

Transitional Morphologies. A Joint Research Unit between China and Italy

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Cities as Assemblages

Proceedings of the XXVI International Seminar
on Urban Form 2019

2-6 July 2019, Nicosia, Cyprus

Vol. 1

edited by
NADIA CHARALAMBOUS
ALESSANDRO CAMIZ
ILARIA GEDDES

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Preface

by Nadia Charalambous, Conference Chair
University of Cyprus

The 26th International Seminar on Urban Form Conference, *Cities as Assemblages*, hosted by the Cyprus Network of Urban Morphology (CyNUM), took place in Nicosia, Cyprus, July 2nd – July 6th, 2019. Three Conference Proceedings' volumes include the written contributions presented during the four-day conference.

ISUF's 2019 theme aimed to explore the embedding of different theories and approaches within methodologies analysing the urban form; theories which provide a relational perspective for the analysis of the physical and social processes underpinning the shaping of the urban form, aiming at addressing the inherent complexity in the emergence of cities and processes of persistence, growth and change.

Relational theories, such as assemblage theory as developed by De Landa (2006) and Actor-Network Theory (ANT) as developed by Latour (2005), point out and discuss key issues as regards urban development, highlighting the mechanisms for the emergence, growth and transformation of urban forms. The need to assess the relationship between the physical and human components of the city through the analysis of the processes of urban development that shape the city as a social entity, is proposed by both theoretical approaches. The power of connections between social entities at different scales in shaping the city as well as the relevance of the urban form to the construction and negotiation of the social, are highlighted.

Such theoretical perspectives are in line with Hillier's and Vaughan's (2007) proposal of the city as one entity, comprising both the physical city and the social city, where '*the physical and social cities act conjointly to produce significant outcomes*' (*ibid.*, p.205). Relational theories conceive the city both as a material entity and as a system of social interaction and human activity. Such an understanding impacts to a great extent the ways we conceptualise and describe the emergence, growth and transformation of the urban form, as well as the ways we study the city, highlighting the need for methodologies that consider both the physical elements, and human groups and the connections between them.

However, despite the fact that the relevance of relational theories for the fields of urban studies and geography has been explored and discussed in a number of research studies, the theories have neither been reflected upon with great depth, nor have they prominently featured in discourses on their implications on the study of urban morphology (Charalambous and Geddes 2015).

ISUF2019 set out to explore and reflect on the potentiality of relational theories to provide a framework for the analysis of the physical and social processes that are involved in the shap-

ing of the urban form, opening up new avenues for the study of urban morphology and for the development of multidisciplinary methodologies.

These reflections have been particularly relevant to the conference venue, the city of Nicosia, the last divided capital of Europe, with a prolonged history of tensions, internal displacements, migration and tourists' flows, economic fluctuations and rapid, often abrupt urban transformations, serving as an ideal laboratory to explore, unravel, and question urban form development in uncertain and contested contexts. They have also been particularly relevant to the focus themes which related to the location of the conference; group formations and negotiations within cities influencing ethnoreligious tensions, political movements, social segregation and urban conflicts more widely, as well as the particular status of port cities often in the past more linked to other port cities than their hinterland and, still to the present day, the first point of arrival of migrant groups and the city-location of choice for tourism.

48 parallel sessions of around 250 inspiring presentations addressed the conference's specific themes:

Theory 1: emergence, relational theories, the social sciences and urban morphology. Papers presented under this theme were about how cities come into being and transform. Subthemes included all elements of relational theories that relate to urban morphology: scales, historical processes, material and human components, capabilities and connections between components.

Theory 2: the scope and limits of urban theories. This theme was about the critique of application of relational theories to urban studies, fragmentation of methods, the attention to the particular and the need to bring specific research findings back to more general theories. Subthemes included the main theorisations of the city: cities as organisms, cities as artefacts, cities as machines, cities as systems of flows and networks, and how to take steps forward to build a more mature theory of the city.

Methods 1: embedding different approaches into the study of urban morphology. This theme was about the need to further develop multidisciplinary within urban morphology, layering different perspectives applied to fringe belt analysis: spatial, social, economic and planning, and filling in gaps when practically applying methodologies.

Methods 2: combining Conzenian, typological and space syntax approaches. This theme was key to understanding the development of urban morphology and the potentialities of combined studies. Papers presented under this theme described the latest research done in combining different approaches and suggested how further developments can be made.

Focus 1: urban conflict and divided cities and **Focus 2:** Mediterranean port cities in a global context. Both focus themes were strongly related to the location of the conference and both were extremely topical and relevant to contexts of increasing migrations flows within the Mediterranean. Subthemes of Focus 1 included issues of segregation and cohabitation, issues of public space use, comparative analysis of divided cities and a special subtheme dedicated to design and architecture on regeneration projects. Focus 2 was broadly about the Mediterranean as a sea of unity and division. Subthemes of Focus 2 included comparative analyses of Mediterranean cities and comparative analysis of port cities and a further special subtheme dedicated to design and architecture on waterfront developments.

The present volume includes 44 contributions from the themes: *The scope and limits of urban theories*, *Combining Conzenian, typological and space syntax approaches*, *Urban Design: Urban morphology, building typology and design* and *Urban conflict and divided cities*.

The papers within the theme of Theory discuss a number of urban theories in the light of urban development and regeneration, explore urban evolution mechanisms as well as urban and building typologies in various cities of the world.

Under the theme of methods, the papers highlight the potential of combining different analytical approaches, including a methodological comparison between Muratorian and Conzeanian urban morphology and Space syntax; transitional morphologies and the exploration of urban form through functional and configurational typologies.

In the urban design theme, the papers in this volume are varied and focus on issues of environmental performance, including soundscape, air and noise quality as well as urban health through the lens of urban morphology; participatory practices and integrated intervention design frameworks; and the relationship between urban morphology research and planning practice, politics and policies.

Finally, in the focus theme, Urban conflict and divided cities, most papers explore the local urban context of the divided city of Nicosia while one paper focuses on Palestine's Spatio-Temporal Fragmentation.

This volume presents the variety of issues, explorations, and insights pertaining to the field of urban morphology, that fruitfully inform timely discussions on the challenges and opportunities related to the study and understanding of the urban form.

There are a number of people who have made this conference possible and whom I would like to warmly thank: the International Seminar on Urban Form Council, and especially the President Wendy McLure and the Secretary General, Vitor Oliveira, for the support, guidance and advise during the preparation of the conference; the four distinguished keynote speakers who kindly accepted our invitation to share their research work with us, Prof. Wendy McClure, Prof. Ann Vernez Moudon, Prof. Alan Penn, and Prof. Giuseppe Strappa; the dedicated ISUF 2019 Organising Committee; and finally all the participants who joined us and who have contributed to the fruitful discussions that took place in Nicosia.

References

- Charalambous N., Geddes I. (2015), *Making Spatial Sense of Historical Social Data*, in *Journal of Space Syntax*, 6.1, pp. 81-101.
- DeLanda M. (2006), *A New Philosophy of Society: Assemblage Theory and Social Complexity*, Bloomsbury Academic.
- Hillier B., Vaughan L. (2007), *The City as One Thing*, in *Progress in Planning*, 67(3), pp. 205-230.
- Latour B. (2005), *Reassembling the Social: An Introduction to Actor–Network–Theory*, OUP Oxford.

Transitional Morphologies. A Joint Research Unit between China and Italy

by Marco Trisciuglio & Bao Li

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Keywords: urban design, urban taxonomy, urban development, Chinese cities, Italian morphological studies.

Abstract: In paleontology a transitional fossil is any fossilized remains of a life form that exhibits traits common to an ancestral group and its derived descendant group. In the taxonomy of evolution, “transitional morphologies” are the linking phenomena between the past and the future. Studying transitional morphologies of urban centers or of anthropic landscapes means understanding the development of human settlements and not only describing them in a sharp historical time. When Muratori outlined the different phases of some Venetian neighborhood, he worked on transitional morphologies, highlighting permanencies and variations.

Furthermore this method allows relevant procedure to design the future assets of the same settlement. The so rapid changes in Asian cities’ space can be observed and studied in an analytical and complex way, using the tools of the Italian traditional typo-morphological approach, for example the so called typological maps.

During last five years, some scholars in China (at Southeast University in Nanjing) and in Italy (at Politecnico di Torino) jointly started working together on these topics in academic researches, in teaching experiences in both the continents (Asia and Europe) and in practicing design’s opportunities.

The aim of this paper is expressing the position of the “Transitional Morphologies Joint Research Unit”.

1. Introduction

In urban studies the typo-morphological approach has two different (and maybe opposite) “souls”: one is the taxonomic soul, another one is the dynamic soul.

According to the Enlightenment’s (and “linnean”) tradition, in which the idea of type as a classificatory tool was born in Western World, the morphologic thought is useful to put in order objects, to create families on the basis of analogies, similarities, vocations. The taxonomic soul has a synchronic point of view on reality: all the special and ordinary buildings, the urban spaces, the adopted design solutions are in front of our eyes at the same time, without any idea of development or degeneration.

According to the dynamic approach, on the contrary, what is important is the idea of process (exactly development’s and degeneration’s processes, for example): the dynamic soul follows the

timeline of a diachronic point of view. The order of things and its structure, in one word the reciprocal positions of urban object in morphological hierarchy, is obviously relevant, but what is mostly important is the continuous changes of that structure in time, the restless metamorphosis of urban objects and spaces, in the essential interplay of tradition and innovation.

In order to read and to understand (and even in order to design) contemporary urban spaces and neighborhoods, a dynamic typo-morphological approach can become really fruitful. This happens overall in the context of fast developing countries, where the urban form is less subject to the *inertia* of permanence and where the urban form seems also to show, nowadays, a fastest change of shapes, together with an uncertain hierarchy of spaces and buildings, and maybe a sort of physiological misunderstandings of taxonomies.

Chinese cities themselves (but not only Chinese cities) are one of the possible test-fields for the efficacy of this kind of consideration. Through the new paradigm of “transitional morphologies”, it is possible to apply the traditional instruments of Italian urban analysis (such as typological maps on topographical support, urban fabric patterns’ conjectural studies, building types collections and classifications, tectonic based analysis of built typologies) to the Chinese cities in their past and present formal consistency, even trying to figure out their future.

2. Methodology

During the last ten years, after the fundamental papers of the Whitehand and Gu, (2006 and 2007), a new season of studies has been opened also starting from the cultural and scientific environment of Southeast University in Nanjing. In 2013 Chen Wei and Luigi Gazzola published *Comparative Study on the City Walls of Nanjing and Rome* (2013), useful to appreciate the most relevant element of the Nanjing urban morphology (the city walls), in a surprising comparison with the city walls in Rome. In the same year Chen Fei (a young scholar graduated at SEU) together with Kevin Thwaites write *Chinese Urban Design. The Typomorphological Approach* (2013), a book that uses Nanjing as a pivot study case.

The morphological studies start approaching the historical and the contemporary city indifferently. The contents of 历代《清明上河图》 [*Ancient ‘Qingming River’*], published in 2014 by Liu Diyu at Tongji University Press, are surprising in analysing each square centimetre of the famous more than five meters long roll, tracing as a result the complete drawing of the shape of the settlement and of the types of each painted building. The impressive study about *China’s Urban Communities: Concepts, Contexts and Well-Being* (2016) by Peter G. Rowe, Ann Forsyth and Har Ye Kan (a team established at the Harvard Graduate School of Design), read the development of 25 urban communities among Beijing, Shanghai, Shenzhen and Suzhou, here explored in a research full of maps and views that apply the typo-morphological approach to the project of nowadays and of the last 30 years. The use of that approach in order to investigate either the traditional city, or contemporary peripheries made of new buildings and new settlements, helps in understanding how the analytic tool based on typology is totally *indifferent* towards the age of the treated urban case.

While in July 2016, the celebration at Nanjing University of the ISUF (the *International Seminar on Urban Form*) worldwide congress sounds as an appreciation and an official approval of what is happening in China, China itself shows the potentiality of a “live” laboratory, useful to explore new horizons for the typo-morphological approach: the fast changes of Chinese contexts and the necessity of awareness of the urban form of nowadays and its dynamic rules of development suggest to implement the processional paradigm of transitional morphologies.

The term “transitional morphologies” is coming from paleontology studies. A “transitional fossil” is any fossilized remain of a life form that exhibits traits common to both an ancestral group and its derived descendant group. In the taxonomy of evolution, transitional morphologies are linking phenomena between the past and the future, they are like the rings of a chain: every discovery of a new missing ring allow paleontologists to better connect the previous step and the next step in the dynamics of evolution. The most famous transitional fossil is perhaps Lucy, the *Australopithecus afarensis* discovered in 1974 and considered as the ‘missing link’ between apes and humans (better: one of the important evolutionary intermediaries between more ancient, more ape-like creatures and more recent, more modern human-like ancestors).

Considering some of the pages of the book by Saverio Muratori about Venice (1959), it is possible to realize the same conceptual evolutionary reading of anthropological phenomena as in paleontology. A little square like Campo de’ Pozzi (within a small island in the urban fabric of Venice, near to the Arsenal), drawn by Muratori himself three times, as it was in XIV, XVI and XX centuries, gives the same idea of a configuration self-developing in time, according to an idea of a diachronic and continuous metamorphosis: a water channel becomes a street, half of a square becomes an important palace, a bridge disappears, the relationship with the wall of the Arsenal’s fortress change. But, at the same time, Campo de’ Pozzi is always the same place: factors that are economic, social, political and symbolic induce changes and so, understanding the rules of those changes can allow the outline the next change (the future or, using another word, the “project”).

The idea that there are processes behind the changes of the urban form and the idea that those processes can be scientifically described in order to declare their rules are the main topic of a not so celebrated book by Gianfranco Caniggia, that has been published in 1976, *Strutture dello spazio antropico* [*Structures of Anthropic Space*]. It is a small and precious book, a collection of papers and interventions written between 1970 and 1974. The themes are various, but the keywords Caniggia uses give the idea of the dynamics of urban settlements in ancient Italy: “old pre-existing buildings”, “typological matrixes”, “urban core’s genesis”, “planned settlements’ recognizing”, “paths, settlements, defenses and their hydrographic reasons”. The main essay of the book, regarding the reading of ancient structures of medieval urban fabrics in Italy is essential to show instruments (overall the typological and archaeological maps) and scientific behaves and remark’s skills that are useful to consider the urban form in its development in time.

During the same years, in France, the historian of architecture Pierre Pinon, together with Alain Borie and Pierre Micheloni, succeeded in publishing his *Forme and deformation des objets architecturaux et urbains* [*Forms and deformations of architectural and urban objects*, 1974]. Showing a series of pictures and schematic drawings of historical and modern examples, the authors look for the rules that determine the change of form. They move from four criteria that they take as useful to analyze deformations: the topologic positioning, the logic and geometric obedience, the integration of an element with the total of other elements and the modality of formal relationship between elements (even in the perspective to create hierarchies). It is a first and extraordinary (so: *precious*) attempt to go deeper in the question of formal changes at the building and the urban scale.

After few years, on the Asian side, the Japanese architect Fumihiko Maki together with his collaborators published, in 1986 his *Miegakure suru toshi*, today (2018) finally translated in English (after more than 30 years) as *City with a Hidden Past*. The titles of the central paragraphs are like a *manifesto*: “the underlying structure of streets”, “microtopography and placeness”, “the external layers of streets”. Observing the streets, in an Asian city like Tokyo, means considering

the web of the paths (walkable paths and water canals as patterns) that are giving structure to the urban settlement.

When in 2010 Dieter Hassenpflug, from Weimar, publishes 城市. *The Urban Code in China*, it is yet clear that the Chinese city is a new morphological object: its topography and the spatial consistence of each urban place of the Chinese city find in that book a first extensive list. The semiotic approach of the author (each place has a sharp meaning for social subjects and social groups) doesn't allow outlining typological schemes, but the typological elements of the contemporary Chinese cities are well defined: closed neighborhoods, introverted neighborhood courtyards, branding compounds, hybrid urban quarters, integrated perimeter block strips, neighborhood pedestrian streets, neighborhood and district centers, new towns, urban parodies, great streets, vertical blocks, urban villages.

3. Analysis and Results

Nanjing, capital city more than once in its history, ancient great capital of the Ming Dynasty and again capital of the Republic of China during the XX century, is nowadays the capital of Jiangsu, the most developed and technological province of contemporary China and more and more (as it was in its long history) center of culture, art and education. Because of its nature of developed and smart city with deepest roots in the past, Nanjing is the right place to become the focus of various experiments of reading the urban form and its transitional vocations: the urban form as historical and cultural heritage is just a starting point, the contradictions and the complexities of the nowadays (and future) city is the real horizon of studies.

Here we will show the six steps of an investigation made overall of mapping activity, describing attempts, design explorations.

A first step was describing the many phases of construction of the city, following its moving from the cosmological reasons of the ancient times to the economical goals of nowadays. All that means investigate the nature itself of the traditional Chinese cities, the features of the historical cartography, the role of a great number of building typologies in creating the urban spaces and the urban behaves of nowadays. Because of the interest of Chinese Republic government in establishing there the new capital, we can study today an aerial photograph of 1928 and we can compare the city of 90 years ago with the one today.

The lucky opportunity to cross the data between aerial photos of different eras, together with historical maps and a wide collection of typologies, helps in getting a great awareness of the morphological consistence of the city. Adopting Conzenian categories, we studied the "inner fringe belt of Nanjing", devoting more than three years of researches to the morphology Southern historical district of the city and also to its fast development of nowadays as one of the real estate core point (because of the "new urbanism" case of LaoMenDong, where an historical area has been totally demolished and re-built in a traditional way less than one decade ago).

A second step was working on a conjectural typological map of one specific sector of that district, called Hehua Tang, where some original parts of the settlement are still recognizable as well as it is possible to consider the use of new typologies of the 20s, the 60s and the 80s. The matrix of that area is the recurrent type of "siheyuan", the traditional courtyard-house built in small size and in a poor context along the Ming city walls. Going deeper in tracing the typological maps (using direct surveys, as well as cartography and aerial photos and overall an analogy-based heuristic process of drawing) allows to consider the capillary web of internal/external paths that cross all the courtyards, but also the changes of the physical morphology of last 50

years according to the changes of human behavior, family conditions, social status of inhabitants: the resilience of a fixed building type, like the “siheyuan”, as its capability to adapt to new use and to transform by little steps its nature, is one of the more interesting result of this phase.

The study of the nature of the Chinese types, their fixed plant and their resilience, was the core of a third step of the research, devoted to the special and social building that is the “chaguan”, the tea-house, real public space into the Chinese cities and main object of the interest of sociologists and anthropologists. At the moment it is not so well considered as a transitional type, i.e. as a building type that is evolving today, trying to keep the memory of its origins, but becoming something different. We left for a while the Jiangsu for the Sichuan, where we studied, at Dujiangyan, the serial use of the typology/prototype of the “chaguan” in re-creating the space of a nowadays famous touristic settlement. The specific morphological question of Dujiangyan is the relationship of the tea-houses with the river and the water channels of an extraordinary and ancient system of wooden and stone dams. The nowadays “chaguan” are designed in order to evoke the past and at the same time to construct the new smart city that, as a Phoenix, is born again after the earthquake that invested that area in 2008.

But the systematic study on a building type asks a deeper consideration of its construction and the link between form and building system. This was the fourth step of our investigations, devoted to the idea of tectonics and experienced again in Nanjing and in the Southern historical area, where we are still working on Da Youfang Xiang.

The Da Youfang Xiang block, with its high cultural and historical value, is on the list of 22 historical preserved plots of Nanjing. It has been occupied in the time by a workers’ slum and it is on going to be transformed today by several regeneration projects.

Da Youfang Xiang is not only a block: four different streets are surrounding it (different by size, section, typology, kind of traffic and urban relevance). The site is in between the two areas of FuZiMiao and LaoMenDong, representing two different philosophies of urban regeneration (of last 20 years), that share the same concept of “inventing an old tradition” or “creating a new heritage”. Da Youfang Xiang is a portion of an urban scenario in fast development and it is an area “in mutation”: it is a place full of historical traces (un-tangible and tangible ones, from the name that remember a lake to the recently found archaeological ruins).

Plot boundaries, building types, spatial elements, partitions and entrances, public, common and private spaces, the role of users, are the criteria we used to investigate the origin, the nowadays conditions and the future vocations of each building inside the boundaries that block. In this case the preminent goal was projecting the future of the entire block. Working on all the existing objects in Da Youfang Xiang means discovering the intimate consistency of that part of the city. After studying and tracing maps, suddenly we could realize that the wooden pillar (or the column) is the real fundamental element of Chinese types as well as the bricks/stone wall is the real fundamental element of European Mediterranean types. It seemed that a new typological map should be drawn for the Chinese (historical) settlements and it should be made by dots and not by lines, because the frame given by four pillars is often the “word” in which the Chinese constructive culture expresses the same meaning of the thick line of walls that, folding itself, can close and organize space in Mediterranean constructive culture (the one in which Gianfranco Caniggia operates).

The traditional wooden structure of the Chinese courtyard-house of Ming and Qing Dynasties shows a system columns/beam, that can be recognized as a frame and finally it becomes a wall: it is a wall, a conceptual wall. Four columns or four pillars and a beam are not a wall indeed, by the structural side, but they are a wall in a conceptual perspective, inside a typological and morphological reasoning.

A fifth step concerns the role of the street in the Chinese urban morphology. The Pukou District, outside the main city of Nanjing at northwest, is bounded on the south by Yangtze River and it connects the Main City with a bridge. The area has a long history first as an independent village and only recently as part of the city: today it has a vocation to become the Northern Gate of Nanjing. The area between the small Zhu Jianshan River and Yanshan Avenue shows the usual urban Chinese landscape of tall and anonymous residential buildings all around, in a periphery crossed by highways. But inside the area there is the unexpected small treasure of an ancient pedestrian street near a river and a vivid market. This is not only a morphological paradox, but the discovery of the strong resilience of a traditional Chinese urban space.

The so called Left Street Area is around 350.000 square meters wide and in 2016 the Nanjing Bureau started designing a comprehensive redevelopment of Pukou District in which the area has been redefined as a “cultural district”. It is one of the few left pieces of the old town. Using as reference the old maps, it is possible to recognize that the left settlement was located in the east part outside the city wall of the town of Nanjing. During the Ming Dynasty the village had been built near a fortress that hosted a garrison to protect the main city and its city walls from the other side of the Yangtze in correspondence with the Nanjing river-port.

The area is characterized by the presence of two longitudinal main streets, the so called “left street” and “the left backstreet”. Just one of the traversal streets is considered fundamental and it's the one called “the east gate street” that once was the street connected to the main entrance.

The importance of the street in the morphology of the place is underlined by the fact that the oldest and traditional houses are placed along it. The area has in fact a total residential vocation with, along the principal alleys, services useful for the habitants, overall family shops. The “Muratorian/Caniggian” typological maps are here insufficient to describe the role of the street: that kind of map cannot show the vertical dimension, that is crucial in explaining how the social space of the street works. In order to solve this challenge is possible to trace “typological cross sections” of the streets (in the case of Pukou, the two ancient parallel streets together, even in the relationship with the parallel water channel). Rather than drawing masterplans for all the huge area, any regeneration projects for Pukou Left Street Area can be figured out in a more fruitful way starting from complete cross sections and coming back later to the question of urban patterns.

The city of nowadays is a configuration of (special and ordinary) buildings, open spaces, infrastructures and it is the result of additions, overlaps, demolitions, innovations, transformations (based upon decays or renewals) of tangible and un-tangible objects, such as: built objects and programs. A city is a collage of many different ideas of city, many different programs. A city is also made by types. “Type” is a powerful tool to imagine and to invent urban objects and urban spaces: since the XVIII century Western architects know that and they never gave up this idea (maybe Jean-Nicolas-Louis Durand was the first to teach architecture using types' combination in Paris, at the beginning of XIX century).

Later on, one of the more interesting moments of debate and comparison between the different approach to design, starting from the typological point of view, was *Roma interrotta* (“Broken Roma”), an exhibition of architectural and urban projects organized by Piero Sartogo in 1978 to cause a reaction in the Roman politic, cultural and social environment: he gave to 12 different architects the charge to design their own visionary buildings and spaces on each of the 12 boards of an ancient map of Rome traced by Giambattista Nolli in 1748: the projects by Costantino Dardi, Antoine Grumbach, James Stirling, Paolo Portoghesi, Romaldo Giurgola, Robert Venturi, Colin Rowe, Michael Graves, Robert Krier, Leon Krier, Aldo Rossi and Piero Sartogo himself, show the designing efforts in using one of the first typologi-

cal map to “invent” something extraordinary new, but at the same time strongly linked to the past organization of the settlement.

The sixth step of our research activities tried to investigate this approach on an area in the central part of Nanjing, not far from the trade and commercial centre of Xinjiekou. The typo-morphological approach is not only a tool useful to describe the form of the city as place signed (in past times) by human settlement and/or to let us understand the city as a built artefact, made by pillars and walls: that toll can reveal some aspects of complexity concerning types mutations and design processes in connection with the development of the Chinese city of nowadays.

It is possible to recognize the nature of Xiao-Song-Tao District like a *palimpsest*, an old manuscript on which later writing has been superimposed on effaced earlier writing. It is possible to understand that the contemporary cities are collections of totally different types. So, through the techniques of “collage”, architects can work more and more on buildings that can produce innovative urban spaces. Each selected type becomes like a single tile of a new *mosaic* of the design area and finally there is no difference between old and newest typologies. The first attempt of a new configuration of a district, done on a giant map, seems at the beginning a chaotic diagram of a possible existing city, imperfect and visionary, but at the same time true. But after that moment, it is possible to figure out the main rules (maintain porosity, elegance, textures and decorations, take care of the individual use of the collective space, of the taste for green and nature, of the persisting courtyards, overall improve the quality of living in the most comfortable corner of the world) in order to design the urban space of a regenerated city.

In fact, the transitional phase in the construction of the morphology of an object can be the step between the oldest form and the form of nowadays. But, for designers, the transitional phase can also be the present one, the step between the past one and the future one, in one word the premise/promise of a project.

4. Conclusion

Through TRANSITIONAL MORPHOLOGIES Joint Research Unit, <the Departments of Architecture of Southeast University in Nanjing and of Politecnico di Torino> want to examine strategies and methods used by human settlements to incrementally change an assembly buildings and space from one period to another period, from one place to another place, from one culture to another culture. The specific interest of the Parties is describing the state of those morphologies, their historical causes (in economy, society, symbolic value) and their design perspective, in Asia as well as in Europe and all over the world.

In the taxonomy of evolution “transitional morphologies” are the linking phenomena between the past and the future (as well as in paleontology a transitional fossil is any fossilized remains of a life form that exhibits traits common to both an ancestral group and its derived descendant group, in urban morphologies recognizing the morphogenesis of a settlement is the first step towards new design models and experiments).

Using these words, the Transitional Morphologies Joint Research Unit has been established in Torino in June 2018, in the presence of the Presidents of two universities. The activities of the research unit were running since 2014 and in the academic year 2017/2018 they have been funded by Compagnia di San Paolo (a bank foundation in Italy) on a call to create partnerships for internationalization of researches and studies. Other funding came to the Joint Research Unit from several institutions of both the Countries.



Figure 1. Analysis of the Southern part of Nanjing (Inner Fringe Area) laying block typologies upon aerial photo (by JIANG Lei, 2016).

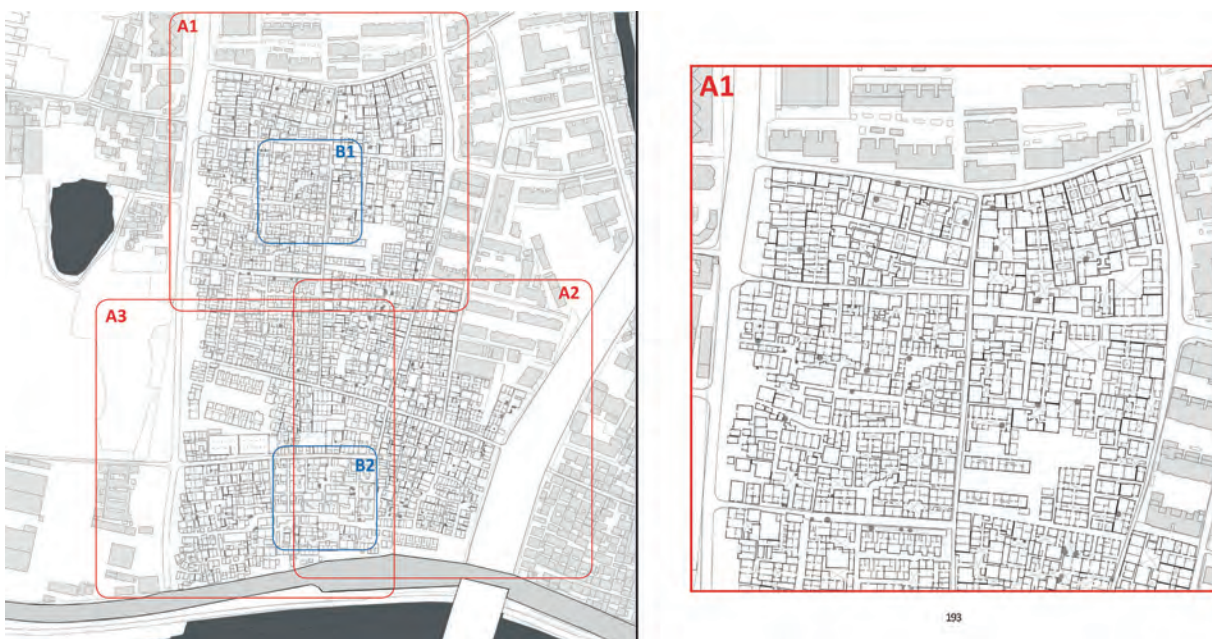
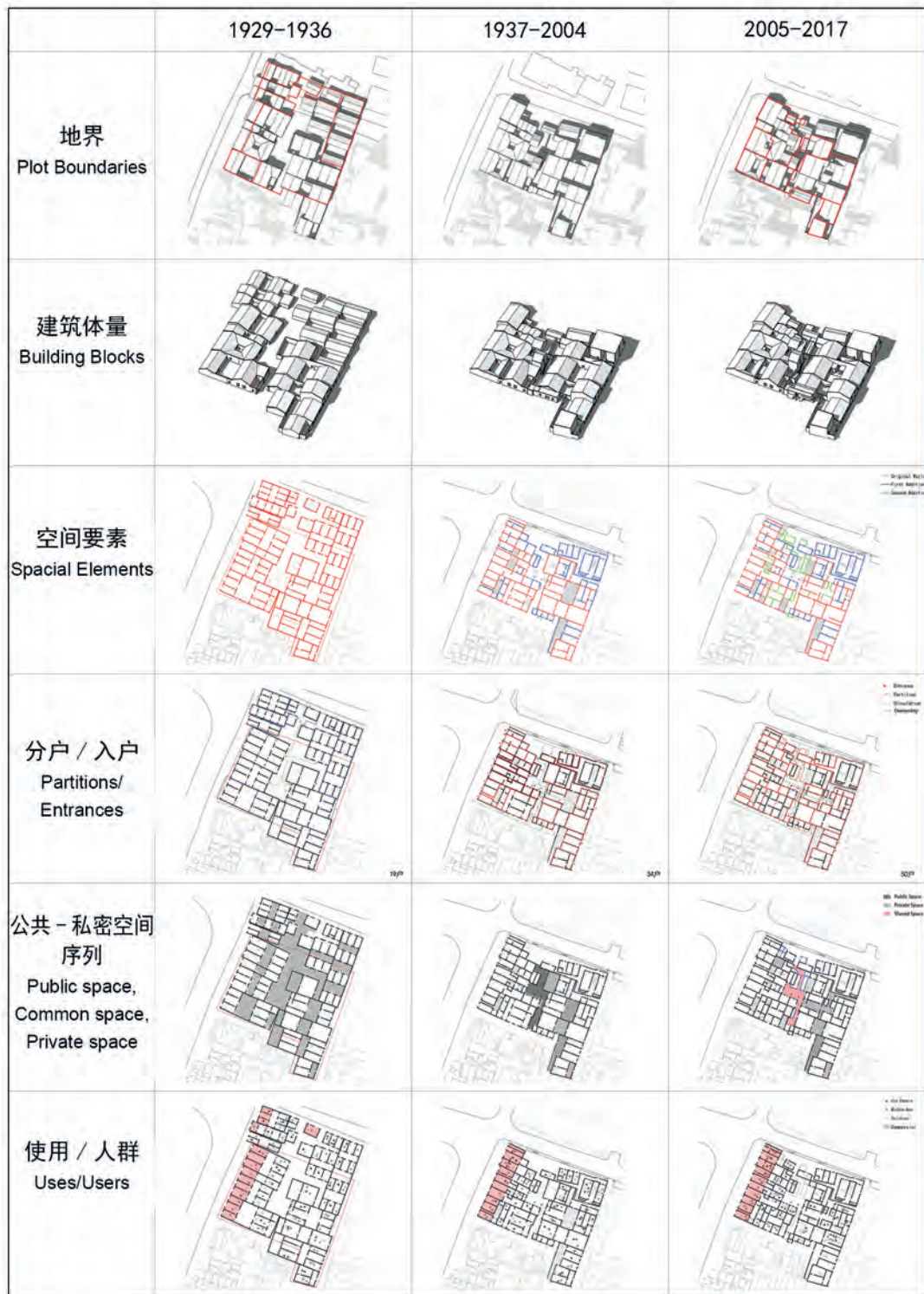


Figure 2. Conjectural typological map of Nanjing Hehua Tang and detail (by Zaira Colombo et al., 2017).



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Figure 3. Investigations on transitional typologies in Nanjing, Da Youfang Xiang (by HUA Fang, REN Guangwei and WU Yuxin, 2017).

The Joint Research Unit has a “joint nature and soul”: it is effectively driven by two teams of scholars that are working in an extraordinary spirit of partnership.

It has been officially presented in China in Autumn 2017 at the International Top-Level Forum on *Engineering Science and Technology Development Strategy: Frontiers of Urban Design Development*, held in Nanjing (Dongjiao State Guesthouse). On November 2017, in Nanjing, the two Co-Directors of the Joint Research Unit joined and endorsed, together with colleagues of ETH Zürich, the *Advanced Urban & Rural Research Center* established between MIT Boston e SEU Nanjing.

During July 2018, Professors, Scholars, PhD Candidates and Students (coming either from the Chinese university or from the Italian one), join the first “TransMo Summer School”. It has been held in Italy, firstly visiting some Italian cities that were the main topic of some morphological studies: Como and Firenze (read through the book and the map by Gianfranco Caniggia), Venezia (read through the book and the maps by Saverio Muratori), Bologna (read through the regeneration projects by Pier Luigi Cervellati), Genova (read through the studies by Ennio Poleggi), Torino (read through the maps by Augusto Cavallari Murat). Secondly the members of the Joint Research Team mapped and studied a small ancient settlement in Susa Valley (adopting the book by Aldo Rossi on Swiss mountain villages as a scientific guide). During the



Figure 4. *Studies on the Left Street cross section at Nanjing, Pukou* (picture by Marco Trisciuglio, 2018).

Summer School, the Joint Research Unit has been officially presented in Italy, at the *Biennial of Venice 2018 "Freespace"*, on July 4th.

The investigation's results of the Research Unit are the basis for teaching activities (design studios, elective courses, seminars in both the seats), for several design activities and for the publication of papers, books and reports.

Even if the starting point of the research program was the interpretation of the Chinese settlements adopting Italian morphological studies' instruments, we are convinced that in our future the paradigm itself of transitional morphologies will be useful to read and design other cities and other settlements in other contexts. The publication in late 2016, by the World Bank, of the white book *The Morphology of African Cities*, with all its uncertainties and unclear considerations and maps, is showing an indubitable horizon for our possible further studies.

References

- Caniggia G. (1980/1976), *Strutture dello spazio antropico. Studi e note*, Alinea, Firenze.
- Borie A., Micheloni P., Pinon P. (2006/1980), *Forme et déformation des objets architecturaux et urbains*, Éditions Parenthèses, Marseille.
- Caniggia G., Maffei G.L. (2017/2001), *Interpreting Basic Buildings*, (Curatorship, introduction and critical glossary by Nicola Marzot), Alinea, Firenze.
- Whitehand J.W.R., Gu K. (2006), *Research on Chinese Urban Form: Retrospect and Prospect*, in *Progress in Human Geography* 30, 3, pp. 337-355.
- Whitehand J.W.R., Gu K. (2007), *Urban conservation in China: Historical development, current practice and morphological approach*, in *Town Planning Review*, vol. 78, Issue 5, pp. 643-670.
- Petrucchioli A. (2007), *After Amnesia. Learning from the Islamic Mediterranean Urban Fabric*, ICAR, Bari.
- Hassenpflug D. (2010) 城市。 *The Urban Code of China*, Birkhäuser, Basel.
- Chen F., Thwaites K. (2013), *Chinese Urban Design. The Typomorphological Approach*, Ashgate, Farnham Burlington.
- Chen W., Gazzola L. (2013), *Comparative Study on the City Walls of Nanjing and Rome*, EdilStampa, Roma, SEU Press, Nanjing.
- Brook D. (2014), *A History of Future Cities*, Norton, New York/London.
- Whitehand J.W.R., GU K., Conzen M.P., Whitehand S.M. (2014), *The typological process and the morphological period: a cross cultural assessment*, in *Environment and Planning B: Planning and Design*, nr. 41, pp. 512-533.
- Liu D. (2014), 历代《清明上河图》 [Ancient 'Qingming River'], Tongji University Press, Shanghai.
- Rowe P.G., Forsyth A., Kan H.Y. (2016), *China's Urban Communities. Concepts, Contexts, and Well-Being*, Birkhäuser, Basel.
- Bao L., Trisciuglio M., Jiang L., Zhan Y. (2017), *Typological Permanencies and Urban Permutations. DesignStudio of Re-generation in Hehuatang Area Nanjing*, 类型的恒在与城市的蜕变。南京城南荷花塘地块及住区建筑更新设计, SEU Press, Nanjing.
- Trisciuglio M., Dong Y. (2017), 可置换的类型：意大利邢台类型学研究传统与多元发展, *Towards a Permuting Idea of Architectural Types: The Italian Typo-Morphological Approach and the Chinese City*, in “建筑师” (JianZhuShi), nr. 190, pp. 22-30.
- Trisciuglio M. (2017), *The Wall and the Column*, in Trisciuglio M. (ed.), 再写形态学 *Writing Morphologies*, Politecnico di Torino, MAECI, Torino, JianLing Graphic, Nanjing.
- Colombo Z. (2017), *Hehua Tang: reading of a Historical Chinese District. Rethinking the Relation with the City Wall* (Master Dissertation at Politecnico di Torino, tutor M. Trisciuglio), Torino.
- Wei Z. (2017), *Modular Design in Urban Renewal of a Chinese City, considering Interaction between Tourism and Local Residence: Dujiangyan as an Example* (Master Dissertation at Politecnico di Torino, tutor M. Trisciuglio, co-tutor Jiang, L.), Torino.
- Zhang Y. (2018), *Left Street, Life Street: the Social Meaning of the Street on Chinese Urban Space* (Master Dissertation at Politecnico di Torino, tutor M. Trisciuglio), Torino.
- Maki F. et al. (2018/1986), *City with a Hidden Past*, Kajima Institute Publishing Co., Tokyo.

- Bao L., Triscioglio M. (2018), *Capire le città cinesi. Ri-disegnare gli strumenti italiani. Understanding chinese cities. Redesigning italian methods*, in *AGATHÓN. International Journal of Architecture, Art and Design*, 03/2018. pp. 123-132
- Jiang L. (2019), *Morphological Research of the Historical Urban Boundary. The Inner Fringe Area of Nanjing*, Southeast University, Politecnico di Torino, Nanjing.