housing type suited to the climatic conditions of south-east Queensland.[31] Noting, like Cilento before him, that the Queensland climate imposed an added strain upon the 'white housewife' – in 'no other part of the world does [she] work under such strenuous conditions' – a problem that was aggravated in Queensland by the lack of domestic help, Langer recommended that the rooms of the Queensland house be reduced in number and that the layout and decoration of these spaces be simplified. 'When there are children in the home the kitchen should [also] be placed so as to overlook their play area.' The removal of unnecessary rooms and rationalisation of the plan would, Langer suggested, reduce the number of steps taken by the housewife over the course of her day. 'Running a house a women walks a mile a day,' the architect observed.[32]

Central to Langer's plan was the simplification of the kitchen. Reduced in size and well serviced with modern appliances, everything was now within the immediate reach of the housewife. The elimination of stairs – 'the equivalent of a corridor a hundred feet long' – and the second storey also lighten the white housewife's load. For the same reason, Langer suggested, it was also undesirable to build house on high stumps,' a practice that was not only common in Queensland but climatically expected.[33]

Langer demonstrated the application of such ideas in the designs that accompanied *Subtropical Housing.* In Plates, 1, 2 (Figure 1), 4 and 5, the living areas are gathered into one open-plan space in which kitchen, dining and living seamlessly merge. The kitchen in each is significantly reduced in size and carefully planned to include cooker, refrigerator and other modern

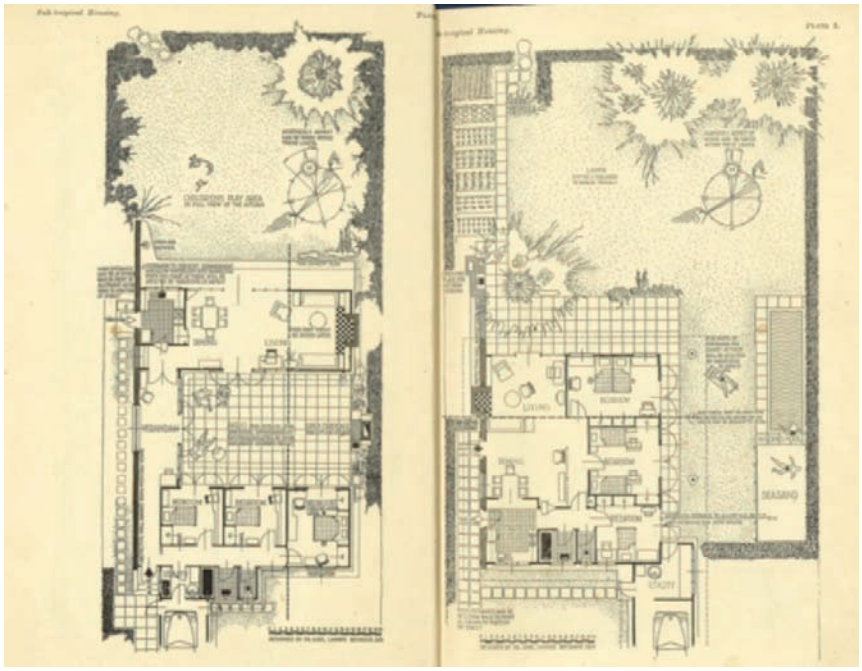

Figure 1. Plate 2 and 3 Karl Langer, Subtropical Housing (1944)

appliances. Plates 1, 2 (Figure 1) and 4 have outdoor areas dedicated to children's play and these are fully visible from the kitchen. When no play area for children is included, as in Plate 3 (Figure 1), the location of the kitchen is more flexible. Each scheme is also modest in scale and built directly on the ground. When the human figure is represented, they are portrayed (both male and female) as relaxing in the indoor or outdoor living areas, often with a cup of tea or having a barbecue. Some even sunbake or lounge by the pool. A sole reference to work – a quality all important to Cilento's thesis of tropical acclimatisation – is made in the form of a single rather muscular male figure (the new tropical Australian male perhaps) who in plates 4 and 5 enthusiastically mows the lawn. The fatigued housewife, previously exposed to unreasonable levels of labour – a condition that limited her capacity to acclimatise to a tropical or subtropical climate – is now replaced, through effective planning and design, by one that is relaxed, comfortable and in control both of her household and the climate she lives in. Langer's plates are significantly dated 1943, the same year Cilento and Lee circulated their draft report. A recommendation made by the report was the preparation by the committee of designs for houses and fittings suitable to the various

climates of Queensland.[34] It is easy to imagine that Langer's drawings were prepared with this idea in mind.

Motivating the redesign of the Queensland house, the discourse on fatigue also informed Langer's conception of the ideal neighbourhood. Noting that is it not uncommon to see women 'carrying their shopping long distances in prams and boxes on wheels,' a condition which again contributed to the problem of fatigue, Langer pointed to effective town planning as a solution. 'The shopping centre should never be more than ten minutes walk from any house. The same applies to such amenities as the primary school, kindergarten, health-care centre, library, church, recreation and sports ground, hall and bus stop'.[35]

Drawing the readers attention to Plate 8, a 'Schematic Lay-Out for a Community of Approx. 2000 with Walking Distances Max.10 Mins,' Langer mapped out the key requirements of such a community. 'As can be seen, the shopping centre, elementary school, kindergarten, swimming pool, playgrounds, library, healthcare centre and bus stop [all of which form the core of Langer's scheme] can be… reached in no more than ten minutes without crossing any road used by vehicles. Such an arrangement is only possible if the above facilities are decentralised and each community supplied with its own.'[36] The advantage of such a scheme, Langer suggested was threefold. First, it minimised the amount of walking the Queensland housewife would have to undertake in the completion of her daily duties, and thus limit any additional contribution to her workload. Second, it would minimise a reliance on the car within the Queensland state, a circumstance that would not only increase the value of individual neighbourhoods but also open up spaces within these communities for recreation and sport.[37] Finally in reducing the workload and thus fatigue of the state's housewives, it would also ensure the white women within Queensland, and the community in general, didn't revert to a sedentary lifestyle; a condition identified by Cilento as hindering the evolution of the white settler into successful tropical Australians. An appropriate level of activity could be maintained Langer suggested, by ready access to recreational facilities, both communal and private.

> The ordinary house with its front garden and backyard does not provide suitable outdoor recreation within the allotment. Nor do most cities and towns provide, within reasonable walking distance, such recreational facilities as play areas, swimming pools, picnic areas, sport-grounds, nor any place in fact, where people can walk freely and undisturbed by traffic. So the poor citizen has to buy a car in which to take his family to a tree-shaded creek or to the seaside. Why not give the citizen his tree and lawn, his swimming pool, and his walk, all within easy distance of his front door? It is obvious that the cost per head of supply all these amenities to a community would be considerably less than the cost of upkeep of a car.[38]

The central location of recreational facilities was an idea that motivated a number of town planning schemes prepared by Langer's for regional (including tropical) Queensland. His plan for Mackay (1945), a regional centre 969 km north of Brisbane, divided the city into six neighbourhood clusters, each containing a central green space for recreation (Figure 2). These were inturn interconnected by a series of additional green spaces and collectively grouped around a civic centre consisting of a library, a museum, administrative offices, open-air theatre and public-square. Integrated into the scheme were a swimming pool and sports fields. Kindergartens and shops were all placed within walking distance of the residential precinct and efforts were made to enhance pedestrian access. Vehicular traffic was fully excluded from the centre city[39].

On a smaller scale, a parallel interest in recreation and outdoor living emerged in Langer's designs for individual houses. 'Whatever means we devise for cooling and ventilating our rooms,' Langer observed, 'we find it is

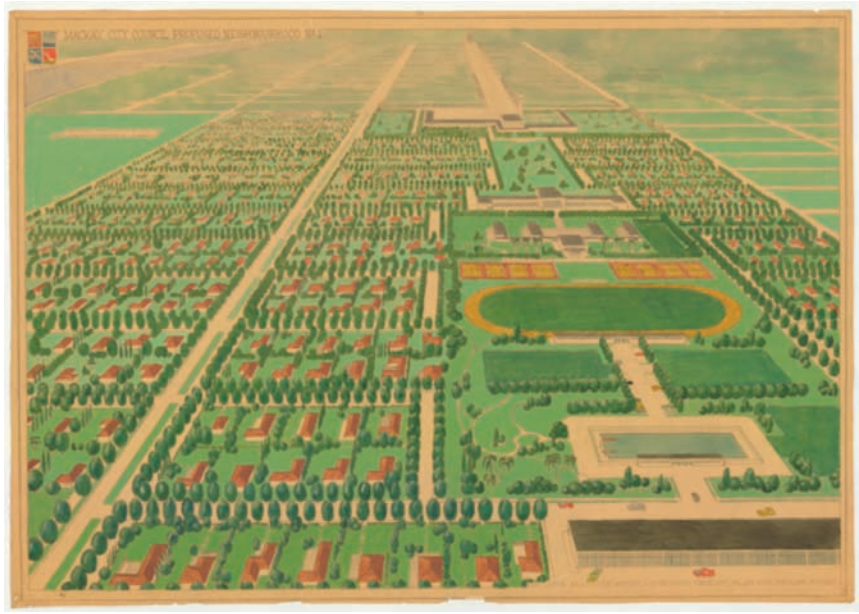

Figure 2. Karl Langer, Mackay City Plan looking east, 1945. *Source:* Mackay Regional Council, Historical Mackay City Planning Schemes.

far more refreshing under a shady tree in the open air.'[40]
Sand pits, open air showers, fireplaces, pools, seats, hedges for privacy, shady trees, vegetable gardens and open lawns all feature within Langer's suggested designs.[41] The citizen is literally given his 'own tree and lawn, his swimming pool, and his walk, all within easy distance of his front door.'[42]
The open plan house, efficient and labour saving kitchen, minimal footprint and introduction of outdoor living are features of the modern house that have long been explained in terms of changing social structures, the demise of the servant, material shortages, new technologies and increased recreational time. Langer's attachment of these features with the sub-tropical house to the discourse on fatigue suggests, however an alternative reading. Defined by the writings of Cilento and the authors of the draft 'Report on Subtropical Housing,' the idea of fatigue locked into debates surrounding tropical acclimatisation and degeneration. Centred on the housewife and a continuing anxiety regarding her susceptibility to tropical neurasthenia, one the white male had successfully avoided through work and exercise, efficient designs that streamlined her management of the house and the number of miles she walked each day were encouraged. Seeking also to avoid of an over sedentary life, an equal emphasis was given to neighbourhood planning, the placement of essential services within ten minutes of the home and a focus on recreational spaces and sporting facilities. Acknowledging the motives that informed the fatigue debate demonstrates the climatic basis of such design features within Langer's subtropical house and later town plans. Moving beyond the physical concerns of comfort and salubrity, they also reveal a continuing anxiety regarding the [white] settlement of Queensland, the process of degeneration implied, and the desire to sidestep such concerns through effective design.

1 Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850* (New Delhi: Oxford University Press, 1999).
2 Raymond Evans, *A History of Queensland* (Cambridge: Cambridge University House, 2007), 173-5; Warwick Anderson, *The Cultivation of Whiteness: Science, Health and Racial Destiny in Australia* (Melbourne: Melbourne University Press, 2002).
3 Raphael W. Cilento, *The White Man in the Tropics with Especial Reference to Australia and it Dependencies* (Melbourne: Commonwealth of Australia Department of Health, 1925), 5.
4 Karl Langer, *Sub-Tropical Housing* (Brisbane: The University of Queensland, 1944), 2.
5 David Walker, "Curse of the Tropics," in Tim Sherrat, Tom Griffiths and Robin Libby (eds.), *A Change in the Weather: Climate and Culture in Australia* (Canberra: National Museum Press, 2005), 91-6.
6 Cilento, *The White Man in the Tropics,* 7-8.
7 Ibidem, 5.
8 Ibidem, 72-3.
9 Ibidem, 5.
10 Raymond Evans, *A History of Queensland* (Cambridge: Cambridge University House, 2007), 173-75; Warwick Anderson, *The Cultivation of Whiteness: Science, Health and Racial Destiny in Australia* (Melbourne: Melbourne University Press, 2002), 86-91.
11 Cilento, *The White Man in the Tropics,* 5.
12 Ibidem, 50.
13 Ibidem, 74.
14 Ibidem, 73-74.
15 Deborah van der Plaat, "Climatic Crisis: Place, Taste and Race in Hardy Wilson's 'Dawn of a New Civilization' (1929)," *Architectural Histories* 1, n. 1 (2013), 22.
16 Wilson, *A Dawn of a New Civilization*, 127, 265, 269.
17 Ibidem, 127.
18 Ibidem, 265.
19 Ibidem, 127.
20 Ibidem, 94.
21 Ibidem, 72.
22 Ibidem, 72.
23 Ibidem, 5.
24 Ibidem, 61.
25 Ibidem, 39.
26 Raphael Cilento, Colin Clark, Douglas H.K. Lee, L.P.D.O'Connor, E.J.A. Weller and R.P. Cummings, "Draft Report on Tropical Housing," 1943, Sir Raphael Cilento Papers, Fryer Library, The University of Queensland, UQFL44, Box 29, item 219.
27 Cilento, et. al., "Draft Report on Tropical Housing," 5.
28 Ibidem.
29 Ibidem, 5, 7-8.
30 Ibidem, 2.
31 The relationship of Langer's *Subtropical Housing* to the draft "Report on Tropical Housing" is one that has previously been noted by Andrew Wilson. Andrew Wilson, Hayes & Scott, PhD University of Queensland, forthcoming. For Wilson this connection demonstrates the collaboration between government and the profession

6. CIRCULATION OF ARCHITECTURAL CULTURE AND PRACTICES

of architecture in the immediate post-war period in Queensland. Langer was a colleague of Professor Robert Cummings, one of the architectural representatives on the committee for the report and also taught at the same time as Cummings in the Architecture Program at the University of Queensland. The probability that Langer was familiar with the content and intent of the report is highly probable.
32 Langer, *Sub-Tropical Housing,* 3.
33 Ibidem.
34 Cilento, et. al., "Report on Tropical Housing," 7.
35 Langer, *Sub-Tropical Housing,* 3.
36 Ibidem, 4.
37 Ibidem, 9 footnote 1.
38 Ibidem, 9.
39 Josephine Noonan, "Unbuilt Australia Dream City of Mackay," *Architecture Australia* 96, n. 6 (2007), 28.
40 Langer, *Sub-Tropical Housing,* 4.
41 Ibidem, plates 1-5.
42 Ibidem, 9.

6.3.4 Health, Hygiene and Sanitation in Colonial India

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Abstract
Using guidebooks, pamphlets and government reports this paper will investigate British notions of health, sanitation and hygiene in India with respect to city infrastructure and housing, focusing on the late nineteenth and early twentieth centuries. Nearly all colonial planning, housing and large infrastructure projects were concerned, if not obsessed, with providing 'clean' and 'healthy' solutions for their European residents. Of course, notions of cleanliness are far from fixed or absolute. Whilst scientists and the medical profession looked for cures to the many diseases and ailments that afflicted the European populations in the Tropics, running in parallel was a belief that the built fabric and wider city planning also had a significant impact on the health of its visitors and occupants. It is this kinship that tropical architecture and tropical medicine share that I want to investigate. Moving beyond the mere separation of local and European dwellings, what other tangible attempts were made to improve sanitation, hygiene and health? The annual public health and sanitation reports for all the major cities and provinces of India provide an acute picture of the correlation between disease, sanitation and city infrastructure. Is there any connection with the outbreak of disease, perceptions of filth and attempts to prevent such an occurrence? In addition to the citywide governmental approach what of the domestic arrangement and small-scale adjustments to residences? What practical tips and advice were dispensed to those about to embark to India from Britain and how were British notions of domesticity tempered to suit the Indian conditions? Again, within publications devoted to health a chapter is frequently included on "the house". It is through these two extremes of scale that this paper hopes to contribute to the historicizing of the tropical architecture canon and to explore the connection between health and architecture in the tropics.

Keywords
India, Calcutta, sanitation, hygiene, planning, health

The relationship between architecture and climate, health and comfort has long been intertwined, especially in terms of colonial architecture and planning in the tropics.[1] Notions of 'hygiene' and 'sanitation' emerged in the nineteenth century as a means of making 'decay less rapid, life more vigorous, and death more remote,'[2] with the built environment seen as a key arena for improving the inhabitants health and productivity.[3]

The hygiene officer and sanitation inspector were charged with improving living conditions, and their outlooks, perceptions and decisions had major consequences for development in tropical cities where death rates far exceeded those of temperate climes and the fear of disease haunted the visitor. In addition, their reports provide a glimpse into how the local populations were viewed. Copious amounts of general advice was offered to Europeans about to embark to the colonies in pamphlets, books and lectures, offering tips on how to survive in the tropics and India in particular, which is the focus of this paper. There is a predictable amount of abhorrence found in these publications, as well as considerable affection for India. The range of topics covered was diverse but most offered a standard approach of advising on suitable clothing (underwear to be changed at least one per day in the tropics, and the midriff to be kept covered to avoid chills), diet (bananas to be eaten only in moderation), bathing (tepid baths at least once per day), working arrangements (excessive work to be avoided), medication, servants, schooling and domestic arrangements – a vast array of literature whereby every facet of life was viewed through a lens of health, well-being and comfort.[4] The sheer quantity of information prevents an indepth discussion of this material, instead the focus here will be on the civil sanitation endeavors in Calcutta focusing mainly on the late nineteenth century.

The earliest depictions relay the opulence, opportunity and splendor of the town – these renderings were perhaps, in part, a desire of the East India Company (EIC) to portray a successful endeavor in the East, and to bolster investors' confidence. William Wood's engravings of the 1740s are but one example of Calcutta viewed from the leafy banks of Garden Reach, looking out onto the country estates with Palladian villas and subtle hints of the East portrayed through servants sat under exotic looking fauna. It is only in the 1780s that Thomas Daniels shows something of an urban settlement, the East portrayed through parasols and modes of transportation. At the same time William Hodges noted,

> The line of buildings surrounding two sides of the esplanade of the fort is magnificent; and it adds greatly to the superb appearance, that the houses are detached from each other, and insulated in a great space. The buildings are all on a large scale, from the necessity of having a free circulation of air, in a climate the heat of which is extreme[5]

The general consensus is positive, but a lack of 'coherence' gave rise to critiques, such as that of Jemima Kindersley, an early female British travel writer, who found Calcutta in 1768, 'as awkward a place as can be conceived, and so irregular that it looks as if all the houses had been thrown up in the air, and fallen down again by accident'.[6] Although her disposition found the town unsightly, there is no mention of its infrastructure, sanitation, or lack of, despite a lottery being formed in 1797 to raise revenue for 'cleansing and beautifying the city.[7] Captain R. Jump ventured into the northern parts of the town in 1837 and produced some early depictions of the non-European districts[8]; showing rather grim scenes of poverty and decay when compared to the romanticized views of affluent Calcutta, and giving some clue that there was another facet to the settlement. Clearly there was concern over that part of Calcutta as Lieutenant H. Abercrombie proposed 'opening up of streets in the north part of the town', predominantly occupied by Indian residents, to create larger north-south orientated thoroughfares. The plan remained unexecuted, not least because it was impossible to determine ownership of the land and far too complex to negotiate purchasing it. By 1836, it was proudly noted that 170 miles of roads had been laid in the town, a pumping station had been constructed and unfiltered river water pumped in conduits along the roads and 'open drains were improved.'[9] James Baillie Fraser had depicted the open drains in 1819, a simple channel system that proved ineffective due to the rather flat terrain liable to collect mud 'several inches in depth, which, being mixed with the excrements of herds of horses and cattle occasion an emission of the most offensive effluvia…'[10] Although the drainage, dirt, and miasmic theories were considered problematic to all races, Europeans were considered in grave danger, with children most at risk. Despite this by 1844 reports were produced to the contrary,

> There is a vague impression abroad that the climate of India is extremely fatal to European child-life. Paradoxical though it may appear, it may be stated that such a belief is at once true and untrue; the mortality has been enormously in excess of that which prevails in Europe, and it may be lower than, or as low as, that of Europe[11]

Soldiers children could 'thrive, if anything, better than in England,'[12] but should they become sick then death was highly likely. Further observations were made in 1844 with reference to the living conditions;

> In the more filthy localities [of Calcutta] the actual death rate is but slightly in excess of that of the cleaner places; and the proportion of deaths among the various races is maintained without variation in all localities; proving that the terrible result is really due to the domestic treatment of the infants, and not primarily or principally to dirt[13]

An argument if true, would render attempts at improving sanitation as futile and having little effect on health and mortality rates, perhaps excusing the EIC's lack of action. The duality of the EIC as being 'subjects' in one country and 'sovereign' in another was not lost on the UK Parliament and the EIC was able to use its ambiguous position to its advantage. With the lotteries abolished in 1836 public sanitation projects ceased, and after almost twenty years of no investment,[14] a pamphlet published in 1853 revealed how rather 'creative accounting' was used to disguise expenditure on,

> canals, embankments, and roads and bridges – and what on civil and political buildings which are not conducive to the increased prosperity and welfare of our Indian population[15]

In 1854 a petition was raised in the UK parliament on behalf of the 'Trade Association and Inhabitants of Calcutta' who claimed it was, 'worse lighted, paved, drained, and cleansed, than any fifth or sixth-rate town in England'. It was delivered by the Earl of Albemarle[16] who described Calcutta as,

> The most un-healthy of the great towns in India. Bilious affections, dysentery, remittent fevers, and malaria, were the common diseases of the place, and as old as its oldest inhabitants; but Calcutta was subject to a more fatal epidemic, which … was distinctly traceable to British exactions and British neglect… [17]

He was referring to Cholera, and that the only remedy was 'a well-constituted municipal body'.[18] The Earl witnessed the first Cholera epidemics in India and considered it a British disease induced from being 'too busy draining the country of its resources to find time to remove the causes of disease, misery, and death, from the capital of our eastern empire.[19]
It was a severe critique raised in the House of Lords, and he wasn't a lone British voice in his concern over the Indian territories. Equally, the British Government had a major interest in the Company and could have forced it to act. It was the significant military mortality rates that provoked the most anxiety and eventually action, but prior to the 1863 Commission[20] there were some attempts at improving the city's sanitation. Government departments were

created in the 1850s, the beginning of a bureaucratic system split into several branches with distinct expertise, including a Public Works Department in 1854.[21] The sewerage system was a priority designed by municipal engineer William Clarke in 1857.[22] Using the tidal river to flush the sewers away from the river to Palmer's Bridge Pumping Station, the sewerage is then lifted 3m by means of a Shones pneumatic ejector machine to a high-level sewer where it falls out to the Salt Lakes.[23] Although the residents of Calcutta complained of the want of drainage, they didn't want to finance its installation through taxation. Many of the complainants already had their own water supply and were satisfied with the 'sweepers' removing their sewage; a method known as the 'conservancy system' whereby human waste was collected daily in buckets and removed by hand to another part of the city. Clark however, wanted his system to cover all of Calcutta and noted that,

> It has been urged that it will be impossible to carry these smaller pipe sewers into the northern part of the city, where the lanes are so narrow and tortuous. To this I can only offer my judgement and experience: I am of the opinion that they can be…[24]

He described such an area, 'exclusively inhabited by a native population' which had been provided with sewers, but his example was in the south of the city.[25] The sewer plan shows that in the north only four main sewer lines were initially built and the conservancy system would have to continue.
In 1864 a Sanitary Commission was formed in each of the three Presidencies to consider both military and civil health, sanitary improvements of barracks and hospitals, as well as bazaars, 'native towns' and perhaps most importantly to,

> Exercise a constant oversight on the sanitary condition of the population, European and native; to report on the prevalence, causes, and means of preventing sickness and disease[26]

'Constant oversight' was an appropriate phrase, as every aspect of city life was carefully studied and recorded. It was also at this time that the language used to describe the 'Indian quarters' decidedly changed and was overt it is criticism. Despite the scientific agenda of the commission it frequently resorted to extreme rhetoric in describing the *northern* (a pseudonym for Indian) parts of the town. The President of the Commission stated that,

> In the filthiest quarters of the filthiest towns that he had ever seen in other parts of India or in other countries, he had never seen anything

> to be compared with the filthiness of Calcutta, and that this was true, not only of the parts of the city inhabited by the poorer classes, but of the quarters filled with the houses of the richest and most influential portion of the native community[27]

Although this was a clear commentary on the Indian populous, and intimated that regardless of their wealth or class, all Indian's lived in the same conditions, he went on to declare, 'the state of the capital of British India, one of the greatest and wealthiest cities in the world to be a scandal and a disgrace to a civilized government.'[28]

The Sanitation Commissioners were able to occupy a middle ground; they could criticize the general conditions of the town and also the government, and seemed to hold both parties in equal contempt. It is also important to put the Commissioner's comment into context with other cities, for example Friedrich Engel's description of Manchester was very similar and used the same lexicon. Indeed, the Indian cities were directly compared to UK cities and ratable values, area, population size and sanitation costs were all mapped. The Indian cities and those in the UK provinces were being directly compared to each other using the same rubrics. It was possible to use these statistics to demonstrate that Indian cities were in fact better funded than those in the UK.

The Sanitary report was the start of an annual publication that collated the extensive statistics on death rates, disease, theories on health, and updates on military and civil works. As the quote above also demonstrates, it also offered a platform to ask questions, pass comment and challenge the administration.

Where Clark's sewers had not yet reached it was noted that 'one hundred urinals are in course of construction in the principal thoroughfares.' [29] A variety of designs and solutions were proposed and discussed in various publications. The location of these conveniences directly affected how the city was used and organized and the conservancy system continued with ever more attention paid to its operations. Average daily excreta weights were calculated using prisoners' samples and then compared to UK data; bucket designs were produced and the number of houses a sweeper could service carefully calculated and costed. Other activities such as slaughterhouses, tanning of hides and manufacturing were also regulated and moved away from residential areas. A slow cataloguing and systematic appraisal of the city and its inhabitants was taking place, removing, eradicating and organizing activities rendered injurious to health or simply contrary to the colonizers' vision.

In the Second Report, the plight of sailors in Calcutta was discussed detailing the 'distress and destitution of many of this class' many of whom were discharged in port with no means of returning to Britain. There was a white 'underclass' present in the city, occupying what Chattopadhyay has identified as the overlapping geographies of so-called black and white towns.[30] The Report, predictably, sought for more data and statistics, 'regarding the mortality of the sailors and the necessity for a better supervision of the boarding houses and liquor shops.[31] Tilt labeled this group the 'poor whites', and stated that,

> the English cannot get on in India unless they be well off… I would fein suggest that if the Indian Government consider them past redemption, it might at least rescue their children from ruin, by bringing them up in some training ship…[32]

For this group to feature in various reports and books suggests that it was not just lone sailors or absconders, but substantial groups and families. Where did they live and how did they survive? Were their living conditions any different from the Indian populations?

James Cuningham was a particularly outspoken and prominent member of the Commission, serving as Secretary and Chair of Hygiene at Calcutta Medical School in 1866,[33] he arranged the collation of data to produce extensive statistics, sticking to a belief in general sanitation and cleanliness over recent bacterial theories. Birth and causes of death were gathered, along with the geographical locations of disease cross-referenced to Cholera outbreaks, which were mapped and featured at the start of each annual report. He noted that,

> It is only by a careful observation of the history and progress of this mysterious disease… that we can ever hope to ascertain within any accuracy the circumstances under which it is generated, the conditions which are favourable and even necessary for its spread, and the precautionary measures which are requisite to arrest its progress[34]

Although 'improvements' continued, streets widened, water filtered and back-to-back properties demolished, the death rates did not always fall. Cuningham stubbornly disregarded the latest studies on Cholera being water borne, costing many lives in Bengal.[35] Instead, fresh air was regarded as the 'first requisite' and the remedy was to widen streets and demolish housing wherever necessary.[36] It was an approach that continued well into the 1880s when William Simpson[37] became Health Officer; his rhetoric and criticism of

the administration far exceeding that of Cuningham. He too used statistics and maps to plot disease, shifting to a macro scale that attempted to show each and every outbreak of cholera in the city on one map, and colour-coding blocks to reveal outbreaks at different periods. These maps informed where he would conduct further studies, and picking out Machooa Bazaar he recommended, 'nothing short of a wide street at least 90 feet wide through this frightful locality sweeping away the existing dens and then rebuilding with some attention to order and regularity'.[38] He conducted studies into specific Cholera cases, mapping the housing and movements of the residents onto large-scale plans showing wells, drains and tanks [reservoirs]. Although he found the overcrowding and lack of ventilation a major concern it was also the gradual replacement of huts with brickbuilt houses that compounded the problem of introducing sewers and adding to the expense of demolition compensation. He wanted 'commissioners to have full powers over the regulation of buildings, also the direction and width of streets' based on a 'model plan of the city'.[39] Houses should be adapted to the streets and sewers and not the other way round, and whereas the administration had treated entire districts as an entity, he wanted attention paid to every single hut construction and for each design to conform to regulations on access, ventilation, drainage and street plan.[40] The building heights were not to exceed the street widths, and Simpson even recommended using Abercrombie's plan that had remained dormant for over 50 years. Instead of carting garbage out of the city he used it to fill in the tanks but these sites were then quickly occupied by new residents further compounding the problems. Furthermore, with the water tanks being removed and the new filtered water system unable to meet demand, the residents were forced to drink from shallower polluted tanks, or 'compelled to fetch most of their water from the river…'[41]

Once the water supply had been improved and standposts increased (Simpson recommended 4-5000 new standposts in 1886) Cholera was largely contained and the city only had plague to contend with.

We have seen how the Indian city was viewed primarily in terms of hygiene and health, and was developed according to the sanitary commissioner's data and beliefs. The overlapping territories of the white underclass and the Indians residing in the southern part of the city need further investigation. Furthermore, the colonial cities were directly compared to UK provincial cities and both were considered primarily as commodities and analyzed using the same criteria, suggesting they were not viewed as distinct. The legacy of these reports was the creation of building regulations and set standards for street widths, water supplies and sewers that although flawed and lacking were only delivered as a result of the credible, contemporary critique of the administration that the sanitation officers were able to give.

1 For example, see James Johnson, *The Influence of Tropical Climates on European Constitutions* (London: 1813).

2 Charles Pardey Lukis and R. J. Blackham, *Tropical Hygiene for Anglo-Indians and Indians* (Calcutta: 1911), 1.

3 Extensive work has been undertaken in this area by Swati Chattopadhyay, *Representing Calcutta, Modernity, Nationalism and the Colonial Uncanny* (London: Routledge, 2005); Prashant Kidambi, "'An Infection of Locality': Plague, Pythogenesis and the Poor in Bombay, C. 1896-1905," *Urban History* 31, n. 2 (2004), 249-67; and in other parts of the tropics by Ambe Njoh, *Urban Planning and Public Health in Africa; Historical, Theoretical and Practical Dimensions of a Continent's Water and Sanitation Problematic* (Farnham: Ashgate, 2012) and Philip D. Curtin, "Medical Knowledge and Urban Planning in Tropical Africa," *American Historical Review,* 90 (1985), 594-613.

4 For just a small sample see: C. R. M. Green and V. B. Green-Armytage, *Birch's Management and Medical Treatment of Children in India* (Calcutta: Thacker, Spink 1913), originally published in E. J. Tilt, *Health in India for British Women and on the Prevention of Disease in Tropical Climates* (London: J & A Churchill, 1875), 1. George Montagu Harston, *The Care and Treatment of European Children in the Tropics* (London: Bailliere, Tindall and Cox, 1912), K. A. Platt, *The Home and Health in India and the Tropical Colonies* (London: Baillière, Tindal & Cox, 1923), J. B. Kirk, *Hints on Equipment & Health for Intending Residents in the Tropics (*London: Baillière, Tindall and Cox, 1931).

5 William Hodges, *Travels in India During the Years, 1780, 1781, 1782 and 1783* (London: J. Edwards, 1794), 15.

6 Jemima Kindersley, *Letters from the Island of Teneriffe, Brazil, the Cape of Good Hope, and the East Indies* (J. Nourse, 1777).

7 Lord Ashley, *Stamp Tax in India*, 17 June 1828, vol. 19. http://hansard.millbanksystems.com/commons/1828/jun/17/stamp-tax-in-india#S2V0019P0_18280617_HOC_4

8 Including Bara Bazaar and Rupchand Roy Street

9 C. C. James, *Drainage Problems of the East* (Bombay: The Times Press, 1906), 266.

10 F. Corbin, *A Treatise on Epidemic Cholera as It Has Prevailed in India* (Calcutta: 1832), 212-213.

11 C. R. M. Green and V. B. Green-Armytage, *Birch's Management and medical treatment of children in India*, Calcutta, Thacker, Spink 1913 (originally published in 1844), 3.

12 Green, Green-Armytage, *Birch's*, 4

13 Ibidem, 7.

14 James, *Drainage Problems*, 267.

15 *India Reform: Public Works*, (London: Saunders and Stanford, 1853), 12 [http://www.jstor.org/stable/60100595]

16 George Thomas Keppel (1799-1891)

17 The Earle of Albemarle, Municipal Institutions for Calcutta, 1 May 1854, vol. 132. http://hansard.millbanksystems.com/lords/1854/may/01/municipal-institutions-forcalcutta#S3V0132P0_18540501_HOL_6
18 Ibidem.
19 Ibidem.
20 *Royal Commission on the Sanitary State of the Army in India* (London: Edward Stanford, 1863)
21 L.S.S. O'Malley, *History of Bengal, Bihar and Orissa under British Rule* (Calcutta: Bengal Secretariat Book Depot, 1925), 371.
22 William Clarke (1821-80). Work commenced in 1859. Brick egg-shaped sewers were built under the main streets, stoneware pipe sewers in lanes and alleys. 35 miles of brick and 37 miles of pipe sewers had been constructed by 1875. Clark would go on to work in Madras and later in Australia.
23 William Clark *The Drainage of Calcutta: Paper Read at the Bengal Social Science Congress, 2 February 1871* (Calcutta: Thacker Spink and Co, 1871).
24 Ibidem, 11.
25 Ibidem, 11.
26 John Strachey, "Sanitary Commission for Bengal, 1864-65;" *First Annual Report*, (Calcutta, 1866), 1.
27 Ibidem, 61.
28 Ibidem.
29 Ibidem, 62.
30 Swati Chattopadhyay, *Representing Calcutta, Modernity, Nationalism and the Colonial Uncanny* (London: Routledge, 2005), 79
31 *Second Annual Sanitary Report for Bengal 1865*, (Calcutta: Military Orphan Press, 1865), 116-7.
32 E.J. Tilt, *Health in India for British Women and on the Prevention of Disease in Tropical Climates* (London: J & A Churchill, 1875), 107.
33 James McNabb Cuningham (1829-1905).
34 *Annual report of the Sanitary Commissioner with the Government of India*, (n.p.) 1867, 1.
35 In the early 1870s he questioned Dr. Snow's findings in London. See *Eight Annual Report*, 1871. By 1876, almost half a million deaths were recorded, 400,000 more than had occurred than in 1874, see *Seventh Annual Report of the Sanitary Commissioner with the Government of India 1870* (Calcutta: Office of the Superintendent of Government Printing), 63.
36 *Second Annual Report for Bengal, 1865* (Calcutta: Military Orphan Press, 1865), 106.
37 William John Richie Simpson (1855-1931) was Health Officer from 1886 to 1897.
38 W. J. R Simpson, *Report of the Health Officer of the Town of Calcutta for 1886* (Calcutta: Municipal Printing Press, 1887), 13.
39 Ibidem, 25.
40 Ibidem, 26.
41 W. J. R Simpson, *Report of the Health Officer of the Town of Calcutta for 1887* (Calcutta: Municipal Printing Press, 1888), 20. 'Coupled with a water famine and lack of water pressure which meant that the standpipes had to be excavated and lowered to the level of the water pipe. Even then two gallons was taking 15 minutes'.

6.3.5 Climate, Disaster, Shelter: Architecture, Humanitarianism, and the Problem of the Tropics

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Abstract
This paper presents a little-studied history of exchange between architectural practice and humanitarian intervention, predicated upon a technology and rhetoric around climate formulated between actors in Europe and the tropical zones in the second half of the twentieth century. Materially, humanitarian activity during and after the Cold War left a vast global footprint, with planned spaces and designed artifacts responding to tropical environments at local levels. Rhetorically, an abstracted notion of climate masked international development agendas inherent in this activity, embedding them within an architectural discourse around environmental disaster in the tropics that contributed to broad anxieties of the period. Culturally, congregations from the early 1950s to the present in the legacy of "tropical architecture" consistently directed a professional architectural gaze upon issues of hygiene and biopolitics in the global South, providing urgent claims for a discipline flirting with postmodernism. These constructions will be examined in three episodes, beginning in the 1990s with an international workshop convened by the United Nations High Commissioner for Refugees to study cold climate architecture, moving to research endeavors by academic, private sector, and United Nations actors in the 1970s in tropical sites, and finally, studying delays, perversions, and other descendant practices and discourses in twenty-first- century camps for 'climate refugees'. Drawing evidence from archival and oral history research in Geneva, Nairobi, Oxford, and along the border of Somalia, this paper traces events, genealogies and a wide network of figures through hard and soft architectural exchange. It examines the configuration of a space around the empirical and conceptual problem of tropical climate as translated through the European problem of humanitarian intervention.

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6.4 Lost (and Found) in Translation: The Many Faces of Brutalism

SESSION CHAIR:
RÉJEAN LEGAULT
Université du Québec à Montréal, Canada

Ever since the publication of Reyner Banham's famous 1955 essay *The New Brutalism*, the idea that a modern building could display a 'brutalist' expression has flourished internationally. Notwithstanding the many possible origins of this design approach – the usual suspect being Le Corbusier's béton brut at Marseille's Unité d'habitation – it was Banham who launched this memorable phrase. During the following decades, words like brutalist and brutalism have been freely employed by critics and historians alike to describe diverse architectural works realized between the mid1950s and the mid-1970s. From his British standpoint, Banham wrote as a propagandist assisting the birth of an architectural movement. Yet by the early 1970s, American historians – among others – were struggling to qualify buildings that had often received a lukewarm reception, not least because of the negative connotation associated with adjectives like brutal and brutality.

From Banham's 'New Brutalism' to the historian's brutalism, something was unquestionably lost in translation. However, as in all translations, something new was also created. It is this process of transference that forms the focus of this session. For if Brutalism has been widely accepted as the key notion to characterize a certain genre of work produced during the post-war period, the way this idea – and this expression – have penetrated into most national architectural cultures is still in need of closer examination. Though Banham himself touched upon the international dissemination of Brutalism in his 1966 survey, this issue has not yet been thoroughly investigated. When and how did the notion of Brutalism enter (or reenter) French architectural culture? When and how did it enter other countries in continental Europe, the Middle East, South America, Australia? Was the original Brutalist impetus acculturated within specific national or regional building traditions? What are we to make of the substantial differences in terms of planning, spatiality, and materiality between works that have been confidently enshrined as Brutalist, like Vittoriano Vigano's Istituto Marchiondi in Italy (1954-8) and Paul Rudolph's *Art & Architecture Building in the United States* (1959-63)?

I seek papers that explore the penetration, adaptation, acculturation or reconceptualization of Brutalism within various national contexts. Contributions may address this topic from a broad perspective or through the study of specific buildings, architects, writers or publications. While the session aims to concentrate on the investigation of particular national situations, papers that study the translation from one context to another are also welcome.

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6.4.1 When Communism Meets Brutalism: The AUA's Critique of Production

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Abstract

In his 1966 book *The New Brutalism: Ethic or Aesthetic?* Reyner Banham famously articulated previous ideas and tied the rise of 'New Brutalism' in England with communism, but as a reaction against it. New Brutalism was for him a counter 'attitude and program' that certain architects deployed to the 'pre-Khrushchev Anglo-Zhdanov line' fostered by British officials, a revival that *The Architectural Review* dignified as New Humanism. Nevertheless, if the native-tenets of British 'New Brutalism' moved away from the picturesque and from communism altogether, that was not the case for their counterparts on the other side of the English Channel.

This paper examines the self-proclaimed *néobrutaliste* attitude of Atelier d'Urbanisme et d'Architecture (AUA) from a different context, wherein French communist-affiliated architects and fellow travellers were stigmatized vis-à-vis the country's major architectural commissions. The AUA was founded in the bourgeoning *Trente Glorieuses* as a forerunner interdisciplinary cooperative gathering architects, engineers, sociologists, urban planners and decorators. Not all of AUA's members were communists, but from 1960 to its dissolution in 1985, they established a symbiotic relationship with communist elected officials who welcomed new cultural practices and architectural experimentation. Working predominantly in the outskirts of Paris, the housing schemes and social facilities they collectively conceived were soaked with the societal universe of working-class towns and partisan intellectual impregnations: the textures of nineteenth-century brick-factories and cinderblocks combined through Brechtian techniques of montage.

Much like Le Corbusier's ethos in Marseille's *Unité*, the AUA promoted 'high quality architecture for programs that were poor in means (by contamination [we] impoverished wealthier programs)' according to Paul Chemetov. Despite their pioneer critique of mass production, they pursued the 're-humanization' of *béton brut* and prefabrication methods when both started to be condemned in France. AUA's search for a workerist aesthetics allied with technological rationality had strong implications in the architectural form.

6.4.2 Gravitas and Optimism: The Paradox of Brutalism in Skopje

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Abstract

Brutalism came to Skopje after the 1963 earthquake via a hybrid set of trajectories. The atmosphere was characterised by a paradox between the tragedy of the disaster and the international political optimism promoted by the United Nations (UN) and Yugoslavia's leading role in the Non Aligned Movement (NAM). Kenzo Tange's winning master plan for Skopje resulted in a reinvention of the city manifested in prominent structures including the Telecommunications Building (1972-81) by Janko Konstantinov; the campus of Ss. Cyril and Methodius University (1974) by Marko Mušić; the National Hydraulic Institute (1972) by Krsto Todorovski; and the Bank Complex (1970) by R. Lalovik and O. Papeš. Massive, raw structures have produced a monumental and enduring presence and have inspired Skopje's title as 'brutalist capital of the world.'

Gravitas is associated with the weight and seriousness of destruction, and in this paper, the reference of the paradox between gravitas and optimism is to Japanese Metabolism. For Tange and Kisho Kurokawa, the devastated post-war condition was integral to their philosophy that robust structures provided the 'vital force of the masses' that a city needed to reinvent itself. In order to develop a complex historical trajectory of brutalist architecture, the paper will look in particular to the work of Georgi Konstantinovski. Yugoslavia had established international student exchange programmes and the young Konstantinovski was accepted in the Master programme at Yale University. His architectural imagination was stirred by the mentoring of Paul Rudolph and Serge Chermayeff. Two buildings realized by Konstantinovski after his return – the Skopje Archive Building (1966) and the Goce Delcev Student Dormitory (1969) – have been influential and have stood the test of time. What were Konstantinovski's architectural inspirations and fantasies? While marginalised in the architectural debates, these two buildings challenge the historian to be more cautious about their location within existing narratives.

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6.4.3 Bringing it All Home: Australia's Embrace of 'Brutalism' 1955-75

PHILIP GOAD
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Abstract
In July 1967, Australian architect and critic Robin Boyd wrote in *The Architectural Review* of "The Sad End of New Brutalism". It was, simultaneously, a cutting critique and resounding endorsement of Reyner Banham's *The New Brutalism: Ethic or Aesthetic?* (1966). By the mid-1970s, Australia might have boasted that it had answered both parts of Banham's question in the affirmative. But the emergence in Australia in the late 1950s of what came to be known as Brutalism in architecture was complex and across a vast continent, regionally split. This was due partly to Australia's geographic isolation and longstanding Commonwealth ties, partly to the postwar arrival of British and European *émigré* architects already steeped in modernist critique, partly to Boyd's reflections on Brutalism in his buildings and writings, especially *Kenzo Tange* (1962) and *New Directions in Japanese Architecture* (1968), and partly due to long-standing professional traditions of working in England and the Americas, made especially influential by shared experiences gained by cohorts of young Australian architects working in specific architectural offices and their subsequent return. The London office of Chamberlin Powell & Bon in London and the Toronto office of expatriate Australian architect John Andrews, for example, were key loci for immersion in particular aspects of an emergent Brutalism. The translation of these experiences to Australia was complicated by changed circumstances 'at home:' a concomitant embrace of the indigenous Australian landscape; the dramatic expansion of existing universities and the creation of new ones; and a government sponsored program of monumental public buildings in Canberra, the nation's capital, that would see that city become, by the late 1970s, a showpiece of Brutalist architecture, but of a distinctly Antipodean strain.

Keywords
Brutalism, Australian architecture, modernism, Reyner Banham, Robin Boyd, Japan

New Brutalism – The importance of definition
In July 1967, Melbourne architect Robin Boyd wrote in *The Architectural Review* (*AR*) of 'The Sad End of New Brutalism'.[1] It was, simultaneously, a cutting critique and resounding endorsement of Reyner Banham's *The New Brutalism: Ethic or Aesthetic?* (1966).[2] For more than twelve years, Boyd had been closely following the trajectory of Banham's precise definition of New Brutalism since his December 1955 *AR* article of eponymous title,[3] especially since Boyd himself had, through the auspices of *AR*, inserted his own 'ism' – a 'New Eclecticism' – between New Empiricism and New Brutalism in 1951.[4] Banham's 1955 definition is important because it colours the understanding of the reception and, often misapplied, codification of the term 'Brutalism' in Australia. Banham defined New Brutalism directly through the work of Alison and Peter Smithson as:

> 1, Memorability as an Image; 2, Clear exhibition of Structure; and 3, Valuation of Materials 'as found.' Remembering that an Image is what affects the emotions, that structure, in its fullest sense, is the relationship of parts, and that materials 'as found' are raw materials…[5]

The key point is the first and the one, which has been largely omitted in most accounts of the international spread of so-called 'Brutalism'. These, by and large, emphasise, almost exclusively, the latter two points. Banham's idea of 'Image' derives from his discussion of topology – the study of shapes and spaces that are preserved through deformation according to forces such as connectedness, continuity and boundary - as a direct counter, anti-art and anti-architectural, to the formalism and Platonic geometries discussed by Rudolph Wittkower,[6] which had received great attention in the late 1940s, most notably by the Smithsons themselves in their Hunstanton School (1950-4). Banham points rather to the importance of the Smithsons' aformal, anti-geometric competition entry for extensions to Sheffield University (1953), as being the most accurate example of the 'New Brutalism'.[7] Given this focussed explanation, it is appropriate to consider, for the purposes of this paper, the two terms 'New Brutalism' and 'Brutalism' as different, and admit that Australian understanding of the distinction was dependent on individual experience and context.

Robin Boyd was fully aware of the distinction. In *Architectural Forum*, July 1959, he included Vittoriano Vigano's Istituto Marchiondi outside Milan as one of his 'six different interpretations of "beauty"', describing it as 'brutalist', predating its publication in *AR* in May 1961, and its inclusion in Banham's 1966 book.[8] In 1960, in his poignantly titled book, *The Australian Ugliness*, Boyd recounted Banham's 1955 definition, and argued for its significance

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as being 'the first consistent assault on the classical conception of beauty', but despaired over its 'catch-phrase name'.[9] Of New Brutalism in Australia, Boyd remarked that it had not yet appeared and that: 'The coarse, crude Anti-Featurism of the Brutalists was too much even for architectural students in the land of the Featurists.'[10] For Boyd, never really as 'bloody-minded' as the Smithsons,[11] New Brutalism was instead a counter to his long-held concerns over an Australian tendency to emulate the contemporary American search for beauty, especially in commercial architecture and the non-pedigreed sphere of the Australian suburban home.

Boyd completed two of Australia's earliest New Brutalist buildings: his own house at South Yarra, Victoria (1957-9) and the Black Dolphin Motel, Merimbula, New South Wales (1958-60). With its section of sweeping catenary roof and enclosed courtyard across a sloping site, the Boyd House had the memorable image, direct expression of structure, and 'as found' materials: off-sawn timbers, untreated pine ceiling boards, and recycled brick floor. The Black Dolphin Motel was a refutation of American commercialism: a relaxed siting of linear blocks amongst Australian eucalypts, with a palette of exposed local bricks, repetitive modular window infill panels, and peeled timber logs as columns to verandahs and covered walkways: a low-tech, 'as found' language – a grounded version of the Smithsons' elevated walkways at Sheffield.[12]

The well-trodden path to England

Boyd was unusual in Australia for his appreciation of the nuances of New Brutalism and his preparedness to explore these ideas in text, a measure of his sophisticated and long engagement with international discourse. By contrast, most Australian architects were not unworldly but instead focussed directly on design and building, combining formative professional experiences with architectural travel. One of the most enduring conduits of gaining experience was the habit of work and sometimes further education in Great Britain.[13]

From the early 1950s until the mid-1960s, many young Australian architects worked across a network of British offices like The Architects Co-Partnership and Denys Lasdun, but most often within the London County Council (LCC)[14] and Chamberlin Powell & Bon.[15] On returning home, these architects translated their office and travel experiences to an Australian setting. In Sydney, this was realized in an unassuming 'as found' architecture of clinker bricks (deliberately chosen for their surface imperfection hence individuality), skillion roofs clad with terra cotta tiles, and stained timber structure and trim and seen in houses, schools and university buildings by firms like Ancher, Mortlock, Murray & Woolley and individuals like Ian McKay, Philip Cox, Don Gazzard and Peter Johnson, as well as a host of architects within the New South Wales (NSW) Government Architect's Branch, one of the main beneficiaries of the English work experience.[16] All shared interests in contemporary British, Italian and Scandinavian architecture, especially the work of Alvar Aalto and Heikki and Kaija Siren, encouraged by LCC Housing Division Head HJ Whitfield Lewis.[17] Interestingly, while Le Corbusier's work was well known, its influence in Australia was almost non-existent, and if detectable, was almost always translated via British interpretations by the likes of Lasdun, Stirling and others.

This domestic idiom was not conspicuously New Brutalist. It was also not limited to Sydney and could be found across Australia in houses by John White (Perth), John Chappel (Adelaide), John Reid and Graeme Gunn (both in Melbourne), and in the affordable brace of houses produced by project house builders, Pettit and Sevitt (Sydney) and Merchant Builders (Melbourne) from 1965. If these houses echoed those of John Voelcker, Richard Llewelyn-Davies and John Weeks, and Howell Killick Partridge & Amis, the reality was an aesthetic sensibility borne of reaction to the typical product of the Australian suburb rather than any sense of strident polemic.

An architect who directly translated the Smithsons' ideas to an Australian setting was Tony Moore (1925-72). A student at London's Architectural Association in 1953 he returned to Sydney shortly afterward but remained fully committed to exploring the Smithsons' ideas.[18] In 1959, he completed his own house in North Sydney: a local interpretation of the Smithsons' Sugden House (1956).[19] Different from the prevailing tendency to spread across the contours of Sydney's harbour-side landscapes, the Moore House was compact, vertical, gable-roofed, and designed around an open stairwell. Jennifer Taylor described house's qualities:

> The utterly convincing aspect of the house is its fundamental nature… No excuse is made for materials that are as basic and inexpensive as possible, building errors, and detailing that can only be described as crude. Exposed pipes and wiring, industrial gas heaters and a heating stove with its outer case removed to expose the 'true' functional component, exist without apology. Its principal virtue is the lack of sophistication – a statement of the man's convictions.[20]

Earlier in 1957, using *Social Structure and Personality in a City*, a UNESCO-funded study of patterns of Australian family life,[21] Moore devised a 'cluster' of hexagonal row houses each with an interior plan of biomorphic shaped walls and courtyard.[22] Inspired by the Smithsons' 'House of the Future'

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(1956),[23] Moore combined their patio and pavilion concept with the honeycomb plans of Backström & Reinius's Gröndal apartments, Stockholm (1947), hoping to revive local interest in 'row housing without the monotony of rows' with a potentially infinite collection of polygons that would reorder the typical suburban subdivision.[24]

Moore's interest in the morphology of the inner suburbs of Australian cities was not unique. The two-storey nineteenth-century terrace house, whose design was dictated by a generic language of party walls and rooms of generic size, was coming under increasing scrutiny as an alternative to suburban living. Reyner Banham, visiting Australia in 1962, remarked on its design and climatic potential as a typology worthy of investigation.[25] Significant examples include houses by David Saunders in Parkville, Melbourne (1962) (visited by Banham in 1962 and declared as 'But this is not an Australian House'),[26] John Railton in Spring Hill, Brisbane (1963),[27] Dickson & Platten in North Adelaide (1964),[28] and Judith and John Brine in St Vincent's Place, Albert Park (1967).[29] Again, while the language of 'as found' materials and clearly expressed structure was present, the experiences were particular: Saunders had travelled to Britain on a Nuffield Fellowship specifically to study terrace housing; Judith Brine had studied under Saunders at the University of Melbourne and so had Railton; Dickson had worked for Mangiarotti and Morasutti in Milan, then Fry, Drew, Drake & Lasdun in London. All these houses could be described as 'Brutalist' rather than 'New Brutalist', and all were part of a general move locally away from Australian preoccupations with the detached suburban house.

The émigré architect

There were other reasons for a so-called 'Brutalist' language appearing across Australia. Émigré architects like Maurice Hurst, Bernard Joyce, Bill Nankivell, Jeffrey Howlett and Peter Partridge brought English sensibilities through their initial training at places like the Hammersmith School of Arts and Crafts and London's Architectural Association or work experiences in London, though these sensibilities were never completely consistent. Howlett & Bailey's Beatty Park Pool kiosk and residence (1962) in Perth, for example, was more indebted to United States-influenced Miesian modernism. Arguably more interesting, inventive and a challenge to the label 'Brutalism' was the presence of European émigré architects, who'd been arriving in Australia since the late 1940s. Many deployed an aesthetic language of unadorned materials (invariably off-form concrete), figurative elements, and expressive structure. Italian émigré architects Enrico Taglietti (educated at the Politecnico di Milano) and Ermin Smrekar (educated in Trieste) brought an expressive organic, Wrightian-influenced language of modern architecture promoted by Bruno Zevi.[30] Taglietti's libraries in Dickson, Canberra (1967-9) and St Kilda, Victoria (1970-2), for example, had *beton brut* walls coupled with expressive roof forms and accentuated, ground-hugging massing. Viennese émigré Harry Seidler was a long-time devotee of Marcel Breuer, and his *beton brut* work owes much to that of his former employer. Polish-born and British-educated Antoni Solarski's (1920-1975) design for Hawkins & Sands' St Lawrence's Church, Dalkeith (1957) reflected his interest in the mid-1950s work of Italian architect Gino Valle,[31] while Dutchman Dirk Bolt's Christ College, Hobart in Tasmania (1959-60) and Long Beach Bathing Pavilion, Sandy Bay (1962) used off-form concrete, concrete block and sculptural bas reliefs, moving closer to Banham's more precise definition of Brutalism. The topographically sensitive but materially direct forms of Christ College drew an extreme reaction from local commentator Peter Dermoudy in 1962, who wrote:

> Uncohesive, obvious, even characterless, but somehow TASMANIAN
> I hate this building for being a big, cold, concrete bastard, but I would also like to be friends with it.[32]

The presence of these European émigré architects and their work further complicates the already diffuse label of 'Brutalism' in Australia, bringing its use as a term into serious question. Their work undercut the austerity of British influence, instead bringing to 1960s Australian architecture, a material richness, sculptural variety and expressionism it otherwise had not possessed.

Australia looks to Japan

As if to complicate matters further, there was another diffusing influence, but much closer to Australian shores. By the late 1950s, young Australian architects like Neville Gruzman were travelling to Japan, inspired by books such as *Architectural Beauty of Japan* (1955), or the new Japanese Embassy in Canberra, or by the organized tour run by the University of Melbourne.[33] Bernard Joyce, for example, accompanied the 1961 tour, and on his return was involved in designing Bogle & Banfield's Total House, Melbourne (1962-5), which closely echoed Kiyonori Kikutake's Shimane Prefectural Museum, Matsue, Japan (1959).[34] Local interest in Japan was given international validation with Robin Boyd's well-received monographs, *Kenzo Tange* in 1962 and *New Directions in Japanese Architecture* in 1968.[35] These books from Australia's leading critic, his journal articles, his Japa-

nese-influenced houses, his Menzies College at La Trobe University (1967-70), and a series of unbuilt residential projects, gave elegance, *shibui* and a new sense of self-confidence to Australian architecture. The Plumbers and Gasfitters Union Headquarters, Melbourne (1969) by Graeme Gunn, who had worked for Boyd, struck a common note with the vigorous language of 1960s Japanese architecture and Australia's prominent presence at Expo 70 in Osaka meant that Japan had become a regionally relevant benchmark for contemporary Australian architecture.[36]

The school and the university

The combined effect of travel, émigré influence, and regional example on an Australian 'Brutalism' find would its most enduring expression in buildings for education, a field, which boomed at the end of the 1950s with heightened demand for places at secondary schools and universities. The Hale School Memorial Hall, Perth, Western Australia (1961), designed by Tony Brand in association with Marshall Clifton, was a heroic framed structure with boarded off-form concrete walls and sculptural relief, the forerunner of similar buildings in Western Australia that would find their apogees in RJ 'Gus' Ferguson's University of Western Australia faculty buildings from 1967 and Brand's South City Beach Change Rooms (1970).[37] In Melbourne, Kevin Borland teamed up with Daryl Jackson, who'd worked for Chamberlin Powell & Bon and Paul Rudolph in New Haven, to produce the Harold Holt Swimming Centre (1967-9) in concrete block, off-form concrete and industrial glazing, celebrating structure and circulation with sculptural ramp and chamfered forms in plan and section. Simultaneously, Jackson designed for Lauriston Girls School (1965-8), a three-storey mixed use block around a 'Special Studies Court', creating an 'urban' or 'city' square with spatial connections resembling streets or lanes, the first of a series of significant Brutalist school buildings that Jackson designed with Evan Walker between 1965 and 1979.[38]

As in Great Britain and Canada, so too was there dramatic expansion of Australia's tertiary education sector from the early 1960s. Completely new universities were established in outer suburban, semi-rural or bush settings. The 1960s bequeathed Brutalism to every campus, despite differing ages, sites and urban character. Two buildings at the University of Queensland best satisfy Banham's call for imageability through topology. James Birrell's zig-zagging Union College (1963-74) and his Agriculture and Entomology Building (1966-9) with its hinge-like crank in plan, precast concrete hoods and ugly yellow and over-burnt reject clinker brick walls are arguably Australia's most original and homegrown 'New Brutalist' examples.[39] Elsewhere, the almost universal embrace of a language that celebrated honest construction, places of community and pedestrian connectivity coincided with a resurgent interest in indigenous Australian flora that was actively encouraged within the NSW Government Architect's Branch. The University of Newcastle, Macquarie University, Griffith University and further education campuses benefitted from the involvement of landscape architects like Richard Clough, Alan Cole and Bruce McKenzie.[40] But no university could outdo the bravado of University of Technology Sydney's high-rise slab of 32 floors (1969-79), the tallest educational building in the country with its expressed horizontals and an interior of Piranesi-like concrete stairs, voids and coffered ceilings.

Canberra: Brutalism's Indian summer

While the Australian tertiary education sector expanded rapidly in the 1960s, the institutional embrace of Brutalism also took hold in the nation's capital, Canberra. By 1964 the city had gained prim monuments like the Russell Offices and the National Library of Australia. But in July 1968, things changed. The winning competition entry for a new Australian National Gallery by Sydney architects Edwards, Madigan, Torzillo & Partners was a Brutalist, landscape sensitive design. Robin Boyd was one of the assessors. While the project took more than a decade to come to fruition, the die was cast for an aesthetic sea change in Canberra. That same year, John Overall refreshed the capital's design review committee (National Capital Planning Committee), adding Boyd and Professor Gordon Stephenson. From his first meeting in January 1968, Boyd had significant impact. He and Stephenson updated the aesthetic principles for any new building in Canberra's Central Area: all new buildings should be white (later amended to white or near white), copper for visible roofs or landscaped roof terraces, and a structural/expressive module.[41] These guidelines determined the general appearance of all later buildings in Canberra's Central Area, including Daryl Jackson Evan Walker's Canberra School of Music (1970-2), Harry Seidler's Trade Group Offices (1970-4), Edwards, Madigan, Torzillo & Briggs' High Court of Australia (1973-80), and the eventual building of the National Gallery of Australia (1971-81). All fell under the descriptive mantle of 'Brutalism'.

1968 was also important because Overall went to Canada and invited Australian expatriate John Andrews, architect of Scarborough College, Miami Passenger Terminal and Harvard's Gund Hall, to design a 4000-person government office complex in the Canberra satellite suburb of Belconnen.[42] This project, a vast seven-winged, concrete portal frame megastructure with indigenous-themed landscaped courtyards and completed by 1977, was the

first in a spate of Brutalist office complexes in Canberra.[43] It was also the project, which brought John Andrews home to Australia in 1969, and effectively launched another chapter in his already stellar international career. If New Delhi represented an Indian summer for Classicism courtesy of Edwin Lutyens and Herbert Baker, Canberra was the setting for Brutalism's Indian summer, only receiving its marching orders in 1980 with Australia's new Parliament House by Mitchell Giurgola Thorp, due in part – ironically - to John Andrews being on the competition jury. If Boyd announced internationally in 1967, the 'Sad End' of New Brutalism, he had, by contrast, in large part engineered within his own country its ongoing life but in another guise: as a state-sanctioned style. Given the recent destruction and overt government intervention encouraging the demolition of many of these buildings in Australia, Brutalism's 'catch-phrase name', however, would ultimately be unhelpful to an idiom of multiple strands, an idiom which had been a key partner in the rediscovery of the Australian landscape, a key factor in the rediscovery of the Australian city, and in the construction of its educational institutions, and a key indicator of the complex interaction of travel, experience, migration and mobility of 'Bringing it all home' that characterized Australian practice in the three decades following World War II.

1 Robin Boyd, "The Sad End of New Brutalism," *The Architectural Review*, 142, n. 845 (1967), 9-11.
2 Reyner Banham, *The New Brutalism: Ethic or Aesthetic?* (London: Architectural Press, 1966).
3 Reyner Banham, "The New Brutalism," *The Architectural Review*, 118, n. 708 (1955), 355-61.
4 Robin Boyd, "A New Eclecticism?," *The Architectural Review*, 110, n. 657 (1951), 151-3.
5 Banham, "The New Brutalism", 361.
6 Rudolph Wittkower, *Architectural Principles in the Age of Humanism* (London: Studies of the Warburg Institute, 1949). The book was reviewed by Kenneth Clark in "Humanism in Architecture," *The Architectural Review*, 109, n. 650 (1951), 65-9.
7 Banham, "The New Brutalism," 361.
8 Robin Boyd, "Has success spoiled modern architecture?," *Architectural Forum*, 111 (1959), 103.
9 Robin Boyd, *The Australian Ugliness* (Carlton, Vic.: Melbourne University Press, 1960), 196.
10 Boyd, *The Australian Ugliness*, 197.
11 Banham refers to New Brutalism's 'bloody-mindedness', see Banham, "The New Brutalism", 357.
12 In 1970, Robin Boyd said of the Black Dolphin Motel that 'the choice of finishing and furnishing materials and in the surrounding vegetation.... consciously sought to produce an Australian character.' See Robin Boyd, *Living in Australia* (Melbourne: Thames and Hudson, 2013) [facsimile reprint of 1970 edition], 153.
13 A tradition of mobility had been strongly instilled in orthodox Australian architecture culture since the late 1920s. See David Saunders, "... so I went overseas," *Architecture Australia* (February/March 1977), 22-8.
14 Australian architects who worked for the LCC in the 1950s and 1960s included Jeffrey Howlett, Kris Kringas, Bryce Mortlock, and Don Gazzard.
15 Australian architects who worked for Chamberlin Powell and Bon in the 1950s and 1960s included Ken Woolley and Louise Cox from Sydney, Ross Chisholm, Gus Ferguson and John White from Perth, and Daryl Jackson from Melbourne.
16 Young architects who worked for the NSW Government Architect's Office included Ken Woolley, Michael Dysart, Peter Webber, Peter Hall and David Turner.
17 Stephen Kite, "Softs and Hards: Colin St John Wilson and the Contested Visions of 1950s London," in Mark Crinson and Claire Zimmerman (eds), *Neo-avant-garde and Postmodern: Postwar Architecture in Britain and Beyond* (London: Yale Center for British Art, The Paul Mellon Centre for Studies in British Art, 2010), 57. Reasons for the Australian affinity with Scandinavia could be found in local sympathies with landscape and recognition that construction and craft techniques drawn from the domestic suburban vernacular did not preclude but instead invoked a humanized modernism.

18 Jennifer Taylor, *An Australian Identity: houses for Sydney 1953-63* (Sydney: Department of Architecture, University of Sydney, 1972), 56.
19 Tony Moore, "House at North Sydney," *Architecture in Australia* (March 1962), 101. In this article, Moore is direct about his design intentions: 'I am trying in much of what I do to find the 'bare' situation, stripped to bone hard perception and response, to 'this is what it is'. Apart from his house and a lecture theatre at St Andrew's College at the University of Sydney (1961), Moore's personal output however was quickly subsumed when he joined the firm of McConnel, Smith & Johnson in 1962.
20 Taylor, *An Australian Identity*, 58.
21 O.A. Oeser and S.B. Hammond (eds.), *Social Structure and Personality in a City* (London: Routledge and Kegan Paul, 1954).
22 David Saunders, "For an Indian a Wigwam, For an Eskimo an Igloo, what then for an Australian?," *Architecture and Arts* (November 1957), 62.
23 "House of the Future at the Ideal Homes Exhibition," *Architectural Design* (March 1956), 101-2.
24 Saunders, "For an Indian a Wigwam", 62.
25 Reyner Banham, "Men and Buildings", *Architecture in Australia*, 51, n. 3 (September 1962), 59. In May 1962, Banham was keynote speaker and guest master of ceremonies at the Australian Architectural Convention held in Sydney and which followed the theme of 'Architecture and Human Behaviour'. Earlier that year, the same journal had published "The writings of Dr. Reyner Banham," *Architecture in Australia* (March 1962), 50.
26 Reyner Banham, quoted in Neville Quarry, "House: Corner of Morrah and Gatehouse Streets, Parkville, Victoria," *Architecture in Australia* (June 1967), 449.
27 "Architect's own house-office," *Architecture in Australia* (March 1964), 110-11.
28 "Pair of houses," *Architecture in Australia* (December 1967), 970-1.
29 Keith Bennetts, "How would you like to live in a cave?," *Australian Home Beautiful* (March 1968), 7-8
30 Ken Charlton, Bronwen Jones and Paola Favaro, *The Contribution of Enrico Taglietti to Canberra's Architecture* (Canberra: RAIA ACT Chapter, 2007), 8-9, 12-14.
31 Duncan Richards, "Christmas Card Essay 2004," in Leonie Matthews (ed.), *Distant Voices: The Duncan & Oline Richards Writing Collection* (Perth: Department of Architecture and Interior Architecture, Curtin University of Technology, 2008), 4.
32 Peter Dermoudy, quoted from *Tasmanian Architect*, 1962, in Stuart King, "Life Cycle: Christ College," *Australian Design Review* (27 October 2011), http://www.australiandesignreview.com/features/12790-life-cycle-christ-college (accessed 15 February 2014).
33 Jennifer Mitchelhill, "Translation and Transfer: The role of the traditional Japanese house in the design of the post-war Australian house" (M.Arch diss., University of Melbourne, 2008), 50.
34 Ibidem, 177-8; see also Gina Levenspiel, "Joyce Nankivell", entry in Philip Goad and Julie Willis (eds.), *The Encyclopedia of Australian Architecture* (Melbourne: Cambridge University Press, 2012), 376-7. The designers of Total House reconfigured the Kikutake design: they expanded the scale of its elevated glass box into a four level office building and duplicated the museum's single elevated terrace into a series of car parking decks.
35 Robin Boyd, *Kenzo Tange* (New York: George Braziller, 1962); Robin Boyd, *New Directions in Japanese Architecture* (New York: George Braziller, 1968).
36 For example, the influence of Kunio Maekawa and Kenzo Tange are clearly evident in the Freemason's Headquarters, Perth, Western Australia (1967) designed by architects Forbes and Fitzhardinge (Tony Brand, architect-in-charge).
37 Geoffrey London, "Brutalism," entry in Philip Goad and Julie Willis (eds.), *The Encyclopedia of Australian Architecture* (Melbourne: Cambridge University Press, 2012), 110.
38 Key educational buildings designed by Daryl Jackson and Evan Walker that could be described as Brutalist include: Special Studies Building and Gymnasium, Lauriston Girls School, Armadale (1965-9); Science-Humanities Wing, Presbyterian Ladies College, Burwood (1970); School of Music, Canberra (1972-6); Princes Hill High School, Carlton (1973); and Resource Centre, Methodist Ladies College, Hawthorn (1973).
39 See Andrew Wilson and John Macarthur (eds.), *Birrell: work from the office of James Birrell* (Melbourne: NMBW Publications, 1997), 52-65.
40 Andrew Saniga, *Making Landscape Architecture in Australia* (Sydney: UNSW Press, 2012), 235-40.
41 Minutes of the National Capital Planning Committee (NCPC), 87th Meeting (29 February/1 March 1968), National Archives of Australia, Canberra.
42 John Andrews, in John Andrews and Jennifer Taylor, *Architecture: A Performing Art* (Guildford, Surrey: Lutterworth Press, 1982), 142.
43 Major office complexes commissioned by the National Capital Development Commission included: Cameron Offices, Belconnen (1968-76, John Andrews); Trade Group Offices, Barton (1970-4, Harry Seidler); Benjamin Offices, Belconnen (1972-8), McConnel Smith & Johnson); East Woden Offices (1973, unbuilt, John Andrews); and McLachlan Offices, Canberra (1980, Daryl Jackson Evan Walker).

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6.4.4 African Ethic, Brutalist Aesthetic: Vieira da Costa in Huambo

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Abstract
In 1970, Vieira da Costa designed a Veterinary Academic Hospital in Huambo, a city located on the Angolan central plateau. The building was commissioned by the Portuguese government, which, at that time, still ruled the Angolan territory. A decade earlier, the year 1960 marked the independence of 17 African countries and the beginning of rebellion towards independence in Angola. The Portuguese dictatorship's ultimate effort to maintain its power over the colony was control by military force and the fostering of inland development in several fields. Paradoxically, the architecture developed in the country escaped the repressive control of the regime and expressed the changing values of Angolan society. The beginning of a new historical path could be detected in African architecture from 1945, as pointed out by the German art historian Udo Kultermann (1963, 1969, 2000). His writings on Post-War African Architecture focused on the search for a new ethic in African architecture, whose aim was to encompass the original link between ancient tradition and innovation. Kultermann's vision goes beyond the buildings' adaptability to climate and envisions a wider cultural scope to the foundation of a new African modernity. Reyner Banham's "The New Brutalism" (1955), *The New Brutalism: ethic or aesthetic?* (1966) and *The Architecture of the Well Tempered Environment* (1969) will guide the presentation in order to frame the author's view in the evolving character of Modern Movement's formalism. Vieira da Costa's brutal building in wild central Angola embodies the changing nature of Modern African architecture. By describing the spatial and tectonic nature of the Huambo Academic Veterinary Hospital, this paper tries to identify the overlaps between Brutalism and Africanism in da Costa's design. It argues that Brutalist expression embodies a developing Angolan modernity, as a process of returning to African fundamentals.

6.4.5 Hard Cases: Bricks and Bruts from North to South

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Abstract
A polemical term with fuzzy borders, Brutalism has been employed to describe a wide variety of buildings designed between 1945 and 1975, with works employing diverse construction materials (brick, concrete, steel), responding to varied situations (from the domestic to the monumental), benefiting from different technologies, appearing across many geographical contexts, and exhibiting peculiar local traits. It is extremely complicated to pinpoint its precise definition, but there is definitely a pervading mood that connects the so-called brutalist buildings: a certain fondness for exploring the plastic expression of structural solutions and materials, which has often been interpreted as a desire to express a 'moral and material truth.' However, the sheer complexity of the aesthetic and material operations involved in the architectural design of its best examples far exceeds this simple ethical premise, and deserves a more careful examination.
Although Brutalism evokes rough exposed concrete, since very early on the term has been applied to brick structures, either of homogeneous fabric or interspersed with concrete, steel, or wood frames. This paper will reconsider the contributions of several architects and critics on the subject of 'brick brutalism', ranging from Le Corbusier's Maisons Jaoul (1951-5) to Banham's discussion of brick brutalism 'hard cases' (1966) and those by other recent authors. It will then proceed into a close reading of two exemplary early 'brick brut' cases: Sigurd Lewerentz's Markuskirk at Stockholm, Sweden (1956-63), and Eladio Dieste's Church of Christ Worker at Atlantida, Uruguay (1952-9), considering their specificities and differences as a means of uncovering some of their conceptual proximities. While geographically far apart, they share a similar attitude toward radical technological and rational inventiveness. In this they may perhaps stand as conceptual counterpoints to one of Le Corbusier's masterpieces, the Notre-Dame-du-Haut Chapel at Ronchamp, France (1950-5).

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6.5 Southern Crossings: Iberia and Latin America in Architectural Translation

SESSION CHAIRS:
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Architects, buildings, and ideas about the built environment have intensely constructed the various historic routes linking the Iberian Peninsula and Latin America during the twentieth century, routes that remain peripheral to an architectural history field still dictated by a northwestern discourse. Since Cuban independence in 1898, the southern transatlantic throughway has been a prime stage of postcolonialism and a persistent geopolitical and cultural force. The final severing of colonial bonds between Iberia and the American continent gave way to a mirror effect in the ongoing redefinition of Spain and Portugal on the one hand, and of the various Latin American states on the other. From diplomatic efforts and ideological allegiances, to institutional initiatives and economic investments, the consolidation of the southern transatlantic axis invariably comprised an architectural front. Through its various iterations, these crossings represented resistance to an imperialist pastand the possibility of an alternative model of progress, while maintaining privileged connections between the Iberian and Latin countries. This panel invites papers that examine the ways in which architecture, urban planning, and their related disciplines have inscribed and symbolized this bi-directional route, how architecture travelled through it, and how architectural knowledge emerged from these southern exchanges. Emphasis will be placed on the complex dynamics through which architects engaged with the social, economic, and geographical dissonances implied in these transfers, whilst claiming cultural accord on the basis of language, religion, and history. Papers may address the construction of Latin Luso crossed imaginaries through exhibitions, histories, buildings, or journals – whether promoted by state agencies, cultural institutions, private enterprise, or individuals, and whether designed by political exiles, economic émigrés or cultural jet-setters. We look for scholarship that emphasizes both the poetic and the political dimensions of these crossings, addressing stylistic, technological, and theoretical developments positioned within post-colonial tensions, such as: Hispanism, Lusophony, and their counter-ideologies; processes of syncretism, mestizajes, exile, and migration; or challenging prevailing narratives of modernism and modernization. Spain and Portugal are as marginal to Europe as Latin America is to America, at least in terms of historiography. This session seeks to understand these architectural southern crossings as leading to paradigms and discourses of modern and postmodern culture substantially different from, but also structural to, those launched from the globalizing north.

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6.5.1 Southern Readings: Lúcio Costa on Modern Architecture

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Abstract
Costa's *Razões da nova arquitetura* (1934) and *Universidade do Brazil* (1937) deserve as much attention as Hitchcock and Johnson's *The International Style* (1932). They look to Europe with American eyes overtly interested in the poetics of modern architecture. The North Americans emphasize its German-Dutch roots and uniformity. The academically-trained Brazilian stresses its Mediterranean spirit and formal diversity. Resulting from change brought about by the machine, modern architecture is for him a comprehensive proposition where Gothic-Oriental drama and Greek-Latin serenity meet and complete each other. It is the heir to the Classical tradition defended by the academy, classical implying forms of the Greek-Roman world including Portugal and her colonies, or forms that simply endured. In *Eléments et Théorie de l'Architecture* (1904), young Costa's bedside book, Julien Guadet considers tolerance a hallmark of the academy at the turn of the century. In *Casa Grande e Senzala* (1933), Costa's friend Gilberto Freyre considers tolerance a hallmark of the Portuguese world in its heyday, the Age of Discovery. Accordingly, tolerance is no longer necessarily tied to backward historicism or historical backwardness, no longer deemed incompatible with the unity of style or language, but postulated as prerequisite for a richer environment and society. Costa's texts are about the need for renewing the academy as much as reappraising and reclaiming of the Portuguese heritage in Brazil, overcoming the limitations of the International Style as much as orienting the development of Brazilian modern architecture. Written for a Portuguese-speaking audience, their arguments appeal to a specific history and geography but are far from localist. Opting for both-and instead of either-or, post-modern *avant la lettre*, they challenge received wisdom and open up new horizons for understanding modern architecture.

Keywords
Lucio Costa, Julien Guadet, Gilberto Freyre, International Style, Brazilian modern architecture

Lucio Costa (1902-98) trained as an architect at Escola Nacional de Belas Artes in Rio de Janeiro.[1] Formerly affiliated to the Neo-colonial movement, he switched to Modern architecture in 1930. *Razões da nova arquitetura* is an essay written in 1934, published in 1936.[2] *Universidade do Brazil* is a report done in 1936, published in 1937. Both texts deserve as much attention as Henry-Russell Hitchcock and Philip Johnson's *The International Style: architecture since 1922,* published in 1932.[3] All look to Europe with American eyes, and are disinclined to idealize industry although committed to its support; weary of grandiloquence and wary of radicalism, all show interest in the poetics of modern architecture. All agree that architecture is defined by choice or 'conscious plastic intention' instead of need.[4] The North Americans emphasize Nordic roots and uniformity, pointing out Frank Lloyd Wright's pioneering work. Aware of the contributions of Auguste Perret or Le Corbusier, they favour Walter Gropius, Mies van der Rohe and J. J. P. Oud. The Brazilian stresses a Mediterranean spirit and multiformity. Aware of the contributions of Wright, Perret, Gropius, and Mies, he prefers Le Corbusier.

Costa presented modern architecture in *Razões* as the result of changes brought about by the industrial revolution and as the heir to the academic tradition. He sees no sense in opposing modernity to tradition. Factory-like because it refuses ornamentation and grandiloquence, modern architecture applies equally to house and palace. Its forms correspond to contemporary technical and social standards, as once did the forms of the Parthenon, Hagia Sophia or the cathedrals of Rheims and Amiens. Its secret is the independent skeleton that liberates walls from load bearing, requiring the apparent absence of beams and the presence of cantilevers to ensure a truly free plan and facade. In other words, in the machine age, the independent skeleton is the normative condition of construction, but the normative condition of architecture is the independent skeleton promoted by Le Corbusier, the Brunelleschi of the twentieth century, with the Maison Dom-ino project (1915). Modern architecture remains founded on construction but distinguished from it, true to its etymology. It favours an open ground floor over a massive base because modern construction prompts the revision of plastic values, but it does not reject symmetry. It reasserts commensuration, and redefines compositional rules, while thriving on the repetition of a limited number of elements, like great styles in the past. Standardization is not a modern invention, he implies: industrial and artisanal production differ in degree, not by nature.

Costa then recalls that the internationalization of architecture did not start with reinforced concrete and the First World War. The Romanesque and the Gothic may have been diffused by the Catholic Church, but the Renaissance,

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born locally out of a desire for simplification, was imported by French armies before spreading to all Europe, leading to seventeenth-century Classicism and later, after a Baroque interlude, to Academicism. Modern architecture is neither Jewish nor Germanic, although Weimar Germany was its base before Hitler. Other than the work of Gropius and Mies, German modern architecture displayed reprehensible Baroque traits. Modern architecture is not Slavic either, although Russia before Stalin was another base. At its best, modern architecture is animated by pure Mediterranean reason, and if its forms are novel it features the clarity and objectivity that distinguish the Greek-Roman world to which Portugal and her American colony belonged.[5]

The reference to masterpieces of the past implies a late-academic and comprehensive notion of the classical canon, irrespective of time, place and school, as Julien Guadet argued in *Eléments et Théorie de l'Architecture* of 1904[6], young Costa's bedside book.[7] Costa's pluralism is not merely stylistic: he acknowledges both trabeated and arcuated architecture. Furthermore, he knows that the Dom-ino structure suits both a picturesque, additive play of volumes under light and a compact or hollowed out box.[8] His description of the free plan indicates a clear grasp of its dialogical nature, most visible when geometrically ordered columns contrast with topologically ordered walls. He says nothing about roofs or load bearing walls, although his own domestic designs employ both inclined and flat roofs, and mix point supports with load bearing walls, much as did Le Corbusier's.

Unsurprisingly, Costa amends and expands his ideas in *Universidade* presenting modern architecture as a comprehensive proposition in which two hitherto opposed architectural conceptions meet and complement each other, Gothic-Oriental exhilaration and Greek-Latin or Mediterranean serenity. The tall Rectorate exemplifies Apollonian calm. A pure and ordinary prism hides a Dom-ino kind of structure. In a smaller Palace of the Soviets, the squat Aula Magna exemplifies Dionysian dynamism. Its exoskeleton features a parabolic arch and suspended frames reminiscent of flying buttresses. Le Corbusier is also the century's Abbot Suger. By comparison, Hitchcock and Johnson downplay the importance of Le Corbusier. They recognize the basic role of the independent skeleton, but their emphasis is on skin: volume instead of mass, and regularity instead of axial symmetry, along with avoidance of ornamentation.[9] For them, modern architecture combines in a single building the Gothic focus on structure with the Classical focus on design, while Costa sees buildings or parts of buildings with Classical overtones next to buildings or part of buildings with Gothic overtones.

Hitchcock and Johnson do not overlook local resources, noting the suitability of the balloon frame to contemporary aesthetics. But they mistrust local traditions, whereas Costa does not. If modern architecture is international, he writes, because technology knows no frontiers, it can be given a local character by the use of representative plans, materials and finishes, plus suitable vegetation. This abridged paraphrase of the entry 'character' in Quatremère de Quincy's *Encyclopédie Méthodique* of 1788 conforms to Guadet's comparative analysis of programmatically similar Italian buildings in Rome and Italian-derived buildings in Paris.[10] Guadet suggests that any degree of local character can be displayed by inflections within the same style, and not by a different style, as the earlier nineteenth century presupposed. Neither the expression of genius loci nor the expression of national identity is incompatible with stylistic internationalism. A more important source of variation is the expression of programmatic character. In his competition project for Monlevade Company Town, done concurrently with *Razões*, Costa aims to 'give to each building the character appropriate to their purposes (and situation) retaining that unity, that family air […] that characterizes the true styles.'[11] He condemns eclectic historicism, but he does not object to the academic understanding of good architecture as correct composition endowed with proper character.

Subsequent texts add details. In *Documentação necessária* of 1937, an essay on the evolution of the Brazilian house, Costa praises the straightforwardness of Portuguese contractors in late nineteenth-century Rio, advancing the idea of an unconscious popular architecture.12 Implicit in *Universidade*, the rehabilitation of the Baroque and of Expressionism becomes overt in the report on *The Brazilian Pavilion at the New York's World Fair of 1939* designed by Costa with Oscar Niemeyer.[13] For Costa, the curves impart Ionian grace and elegance to the composition in contrast with the Doric severity of most modern output. Derived from the geometry of the plot's longer frontage, they suggest movement and give to the Pavilion a Baroque twist, establishing a connection with the Brazilian colonial past. Costa refined his terminology in *Considerações sobre o ensino de arquitetura*, published in 1945. He pairs the Nordic-Oriental spirit with an organic-functional approach to architecture and the Greek-Roman spirit with a plastic-ideal one. In Gothic architecture, forms blossom like plants growing from within to without. In Classical architecture, forms are contained like elementary solids, turning inward, from without to within.[14] Once again, Costa intimates that modern architecture admits both freely shaped and geometrically defined forms as well as contained and spreading masses, whether singly or in combination.[15]

Costa also has in mind a Brazilian modern architecture oriented by his two earlier texts.[16] Niemeyer's Pampulha (1942-5) provides a condensation of Costa's ideas. An updated aristocratic eighteenth century picturesque circuit park anchors an upper middle class garden suburb. A dammed river

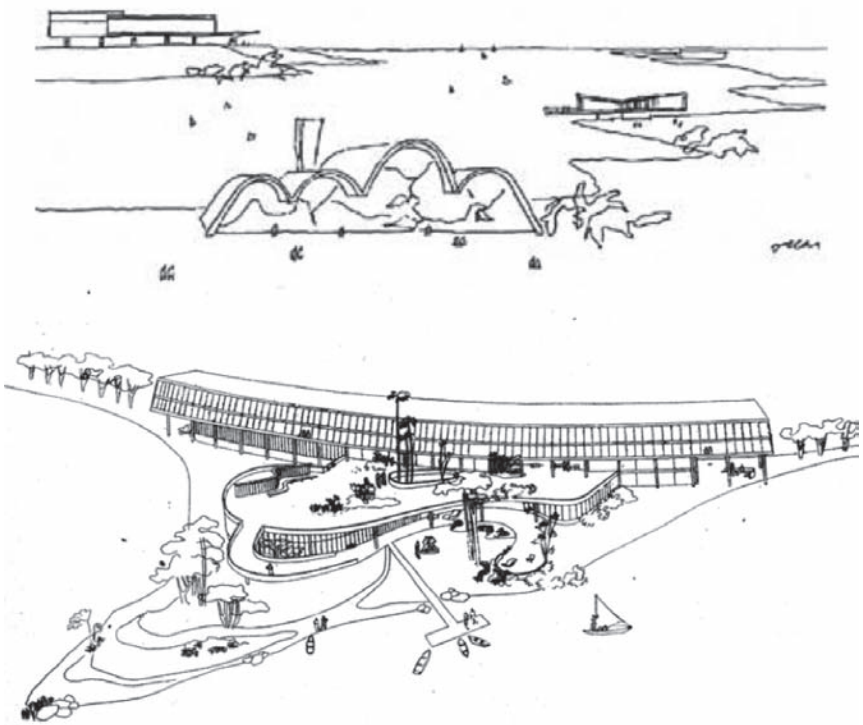

Figure 1. Oscar Niemeyer - Pampulha. Left to right, Casino, Church, Yacht Club, Dance Hall. Below, Hotel. *Source*: Stamo Papadaki, The work of Oscar Niemeyer (New York: Reinhold, 1950), 104.

becomes a liquid plaza, and follies are distributed along the shores as at Henry Hoare's Stourhead (about 1746). A boating circuit complements the motoring circuit of the parkway around the lake and the pedestrian circuit along the shoreline.[17]

Rising on a small island, the one-story dance hall is all curves and matronly grace. It recalls both a circular primitive hut and the *maloca* of the Curutu Indians.[18] Yet it is not unlike a docked barge or river steamboat. Narrow but of similar length, the yacht club stands on land but exudes vitality: an angular houseboat slipping into water, a stratified pyramidal composition that crosses the Errazuris and Citrohan houses. The mechanomorphic, virile muscle tone does not exclude the occasional curve. Bigger and richer, the casino sits atop a promontory. A two-story box for gambling and a drum over stilts for dancing define a square of almost equal arms. Projecting bodies, recesses and diagonal symmetries extend the composition. Colossal columns at the entrance convey grandeur. A casino was first a recreation cottage and then a suburban villa. Aware of the beauty of the site, Niemeyer chooses to present his as a villa-belvedere, paying homage to venerable precedents, to Palladio's Rotonda, Brazilian Neoclassical houses and Le Corbusier's Savoye.[19] The even bigger but unbuilt hotel is another pyramidal composition and an extreme take on the drum and box theme. The box becomes a linear block of apartments bent in the Georgian crescent tradition. The drum turns into an elongated volume bound by complex, curved surfaces that shelter the ground floor public rooms.

The casino, yacht club, dance hall and hotel are variations on a Dom-ino kind of structure. The chapel of St. Francis is vaulted from the ground up. The nave rises with a parabolic section, a trapezoidal projection and a truncated conic volume, flanked by service rooms under lower shells. Its silhouette is an ideogram of spiritual elevation with a Neo-Gothic or Expressionist flavor that brings to mind Gaudi and Dominikus Böhm – together with Freyssinet's hangar at Orly and Maillart's Cement Hall. The simple nave, parvis, and bell tower face the lake, and a panel of *azulejos* about the life of the saint covers the wall facing the parkway: Niemeyer's hangar of God follows the Franciscan tradition. While alluding to village or plantation chapels of similar T-shaped plan, Niemeyer reduces to miniature scale the characteristic traits of the order's grand churches in Brazil.[20] Vernacular and machine-related allusions combine in the entrance facade. The vaguely aeronautical metallic curtain protects the transparent upper panel – evoking both the screen of wooden rods in the entrance of a plantation chapel and the pipes of a non-existent organ behind the choir.[21]

The golf club and the Kubitschek house are rustic buildings with load bearing brick walls, proving that modern architecture can accommodate astylar buildings along with independent skeleton frame structures. Costa's improved wattle and daub boxes for Monlevade fall into that category, as do pure balloon frame buildings. Structurally, the comprehensiveness of modern architecture is triple rather than dual. The U-shaped house uses the butterfly roof with a thrust quite different from the yacht club. The golf club is a larger version of the Oswald de Andrade binuclear country cottage of 1939. Their plans are rectangular; roofs exhibit a shallow vault between inclined slabs. The mural below the vault dissolves the weight of the stone wall on which it is painted, a rough version of the *azulejo* panel on the chapel's front wall.

Pampulha updates the variety of the eighteenth century park's follies without reverting to stylistic eclecticism. Niemeyer endows each folly with a distinct personality that conveys a lot about their different purposes, through plan, materials and finishes as well as structure. Pampulha reinforces Costa's

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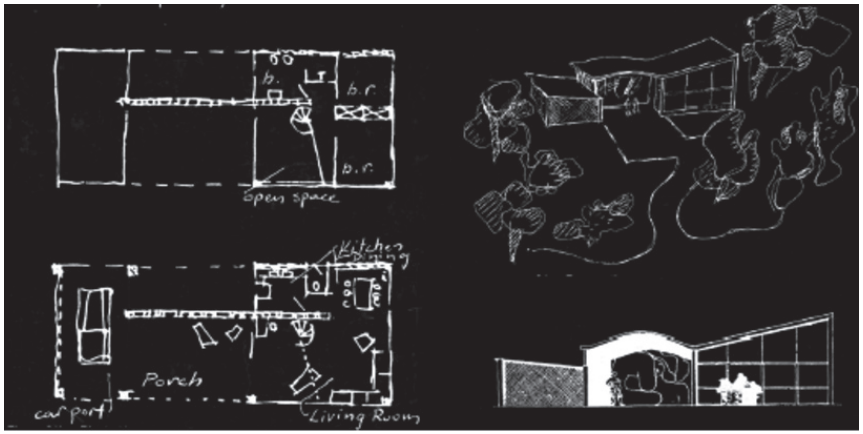

Figure 2. Oscar Niemeyer- Oswald de Andrade Week-end House. *Source*: Stamo Papadaki, The work of Oscar Niemeyer (New York: Reinhold, 1950), 18.

view of modern architecture as a comprehensive proposition and as heir to the academic tradition. Guadet had considered tolerance a hallmark of the Beaux-Arts at the turn of the century: 'L'originalité de notre école est d'être la plus libérale qu'il y ait au monde,' he wrote.22 He criticizes the archaeological bent of nineteenth century architecture, but cannot logically condemn stylistic eclecticism. In agreement with Niemeyer, Costa affirms that formal diversity is not incompatible with the unity of style in modern architecture, as long as that unity is not defined purely by the works exemplifying the International Style in the MoMA show of 1932. Costa does not actually oppose Hitchcock and Johnson's principles, though he gives primacy to structure instead of skin. He rejects their restrictions on shapes, materials and textures, their *Sachlichkeit* bias, and their focus on the machine aesthetic. Costa wants to overcome the limitations of the International Style. Concerned with the creation of a richer environment, he sides with the exceptions in the show, the rusticity of the de Mandrot House by Le Corbusier, the sumptuousness of the Tugendhat House and the Barcelona Pavilion by Mies, the muscularity of the Turun Sanomat newspaper plant by Alvar Aalto. In the decade following the 1929 crash, when faith in the machine vanishes, when aerodynamics undoes the association of rectangular surfaces with advanced movement technology, the technical failures of many modern buildings become all too obvious. Proscribed in Germany and the USSR, practiced by a minority elsewhere, modern architecture faces a dilemma, and Costa knows that. In order to survive, it must become competitive, coping with a diversity of programs new and old, materials, techniques, and sites. In short, for Costa, it must emulate the classical tradition as defined by Guadet, admitting an eclecticism of sources as long as they are filtered by abstraction.

Costa's texts are also part of a Brazilian reappraisal and reclamation of the Portuguese heritage. Contempt for all things Portuguese had accompanied the Proclamation of the Republic of Brazil in 1889. A reaction started around 1914 when the Neocolonial style became another offering in the eclectic banquet, although its austere plain surfaces and appeal to roots looked aristocratic in comparison to the ornamental excess that pandered to massive immigration and new money. The reaction becomes more intense, though still only belonging to a minority, in the mid-twenties, as modernists in literature and the visual arts started to become interested in their colonial past. The real breakthrough was the publication of *Casa Grande e Senzala* in 1933 by Gilberto Freyre.[23] Contrary to the opinion prevalent amongst the country's elite, Freyre argued that the Portuguese colonization of Brazil was the only successful European venture in the tropics; with the intermixing of races as its weapon, it led to a rich cultural blend and an expanded common language in which three races were joined in an 'equilibrium of antagonisms'. Portuguese culture was already a hybrid by 1500, the by-product of a longstanding and complex relationship with the Moors. The Brazilian experience simply extended the experience of the Iberian peninsular. Accordingly, Freyre considers tolerance of ethnic diversity a hallmark of the Portuguese in the Age of Discovery: miscegenation and its Iberian roots are no longer tied to historical backwardness, but understood as positive factors in the construction of a nation in the New World.[24] In that light, Costa's admiration for Le Corbusier takes on another sense. At least two of the key architectural elements that the Frenchman promotes can be assimilated to elements readily found in the popular and rational Luso-Brazilian building tradition, the colonial *janela de rótula* anticipating the *brise-soleil*, and the imperial *caixilharia corrida* anticipating *fenêtres en longueur* and *pans de verre*. Indeed, Costa recognized the Oriental influences upon the forms of modern architecture in the twenties, just as the inhabitants of Pessac or Stuttgart objected to the Arabism of the new developments there.[25] And he makes good use of those family traits, along with vernacular plain surfaces, affirming Brazilianness without reverting to folklore, and modernity rooted in tradition without reverting to backward historicism.

Written for a Portuguese-speaking audience, Costa's texts are far from localist. They make certain post-World War II debates sound sectarian or tentative. The polemic of Bruno Zevi in *Verso un'architettura organica* of 1945, pitting a Wright-inspired Organicism – the architecture of democracy – against Rationalism – the architecture of dictatorships – seems crude pseudo-humanist verbiage. His prejudices show when the same curves as are hailed as con-

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siderate in Aalto are condemned as frivolous in Niemeyer.[26] At the opening of the MoMA 1948 symposium on 'What is happening to modern architecture?' Alfred Barr Jr. stated that the *neue Gemütlichkeit*, or International Cottage Style was superseding the *neue Sachlichkeit* or International Style, but added that an exponent of the former would design a high-rise building according to the principles of the latter. He was ambivalent about the Cottage Style being a style for the job or a question of programmatic expression, avoiding the word 'character' and its implications.[27]

Barr noted though that Hitchcock and Johnson defined style as 'a frame of potential growth', and the International Style as 'broad and elastic'.[28] Johnson's own estate (1946-9) illustrates the point, combing a Brick House with a Glass House that featured a brick drum inside a transparent box.[29] He cites neither Niemeyer's Casino – which he knew from *Brazil Builds* – nor Le Corbusier's Savoye in the carefully edited list of precedents from Schinkel to Mies via Choisy. Unwittingly perhaps, there is kinship of design concerns and strategies between Johnson and Niemeyer, both in pursuit of diversity of character within the same style.[30] In an appendix of 1951, Hitchcock wrote that modern architecture should allow a range of diverse effects as shown by the work of Wright, the Michelangelo of the twentieth century. He recognized that Le Corbusier had done the most to extend the sanctions of the International Style, but insists in the greater typicality of Gropius and cites Aalto's Senior House at MIT of 1948 as most representative of contemporary work featuring inclined and curved forms.[31] Arguably, by evidencing continuities between academic thought and modern architecture, Costa's texts are the more stimulating. *The International Style* reads in the late forties mostly as an epitaph to the twenties work it sanctioned. Costa's texts ring like an announcement, although the complex and contradictory work they identified in Brazil – and Latin America – never got full approval in the North. They are Venturian *avant la lettre*.[32] But Costa outdoes Venturi, because he also finds place for Mies and for rough textures. His texts opt for both-and as well as for either-or. Well worth translating, they challenge established historiographic wisdom at the same time as they open up new horizons for understanding modern architecture and its development.

1 Founded in 1826 by D. Pedro I, Brazil's first emperor, as *Academia Imperial de Belas Artes*, after the French Académie des Beaux-Arts. Prix de Rome winner Grandjean de Montigny organized the course of Architecture and was its first Director.

2 Both articles "Razões da nova arquitetura" and "Universidade do Brasil" were republished in Lucio Costa, *Sobre arquitetura* (Porto Alegre: CEUA, 1962), 17-40, 67-85.

3 Henry-Russel Hitchcock and Philip Johnson. *The International Style: Architecture since 1922* (New York: Norton, 1932)

4 Costa defined architecture as 'construction with conscious plastic intention', Costa, *Sobre arquitetura*, 113.

5 Costa's rhetoric is not entirely coherent, for he also criticizes ancient Romans (and modern North-Americans) for being remarkable builders rather than architects. Oddly enough, Hitchcock and Johnson make the same point.

6 'Le classique est tout ce qui est reste victorieux dans les éternelles luttes des arts… Le classique n'est le privilège d'aucun temps, d'aucun pays, d'aucune école'. Julien Guadet, *Eléments et Théorie de l'Architecture*. Tome 1 (Paris: Librairie de la Construction Moderne, 1904), 83.

7 This definition was given by Costa on a private conversation with the author (1995).

8 As shown in 'les quatre compositions' exhibited at the fifth Buenos Aires Conference, in Le Corbusier, *Précisions* (Paris: Crès, 1930).

9 Avoidance of ornamentation is their third principle, the only one that does not concentrate on exterior effects.

10 Antoine Chrysostome Quatremère de Quincy, *Encyclopédie Méthodique* (Paris: Panckouke, 1788). A princeps edition is found in the National Library at Rio de Janeiro. Guadet. *Eléments et Théorie*, Tome 1, 134.

11 Lucio Costa, "Vila Monlevade," in Id., *Sobre arquitetura*, 42-55.

12 Ibidem, 86-94.

13 Paul Lester Wiener designed the layout of the exhibition. The report is published in *Album comemorativo do Pavilhão Brasileiro de Nova York* (New York: H.K. Publishing, 1939). Translated in Carlos Edurado Comas and David Leatherbarrow, "Solving problems, making art, being modern," *Journal of Architectural Education* 64 (2010), 65-68.

14 He includes in the text a full definition: 'Architecture is construction with plastic intention in function of a given epoch, milieu, material, technology, and program; it is erudite when that intention is conscious, popular when it is not', in Costa, *Sobre arquitetura*, 111-7.

15 Costa recapitulates in 1952. In *Considerações sobre arte contemporânea*, the flower and the crystal are presented as metaphors for two kinds of beauty. The crystal is associated with a static and centripetal concept of form prevailing along Mesopotamian-Mediterranean axis and yielding sensations of density, balance,

and containment. The flower is associated with a dynamic and centrifugal concept of form prevailing along a Nordic-Oriental axis. Costa provides a taxonomy of curves- ascending (Gothic) expanded in simultaneous contradictory directions (Baroque), spinning and turning into itself (Hindu), swirling in search of a vertex (Slav), fragmenting imprisoned in conventional limits (Arab) branching (Iranian) or bending in a stepped rhythm (Sino-Japanese), giving rise to sensations of swaying, rapture, graphic sleight, vertigo, anxiety, overflowing impulse, exaltation along with sensations of surface fragmentation and the predominance of masses of arbitrary appearance as well as elaborate silhouettes: sharp, irregular, tortured, twisted, intricate, graceful or wavy. Republished in Costa, *Sobre arquitetura*, 202-29.

16 Exemplary projects include the Ministry of Education (1936-45) by Costa and team and the Brazilian Pavilion (1938-9), the Ouro Preto Grand Hotel and the Pampulha complex by Niemeyer, the Nova Friburgo Park Hotel (1945) and the Guinle Park Apartments (1943-53) by Costa, the Santos Dumont Airport by M. M. M. Roberto (1938-46) and the Rio Grande do Sul Railways Headquarters by Affonso Eduardo Reidy (1944-5). For a detailed analysis, see C. E. Comas, "Précisions brésiliennes sur un état passé de l'architecture et de l'urbanisme modernes, d'après les projets et les oeuvres de Lucio Costa, Oscar Nemeyer, M. M. Roberto, Affonso Reidy, Jorge Moreira & Cie, 1936-1945" (PhD diss. Université de Paris VIII 1998). Pampulha is examined in Chapter 5. Carlos Eduardo Comas, "Memorandum latinoamericano. la ejemplaridad arquitectónica de lo marginal," *2G* 8 (1998), 129-43; Mariangela Castro and Sylvia Fingerut (eds.), *Igreja da Pampulha. Restauro e reflexões*. (Rio de Janeiro: Fundação Roberto Marinho, 2006).

17 Pampulha was extensively published. Key sources for photographs and iconographic reference are Philip Goodwin and George Kidder-Smith, *Brazil Builds: Architecture New and Old, 1652-1942* (New York: MoMA, 1943); Stamo Papadaki, *The Work of Oscar Niemeyer* (New York: Reinhold, 1950); Henrique Mindlin. *Modern Architecture in Brazil* (Amsterdam: Colibris, 1956).

18 See the plates made by José Joaquim Freyre in the fac-simile edition of Alexandre Rodrigues Ferreira. *Viagem filosófica pelas capitanias do Grão-Pará, Rio Negro, Mato Grosso e Cuyabá (1784-1792)* (Rio: Conselho Nacional de Cultura, 1971). The original is kept at the National Library in Rio de Janeiro in *Desenhos de gentios, animais quadrúpedes, aves, amphibios e peixes; armas, instrumentos músicos e mechanicos, vestidos, ornatos e utencis domesticos dos mesmos gentios etc. Da Expedição Philosophica do Pará, Rio Negro, Mato Grosso e Cuyabá.* Rio de Janeiro: Biblioteca Nacional, codex 21,1,1. Part of the report was transcribed in Heloisa Alberto Torres, Contribuição para o estudo da proteção ao material arqueológico e etnográfico brasileiro, *Revista do SPHAN* 1, 1937. SPHAN is Serviço do Patrimônio Histórico e Artístico Nacional, founded that same year, later IPHAN, Brazilian National Heritage. Another article speaks of *malocas* identified as *casas de dança*, dance halls: Gastão Cruls, Decoração das malocas indígenas. *Revista do SPHAN* 5 (1941), 158, at the same time that Niemeyer was working in the Ouro Preto Grand Hotel with that agency. A biography of Ferreira had come out in 1939. V. Correia Filho. *Alexandre Rodrigues Ferreira. Vida e obra do grande naturalista brasileiro* (São Paulo: Companhia Editora Nacional, 1939). For the persistence of *malocas*, see Roy Nash, *The Conquest of Brazil* (San Diego: Harcourt Brace, 1926) cited as epigraph in Costa's report on Monlevade, 1934. Translated as *A conquista do Brasil* (Rio de Janeiro: Editora Nacional, 1939), 227.

19 Niemeyer was also trained at Rio's Escola Nacional de Belas Artes. Note that the Casino of Pius IV was illustrated in Guadet, *Eléments et Théorie*, Tome 4, 195, fig. 1635. Topologically similar to Palladio's Rotonda, it features an elliptical central patio and four orthogonal pavilions. Paolo Almerico, the first owner of Rotonda, had been a referendario apostolico of Pius IV. Pertinent Neoclassical houses in Rio are Grandjean de Montigny's own house and Joseph Pézérat's house for the Marchioness of Santos, the mistress of D. Pedro I. While Montigny had been a student at the Beaux-Arts, Pézérat had been trained at the École Polytechnique in Paris.

20 Such as Cairu in Bahia (1654-86). See Germain Bazin. *L'architecture réligieuse baroque au Brésil* (Paris: Librairie Plon and São Paulo: Museu de Arte, 1956) vol. 2, plate 34.

21 Specifically, the chapel of the Santo Antônio Plantation (1681) in São Roque township, state of São Paulo, featured in Mario de Andrade, "A capela de Santo Antônio," *Revista do SPHAN* 1 (1937). See also Luis Saia, "O alpendre nas capelas brasileiras," *Revista do SPHAN* 3 (1939).

22 Guadet, *Eléments et Théorie*, Tome 1, 80.

23 Costa befriended Freyre later. Freyre was the author of "Sugestões para o estudo da arte brasileira em relação com a de Portugal e a das colônias," *Revista do SPHAN* 1 (1937), and then of *Mocambos do Nordeste* (Rio de Janeiro: SPHAN, 1938), the first *Caderno de Cultura* edited by the agency, for which Costa was working since 1937 in the Museum of the Missions as an external consultant, becoming an employee in 1939, promoted to director in 1946. Costa cites Freyre already in *Documentação Necessária*. Costa, *Sobre arquitetura*, 87. Freyre cites Costa: Gilberto Freyre, "A moderna arquitetura brasileira 'moura' e 'romana'," in *Um novo mundo nos trópicos* (São Paulo: Editora Nacional; EDUSP, 1971), 213-4. See "Entre o CIAM e o SPHAN: diálogos entre Gilberto Freyre e Lucio Costa," in Ethel Volfzon Kosminsky, Claude Lépine and Fernanda Arêas Peixoto (eds.), *Gilberto Freyre em quatro tempos*. (Bauru: Edusc; São Paulo: Editora Unesp, 2003).

24 Gilberto Freyre, *Casa Grande e Senzala* (Rio de Janeiro: José Olympio, 1987), 189-281. English translation: *The Masters and the Slaves* (New York: Knopf, 1946).

25 Jorge Francisco Liernur, "Orientalismo y arquitectura moderna: el debate sobre el techo plano," *Block* 8 (2011), 10-25.

26 Bruno Zevi, *Verso un'architettura organica*, (Torino: Einaudi, 1945). English translation: *Towards an Organic Architecture* (London: Faber & Faber, 1949).

27 Niemeyer, a Communist, was supposed to attend but was denied a visa. Hitchcock and Johnson were there.

28 *What is Happening to Modern Architecture?* (New York: MoMA, 1948), 8.

29 Philip Johnson, "House in New Canaan," *Architectural Review* 108, n 645, (1950), in David Whitney and Jeffrey Kipnis (eds.), *Philip Johnson The Glass House*. (New York; Pantheon Books, 1993), 8-15.

30 Even if the former does not seem fond of flowing lines and never mentioned the Beaux-Arts.

31 Henry-Russell Hitchcock and Philip Johnson. *The International Style*. With a new foreword and appendix (New York and London: W.W. Norton 1966), 237-55, esp. 239, 246.

32 Even if Venturi keeps silent about Brazilian modern architecture, and celebrates Aalto along with Le Corbusier.

6.5.2 Avant-Garde Crossings between Italy, Argentina and Spain: From Gropius and Argan to *Nueva Visión* and *Arte Normativo*

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Abstract

In 1957 *Nueva Visión* published the first Spanish translation of Giulio Carlo Argan's book *Walter Gropius e la Bauhaus*, which became a reference for architects, artists and art critics on both sides of the Atlantic. Apart from being a study of Gropius' work, the text propagated the convictions of the Italian professor and militant critic. It advocated the integration of the arts and architecture, the collectivisation of the artistic production and above all the transformative role of the arts within social praxis and was understood as a statement for the recuperation of the humanist and social ambitions of the historical avant-garde. After the first publishing of the text (1951 in Italy) Argan's ideas had found in Argentina within the circle of Tomás Maldonado a fertile ground reverberating in the contributions of the journal *Nueva Visión*. When *Walter Gropius y el Bauhaus* was then published by the journal's editing house, it responded to the modernist, internationalist and Marxist interests that guided this group of artists, designers and architects. Argan's text became also in Spain – above all within the circle of Arte Normativo – a reference work connecting Spanish artistic dissidence with the ideas of the Weimar avant-garde. Along with the thoughts of Maldonado and Max Bill – introduced via *Nueva Vision*, too – Argan´s book was fundamental for the development of an avant-garde that was conceived as an integrative part of a contemporary architectural production with a social and anti-Francoist political mission. This paper will analyse the impact of Argan´s thought on the southern transatlantic axis and assess how his ideas were transformed and appropriated by artists, architects and art critics within their distinctive socio-political context. It will be explained how *Nueva Vision* functioned as a device for the configuration of an alternative route of modernism between Italy, Argentina and Spain as well as a tool for disseminating the outlined theoretical corpus.

6.5.3 Shells Across Continents

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Abstract

Mexican architecture surprised the world in the 1950s with incredibly light-weight reinforced concrete roofings with an amazing esthetic quality, built by architect Félix Candela. When he was a student at the Madrid Architecture School (1929-35), Candela became acquainted with concrete laminated structures, state-of-the art-technology from the period in Europe between the wars. He was impressed by the works of engineers such as Eugene Freyssinet in France, Franz Dischinger and Ulrich Finsterwalder in Germany, Robert Maillart in Switzerland or Eduardo Torroja in Spain, among others.

Candela brought this seed to Mexico where he founded a company named Cubiertas Ala. From there, he designed and built many such type structures, popularly known as 'shells'. He was able to raise them thanks to his structural logic and his mastery of geometry and constructive capacity, joined with the skillful hands of Mexican workers. Thus, he shook up the sphere of world architecture with a constructive technology of European descent that achieved an unheard of development in Mexican soil.

Candela was neither the first nor the only one to build this type of structure. However, he opened new paths to this specialty by using the hyperbolic paraboloid profusely and with exceptional skill. He profited from the structural and expressive advantages of this geometrical form to their full extent to create works that made an impression on architecture worldwide in the second half of the twentieth century.

This paper presents the life journey and the professional legacy of this structural design genius, and it analyzes his contributions and influence on world architecture.

Keyword

Concrete Shells, Felix Candela, European technology in Mexico

Mexican architecture surprised the world in the 1950s with incredibly lightweight reinforced concrete roofs of amazing esthetic quality, built by architect Félix Candela.[1] As a student at the Madrid Architecture School (1929-35), Candela had become acquainted with concrete laminated structures, a state-of-the art-technology in interwar Europe. Interested in the works of engineers such as Eugene Freyssinet in France, Franz Dischinger and Ulrich Finsterwalder in Germany, Robert Maillart in Switzerland or Eduardo Torroja in Spain, among others, Candela developed an architectural practice based on this technology in Mexico in the 1950s, as part of his Construction Company named Cubiertas Ala. From there, he designed and built many such structures, popularly known as 'shells'. Candela was neither the first nor the only one to build structures of this type. However, he opened new paths to this technique by using the hyperbolic paraboloid profusely and with exceptional skill, profiting from the structural and expressive advantages of this geometrical form to their full extent. In all, Candela's shells arose from the conjuncture of his structural logic and mastery of geometry with the constructive capacity and skillful hands of Mexican workers. Thus, Candela's practice shook up the sphere of world architecture with a constructive technology of European descent that achieved an unheard of development in Mexican soil.

1. Shell technology: geometry and labor

In 1961 Félix Candela received the highest of the many tokens of recognition of his career, the Auguste Perret Prize awarded by the International Union of Architects. At the awards ceremony, held in London, Héctor Mardon, president of the UIA, described Candela as a 'confirmed talent whose daring and fertile imagination has contributed new avenues for expression in contemporary sculpture and architecture in the form of his original work on reinforced concrete structures'. What was it that turned Felix Candela into a world famous builder, and his concrete shells into the quintessential forms of Mexican modernism?

Candela had learned about the technology of reinforced concrete shell structures as a student in Madrid in the 1930s, but the seeds of this idea lay fallow in his mind until much later when he could put into practice his long-developing theories. In the summer of 1949, ten years after he stepped ashore at Mexico as an exile of the Spanish Franquista regime, Félix Candela had the chance to build his first experimental shell: an anti-funicular vault, the formwork for which was made of timber catenary arches. The architect was delighted with the result, anticipating the promising future that structures of this kind could have not only in the field of industrial architecture, which was growing apace in Mexico at that time, but also for schools and housing. Soon thereafter, Félix Candela began to make a name for himself among the members of the architectural profession, especially following his address to the Society of Mexican Architects given on 23 November 1950 on the use of reinforced concrete shells as a solution to the problem of roofing. After that, new professional horizons began to open up for Candela, and his career would reach its zenith over the next two decades through the production of Cubiertas Ala, S.A.. The Catalogue of Projects and Buildings of Cubiertas Ala is kept in the Candela Martín Archive (Mexican Architects' Archive, Architecture School-UNAM), and consists of thirty-two 50 by 20 cm file cards listing 1437 projects on which the firm worked at different stages between 1950 and 1976. These projects range from mere price quotations to entire construction projects, of which around eight hundred were actually built. The archive speaks of the range of these shells, not only in Mexico but all over Latin America. The minds that met at Cubiertas Ala were keen to resolve the structural and construction problems following the three basic premises of Félix Candela's architectural philosophy: economy, simplicity of calculation and flexibility.

Initially, Candela employed cylindrical vaults, which he came to use with great skill once he understood how they worked. However, he saw that more could be done in the creation of lightweight concrete roofs, and this intuition was confirmed when he built the Cosmic Ray Pavilion at Mexico's University City in 1951, where he applied a hyperbolic paraboloid for the first time. He had discovered this geometric shape in a paper by Fernand Aimond published in 1936.

Candela eventually became the most successful exponent of the geometry and building technology of the hyperbolic paraboloid, the complicated name of which was simplified to, employing them with extraordinary virtuosity in the gentle, sinuous mantles that marked his most emblematic creations. The hyperbolic paraboloid is a double inverse curved or anticlastic geometric shape, which means the concavities of the two curves run in opposite directions. The fact that it is a ruled surface constituted by straight lines facilitates construction. Its name refers to its configuration formed by a series of parabolas, which generate hyperbolas where they are intersected in a horizontal plane. The solutions Félix Candela presented to his clients were based on structures that were robust due to their geometric form. The hyperbolic paraboloid has the quality of transmitting almost exclusively forces under compression while minimizing flexions. This makes it possible to construct very slender shells of a constant thickness, generally of around four centimeters. Among the factors that influenced the rise of shell structures were its technical and construction properties, which made them very

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economical compared to other kinds of roof, and in particular their aesthetic qualities, which earned their designer the nickname of 'the wizard of concrete shells'. Candela's hypars can be roughly classified into straight edged roofs and curved edge roofs. He reached the zenith of his creativity in his free-edge shells, which did away with the need for perimeter reinforcement. By this time, Candela was fully aware of the importance of proportion and scale in the behavior of shell structures and had realized 'that this behavior had to be reflected in the (greater or lesser) complexity of the calculations necessary for construction'. Candela's expertise developed through a skillful manipulation of the dynamic and versatile geometry of the hypar, to generate a ruled surface with a double inverse curve. After determining the geometry of the shell and verifying the structural calculations, the construction process required skilled carpenters to build the formwork and then a whole army of building workers to put the frame in position, pour the concrete dismantle the formwork and complete the finishing work. The key to building the shells was, then, the complex process of building the timber formwork that gave the final shape to the roof. A frame of steel rods was then laid to create the mesh over which the concrete was poured in a viscous mass. Once it had set stone hard and the formwork had been removed, the roof would hold itself up without the need for any stays or pillars to contaminate its graceful shape. The shell thus took on its definitive form, supported subtly on the ground, giving the impression of a structure floating weightlessly like a masterly conjuring trick.

2. The twilight of shell structures

It had been possible to build the reinforced concrete shells that marked an epoch in Mexican architecture thanks to the spatial vision and pragmatism of Félix Candela and a few other architects who succeeded in understanding and managing the complex geometry and difficult construction of such structures. But the specifics of the Mexican context was just as important. It would have been difficult to have arrived at such audacious solutions in other parts of the world, as the paper thin concrete of the shells did not meet the normal minimum safety standards of any approved building codes. More particularly, there was the political and economic context of Mexico, and its labour conditions: the profitability of the shells was based on the cheap but skilled labour of Mexican building workers. In 1964, president Gustavo Díaz Ordaz, signed into law a bill establishing a minimum wage for workers. This, together with the rising cost of raw materials (wood for the formwork, cement, and steel rods for the reinforced concrete), meant structures of this kind no longer offered economic benefits compared to other roofing solutions. This 'dealt the death blow to the shells [… a technology that] was based on a perception of', as Fernando López Carmona has put it, the 'reality and a respect for architectural doctrine that was so special and local that it achieved universal validity when it was actually built.' The inexorable decline of shell structures in Mexico was not only due to socio-economic factors, however, but also to personal circumstances. When Candela was at the height of his career and Colin Faber's book had only recently been published, Candela suffered a family tragedy that also affected his professional life: in 1963 his wife, Eladia Martín, died. Thereafter Candela's light dimmed, and his building activity declined and came to an end by the end of the 1960s, though he did not die until 1997.

1 Born in Madrid in 1910, Félix Candela Outeriño went into exile to Mexico 1939 after participating as captain of the republican army in the Spanish Civil War (1936-9), which broke a year after he had received his degree from the Madrid Architecture School.

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6.5.4 Emili Blanch Roig and Modern Architecture: Catalonia and Mexico

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Abstract
On 22 May 1942, the architect Emili Blanch Roig disembarked at the port of Veracruz. He was just one of over twenty thousand Spanish refugees who arrived in Mexico, fleeing the Fascist repression of General Franco and the horror of France during the German occupation under Hitler. Emili Blanch studied at the Barcelona School of Architecture and played an active role in the renewal of architecture and the approach to avant-garde European trends in Catalonia during the 1930s. The proclamation of the Spanish Republic and the Catalan Republic in April 1931 ushered in new policies to provide dignified housing for the working classes, modern urban planning in designing the city, the building of public amenities, and the protection of cultural heritage. The military uprising led by General Franco in July 1936 and the Fascist victory over Catalonia in January 1939 towards the conclusion of the Spanish Civil War marked the end of all dreams of renewal as well as the start of the nightmare of repression for the supporters of the Republic. Fleeing reprisals and retaliations, half a million Republicans crossed over the border into France. The demographic, social, and economic consequences of this exodus were compounded by losses of cultural significance, as many of the exiles were writers, philosophers, teachers, artists, and architects. The talent lost to Catalonia and the rest of Spain would make major contributions to the countries that hosted the refugees. During this period, some fifty architects left Spain. Many had been part of the architectural renewal group and would later introduce the new trends to their host countries. In this paper, we will analyse the professional career of Emili Blanch Roig (1897-1996) and his role in the introduction of modern architecture in Mexico.

Keywords
Modern, Avant-Garde, exile, Mexico

Emili Blanch and Catalonia during the second Spanish Republic (1931-9)
Emili Blanch (La Pera, Girona, 1897) graduated from Barcelona School of Architecture in 1925. His fellow students Francesc Fàbregas, Raimon Duran, Ricardo de Churruca and Germán Rodríguez Arias were to play leading roles in the Catalan architectural renewal of the 1930s as members of the Group of Catalan Architects and Technicians for the Progress of Contemporary Architecture (GATCPAC) under the leadership of Josep Lluís Sert. Their aim was to promote contemporary avant-garde European trends based on functionalism, the absence of superfluous decoration, and the rupture with historical architecture.[1] The GATCPAC soon had over eighty members, but many others, including Emili Blanch, although not actually affiliated (often because they did not live in Barcelona city, where the group was based), shared its ideals of modernising the country in the light of the new trends in European architecture by building schools, hospitals, abattoirs, covered markets, and proper salubrious housing.
In the early 1930s, these young professionals fully identified with the progressive policies of the Second Spanish Republic. For them, the proclamation of the Republic on 14 April 1931 in Catalonia and the rest of Spain would be the materialisation of a utopia of dignified housing for the working classes, modern urban planning in city design, the building of public amenities for community use, and the protection of heritage.[2]
Emili Blanch fully subscribed to this longing for renewal. He espoused the principles of rationalism and introduced this new type of architecture to Girona province. The Catalan government commissioned him to lead major projects for improving and modernising public services, particularly in the fields of health and education, the two basic pillars of the Republic. Emili Blanch extended the map of school premises throughout the region, and expanded and renovated the hospital network according to the GATCPAC principles, i.e., well ventilated buildings with good orientation, flat roofs, and total absence of ornamentation and grandiosity. At the same time, in his own studio, he was designing what would become the best-known buildings of his professional career: the Junquera, Blanch, and Teixidor houses in Girona, and the Reig and Guillamet houses in Figueres.[3]
The military uprising led by General Franco in July 1936 heralded the end of the renovation dream. Emili Blanch continued to design social amenities for the Catalan government during the three years of the Spanish Civil War. However, as the battlefront drew nearer, lack of supplies and manpower meant that an increasing number of projects never left the drawing board. All efforts were destined to creating defence works and field hospitals, both of which were under the responsibility of Emili Blanch, who was also officially

involved in protecting cultural heritage at the height of the iconoclastic violence that occurred during the first weeks of the Civil War.[4]

After the war, the Fascist victory marked the start of a strong wave of punitive repression against the supporters of the Republic. Apart from the thousands of deaths and imprisonments, everybody who was in any way associated with democratic politics was brought before the specifically instituted *Tribunal of Political Responsibilities*. Emili Blanch's political militancy and his work for the government of the Second Republic earned him a conviction that led to the seizure of all his assets, and professional disqualification and relegation that obliged him to seek work outside the peninsular territory for a period of fifteen years.[5] In its fervour to wipe out the recent past and to find adepts for the new ideology, the Franco regime brought in civil procedures designed to punish and – above all – intimidate the vanquished, which resulted in an intense purge of professionals who had worked for the Republic. From the end of July 1939, the *Purge Commissions* set up inside the architects' associations examined the conduct of each of their members according to the parameters of the new regime. In July 1942, the professional tribunal declared Emili Blanch completely disqualified from practising architecture.[6]

Emili Blanch in exile: from France to Mexico

By the time these sentences were passed, Emili Blanch had already travelled far from Catalonia. He was among the half a million republicans who crossed the French border in January 1939. The pre-war climate existing in Europe and the German invasion of France in May 1940 placed their lives in danger, and many of the exiles decided to avail of the facilities for crossing the Atlantic offered by the Mexican government. On 14 April 1942, Emili Blanch and his wife, Maria Batlle, left the port of Marseille aboard the *Maréchal Lyautey* bound for Casablanca, continuing their journey to Mexico on the *Nyassa*. They disembarked on 22 May.[7]

Once established in Mexico City, Emili Blanch began to work for CON-TE building company. He also opened his own studio, where he received commissions from both local residents and the large Catalan community. Later on, he set up a company called *Rivaud and Blanch Architects* in partnership with Spanish brothers José and Juan Rivaud, engineer and architect respectively. In his six years in Mexico, Emili Blanch designed over forty projects for dwellings and industrial premises, most of which displayed the rationalist repertoire he had brought with him from Catalonia. Examples of the use of modern forms of architecture into Mexico include the Emilia García house (Figure 1), the José María Fernández shoe factory (Figure 2), *Durkin Motors*

Figure 1. Emilia García house, México D.F., 1943. *Source:* Ajuntament de Girona. Arxiu Municipal de Girona

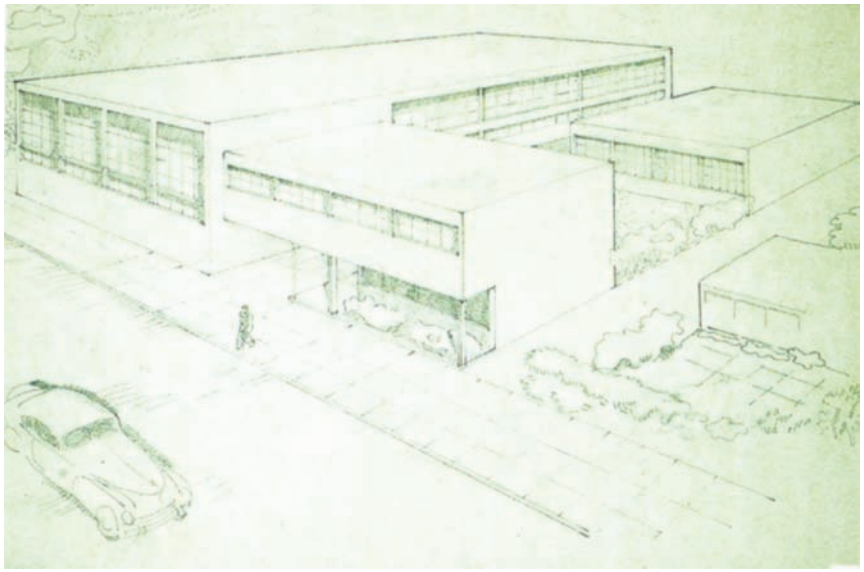

Figure 2. José María Fernández shoe factory, México D.F., 1944. *Source:* Ajuntament de Girona. Arxiu Municipal de Girona

dealers, affordable housing for *P.H. Cooperative* (with the Rivaud brothers), the Alfredo B. Cuéllar apartment block (also with the Rivaud brothers), the *Productos* business and apartment building, the Laguillo-García block, and the *Sears, Roebuck & Co*. commercial centre, all located in Mexico City. Unlike architects who stayed behind in Catalonia and the rest of Spain, Blanch and his companions in exile were able to continue practising modern architecture in Mexico. He was obliged to relinquish his avant-garde ideas in only a few projects commissioned, curiously enough, by members of the Catalan community, probably nostalgic clients who favoured a return to Catalan traditional architecture.[8] The exiled community after the trauma

of the war and the crossing of the Atlantic created the imaginary of the "lost Catalonia". The architectural style that best represents this image was the *Noucentisme* movement. A cultural phenomenon based on the promotion of Catalan identity. This artistic phenomenon was linked to the nation-building movement that takes place in the early twentieth century in Catalonia. The *Noucentista* postulates of a modernity that did not forsake the austerity of classicism, and included forms, colours, and materials taken from Catalan culture, with much reliance on artisan techniques. Emili Blanch uses forms of the Noucentisme style in the Catalan pavilion of La Feria del Libro de Mexico (1946), the Elsa Sandoval House (1946), the García Borrás House (1946), the headstone of the grave of the catalan poet Pere Matalonga (1947) and the project for the new building of Orfeo Catala (1947)

The professional success of Emili Blanch in Mexico was obvious, but it was not an exception. Mexico was a developing country that integrated the refugees quickly by offering them a life of prosperity. In addition to the support that Mexico gave Repúbica during and after the Spanish Civil War they also facilitated the arrival of refugees who received the status of political asylum seekers. Half of the fifty architects fleeing from Spain found that Mexico offered favourable conditions for developing their careers. The corollary of the deplorable drain of talent for Catalonia and the rest of Spain was the major gain for the countries that hosted the refugees. Juan Ignacio del Cueto examined the careers of the architects who settled in Mexico after the fall of the Republic, and considers that this group of largely first-rate professionals with a solid background, experience, and level of commitment contributed much to the enrichment of the country.[9]

Epilogue

Exile was a positive experience for Emili Blanch, as he claimed in an interview given in 1995: 'Exile was the best thing that happened to us during the Franco period.'[10] However, for Blanch and the other exiles who were hoping for a restoration of democracy in Spain after the Allies' victory, the end of the Second World War made them aware that the Franco regime was there to stay. The realisation that exile was no longer a temporary situation made many decide to return home, including Emili Blanch and his wife, who arrived back in Catalonia in March 1948.

On his return, Emili Blanch had to face the difficult situation of having all his assets seized and of being suspended from practising as an architect. By a lucky clerical error, his professional disqualification did not appear in the archives of the Architects' Association of Catalonia and the Balearic Islands and in 1950, he was provisionally readmitted to the association. From then on, his activity as an architect was limited to designing some small dwellings and tourist facilities, mainly for friends and family members.[11] The society that received him back prevented him from attaining the same level of social and professional prestige that he had enjoyed before the Civil War. This was a society cut off from European trends, closed in upon itself, and ideologically distant from the one he had left in 1939. However, despite the adversity of the times, Blanch never renounced the underlying principles of modern architecture.

1 Oriol Bohigas, *Arquitectura española en la Segunda República* (Barcelona: Tusquets, 1970). Susana Landrove (ed.), *El g.a.t.e.p.a.c. y su tiempo. Política, cultura y arquitectura en los años treinta* (Barcelona: Fund. Docomomo Ibérico, 2006). Antonio Pizza and Josep M. Rovira (eds.), *G.A.T.C.P.A.C. Una nova arquitectura per a una nova ciutat* (Barcelona: MHC – COAC, 2006).

2 Gemma Domènech and Rosa Maria Gil, *Un nou model d'arquitectura al servei d'una idea de país* (Barcelona: Fundació Josep Irla - Duxelm, 2010), 41-60.

3 Gemma Domènech. *Emili Blanch Roig (1897-1996). Arquitectura, patrimoni, compromís* (Girona: Institut Català de Recerca en Patrimoni Cultural, 2012), 26-35.

4 Ibidem, 42-8.

5 *Boletín Oficial de la Provincia*, 32 (March 14, 1940). *Boletín Oficial del Estado*, 75 (March 15, 1940).

6 "Orden por la que se imponen sanciones a los arquitectos que se mencionan," *Boletín de la Dirección General de Arquitectura*, 29-30 (1942), 18-20. Gemma Domènech, "La depuració político social dels arquitectes. El cas d'Emili Blanch" in A. Alcoberro and G. Cattini (eds.), *Entre la construcció nacional i la repressió identitària. Actes de la primera trobada galeusca d'historiadors i historiadores* (Barcelona, Museu d'Història de Catalunya, 2012), 391-8.

7 Arxiu Municipal de Girona. Fons Emili Blanch.

8 Ibidem.

9 J. I. del Cueto Ruiz-Funes, "Arquitectos españoles exiliados en México. Su labor en la España republicana (1931-1939) y su integración en México" (PhD diss., Barcelona, Universitat Politècnica de Cataluña, 1996). Juan Ignacio del Cueto Ruiz-Funes, "Presencia del exilio republicano español en la arquitectura mexicana", *Arquitextos* 119, n. 5 (2010).

10 Mireia Costa-Pau, "L'idealisme és la millor qualitat humana," *El Punt*, February 20, 1995, 16.

11 Gemma Domènech, *Emili Blanch Roig (1897-1996). Arquitectura, patrimoni, compromís* (Girona: Institut Català de Recerca en Patrimoni Cultural, 2012), 90-104.

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6.5.5 Re-entry: Antonio Bonet's Return to Spain

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Abstract
Catalan architect Antonio Bonet left Spain for Paris and then Buenos Aires, looking for opportunities to practice away from war-torn Europe.
This presentation examines Bonet's return to Spain in the context of the failure of his *Barrio Sur urban* development project in Buenos Aires (1956), commissioned by the short-lived *de facto* government of Pedro Aramburu – who led the military coup that deposed populist president Juan Perón. I argue *Barrio Sur*'s failure was turned into success in providing the perfect narrative for Bonet's return to Spain in the context of the 'Spanish Miracle' and the liberalization of the Spanish economy in the late period of Franco dictatorship.

Keywords
Argentina, Barrio Sur, Bonet, Franco, Spain, Perón

In 1936, Catalan architect Antonio Bonet left Spain at the brink of war in search of architectural success. After a couple of years in Paris, he crossed the Atlantic to Argentina, propelled by the desire to build. He moved back to Spain in 1963. This presentation examines Bonet's return to Spain through a reading of *Barrio Sur*, his failed urban project for Buenos Aires (1957). The extensive documentation produced for the project became part of Bonet's return strategy in the context of the Spanish Miracle – the liberalization of the Spanish economy in the late period of the dictatorship of Francisco Franco. I examine the reframing of the project as an index of the shifting political alliances between Spain, Argentina, and the United States during the cold war. At a broader scale, I argue Bonet's transformation into the service of this new economy points to a transformation of modern architecture's understanding of itself.
Bonet's career in Argentina had developed between a successful private practice and his adherence to the ideals of the CIAM, resulting in several unbuilt urban projects. Such projects required trust in modern planning and long-term commitments that the Argentinian state had not been willing to make. It was not from lack of trying. Bonet had been involved in large housing projects for both the right-wing military dictatorship of 1943 and the populist government of Juan Perón, both of which had been rejected. In 1955, Perón was deposed by a violent military coup. The newly installed regime charged Bonet with the urban commission he had wished for so long: Barrio Sur, a large project for San Telmo, a historic old neighbourhood just south of the Buenos Aires downtown.
The design negotiated the regime's desire to project itself as new and modern with Bonet's renewed interest on older grid systems and the urban type of the plaza, promoted at CIAM 8 by his old master, José Luis Sert. Barrio Sur promoted a radical modernity of large avenues for fast transit, which divided the site in six large sectors or neighbourhoods.[1]
At the same time, it acknowledged older grid patterns, pedestrian streets and plazas within those sectors. In this way it was both modern and traditional, a hybrid of modern and new in tandem with CIAM 8's thematic of the heart of the city, which Bonet had probably read in the congress publication.
The sectors were arranged through a combination of three building types: 'cows' (6 m, or two stories high), 'fretworks' (30 m, or eleven stories), and 'towers' (100 m, or thirty-five stories). Bonet synthetized these differences into three – more poetic – scales for Buenos Aires: the city, the trees, and space, probably inspired by Le Corbusier's tripartite goals for the Ville Radieuse. However, in Barrio Sur these scales referred to the specifics of Buenos Aires, in support of some urban typologies and against others. The scale of the 'city' responded to the sidewalk cafes and shopping gallerias – commercial

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corridors similar to the Paris Arcades – which give the city an active pedestrian life at ground level. The scale of the trees, determining the height of the fretworks, responded to the apartment buildings and their relationship to the long rows of tall trees that line the streets of Buenos Aires. Finally, the allusion to space was a reaction to the city ordinance, which requires no lateral setbacks. This ordinance gives rise of the figure of the *medianera* – a tall narrow, lateral patio. While the 'cows' and 'fretworks' reinterpreted specific qualities of the city, the 'towers' went against the local type, isolated yet anchored to the tight urban texture. Finally, taking advantage of the site's slope, Bonet separated car traffic (lowered into a half-basement), pedestrians (at ground level), and parking (elevated). These different levels sought to create a 'suspended superstructure' for pedestrians that would become 'the true and new urban land'.[2] Thus the project was presented as inextricably tied to the specifics of the site morphology and the urban traditions of Buenos Aires. However, while Bonet presented the project as Argentinian to an Argentinian audience, an equal case could be made for the project's modern lineage, easily gleaned from the traces of Le Corbusier's buildings *a redent* and the plazas that had dominated the conversations of CIAM 8. In other words, the complexity of the project allowed multiple readings.

Throughout the project's presentation, several choices point to its links to the Aramburu regime. Faced with the lingering popularity of the ousted president, the new regime sought to characterize all traces of Perón as old and out-dated, going as far as banning any mention or support of Perón.[3] This campaign extended to architecture, renaming buildings or even demolishing them and replacing them with the 'modern and new' representations of the recently installed regime. Barrio Sur echoed this campaign by presenting the historic neighbourhood of San Telmo through images of its old and deteriorated houses. These images were contrasted with the photographs of the model, a modern vision of glass-covered towers, grand avenues, and a conspicuous heliport. These ideas were magnified in journals partial to the regime – the cover of Leoplán went as far as creating its own rendering of Barrio Sur, with a helicopter on the foreground.

In the project's description, Bonet highlighted the difficulties of the old city ordinance (here he shows the *medianeras*) and dismissed his own prior attempts at urban planning, describing them as monotonous, oblivious of the human scale, and hard to finance because of their low densities. This last line was strategic: the project's finances, dependent on private investment, worked thanks to its high population target.[4] The conspicuous presence of advertisements in one of the perspectives also hints towards the desire towards private investment, pointing towards the project's synchronicity with the economic policies of the regime.

Despite all these efforts, the project was cancelled. Architects and neighbourhood associations protested over the large-scale demolitions and high densities demanded by its financial strategy. Such a large-scaled, long-term project required a strong, stable state, not the fragile position of Aramburu, who one year later stepped down to make way for democratic elections. Yet despite its unbuilt status Barrio Sur proved to be a very useful project for our architect.

Through the late 1950s, Bonet had participated in several international exhibitions.[5] Culminating this international tour, in 1960 Bonet returned to his native Barcelona with a one-man exhibition at the Museo de Arte Contemporáneo (not to be confused with the current MACBA), curated by Juan Prats Vellés, Oriol Bohigas, M. D. Orriols, and Roman Vallés. Sponsored by the Barcelona City Hall and the Consulate General of Argentina – that is to say, by his both his native city and his adopted country –, the exhibition featured Bonet's built work in Argentina and Uruguay, culminating with Barrio Sur, presented as a vision of the future despite its cancellation was already in the past. The exhibition reframed Bonet's work and trajectory to present him as the quintessential Spanish architect: both modern and Mediterranean. This is done through two essays: one by art historian Alexandre Cirici-Pellicer, and one by architect and urban planner Oriol Bohigas. Let's look at them briefly.

In his essay, Cirici-Pellicer presents Bonet as the result of two currents: a 'Mediterranean humanist' tradition, and the descendant of his teachers, Sert and Le Corbusier – thus both Spanish, and modern. The work is reframed in two overt categories: an interest towards modularity would display Bonet's modernity and his ability to work at various scales.[6] The second category appeals to Bonet's Mediterranean sensibility, mentioning his recent work in the Uruguay resort of Punta Ballena. Confusingly, the author describes the non-existent interior patios of the Solana del Mar hotel and the Berlingieri house as markers of Bonet's mediterraneanness.

Bohigas' essay focuses on Barrio Sur, reframed as a 'Latin City'. Bohigas describes the project as 'the first step towards a new urbanism centred on the tradition of the Latin cities'. He charges against the modern model of towers in a park as a Nordic model, describing it as 'the vertical green city, in its more polemical and especially in its more conservative Nordic degenerations.' This model, Bohigas argues, has erased the concept of the street, creating dehumanizing neighbourhoods of isolated blocks which go against the social qualities of the 'gregarious Mediterranean man'. In contrast, the Latin city ('our city') is presented by Bohigas as a complex, living organism, full of noisy people bumping into each other. This is, for Bohigas, Bonet's achievement in Barrio Sur: the return to the Latin city centred around the

street and the plaza, which he concludes by connecting to the urbanism of Ildefonso Cerdá, the Catalan urban planner responsible for the Barcelona grid.

Bonet himself presented the project in Spain in the same terms. In an undated conference in Barcelona, he described Barrio Sur thus:

The idea is to rethink the 'latin city' with the human being as protagonist, pedestrian streets and porticoed little plazas for the development of retail, separate from vehicular circulation; semi autonomous communities with pedestrian travel a maximum of 15 minutes, and cultural and recreational services near housing; autonomous civic esplanades and green spaces for each neighbourhood, the centre of each one's life, and subterranean parking enough to liberate the city.[7]

Although nothing in this description contradicts the project, there is a vast difference between the 'pedestrian streets and porticoed little plazas' and the bold modernity of the vision presented for Buenos Aires, its radical erasure of the city, and the grand scale of the plazas. Such markers of modernity have little in common with the quaint images presented by these descriptions.

Likewise, in journals like *Mundo Hispánico*, San Telmo was presented as an unequivocally Spanish neighbourhood, 'where they threw out the English with stones… with Spanish courage.'[8] Its urgent need for 'rejuvenation', the journalist argues, is made possible thanks to the virtues of the Spanish grid, which allows for a plan in stages. The design of Barrio Sur, he concludes, is a combination of 'Mediterranean fantasy (Bonet is from Barcelona) adjusted to the rigor of numbers and technic.'[9] Thus as the project crossed the Atlantic it acquired 'Latin' sensibilities – press and critics praised its connections to the Mediterranean past, with small streets (the pedestrian paths) for gregarious men and quaint plazas, going as far as turning the whole neighbourhood into a representation of Spain itself. This was only appropriate for an architect ready to return to Spain. But beyond the convenience of 'turning the project Spanish' for the sake of a Spanish public, we can glean additional political motivations in these descriptions. To understand these motivations, and Bonet's eagerness to return to Spain, we must now turn to Franco's post-war strategy.

A complicated reshuffling of political alliances took place in the years of the post-war.[10] After the Spanish Civil War, the country was left with a collapsed economy, deteriorated armed forces, and traumatized population. It was in no position to participate in World War Two. Yet, although Franco never officially sided with the Axis, he leaned towards their cause and provided some logistical support. As the Allies advanced, Franco strategically turned towards them, entering a period of what it called 'benevolent neutrality'.

6. CIRCULATION OF ARCHITECTURAL CULTURE AND PRACTICES

With the Allies and Axis countries immersed in war, Franco's Spain found its strongest ally in another cautiously neutral country – Perón's Argentina.[11] Spain's devastation was conflated by a series of droughts, and the country was left economically weak and politically isolated. Argentina provided assistance in both accounts – it shipped large shipments of grain and meat, and provided diplomatic support in international meetings, helping reintegrate Spain to larger political forums. The reasons behind this alliance were complicated – certainly Perón received disapproval at home for it. He was sympathetic to the politics of Mussolini, which he had observed as a military observer in late 1930s Europe, but he was a popularly elected president opposed to conservative Argentinian factions closer to the Franco regime. In the end, the decision seems to have been pragmatically strategic rather than ideological. Both countries shared an ambiguous neutrality and a resistance to the growing power of the United States.

However, economic prosperity was short-lived in Argentina. By the late 1940s, the economic growth Perón had achieved in his first years at office started to stagnate, soon followed by a growing political opposition. The aid shipments to Spain stopped in 1949. In turn, Spain's staunch anti-communist stance brought the regime closer to the United States, easing the way for a new political alliance. Initial approaches were eventually solidified into the 1953 Pact of Madrid.[12] It officially ended Spain's neutrality, allowing the United States to build and use air and naval bases in Spanish territory as part of its military strategy in the context of the Korean war. In exchange, Spain was benefitted with economic assistance, significant credit, and capital investments.[13] Thus from an initial sympathy towards the Axis, Franco had been able to successfully move into a political alliance with the strongest country to emerge out of the war, without any significant political changes.

As Spain turned towards the United States, Perón turned away from Spain, seeking an alliance with Italy.[14] Argentina received a large Italian migration at the end of the nineteenth century. In turn, Italy had assisted Argentina through its economic hardships of the early 1950s. These shifts were reflected through a confrontation of two concepts: *Latinidad* versus *Hispanidad*. Franco had favoured a discourse of *Hispanidad*, a Spain-centred term that projected a mentor-protégé image. This asymmetrical relationship inevitably pointed back to the colonial past. In turning to Italy, Perón bolstered the idea of *Latinidad* understood as the shared ideas of the Latin community: Latin America and the Mediterranean. Thus in contrast to *Hispanidad*, *Latinidad* was meant to conjure ideas of a shared heritage within an egalitarian relationship of friendship. The political subtext of these words points to the increasing distance between Perón's Argentina and Franco's Spain. By the time Perón was ousted in 1955, Franco welcomed the change, as

it brought Argentina closer to the model Spain was following: a conservative dictatorship interested in creating economic alliances with the United States.

In this context, presenting Bonet as the representative of the Latin, Mediterranean city becomes a marker of what we might term 'soft resistance' to Franco.

Indeed, although he was never politically active, as a Catalan Bonet sympathized with Republican ideals. His politics were rooted on the ideas of Francisco Giner de los Ríos and Karl Krause, and José Ortega y Gasset[15] – the so-called 'Third Spain', politically opposed to Franco but not actively resistant to him. Upon his return, he was welcome back into these circles of dormant opposition.[16] While in Argentina Barrio Sur had been sponsored as part of the military regime that ousted Perón, on crossing the Atlantic it was transformed into a project of *Latinidad*.

In the late 1950s, change came for Spain in the shape of new of economic policies. Franco brought in a new team of economic consultants into his government. The group was known as the technocrats, and many of them were members of the Opus Dei, the extremely conservative Catholic organization. The technocrats were friendly to policies of free market capitalism, and focused on improving Spain's financial health by promoting foreign investment, a careful industrialization, and attention to tourism. It was in this last strategy that Bonet's architecture would reinvent itself. Bonet's ambitions for his return had been to work at an urban scale.[17] But upon his definite relocation to Spain in 1963, the ambitions behind the Barrio Sur promotion did not pan out. Bonet's work consisted mostly in small resort communities or housing developments in in the Mediterranean coast of Spain – single family serial houses or apartment complexes that had little in common with his modern planning ideas. He also designed private houses and a few apartment buildings – the later ones perhaps the only ones that retain echoes of his urban ideas.[18]

Significantly, Bonet was not the only one to move from Argentina to Spain in the early 1960s. Ousted by the military, Perón temporarily wandered through South America, and in 1961, settled in Madrid under the protection of Franco. He was coldly received and kept at a distance: his presence was a nuisance to Franco, not only because of the frictions during Perón's last years in office, but also because of his difficult relations with the Catholic church. From his house in Madrid, Perón remained involved in Argentinian politics and eventually charted his return to power.

At the start of the modern movement in Spain, the GATCPAC had claimed the clean, simple lines of white Mediterranean houses as the precedents of modern architecture. The discourse surrounding Barrio Sur, and its transformation from Argentina to Spain, points to larger shifts in architecture in the post-war. While markers of the Mediterranean had invoked modernity before the war, *Latinidad* in the post-war pointed to a certain nostalgia for quaint plazas and small streets, for a gregarious Mediterranean man and a lost past. This anxiety for a lost past stands at the brink of modern architecture's surrender to the forces of capital: Bonet's final transformation, from his CIAM loyalties into the world of resort communities. With these small, white, quiet and unobtrusive beach houses, modern architecture returns to the Mediterranean. But we can never truly return: nostalgia is an anxiety tied to time as much as place. Bonet's return to Spain points to the broader transformation of modern architecture's understanding of itself – from an active agent of change to a passive subject of capital.

6. CIRCULATION OF ARCHITECTURAL CULTURE AND PRACTICES

1 Each sector comprised an area of approximately 16 hectares, each meant to house a population of about 75,000 people.

2 Antonio Bonet, 'Plan del Barrio Sur - Buenos Aires - Año 1956,' Folder c1303/157/1, FABC.

3 Degree Law 4161/56 banned any affirmation of Perón or Peronist propaganda of any type. It was enacted on 5 March 1956.

4 The target population was 450,000 or 75,000 units for a city of about three millions. In later years, Bonet admitted the numbers had been too high.

5 Just prior to the design of Barrio Sur, Bonet had started projecting his image outside of Argentina. In 1955, he participated in the "Latin American Architecture since 1945" exhibition organized by Henry Russell Hitchcock at the Museum of Modern Art in New York. Perhaps prompted by the notoriety gained by this exhibition, he then presented his work at the Triennale di Milano of 1957, and at exhibitions in Brussels and Moscow in 1958.

6 From a chair – his famous BKF, with Kurchan and Ferrari Hardoy – to the city. However this affinity for the module is illustrated by two architectural projects, then recently completed. Oks house and a rendering of the Soca chapel, still under construction. Taking into account Bonet's unrealized interest for automatization and industrial production, the text reads more like wishful thinking than actual description.

7 '*Se trata del replanteo de la "ciudad latina" con el ser humano como protagonista, calles peatonales y placitas porticadas para el desarrollo del comercio, con separación de la circulación rodada, comunidades semi autónomas con recorridos a pie con un máximo de 15 minutos, y los servicios culturales y de esparcimiento al pie de la vivienda; esplanadas cívicas y espacios verdes autónomos para cada barrio, centrando la vida del mismo, y aparcamientos subterráneos suficientes para liberar la ciudad.*' Notes for a conference at Barcelona University, n.d., (probably 1987), ABC Folder c1305:165:2

8 Iñigo de Santiago, "El Barrio Sur de Buenos Aires va a ser totalmente alzado en un plazo de Diez Años," *Mundo Hispánico* 104 (1956), 16.

9 Ibidem,17.

10 Geoffrey Jensen, "Dictatorship to Death," *Franco: Soldier, Commander, Dictator* (Washington D.C.: Potomac Books, 2005), 98-116.

11 Raanan Rein, *The Franco-Perón Alliance: Relations between Spain and Argen-*

tina, 1946-1955 (Pittsburgh: University of Pittsburgh Press, 1993).
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13 Stanley G. Payne, "The Regime at Mid-Passage 1950-1959," in *The Franco Regime, 1936-1975* (Madison, Wis.: University of Wisconsin Press, 1987), 413-59, esp. 418. According to the Library of Congress report cited above: "During the first ten years of the Pact of Madrid, the United States sent approximately US$ 1.5 billion in all kinds of aid to Spain," in Solsten and W. Meditz (eds.), *Spain: a Country Study*.
14 Rein, *The Franco-Perón Alliance*, 220-3.
15 In 1934, Bonet attended the Universidad Internacional de Verano de Santander which was an outpost of these groups.
16 Cirici-Pellicer, the author of one of the Bonet catalog essays, would later become one of the founders of the Partido de los Socialistas de Cataluña (Catalan Socialist Party, PSC).
17 In 1958 he wrote a letter to *Cuaderns*, the journal of the Catalan College of Architects, with an urban proposal based on an extension of the Cerdá plan. At the same time of the Barcelona exhibition, he was working on a plan for Murcia, still thinking at an urban scale
18 Lesser known, but also occupying a big part of his time, was the work he did for the Nuclear Central in Vandellòs, in the late 1960s, which included workers' quarters, facilities, and industrial spaces. In this way, his work is a reflection of the policies of the Spanish government under the technocrats.

7. PhD Roundtables

Architectural History in Italian PhD Programs: Themes and Methods

PhD dissertations constitute an important source, continually renewed, of stimuli and methodological challenges. However, the fragmentation of research centres and the sporadic occasions of exchange, do not allow the dissemination of some of the most interesting research experiences, and doctoral theses are likely to become a repertoire of local, monographic and barely comparative case studies. The Third EAHN International Meeting aims to encourage an open exchange between the studies conducted within the Italian doctoral programs and the main research topics addressed and discussed by the International scholarly community. For this reason, the Executive Committee, in accordance with the Scientific Committee of the Conference, promoted two roundtables exclusively devoted to the presentation of PhD studies and dissertations recently conducted within PhD programs based in Italy (cycles XXIV-XXVII). The focus of these roundtables and the debate will be mainly methodological.

7.1 Architectural History in Italian Doctoral Programs: Issues of Theory and Criticism

ROUNDTABLE CHAIRS:
MARISTELLA CASCIATO
Centre Canadien d'Architecture, Canada
MARY MCLEOD
Columbia University, USA

7.1.1 Meyer and Paulsson on Monumentality: The Beginning of a Debate, 1911-40

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The aim of my dissertation, defended in June 2013, was the reconstruction of the discourse on monumentality during the first half of the twentieth century. The research was introduced by an analysis of the only partially known European origins of the debate, held by the Swiss architect Peter Meyer and the Swedish historian Gregor Paulsson, who started the discussion before its trans-oceanic migration. The influence of these two authors on the commonly recognized initiators of the debate (Giedion, Sert, Mumford) is clear, marking a European root of the issue and moving twenty years back its beginning.

This paper explores the modalities whereby Meyer acknowledged, before his compatriot Giedion, the need for a new monumentality, while Paulsson articulated a case against modern monumentality. Peter Meyer (1894-1984), an influential architect and theorist, expressed a clear critique of the 'false' monumentality produced by modernity in his essay *Moderne Architektur und Tradition* (1927). He admitted to prefer the English country houses to forcibly monumental works such as the Federal Assembly in Berne by H. W. Auer. After becoming editor of the magazine *Das Werk* (1930), Meyer continued to investigate the possibility of coexistence between modern architecture and traditional styles. The problem of a new monumentality became the emblem of this research. In his editorials Meyer found a solid basis for solving the problem in the north-European theorical advances on the subject. In particular, Meyer came into contact with the 'New Empiricism', followed by architects Asplund and Lewerentz and theorized by Gregor Paulsson.

Art historian, academic and theoretical multidisciplinary scholar, Paulsson (1890-1977) was undoubtedly one of the most representative and interesting intellectuals to animate several local and international debates. His confidence in modern progress in the fields of art, architecture and science merged with a firm belief in the political and social value of aesthetics. The discussion about monumentality that permeated Western architectural culture therefore proved the ideal setting in which to express his ideas. In 1911, still a student, he undertook an educational four-month trip through Germany and Italy. He remained two months in Rome, precisely at the time of the celebration of the fiftieth anniversary of the Unification of Italy. During this period, an episode marked him particularly. Paulsson took part in the inauguration of the Monument to Victorio Emanuel, a building later defined as a nationalist monument. The episode sparked several thoughts that Paulsson expressed in *Majgreven* magazine (1911) or in his book *Den Nya Arkitektur* ('The New Architecture', 1916). In all occasions he always described monumentality as an undesirable character in architecture, a formal tool often subservient to political purposes.

Unlike Paulsson, Meyer investigated the social rather than architectural possible implications of monumentality. In his article "Monumental Architecture?" (1937) Meyer recognized the possibility and the need for reconciling the monumental character, required for an expressive architecture, with modernism. Examples such as the Zurich Congress Centre by M.E. Haefeli, W. Moser and R. Steiger or the German and Russian pavilions at the Paris Exposition (1937) represented the examples from which Meyer distanced himself. However, the real field test for Meyer's thought was the Switzerland International Exhibition (1939). Meyer spoke positively about the outcomes of such occasion, thus defining a concrete example of his concept of monumentality. Meyer returned again on the theme in "Diskussion über Monumentalität," an article published in *Das Werk* (1940).

The paper ends with a final confrontation on the positions of Meyer and Paulsson showing the influence that the two theorists have exerted on the following protagonists of the North American debate on the monumentality.

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7.1.2 A relational issue: towards an international debate on habitat from the 9th Congrès International d'Architecture Moderne

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The development and diffusion of the concept of habitat within postwar *Congrès Internationaux d'Architecture Moderne* can be interpreted as a relational issue, as the paper aims to posit.
The notion of habitat after the Second World War had a cross influence through different contexts of reflection and practice, as well as through different subjects which were highly debated during those years. Tracking back the path of formulation and gradual definition of this concept, a path which intended to lead to practical realizations, can generate original outcomes. First of all, it enables to focus on different critical points of view concerning all the research paths involved in the definition of *habitat*. Moreover, it allows to explore a process of modification through new means. This process, which peaks in intensity and critical complexity during this period, is the process of redefinition of the architect in his role and in his relationship with both a social and professional mission.
CIAM in particular are one of the very first moments in a longer process. They should not be considered as the only starting point for a debate concerning habitat: they have been one of the most relevant forums where this debate developed; and through this forum it spread though different international arenas of discussion. Through reflection and action carried out by CIAM some research bridges were built, which linked think-tanks, groups of power and institutions thus translating reflections into practices and policies. If main characters like Le Corbusier still kept their central positions during the 1950s, it is necessary however to shift the focus on characters like Jaqueline Tyrwhitt, Josep Lluís Sert or Sigfried Giedion, who took over the role of junctions between different tendencies – and related groups – which had risen within CIAM during the after-war period. This characters represented a reference for both the founders of the *Congrés* and those subjects who were establishing new roles for themselves within American or generally extra-european contexts, as well as for those new generations who later merged into Team X.
All the mentioned dynamics gathered and shaped themselves in some way around the habitat issue, around its rise within the CIAM debate and its gradual and conflicting definition. It has not been just a theoretical issue. Although postwar Congresses were the scene of a constant ideological clash, it is a fact that in this period, like in the previous years, many members and groups were attempting to enter new contexts or markets, and they often exploited CIAM relational framework to hit these targets with higher effectiveness and authority (e.g. Sert with "Can our cities survive?", between 1939 and 1942). This situation was in fact the frame for the external relations of CIAM during those years: exchanges with UN departments and early European institutions at the time of the 1953 Aix-en-Provence meeting in particular, were linked to proposals or requests of technical consulting about issues concerning mass dwelling and their translation into practices.
The debate on habitat is therefore capable of linking different paths which are only apparently separate. In the same way, it stands out as one of the main playgrounds where architects and institutions, in those years, could face transformations in their strategies of both legitimization and operational intervention.
This statement – and the related process - is in fact the subject of a wider research work, which sets its methodological focus on the exploration of the gradual definition of the concept of habitat through the persistence of some characters, and the modification and migration of relational networks: from CIAM to American reflections carried out At Harvard GSD, to Delos Conferences up to the research of C. Doxiadis's *Ekistics*, and with constant feedbacks and interests expressed by the UN. This work carries out a joint analysis of working papers, publications and correspondence, establishing transversal links among recent research works focused on specific themes within the subject (Mumford, 2000, 2009; Avermaete 2003, Risselada-Huevel, 2005), as well as specific characters and institutions (Avermaete, 2005; Schoskes, 2006; Tolic, 2011).

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7.1.3 The Urban Landscape as Cultural Heritage. The Contemporary Debate in France and Italy

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The aim of the research is to highlight the concept of urban landscape within the debate centered on urban heritage as it grew in the second half of the twentieth century. Indeed, this is the period of origin and development of this concept, which has recently reappeared in the international debate (Historic Urban Landscape Recommendation, UNESCO 2011).

Italy and France played a key role in relation to the debate, especially because of their ancient tradition of heritage public protection. The analysis is therefore carried out through a comparison between the two countries, and covers the following areas:

(1) Genealogy of the urban landscape concept, its variations, and its relation with the theory of historic centre;

(2) Legislative development and its connection with the cultural debate;

(3) Outcomes within urban planning practices.

To retrace the debate about urban landscape, the main sources are the professional periodicals, specifically *Urbanisme*, *Monuments Historiques*, *La Vie Urbaine*, *L'architecture d'Aujourd'hui*, *Urbanistica*, *Metron*, *L'architettura cronache e storia*, *Casabella*.

The key points emerging from the debate are analyzed through additional sources such as conference proceedings, publications, newspaper articles, etc.

The results are compared to the legislative documents aiming to deduce which aspects of the cultural debate have triggered preservation and urban renewal practices.

From the analysis of the Italian and French periodicals it emerges that the debate on urban landscape showed some analogies, and that in both cases the common denominator had to be found in the concept of townscape, developed in Great Britain the late 1940s and heralded by The Architectural Review. More than focusing on urban design, Italian and French planners faced the problem of transformation and preservation of historical cities.

The debate was particularly intense in Italy, where at the end of the 1950s the expression 'historic centre' was coined. The first important data emerging from the research is that the concept of historic centre was originated from the debate on urban landscape, and not vice-versa. Nevertheless, as proven by the legislative documents, the notion of historic centre predominated over

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that of urban landscape, the latter being much more complex to define from a theoretical and practical point of view. This fact reveals the substantial weakness of the Italian legislative action which, together with the economic interests involved by the renewal practices, contributed to the supremacy of the historic centre notion. Indeed, the latter achieved tangible results in conservation practices, while the concept of urban landscape is still being theorized, at least at an international level.
From the research it emerges that in Italy the cultural debate was more earnest than in France, but the legislative framework regarding urban preservation was substantially weaker.
The final part of this work will be dedicated to verifying if the theoretical construction of urban landscape has been considered in the planning process and in the urban heritage preservation practices against the intense urban transformations that occurred in the contemporary decades.
Two case studies, Turin and Lyon, are selected to evaluate the procedures and results. These cities have been chosen because they are both medium size post-industrial cities. During the second half of the twentieth century their townscapes have deeply changed as a result of significant urban planning decisions.
The planning process of the two cities will be investigated through different sources: town plans and architectural projects, debate and resolutions of local authorities, newspaper articles, photographs, etc.
The goal is to evaluate if urban landscape can be used as an operational instrument of analysis and preservation in the urban planning process.
My doctoral thesis is based on a supervising agreement between the Politecnico of Turin and the Université Rennes 2.

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7.1.4 'A Home': Östberg's search for the total artwork

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This paper aims to be a discovering voyage on how the Swedish architect Ragnar Östberg (1866-1945) turned the intuitions expressed in his 15-pages pamphlet entitled *Ett hem. Dess byggnad och inredning* ('A Home. Its construction and interior design') which came out in 1905, into projects of domestic architecture. *Ett hem* encapsulates the Nordic devotion to craftsmanship, inscribed in the early studies on Swedish folklore and rural tradition undertaken by historian Nils Månsson and ethnographer Artur Hazelius, which had paved the way for the Svenska Slöjdföreningen (Swedish Society of Industrial and Crafts design) founded in 1845.
The title of the booklet captured the two fundamental themes of the fin de siècle architectural debate: construction (*byggnad*) and interior design (*inredning*), encompassing the enduring dilemma of their relation summed up in *Ett hem*. To a certain extend one can compare Laugier's primitive hut with Östberg's search for the essence of the tiny wooden homes, but both aimed to design the human space par excellence: a domestic vernacular shelter.
During the last quarter of the nineteenth century nationalistic feelings had been progressively spread in Scandinavian countries and in Germany, stressing the desire of nationhood due to not still defined boundaries of these nations. Then, philosopher-literati and artist-architects focused on the search for their own origins through a vernacular idiom, conveying moral, spiritual and national values.
In their imaginary, Sweden meant simultaneously both the vast native land and the intimate home.
Housing design embodied that sense of identity, encompassing national, regional and local concerns.
Some visual artists, such as the painters Anders Zorn and Carl Larsson emphasized the notion of the ideal home, and celebrated the region of Dalecarlia as a symbol of true Swedishness. There they built open-air studios that served as model and spur to national romantic architects like Lars Israel Wahlman, Carl Westam and Ragnar Östberg. Hence, the architects offered appropriate precedents for Swedish housing and interior design, first to peasants and then to the nascent bourgeoisie. Equally the intellectual

and ante litteram feminist Ellen Key powerfully influenced the generation of younger architects among whom Östberg was a leading exponent through her writings on Scandinavian domestic aesthetics and family education.
It is also worth noting that National Romanticism was partly in debt to the theories of the British Arts & Crafts Movement whereby, according to its champions William Morris and John Ruskin, artistic innovation had to be based on nature, not on machines. Östberg firmly stated that all visual arts should work together closely, creating a balanced interplay of popular culture and craftsmanship.
Inspired by Larsson's homonymous *Ett hem* ('A home', 1899), a collection of watercolours depicting traditional interiors and domestic life, Östberg drew attention on the traditional peasant's wooden house (*allmogehems*). He also described all the fundamental features for domestic design and proposed some simple homemade houses for the lower classes. As he said, '*any home is none other than a clear expression of its occupants' needs*'.
The analytic study of the *allmogehems* was also a source of inspiration to Östberg's projects for the bourgeoisie *bostad* (villa), built in the wild outskirts of Stockholm.
As an expression of Swedish vernacular identity *Ett hem* embodied the stimulating cross-disciplinary debate at the dawn of the twentieth century century which was captured by the writings of Key, Larsson and Östberg, published in the series entitled *Studentföreningen Verdandi* (Verdandi's Student Booklets), a progressive platform for intellectual exchanges founded in 1888.
Until now this booklet has been accessible to only-Swedish readership; it is my aim to include an English translation in the documentary section of my doctoral thesis.

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7.1.5 Order and Proportion: Dom Hans van der Laan and the Expressiveness of the Architectonic Space

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My doctoral research deals with the history of proportions in twentieth-century architecture and aims at introducing how proportioned elements favoured the legibility of architectural forms by interacting with human perceptive attitudes. Distancing from the symbolic, aesthetic, and ethical values attributed to proportions over the centuries, the research proposes an analysis of the role of proportions in the oeuvre of Dutch architect and Benedictine monk Dom Hans van der Laan (1904-91).
Van der Laan devoted his entire life to the search for the essence of humanistic architecture. With his plastic number system and his experiments on perception, he explored human attitude to discern surrounding forms and classify them through their dimensions. He demonstrated how nature, which because of the infiniteness of its dimensions could not be completely understood by human mind, could be shaped by man and become intelligible through the application of proportional ratios. According to the plastic number theory, human beings could draw from surrounding visible world a set of intelligible ratios and sizes apt to their mind and apply them in the construction of architecture. In this way architecture could fulfil what Van der Laan considered its highest goal, i.e. to serve human intellect necessities. Therefore proportions were not external tools or final checking devices in design practice, but they stood for the essence of architecture, making the unlimited nature comprehensible by human limited perceptive skills.
During his long-life research Van der Laan built three plastic number devices, which he named the abacus, the triangle of forms, and the *morphoteek*, or the sets of regular geometric volumes built on plastic number progression. These were extremely useful to exercise the eye in perceiving proportioned forms and to understand the interaction between morphological and dimensional features of forms and the human brain structure.
Van der Laan applied his plastic number system in few buildings where the experience of ordered disposition and articulation of intelligible forms called up to build spaces for bodies and minds. In my dissertation I carried out a careful analysis of the proportional ratios in Van der Laan's most well known design, the S. Benedict Abbey in Vaals (1956-86). Based on Van der Laan's fifteen lessons collected in his book entitled *Architectonic Space* (1977), the

research has identified three main principles, traceable in both the theory and practice of the plastic number system. Firstly, the repetition of few proportioned forms according to their morphological similarity, resulting from the additional properties of plastic number system, favoured the intelligibility of architecture and its experience. Secondly, the regularity of simple geometric forms gave evidence to the geometry and dimensional properties of the object by not obstructing its intelligibility. And finally, the mutual proximity between architectural elements controlled by proportions shaped architectonic spaces morphologically perceptible and intelligible.
To conclude the research recognized in Van der Laan's plastic number theory a provocative answer to the crisis that has interested the theory of proportions in the twentieth century. Indeed, Van der Laan had the ability to shift the focus from the abundantly discussed harmonic properties of proportions to its cognitive features. He seemed to foresee the later interest in between art, phenomenology and neuroscience and moved from the ancient notion of proportions to a reinterpretation at the same time modern and primitive. Van der Laan encouraged reflections on the importance of intelligibility for artefacts production and offered new lenses through which look at proportion in architecture. As output of my work I have been able to move from Van der Laan's theory of proportions to its values, roles and laws for contemporary debate and practice.

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7.1.6 The Use of the *Convenzioni Urbanistiche* in the Historic Centre of Milan: Negotiation and Planning Instruments in the Second Post-War PeriodI

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This research addresses the topic of the relevance of planning negotiations in the reconstruction of Italian cities in the second post-war period, focusing on Milan and its historic centre.
As economical capital of the country and first major city to approve a General Plan according to the National Planning Law of 1942, Milan was expected to prove the potentialities of the new planning instrument in dealing with war damages and modern instances. Supported by the architectural elite, the plan was perceived as a testing ground for new political visions, practices and models of architecture and town planning in a moment of great urbanization and redefinition of the discipline (Bottoni, 1955; Astengo, 1956, Piccinato, 1956). The General Plan of 1953 was actually controversial. Its critics consolidated the idea of a failed reconstruction (Campos Venuti et al. 1986; Tortoreto 1977; Zucconi 1998), arguing that the *convenzioni* were quite often the main vehicle of real estate speculation and scattering of planning policies.
The expression *convenzioni urbanistiche* identifies agreements based on private contracts between public administrations and private owners or developers, defining building rights and duties through a negotiation based more on economical and political power than on fixed rules (Mazzarelli 1975, 1976; Airoldi 1978).
It is my aim to look at them as main sources to explore urban design attitudes in contrast with a canonical approach, which merely delegates the study of the planning processes to the analysis of the General Plan.
While the General Plan, completed with the procedures of observations and reception showed an approach to urban design based on political and disciplinary instances, the introduction of the *convenzioni* implied a model of prompt negotiation, not included nor described in other planning instruments. Being grounded on some specific tools and their languages, and relying on specific actors, the *convenzioni* allowed different scales to be assessed, from that of the architectural objects to that of city planning. This process prompted the idea of a urban development based on the negotiation of public and private interests and needs.

My research aims at introducing a critical perspective on post-war *convenzioni* through a quantitative and qualitative analysis regarding of the urban fabric of Milan historic centre in the early 1950s. The city's core was the object of intense building efforts drawn by economic interests. This was happening within a national debate fostering the symbolic meanings of architectural stratifications in the historic centres. As a matter of fact the study of the Milanese case offers the opportunity to elaborate an interpretative revision of the results obtained through the use of the *convenzioni*, questioning their validity in expansion areas and framing the peculiarities of their use in the historic centre.

The almost complete record of the *convenzioni* regarding the historic centre of Milan is built thanks to original archival research and through the comparison of the general cartography. The *convenzioni* were published and collected for administrative purposes and included a large variety of documents, the most relevant for the elaboration of a significant roster of data and related questions.

Records are aggregated according to interpretative categories belonging to urban history's issues. These categories are defined for their significance in relation to urban fabric, building processes, involved actors, disciplinary debate, and socio-political aspects. Single case studies are examined according to key concepts emerging from the database, such as negotiation and intervention models, connection and level of integration with other planning instruments, evolution of legislation, typologies, and variety of actors. Completed with information from other sources, as publications, building permits and professional archives, each case study analyzes specific aspects of the urban development and offers a new point of view on the professional practice. Furthermore, the study of the *convenzioni* allows understanding how this multifaceted tool played an active role in the negotiation process redefining planning instruments.

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7.2 Architectural History in Italian Doctoral Programs: Histories of Buildings, Architects and Practices

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7.2.1 Ahmedabad. Workshop of Modern Architecture: The National Institute of Design

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The subject of this research is the National Institute of Design (known as NID) designed by Gautam Sarabhai and his sister Gira in the city of Ahmedabad, India. This project has been selected because it highlights the two faces of post-colonial India; a nation that sought to amalgamate modern institutions with traditions from the past. NID, designed in 1961-4 and built in 1966-8, is one of the most convincing examples of this synthesis.
The decades 1940-60 are the time frame of this study, corresponding to a period of great intellectual upheaval in India following the independence from British rule. In these years, the first generation of Indian postcolonial architects created buildings of considerable importance and had close contact with Western modern masters. NID is part of this chronological framework. The wider survey is restricted to educational buildings constructed by Indian architects in Ahmedabad, and highlights the influence of masters such as Le Corbusier, Louis Kahn, and other Western professionals that participated in this climate of cultural exchange. While Frank Lloyd Wright and Walter Gropius welcomed talented young Indian architects into their schools or studios, they themselves never went to the sub-continent. Their American and European colleagues, however, such as Richard Neutra, Charles and Ray Eames, Buckminster Fuller, Enrico Peressutti, Harry Weese, and Frei Otto, had a direct dialogue with the emerging generation of Indian architects through their presence on site in India. The architecture designed by Achyut Kanvinde, Gautam and Gira Sarabhai, Balkrishna Doshi and Charles Correa, just to name a few Indian architects of that new generation, are a clear evidence of these contacts.
The National Institute of Design found its seat in Ahmedabad, a city favoured by young Indian architects and a centre of decolonization. The thesis examines some aspects of post-colonial Indian architecture and its outcomes, in particular in Ahmedabad, which must be considered a real laboratory of Indian modernity. NID is a national institution of great importance which, like its designers Gautam Sarabhai (1917-95) and Gira Sarabhai (1923 -), has never been the subject of research and rarely mentioned in history books of post-colonial India. With this study, the author aims to restore NID's value and reputation and give voice to its designers, investigating the central

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role of the Sarabhais in the modernization of Ahmedabad and more generally of the country. Thanks to their wide national and international network, Gautam and Gira Sarabhai were key figures in the cultural development of Ahmedabad, and the creation of NID is one of the most significant examples of intellectual exchange between East and West. The study illustrates how the fertile friendships between Indian and Western architects, but also traditions from the past, are reflected in the NID project.
This thesis is based on archival research in a number of archives in India, Europe and North America.

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7.2.2 Transformations of Public Space in Paris. From infrastructure to *forme urbaine*

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Between the 1970s and 1980s, the city of Paris faced a period of extensive urban transformation and, at the same time, a change in the strategies of this transformation in comparison with the heroic *Trente Glorieuses*. The analyses of these architectural and urban changes and the works that inspired them, are often based on a typological or morphological perspective (Boudon et al., 1977; Panerai, 1999). Moreover, in France, the study of decision-making processes and urban transformation falls within the scope of social sciences (Lefebvre, 1967 and 1974). This has resulted in an unfortunate separation of academic approaches: one focusing on finding the link between the theories of the architectural community and the projects, while the other taking the already transformed urban space as a starting point for political and social analysis.
This paper explores the gap between these two methodological approaches, both influential in France during the 1970s and 1980s. It does so by applying an interpretative framework which goes beyond both the typo-morphological and the socio-cultural framework. The main aim of the research is to establish the relationship between the cultural references of designers and the processes through which urban spaces are converted, and, what is more, to explore the urban imaginaries created by this relationship.
Between 1974 and 1989, the Atelier Parisien d'Urbanisme (hereafter APUR), a hybrid entity with various roles during this period, had an essential part in translating the aforementioned shift into operative terms, liaisoning with institutions that had the power to transform large areas of the French capital. Two case studies allow us to analyze these changes and the role played by the APUR: the transformations of the Halles Centrales of Paris, starting in 1974, and the Secteur de la Villette projects, especially those for Place Stalingrad (Bernard Huet, 1985-89) and Parc de la Villette during the first competition organized by APUR (1976-82).
These two cases are intertwined. On one hand, they illustrate a cultural point of view; on the other hand, they give an account of institutional and political processes, showing a transformation that occurred throughout the whole city. Finally, they cross the trajectory of some of the most emblematic

figures in French architecture at this time. One of them was Bernard Huet, a teacher, theorist, critic and urban designer who played a major role in the definition of a new cultural paradigm. The central role of APUR and the influences of Huet's *Architecture Urbaine* in the two case studies are analyzed by comparing the archives of the architects involved in the urban projects (Bernard Huet, Henry Bernard, Emile Aillaud, Louis Arretche) as well as the ministerial and presidential archives. Oral sources, already explored in the case of Bernard Huet (Pommier, 2010), are restricted to a control role.
The research shows a change in the process of transformation of public space in Paris. The practices shifted from projects which were generated through vivid debate (strongly linked to contemporary French social science, for example in the first phase of Les Halles case), to a later standardization of urban projects and urban *imaginaire*.
The relationship between the cultural milieu and the political intervention processes in Paris is still quite unexplored, allowing us to analyze the complex role of Bernard Huet and other protagonists in this period on the basis of a hitherto unknown material. Moreover, the public nature of the sources and the international scope of the urban debates in this period allow cross-national comparison with other European cases.

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7.2.3 Layers of Narration: The Architecture of Piero Bottoni in Ferrara

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Abstract

The task of studying the relationships between an architect and a specific city or cultural context, discerning the different contributions to the architectural work made by each, can be complex. A fruitful approach is offered, however, by what Vittorio Savi has called layers of narration. As historiographic and critical devices, these layers allow for the observation of the relationship between author and context from multiple viewpoints and via a spectrum of resources (historical records, graphic or photographic analysis, critical readings), leading to a more in-depth understanding of their interaction.
The career of the modernist architect Piero Bottoni (1903-73) in Ferrara covers a wide range of building types and commissions: private homes, town planning projects, public buildings, all located in the city centre. After his native Milan, Ferrara is the city that hosts the greatest number of Bottoni-designed projects. Bottoni's works share not only the same geographical location, but also a series of common characteristics. They all explore the relationship between modern architecture and the old pre-existing city and reflect a unitary vision of architecture and restoration, evident in Bottoni's work already in the early 1930s. Narrating this story has meant examining Ferrara's cultural context and its key players during the 1950s and 1960s expansion. Bottoni's role in developing the city was pivotal: he completed eighteen city projects, thanks to the close ties he had established with some of the city's most influential figures.
An understanding of Ferrara history during this period has also required the study of the roles played by other contemporary figures, such as Bruno Zevi, Roberto Pane, Giuseppe Samonà, Giovanni Michelucci and Giorgio Piccinato. The city enjoyed a period in which key protagonists of architectural and urban culture discussed the city's past, present and future and were able to influence its development and transformations.
This reconstruction, focussing on what historiography intuitively labelled the Scuola di Ferrara, examines some twenty archives belonging to cultural associations, political parties (Italia Nostra, Partito Comunista Italiano), the Italian public administration and the private archives of Bottoni's clients and

local personalities plus, of course, Bottoni's own archive and those of Zevi and Samonà. The research begun as a monograph on Bottoni's work in Ferrara, but developed into a broader history of the city's architectural context, dotted by the contributions of its many protagonists. It thus identifies aspects drawn from both local and national architectural debate. In addition to the research carried out on primary and secondary sources it also became necessary – in order to understand the nature of Bottoni's work and its true relationship with pre-existing buildings – to survey his projects using modern 3D photo surveys. Such surveys provide us with 3D models from photographs, even buildings predating Bottoni's work. This allows for the immediate comparison of the different characteristics before and after the architect's work as well as comparison between the design and the actual construction.

To sum up, the research into Bottoni's architecture in Ferrara consists of different chapters: Bottoni's work before coming to Ferrara; the architectural context in Ferrara during 1950s and 1960s; the political-personal links between the architect and the clients; an analysis of Bottoni's works as regards the local and national architectural debate; a detailed chronological description, the redesigns and surveys, and lists of archival documents that constitute the body of the research. By combining different layers of interpretation, the research has sought to reconstruct the history of a subject that has proved fundamental to the understanding of both Bottoni's career and the relationships between earlier and modern architecture in the 1950s and 1960s.

7.2.4 Architecture that Teaches. Swiss School Buildings during the 1950s and 1960s

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The research examines the development of Swiss school buildings during the 1950s and 1960s, including their architectural, pedagogical and social implications. The work focuses on buildings of compulsory education. Educational theories have, indeed, had a major impact on educational architecture, particularly buildings for primary and secondary schools. Following the great baby boom of the postwar period, school buildings acted as a stimulant for Swiss modern architecture, especially thanks to competitions which gave young architects the opportunity to develop and test new proposals. The great attention which modern architects dedicated to school buildings and educational issues was both pragmatic and ideological. Since modern architects were convinced that the new architecture needed a new human being, they assigned to school buildings an important formative role (Maurer 2007). Moreover, the paradigm promoted by the *Neues Bauen* – light, air, sun – was very close to the hygienist principles of the nineteenth century and to the new educational theories of the 1920s. Swiss modern architects realised that the school building was a forceful medium to spread the culture and the form of modern architecture.

Two deeply rooted beliefs, both ingrained parts of Helvetian self-awareness, are at the basis of the importance given to school buildings. On the one hand it is often stressed that Switzerland is a land of educationalists, starting with Rousseau and Pestalozzi, right down to the leading Swiss figures in modern pedagogy, such as Adolphe Ferrière, cofounder of the Bureau International d'Education in 1925. On the other hand it is seen as self-evident that the mission of education is to train the moral being even more than to instruct (Reichlin 2008). 'The moral man is the main goal of education' and 'Aesthetic education is a necessary premise to moral education' Alfred Roth wrote in the last part of his trilingual book *The New School*, first published in 1950 (Roth 1950). Such a mission was to be entrusted to schools, and the school building would be its most tangible sign.

The dissertation explores how the modern Swiss school, as a cultural and architectural form, emerged from a complex interaction of technical concerns, educational theory, and the larger social forces of the period. The research is organised according to three distinct but interrelated paths of

investigation. Firstly, I study the relationship between school building and urban context; the evolution of the typology with respect to both technical and educational concerns; and the migration of ideas. Schools are strongly related to the evolution of urban theories and the debate on school building was linked to debates on the territory and its development, its economic growth and its demographic curve. The second path examines how architects, educators, and administrators created and disseminated an image of school bound to modern architectural forms and progressive methods of teaching, combined with a persistently romantic notion of childhood.
The close relationships with other countries have always played an essential role in Swiss culture. The dissertation therefore applies international comparison, looking into the network of exchanges that Swiss architects secured with the rest of the world, in particular with the so called 'creative periphery' (Joedicke 1959) – Denmark, Sweden and Finland – as well as with The United States and England in which the most progressive ideas on education and school buildings were being developed.
The archival research has been conducted primarily at the gta Archiv of the ETH Zurich, looking into the main protagonists of the Swiss debate on modern school buildings, such as Werner M. Moser and Alfred Roth. The literature studies provide an accurate survey of period journals on education and architecture, paying particular attention to the many special issues dedicated to the subject of schools in this period.

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7.2.5 Star-Shaped Rib Vaulting in the Church of San Domenico, Cagliari

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This research is focused on the monastery of San Domenico in Cagliari and its renovation carried out in the second half of sixteenth century. Founded in the settlement of Villanova on the east slope of the Castle of Cagliari during the second half of the thirteenth century, the monastery of San Domenico reached its maximum expansion in the late 1560s as a consequence of the Dominican reform movement. These large-scale reforms were due to multiple factors: economic development, administrative reforms (including the diocesan reorganization), medieval orders reforms and general religious reforms relating to the defunct Council of Trent which closed in 1563 (Manconi, 2010, 250-53).
The particular focus of the thesis is on the star-shaped rib vaulting of the church; a complex work which radically transformed the temple, previously covered with a wooden roof built over a diaphragmatic arch system. San Domenico suffered complete destruction during the Second World War and was rebuilt. The destruction, together with the shortage of available documentation of its building history, has prevented a proper interpretation of the church and its architecture. Because of this lack of documentation, the research has been based primarily on indirect archival sources, such as the Acts of the provincial and general chapters of the Order, the Dominican and Ecclesiastical chronicles and the *Liber I* of the General archive of Preachers in Rome. Some direct sources from the late sixteenth century were provided by local archives (Archdiocese and Municipal in Cagliari) and by the archive of the Crown of Aragon (Barcelona).
A key tool in this study has been the design of a 3D reconstruction of the building, making it possible to analyze the church as it would have appeared before its destruction. Virtual reconstruction techniques (Marsiglia, 2013), combining historical research tools and digital representation technologies, have been employed to understand the building process. This has allowed an interpretation of architectural details and constructive features and a comparative analysis of the church with respect to other monuments from the same time. The digital reconstruction has been based on metric data, collected using image-based 3D modelling methods (Remondino-El Hakim, 2006), and materials found in the Municipal archive of Cagliari as well as in

the Soprintendenza of Cagliari and Oristano's archives.
A very important part of the study concerns the reconstruction of the relationship between the monastery of San Domenico and the Dominican order. In particular, the research has focused on the Dominican reform movement in the province of Aragon (Esponera, 1999). Furthermore, the thesis investigates the relationship between the spiritual reform and the material renovation of the monasteries. The history of San Domenico well illustrates the dynamics that characterized the spread and evolution of the Mediterranean Gothic in Sardinia, from the introduction of churches with unique nave and chapels opened between buttresses of diaphragm arches, to the introduction of star-shaped ribs vaulting of the naves.
The final goal of the work has been to demonstrate that the appearance of star-shaped ribs in the late Sardinian *Cinquecento* religious architecture does not represent a delay or isolation of Sardinian architectural culture. Perhaps these episodes should not be classifiable as 'late Gothic' architecture at all. Instead, they might be understood as local interpretations of new Renaissance systems developing in mainland Italy and the Aragonese land (Ibáñez, 2008).

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7.2.6 The Evolution of Domestic Space in Southern Italy and Sicily

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The research project is devoted to the evolution of domestic space in Southern Italy and Sicily, in the late classical to hellenistic period (from the middle of the fourth century to the middle of the first century BC), including both Magna Grecia and Italic sites (Russo Tagliente 1992; D'Andria-Mannino 1996). The analytic research is aimed at defining the peculiar characteristics of the domestic unit, providing a tentative reconstruction of the cultural models of reference. The research involves examination of twenty-eight sites and more than one hundred houses, highlighting the presence of different 'housing systems'. The houses examined present considerable typological and dimensional variations and are structured according to complex symbolic dimensions.
The vast majority of the examined houses derive from the Greek tradition, as for example the *pastas* and *peristilium* houses (Hellmann 2010). However, if we consider the development of a typical house over time, we can observe a series of structural changes that alter the primitive plan layout, introducing variations in the original template and, in some cases, in the dwelling's extension. This change can be linked to the gradual process of Romanization of the Southern part of the Italian peninsula; a process already underway around the end of the third century BC. The best examples of this change can be observed between the end of the second century and the beginning of the first century BC. An important part of the research is related to the diffusion of the *atrium domus*, both in Southern Italy and in Sicily. There is a great need to investigate more attentively the symbolic value of this house type in relation to the political and social context in which it spread.
From a methodological point of view, an unavoidable reference in the study of the private house is the description of the Greek and Roman house in literary sources (Pesando 1989; Coarelli 1989; De Albentiis 1990; Gros 1997). Such sources are important to understand the dwelling's structural and functional aspects as well as the activities performed inside them. Furthermore, the study encompasses structural analysis, examinations of spatial and functional distribution, typology, and architectural language. The analyses take into account structural and functional modifications of the single unit as well as of the community as a whole, using such changes as

clues to understanding how the domestic nucleus was perceived.
The ultimate aim of the dissertation is to understand the housing structure as part of the surrounding environment and in relation to the urban context, thus contributing to a deeper understanding of the village's development and organization.

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7.2.7 From the South. Ernesto Basile's Routes and Destinations

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Abstract

Why should we continue to study the Italian architect Ernesto Basile (Palermo 1857-1932) today? Given the amount of recent research, we might be tempted to believe that everything has been told. However, there are several important issues worthy of further investigations. These include Basile's travels, which are particularly interesting, because of the proximity they reveal between architecture and place. Only by entering a space, walking around, watching the changing shadows as the sun turns, catching the colour of materials in their context, watching people moving, can one have an active, sincere and direct experience of the complex world of an architectural work, Basile implies.
We know what Basile saw from contemporary books and magazines reporting on the places he visited, however only through further research can we understand how he perceived these places and the significance they had in his work. Basile went to places that we might call 'strategic' for European architectural history of his time – a scene in which he was deeply involved. My research focuses on Basile's extensive contact with scholars, artists and scientists in the places he visited. Wherever he went, he systematically documented the architecture and the spaces he visited and the people he met. Through the study of the Ernesto Basile's archive, it has been possible to map the movements, destinations, appointments and impressions, which Basile accurately recorded in his notebooks and personal agendas. Except for a few gaps, the Basile's archive is one of the best maintained contemporary architectural archives in Europe. Basile wrote extensively about his travels and discussed their context and significance. The documents range from reports on the World Exhibition in Paris in 1878, to stories of Ortensio Lando, the sixteenth-century Italian humanist and traveler, who moved 'from the far Sicily to the edge of the Alps'.
In my research, particular attention has been given to Basile's journey in 1888 to Rio de Janeiro, during which the architect designed the New Avenida de Libertaçao in the Brazilian capital. Due to changes in the political regime of Brazil, Basile's work was interrupted. To study this project, therefore, involves extensive analyses of maps of Rio de Janeiro and the urban

history of the city. Historical maps of Barcelona, Paris and other European cities relating to Basile's foreign travels between the years 1876 and 1900 were other useful tools. The study has covered the whole range of Basile's travel and professional activities from 1876 to 1932, starting from the year of his first documented study tour to Paris, in the company of his father, the architect, Giovan Battista Filippo Basile (Palermo 1825-91). The research involves the history of architecture, the odeporic literature, in the first instance, as well as several other disciplines. I compare Basile's journeys with the travels of other contemporary architects and discuss them in the context of the *Grand Tour* tradition.

7.2.8 The Wilhelm Lehmbruck Museum, Paradigm of Modern Architecture in Postwar Germany

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The subject of my PhD research is the Wilhelm Lehmbruck Museum in Duisburg, a construction designed and built between 1957 and 1964 by the architect Manfred Lehmbruck (1913-92). The building exhibits the works of Manfred's father, the renowned sculptor Wilhelm Lehmbruck (1881-1919). It is one of the first museums built in the German Federal Republic (GFR) after WWII.
The 'myth' of Wilhelm Lehmbruck, as cultural symbol of the city of Duisburg, was constructed over the course of several years in order to enrich the meagre cultural heritage of this industrial town. This myth was further boosted after WWII, when GFR re-evaluated their stance towards modern art, previously labelled 'degenerate' by national-socialists.
To create links to modern art and architecture of the 1920s was an efficient way to establish a new and more democratic image of the Federal Republic. The new GFR sought further legitimisation by proclaiming itself the heir of the glorious Weimar Republic.
The *neues Bauen* – the German modern architecture of the 1920s – seemed to be the only plausible way in which the GFR could present itself to the world. The reality of the country was more complex, however, revealing the 'double face' of the state after 1945. The tabula rasa created by the war was soon populated by dichotomies such as memory/oblivion, tradition/modernity, continuity/discontinuity with the Nazi past. These dichotomies are reflected in the history and the architecture of the Duisburg Museum. It consists of two buildings characterized by a rather different architectural language. The wing housing the works of Lehmbruck is three-dimensional and introverted. The large glass parallelepiped volume which hosts temporary exhibitions, on the contrary, is an open and transparent space with a clear reference to the *neues Bauen*.
The double face of the Lehmbruck Museum is an example of the split between the two different approaches of West German architecture in the post-war period. One prevailed on the idea that debris should not be forgotten: fed on it, and built upon ruins, as in the case of St. Anne's Church in Düren (Rudolf Schwarz, 1951-6). The other approach advocated an architecture made of light and glass for the GFR, such as for instance the German Pavilion at

the Brussels World's Fair (Egon Eiermann and Sep Ruf, 1958). It was the architecture of a Germany that wanted to appear terse and transparent, seeing in the economic miracle an instrument of redemption from a shameful past which had to be silenced and forgotten. The Lehmbruck Museum is an architecture representing both memory and oblivion at the same time, a characteristic which makes it paradigmatic for understanding the particular development of West German architecture after 1945.
This study is based on an investigation into several German archives, enabling me to reconstruct and indeed redraw the history of the Lehmbruck Museum and its various project phases. In addition to this quite traditional methodological approach, my work draws on sociological and anthropological studies, allowing me to scrutinize the cultural roots of the architecture of the Duisburg museum and, more generally, of German museum architecture in the post-war period.
My thesis wants to show how German museums built in this period were instruments for reconstructing German identity, reflecting an attempt to combine memory and oblivion as two powerful and irreducible instances of 'Germany, Year Zero'.

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7.2.9 *Magnificentia*. Devotion and Civic Piety in the Renaissance Venetian Republic

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Through an interdisciplinary approach, my paper seeks to understand sacred space in relation to its functions, forms and spatialities, as well as within the context of a series of events and situations that take place in it, such as ceremonies and performances. Specifically, I examine the ways in which liturgical and musical requirements influence church interiors. The paper addresses these issues by means of a case study situated on the extreme western boundaries of the Venetian mainland empire, the Basilica of Santa Maria Maggiore in Bergamo. This case will be explored by investigating the interconnections between the church and the Confraternity of the Misericordia Maggiore, proprietor of the Basilica, as well as other larger regional processes (Black, 1989, 224; Carlsmith, 2010, 78-79). The Basilica was highly prestigious in the sixteenth century. Its prominent reputation was based on a succession of remarkable church composers, musicians, artists and architects (Baroncini, 1998, 19-51; Towne, 1988, 471-509, Morelli, 2006, 217). Detailed examination of sixteenth and seventeenth century unpublished manuscript sources is critical to the research, as these sources shed light on the contemporaneous negotiation of local political and religious imperatives. In fact, these analyses carried out on church records and other sources contribute to build a more complete picture of the processes of construction and patronage that invested the church interiors with their particular significances.
By employing and interpreting hitherto unexamined sources from the Angelo Maj Library in Bergamo it is possible to understand the history of the sacred space of the Basilica as a local but significant case in the Renaissance Venetian Republic, and acknowledge the extent to which the *life* of the confraternity influenced and jointly shaped architecture, art and music.

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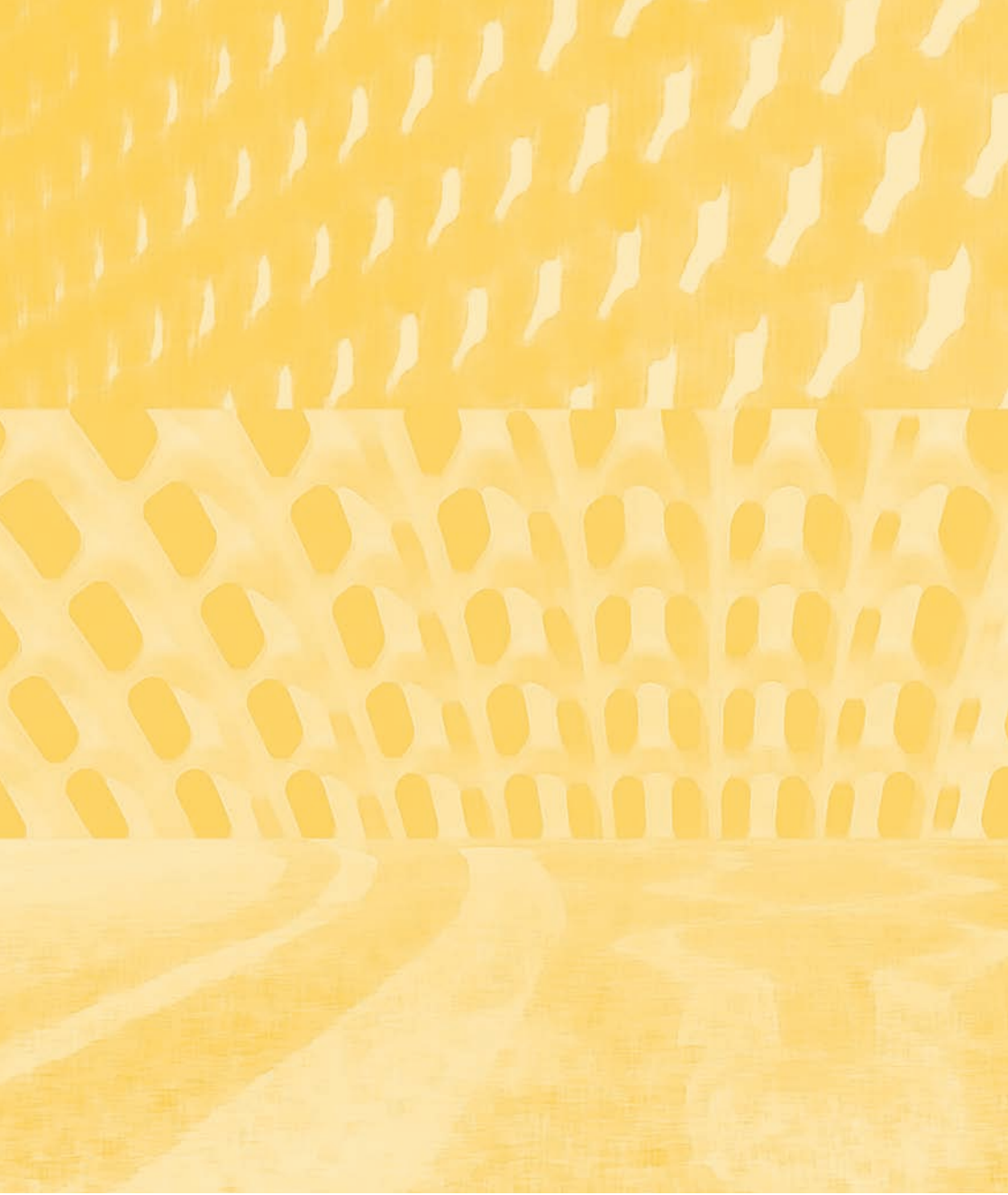

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