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FROM ARCHITECTURE TO DESIGN AND BACK: THE ARCHITECTURAL ROOTS OF THE ITALIAN DESIGN SYSTEM, 1920-1980

DE LA ARQUITECTURA AL DISEÑO IDA Y VUELTA: LAS RAÍCES ARQUITECTÓNICAS DEL SISTEMA DE DISEÑO ITALIANO, 1920-1980

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Abstract

The histories of Italian design and architecture may be more readily understood if one considers that many of the protagonists are architect-designers.

Identifying the root of this convergence in an academic and professional educational system based on the idea of the "complete architect", trained to work at any scale of design, this paper frames the work of the architect-designers within the cultural, economic and manufacturing context of the period between the 1920s and 1980s, when for historical reasons their role became particularly significant.

Furthermore, many design historians in Italy are the product of the same education as the architects, and having followed the same course of studies as the architectural historians, they acquired the same techniques of investigation and interpretation, which they later refined in their own fields. The theme is thus explored from the perspectives of the two authors, both architects but with specific training one as an architectural historian, and the other as a design historian. The relationship between the two research directions – the theoretical debate and its narrations, the relationship between designers and manufacturers – makes it possible to clarify some of the aspects that distinguish the history of Italian design culture compared to that of other Western nations.

Keywords: architect-designer, design education, design history, design industry, Italy, manufacture

Resumen

Las historias del diseño y la arquitectura italianas pueden entenderse más fácilmente si se considera que muchos de los protagonistas son arquitectos-diseñadores.

Identificando la raíz de esta convergencia en un sistema de educación académico y profesional basado en la idea del "arquitecto integral", capacitado para trabajar en cualquier escala de diseño, el papel enmarca el trabajo de los arquitectos-diseñadores en el ámbito cultural, económico y productivo. En el

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contexto del período comprendido entre los años veinte y ochenta, cuando por razones históricas, su rol resultó particularmente significativo. Además, muchos historiadores del diseño en Italia son el producto de la misma formación que los arquitectos, y habiendo compartido los mismos estudios que los historiadores de la arquitectura, adquirieron las mismas técnicas de investigación e interpretación, y luego los refinaron en sus propios campos. Por lo tanto, el tema se explora desde las perspectivas de los dos autores, ambos arquitectos, pero con formación específica, uno como historiador de la arquitectura y el otro como historiador del diseño. La relación entre las dos líneas de investigación, el debate teórico y sus narraciones, la relación entre diseñadores y fabricantes, permite aclarar algunos de los aspectos que distinguen la historia de la cultura del diseño italiano en comparación con la de otras naciones occidentales.

Palabras clave: arquitecto-diseñador, educación en diseño, historia del diseño, industria del diseño, Italia, fabricación

1. Introduction

The history of Italian design is influenced by a series of factors that constitute an exception with respect to other Western countries, in particular those of Anglo-Saxon tradition.

Some of these factors are intrinsic to the events that, in some areas more than others, led the design discipline to define its course within the framework of architecture, and the work of many of its protagonists to develop until recently in a circular process between architecture and design[1]. It is probably no coincidence that the most popular trade magazines, such as *Casabella* and *Domus*, founded in the 1920s, or the later *Abitare* and *Ottagono,* focused on the discourse surrounding the home, not only as the physical place where the two themes intermesh, but first and foremost as the category that might best "domesticate" the different areas of design[2]. Much theoretical and practical work referred to the domestic sphere, even when it involved trains or airplanes. The two disciplines also dialogued in exhibitions, first and foremost the editions of the Triennale di Milano which began in 1923, bringing together ideas and installations involving spaces and objects, curated and designed by the same people.

The root of this distinction may certainly be identified in the formula, coined by Gustavo Giovannoni in 1921, of the "architetto integrale", the complete architect, a term that defined the professional profile trained by the newly-founded Scuola Superiore di Architettura. Its goal was to educate "humanist technicians" who could interpret the design process relying on the tools of science and technology, as well as research into art and history, and other disciplines added later[3]. Expressed in the famous *rappel* by Ernesto N. Rogers "from the spoon to the city"[4], it was also one of the reasons for the late introduction of specific university curricula for designers[5].

Other distinctive factors include the ways in which the relationship was structured during the twentieth century between this type of designer and an industrial system that developed later than in most countries, and unevenly in

terms of geography and industrial sectors[6]. With respect to the growth of heavy industry, which began to wane in the 1970s after an encouraging start during the pre-war period, these architect-designers were instrumental in defining the Italian "style", which began to wane in the 1970s after an encouraging start during the pre-war period, these architect-designers were instrumental in defining the Italian "style", recognized as both an industrial specificity and a product aesthetic[7]. Their ability to "integrally" coordinate the product development process, building the close relationship with entrepreneurs and factory technicians that has become the hallmark of Italian design, also made them key figures within the fabric of small to medium-sized manufacturers concentrated in industrial clusters: located in specific geographical areas with a craft-industry tradition[8], these companies evolved after World War II towards a mechanized industrial dimension.

Similarly, the idea of educating the "complete architect" also influenced the uneven profiles of Italian design historians. Their tools, their methodologies of investigation and interpretation were refined not only in the field, but in studies of both art and architectural history, because they attended the same university programmes as the architects[9]. As a result, a significant part of the histories of Italian design were written by architects[10].

This is yet another reason why this paper chooses to explore the figures of architect-designers between the 1920s and the 1980s, based on the perspectives of the two authors, both architects, but one trained as an architectural historian and the other as a historian of industrial design[11].

The former focuses on the theoretical debate and on its narratives; the latter reconstructs the evolution of the relationship between designers and manufacturers, linking it to the characteristics of the industrialization process[12].

2. From architecture to design

2.1. From the 1920s to the war period: all about homes

The most fertile phase in the debate on the decorative arts, initiated by architects such as Camillo Boito in his writings and in the magazine titled *Arte italiana decorativa e industriale* (1890-1911)[13], identified two factors that would become embedded in the Italian design culture: a deliberate intent to approach objects in the same way that architecture and decoration had traditionally been approached, and an effort to identify the domestic environment as a testing ground and context for the issues typically raised by the modern age[14].

Many nineteenth-century themes thus persisted into the twentieth century, channelled by magazines and by the educational system, which was still bound to the dichotomy between Academy of Fine Arts and Technical School. The architectural curriculum was not defined until after the 1919 decree (Scuola Superiore di Architettura di Roma[15]) while the "industrial arts" discipline proceeded with even greater uncertainty, at schools such as the Università delle Arte Decorative inaugurated in Monza in 1922, a school that combined theory, practice and method with an approach similar to that of other European countries, but strongly influenced by tradition and by Italy's existing production districts.

Starting in the early 1920s, newly-founded courses in interior and furniture design were based on the precepts of Gustavo Giovannoni, who sought to define a proper relationship between positive and aesthetic concepts in the practice of design. The same relationship was advocated by Guido Marangoni[16], a Socialist intellectual who promoted not only the Università delle Arti Decorative, but also the Biennale exhibitions in Monza (Mostre Internazionali di Arti Decorative), where 'every advance, every achievement in Italian and foreign industrial and applied art should be directed towards the higher aim of modern styling and bold renewal'[17].

The guiding principle was the pursuit of the shape of utility, rejecting sterile imitations of the past and a purely intellectual concept of modernity. In 1925, Marangoni began publication of the *Enciclopedia delle moderne arti decorative*[18]. The year of the first Biennale exhibition, 1923, was also the year in which for the first time, manufacturers hired architects to work with them: Gio Ponti and Guido Andlovitz become the artistic directors of the Richard-Ginori and Sci (Società Ceramica Italiana) ceramic industries[19].

The relationship between the applied and industrial arts and architectural design was strengthened in universities, special courses and exhibitions. A similar process took place within the newly-founded magazines: from the official organ of the national architects' union *Architettura e arti decorative*, first published in 1921, to the magazines that began publication in 1928, *La Casa Bella. Rivista per gli amatori della casa bella* directed by Marangoni as the final piece in his integrated project, and *Domus. L'arte nella casa*, created and directed by Ponti.

The year 1928, year of the first National Exhibition of Rationalist Architecture in Rome and the founding of the Italian Rationalist architecture movement (MIAR)[20], may be viewed as a synthesis of the different trends that led architects to become the protagonists of design [FIG. 1]. Three model houses, designed by the Gruppo 7 architects (the electric house), by Ponti with Emilio Lancia (the Domus Nova) and by Luisa Lovarini (*casa del dopolavorista*) were built in 1930 for the fourth Monza exhibition (the first Triennale exhibition), in the park of Villa Reale: these homes integrated architecture, furniture and everyday objects, all designed to be mass produced in an "Italian" interpretation of the language of international rationalism. The home became a testing ground for designers who began to view it as an object akin to an industrial product – and hence standardised – enhanced by fine craftsmanship, controlled by the design project and distinguished by a clearly "Italian" matrix. The need they expressed was to "domesticate" these spaces, not only in the *'Italian-style house'* evoked by Ponti[21], but in social housing as well, which was the subject of the new magazine *Quadrante. Mensile di arte, lettere e vita* founded in 1933. This concept was expressed in the exhibition *Elementi di case popolari* at the 5th Triennale in 1933 (curated by Piero Bottoni and Enrico Griffini), with the fully furnished Rationalist houses built for the housing exhibition in Parco Sempione, as well as in the railway cars designed by Ponti and Pagano[22]. The 1933 Triennale seems to have provided an opportunity for architects to reflect specifically on the new spaces opening up to them in working with the manufacturing industry, as illustrated in *Casabella* (edited by Giuseppe Pagano since 1933). This theme would be the focus

of the 1936 and 1940 exhibitions in Milan[23]. On display were objects for domestic use, as well as engines, optical instruments and calculation devices, objects made of rubber[24]. If on the one hand, the debate surrounding design for mass production in the field of home furnishings, construction materials and processes had achieved full maturity in exhibitions, magazines and schools, there was a persisting degree of vagueness in the understanding of industry and design, in the relationship with the craft industry and other expressions of art and ideologies[25] at a time in Italian history characterized by strong contradictions that would culminate in Italy going to war shortly after the opening of the 7th Triennale.

Fig. 1. Adalberto Libera, Poster for the *Exhibition of the Results of the National Competitions for the Economic Furnishing*, 1928, Private collection

2.2. The 1950s: The designer-architect

At the end of the conflict and the difficult years of the Italian civil war, the themes of the pre-war debate and achievements re-emerged: growth – in terms of renascence and reconversion – industrialization, standardization, modularity, all issues that would naturally be developed in the millions of housing units that the country needed[26]. The coordination of the project assigned to the National Liberation Committees, the work of the group surrounding Rogers[27] and the magazines, were reflected in the first post-war Triennale exhibition, the T8 in 1947.
The exhibition,[28] which focused on reconstruction, vividly asserted the circular relationship between traditional and industrialised architectural design, urban planning, and industrial design, applied to either architecture or the product. The element that bound all the parties involved was the theme of social improvement and the role that the 'home for everyone' could and should play in the development process. The interaction between architectural and product design was continuous in every exhibition, in a sense that embraced the entirety of industrial production, and relied on small companies able to perceive the potential for expansion and interesting economic developments[29]. The framework was established for the comprehensive development of an industrialised project, managed by architects, and embracing all the sectors involved in housing[30].

The Fanfani law, passed in 1949 "to boost employment by facilitating the construction of worker housing", seemed to provide an operative tool for asserting the responsibility of design in the reconstruction process, which, like the T8, included housing, urban districts as well as furniture and equipment. Up through the early 1960s, the design of these urban districts occupied Studio BBPR, Ignazio Gardella, Ettore Sottsass Jr., Figini and Pollini, and Franco Albini, all architects trained before the war, who had also designed most of furniture and equipment shown at the Triennale exhibition, and been called after 1949 to teach courses in furniture and interior design in architecture schools around the country.

However, the design approach firmly linked to social conditions took roots in the construction industry, but waned in the field of domestic equipment. While the model housing designed for Ina-Casa by Gregotti-Meneghetti-Stoppino among others[31] was presented at the 10th Triennale in 1954, the contribution of architects to the design and development of home furnishings rapidly declined.

Reflecting the great success of the *Italy at Work* exhibition, which toured the United States between 1950 and 1953[32], the 9th Triennale opened in 1951, featuring the theme *Unity of the Arts* and embracing new categories and expressive languages. Architects were furthermore tasked with selecting the industrial objects for the exhibition *La forma dell'utile* (curated by Lodovico Barbiano di Belgiojoso, Enrico Peressutti, Max Huber), the sports clothing and equipment for *Forme e colori nello sport* (curated by Vittoriano Viganò, Enrico Freyrie), and with designing the interiors of the seven units in the housing exhibition, which featured new materials borrowed from industrial processes in the automotive, plastics or rubber industries or early examples of standardized furniture such as Marco Zanuso's chairs for Arflex, made with Pirelli technology.

In any case, technological and formal research advanced hand in hand, especially in the design of middle-class housing, which followed the direction heralded by Ponti, who in the meantime had resumed his position as editor of *Domus*[33]. All architects were welcomed there regardless of their approach. Zanuso, who was the editor-in-chief in 1947 and an advocate of the "industrial" approach applied to industry in the Lombardia region, co-existed with Ico Parisi, Carlo Mollino or Ignazio Gardella, who were advocates, respectively, of an artistic, artisanal or historicist approach. The gradual diversification of trends grew stronger when *Casabella* resumed publication in 1953, directed by Rogers[34], to explore the debates on the significant issues regarding the moral responsibilities of architects in the development of the new and historic city, as well as the role of industrial design in society, the central theme of the first International Congress on Industrial Design held at the 10th Triennale[35].

In 1954, the "year of design", which featured the above-mentioned conference, the Triennale exhibitions [FIGS. 2-3] including the *Rassegna dell'industrial design* (commissioned by Marcello Nizzoli, Roberto Menghi, Augusto Morello, Michele Provinciali, Alberto Rosselli, and designed by Achille and Pier Giacomo Castiglioni), the institution of the Compasso d'oro award promoted by La Rinascente and conceived by Ponti, and the foundation of *Stile Industria* magazine edited by Rosselli[36], architects seemed to lead the development process of the design discipline[37].

Fig. 2. Gio Ponti, *La finestra arredata* (*The furnished window*), X Triennale, Milan, 1954, produced later by Altamira Inc., New York, Gio Ponti Archives, Milan

Alongside the area of design that truly dialogued with industry – industrial design was the term adopted from then on[38] –, a series of intermediate concepts emerged that remained anchored to the handcrafted dimension, to the limited series or one-of-a-kind product, as in Mollino's Turin, for example, with his students Roberto Gabetti and Aimaro Isola[39]. The lack of a unitary approach to design emerged clearly in 1957, the year the 11th Triennale presented two

important exhibitions: the international exhibition of modern architecture organised by Alvar Aalto, Pier Luigi Nervi, Nikolaus Pevsner, Giulio Carlo Argan and Luigi Moretti, and the international exhibition of industrial design curated by Zanuso, Rosselli, Gillo Dorfles and Leonardo Ricci, in addition to the customary housing exhibition in the pavilions of the park. In each of them, despite the ubiquitous participation of architects, the different design sectors were becoming increasingly distinct; their separation from the applied arts was clear-cut, giving rise to an extremely varied scenario[40]. The idea of industrial design in close collaboration with manufacturers appears consolidated in all the exhibitions of the time[41], but many architects who were entering the profession in the 1950s and gravitated around the editorial offices of *Casabella-Continuità* returned to the theme of continuity with tradition in the field of design as well, opening them up to Reyner Banham's criticism of the 'infantile regression' of some Italian architecture[42].

Fig. 3. BBPR, Olivetti Showroom in New York with relief by Costantino Nivola, 1954, Nivola Archives, Courtesy Ilisso Edizioni Archives, Nuoro

A ground-breaking exhibition in this sense was *Nuovi disegni per il mobile italiano,* held in Milan in 1960[43] and curated by Guido Canella and Vittorio Gregotti, with exhibition design by Canella with Gae Aulenti[44]. The furniture presented by Gabetti e Isola, Rizzi, Fiori e Segre, Gregotti-Meneghetti-Stoppino, Gardella, Canella, Aulenti and Aldo Rossi triggered a new wave of experimentation by designers and manufacturers, again aimed at establishing an Italian identity in objects, in architecture – with the Neoliberty movement – and in the development of a "high-quality" pre-fabricated production[45].

At a time when Rationalism was the object of criticism, at the threshold of the economic boom, Rogers attempted to refocus on the social and traditional aspects of architecture[46]; the experience of MIAR (*Movimento Studi per l'Architettura*) shut down [47]*;* Dorfles regretted the failure of the conference held at the Triennale on *Arte-artigianato-industria* which came nowhere near dissipating the ambiguity ingrained in the triad of terms *art-craftsmanship-industry*[48]; Turin celebrated the centennial of the unification of Italy with the explicit contribution of art and technique; and the first Salone del Mobile was inaugurated in Milan. The architects who actively worked to build a design culture in Italy began to question the relationship, perhaps too long neglected, with the rise in mass-produced objects, the market and the degree of "art" expressed in the design, as they began to cultivate a dialogue with disciplines unrelated to the increasingly well-defined canons of architecture and design.

2.3. From the boom years to the post-modern condition: questioning home, industry, modernity

In the age of rapidly increasing production and consumer spending in Italy,[49] manufacturers asked designers for more designs to produce more, and more varied products, specialized products with market appeal. The architect-designers were ideally suited for this development. Those who learned to take advantage of the transition from mechanised to industrial production – both in architecture and product design – filled almost all the available spaces in the profession, as collaborators and coordinators for manufacturers of furniture, accessories and technical equipment for the home and leisure activities, and as designers for the development of worker housing and quality apartments for the middle class[50].

These were the interiors and architectural works published in the magazines (and in tabloids) and presented in exhibitions such as *La casa abitata* (Florence 1965)[51] [FIG. 4], the 13th Triennale Exhibition[52] and after 1965, in *Eurodomus*, the traveling trade show-markets promoted by *Domus* which emphasized the close relationship that had been forged between architects and manufacturers, and between architecture and design[53], leading to theoretical positions on the interaction between the two areas, both of which were mechanised [54].

Fig. 4. Achille and Pier Giacomo Castiglioni, Room of the exhibition, *La casa abitata* (*The Inhabited House*), Florence, Palazzo Strozzi, 1965, Fondazione Archivio Castiglioni, Milan

The apparent straightforwardness of the two parallel paths (architect-designers and designer-designers), could not but be affected by the conditions created by the rapid growth in production and consumption, enabled by the low cost of labour: an increase in exports on the one hand, and warning signs of growing social tensions on the other. If one also considers how hard it was for young architects to break into their profession due to mass university schooling, or the new ideas deriving from the counterculture[55] and the introduction of the Beat Generation[56] artists and poets in Italy, it becomes obvious how the clarity of cultural instruments and methods that the separate disciplines of architecture and design considered to be shared and usable, in fact raises several issues of concern.

The architecture schools in Florence and Turin began to piece architecture and design back together; groups of students formed collectives claiming the prerogative of the design disciplines – architecture and urban planning – to intervene on the territory with macro-settlements, in contrast to both Rationalism and the market-consumer system. When upon graduation, young architects associated in firms with names inspired by comic books – Archizoom, Superstudio, Ufo, 9999, Strum – attempt to put into practice the experiments they developed at the university, they necessarily did so at the small scale, in performances or interiors for relational spaces. The architectural aspect was attenuated, without giving up its basic, even ideological and political premises, to produce objects or systems of objects that created new spaces. The exhibition titled

Superarchitettura (1966), the Piper nightclubs in Rome, Florence and Turin (from 1965 to 1967) [Fig. 5] or the *Effimeri urbanistici* by UFO (1968), not only featured objects and equipment inspired by the Pop culture that reflected new ways of living in homes and cities, they also laid the foundations for a challenge to the acclaimed relationship between design and the industrial system. The pillar of this new hybrid between architecture and design were the experimental companies located outside the mainstream industrialised sphere of the Lombard region. They embraced ideological positions on themes that challenged codified design approaches, the capitalist industrial system and the re-assessment of the craft industry, as well as the individual and emotional value of design, positions taken by many architects in the face of situations such as Global Tools[57].

Fig. 5. Piero Derossi, Interior of the Piper nightclub, Turin, 1965, Derossi Archives, Turin

The moral responsibility of architects became a political responsibility that led to the protests against the 14th Triennale in 1968, when students, artists and architects accused the organisation of being excessively enslaved to the market, in the very year that the exhibition was dedicated to mass production, and the most successful objects were the result of research that relied on advanced technologies, mechanisation and the maximisation of mass production as tools to express the same informal spaces pursued by the Radicals. De Pas, D'Urbino, Lomazzi with *Blow*, Zanuso with *Lombrico*, Bellini with *Amanta*, Magistretti with *Selene* and many others exhibited objects made of plastic, using technological processes that resolved the issues raised by the counterculture from within the advanced industrial system.

A new synthesis between architecture and design was presented in the exhibition titled *Italy: the New Domestic Landscape* held at the MoMA in New York in 1972. Curated by Emilio Ambasz, the exhibition expressed the intent to adopt a complex approach to the design project. The objects, all of which were in production, provided an overview of Italian design, both of "good design" as well as alternative experimentation. The presentation interrelated the two in a way that left behind the contrast between Rationalism and anti-Rationalism. The *Environments* section presented environments specifically designed and produced to solve housing problems and push the renewal of the 'philosophical discourse' thereby 'bringing about structural changes in our society'[58]. As some of the protagonists later recalled with much nostalgia, the New York exhibition represented the last authentic opportunity for the cross-pollination between architecture and design and for bold experimentation. In fact, the 70s brought with them the devastating effects of the economic crisis and an escalation of social conflicts; many of the radical groups dissolved before the middle of the decade and the debate in schools waned.

The changes anticipated by the more attentive observers, from the advent of the post-industrial society[59] to the different values associated with products[60] and the disappearance of metanarrative systems of thought [61], translated into the fragmentation of the discipline. The artisanal approach and boutique industry becomes manifest on several occasions: in 1976 Alchimia[62] was founded by a group of architects – Alessandro Guerriero, Alessandro Mendini, Ettore Sottsass, Paola Navone – which also gathered designers and artists seeking a design that worked beyond disciplines, searching for "sentimental thought" in decoration, memory and multisensory experiences.

Postmodernism 'embraced a variety of approaches that all relied on a dual language, partly modern and partly something else. … They accepted industrial society but gave it a kind of image that went beyond the image of the machine'[63].

Reasserting this duality, the exhibition titled *The Presence of the Past,* curated by Paolo Portoghesi for the first Venice Architecture Biennale in 1980 under the slogan "stop prohibition', presented a series of building façades along Strada Novissima as set designs, or even as objects, but most certainly as icons.

On the same occasion, Mendini curated the exhibition titled *L'oggetto banale*[64], in which he addressed the theme of the functional categories in objects to destroy their causal relationships by relying, like architecture, on iconic "cosmetic" treatments that took emotional factors in consideration. This encounter led to an approach that lasted throughout the 1980s and part of the 1990s, in which architecture and objects became easily interchangeable: from *Tea & Coffee Piazza*, Mendini's project for silver tea and coffee sets designed by eleven architects, all of which were displayed along Strada Novissima to create coffee-table architectures (Alessi, 1979-83), to Rossi's designs for household objects (Alessi, 1980-84) and furniture appearing as small-scale reproductions of architectural works that evoked a sense of memory (Molteni, 1987; Unifor, 1990; Longoni 1992).

3. Designers and manufacturers

3.1. The premises: the designer for the industry

Italy embraced industrialisation starting in the last decades of the 19th century. Due to the combined effect of the rise of heavy industry – steel, metal, mechanical, chemical (Ansaldo, Terni, Piaggio, Breda, Montecatini, Fiat, Ilva, Lancia or Alfa), based in Northern Italy[65] and subsidised by the government –, and the reinforcement of a system of small and micro enterprises which were generally grouped into production clusters and then gradually became mechanised[66], mass production grew alongside traditional methods of handcrafted production.

Manufacturers were slow to recognize the need to develop specific product designs that responded to this change in production processes. Even in the nascent heavy industries, the role of designer usually belonged to the entrepreneur himself, who was often an engineer, an industrial technician or a self-taught inventor. He conceived the product and had it refined by his technical staff, which served to mediate between his intentions and the final product, often supported by workers capable of applying their technical mindsets and manual skills to new technologies and machinery[67].

The turning point came with World War I. Military commissions drove companies to speed up their adoption of the principles of standardized production and labour fragmentation, pushing them towards experimentation and state-of-the-art technical solutions. At the end of the war, the results of these processes were applied to civilian equipment to convert production lines.

The manufacturers' interests, therefore, began to converge on the opportunity to set up a "system" revolving around the artefacts produced in factories. Now that companies were able to produce a wide range of consumer goods, they found themselves wedged between a potentially large market, especially the urban middleclass with their demand for objects that were more suitable to their demeanour and taste sometimes borrowed from overseas, and the urgency to promote their new appliances and typewriters, for example, which heralded the rise of mechanisation in the home and in the workplace.

Companies therefore required a professional figure who could conceive objects or artefacts for communication and had the skills to develop them, and who understood standardized production processes, commercial needs and public expectations, using up-to-date expressive languages that would portray them as pioneers of the modern age.

This figure, who would work alongside the nineteenth-century-style entrepreneur-engineer-inventor and the in-house heavy-industry technical staff, as well as the entrepreneur-craftsman who relied on handcrafted or mechanised production processes, could be found on the one hand among the designers with artistic training – such as the exponents or supporters of the Futurist movement, convinced both theoretically and practically thanks to their entrepreneurial experiences in the art ateliers[68] – and on the other in the architects who after 1919, when the first Scuola Superiore di Architettura opened in Rome, progressively came to define the specific figure embodied in the idea of the "complete architect".

More specifically, the dialogue with architectural culture began first in those sectors that industrially manufactured traditional products for domestic spaces, often in the most important industries within the production clusters. This was the case of the collaboration between Richard-Ginori and Ponti (1923-38)[69], between Sci in Laveno and Andlovitz (1923-61)[70] or Vetreria Venini in Murano and Carlo Scarpa (1932-47)[71], marking a distinction between designer and expert craftsman. At the end of the 1920s, Ponti also began to work with Domus Nova (with Emilio Lancia), which manufactured furniture sold by the department store La Rinascente to modernize middleclass homes, and headed Fontana Arte, one of the first lighting companies to simplify its designs and production methods[72].

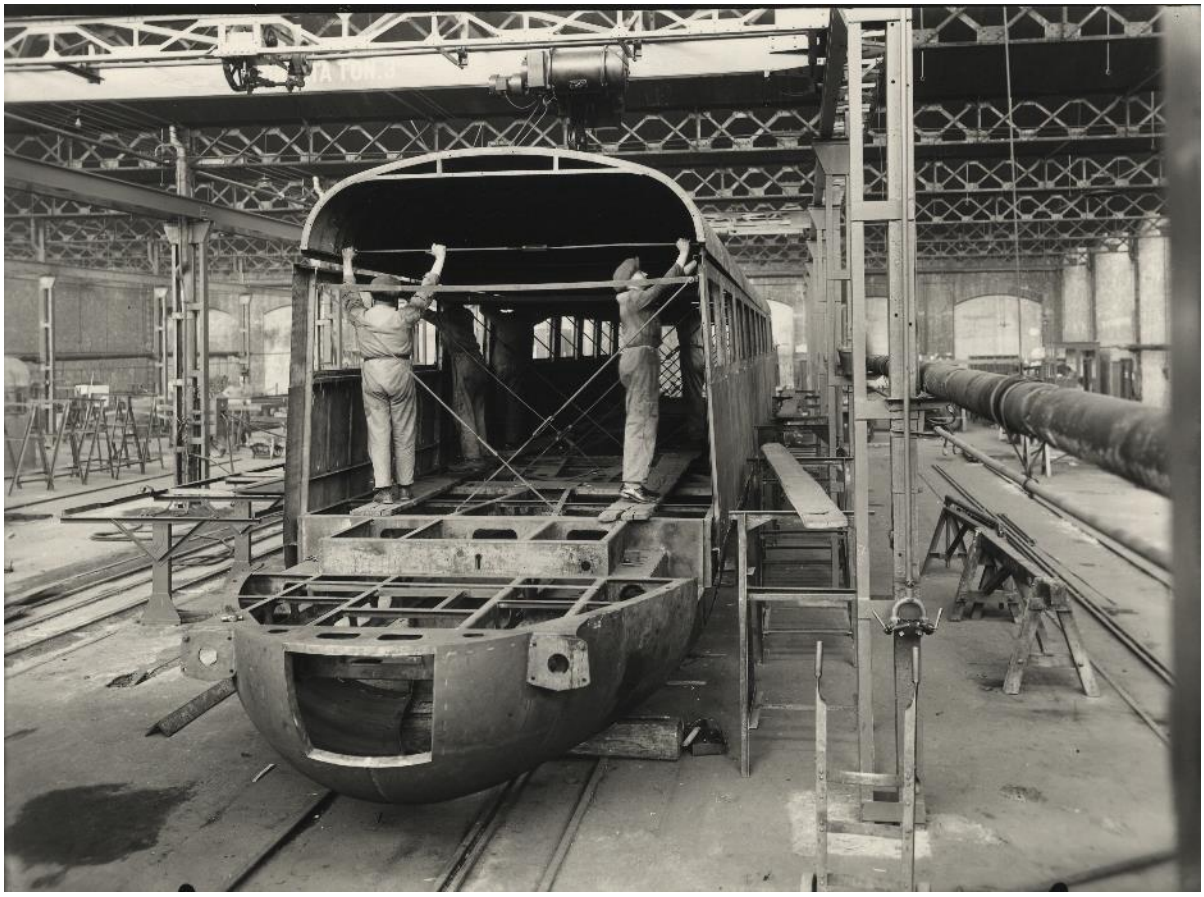
Architects thus began to complement the traditional design of "custom-made" furniture for individual projects with designs of standardized pieces, often using industrial manufacturing technology in which the company was investing and taking out patents[73].

Metal furnishings for public spaces and offices were more successful in their design than wood furniture. A unique case in point was the A.L. Colombo company in Lambrate (Milan). It was established in 1919 and secured the concession for Italy, under the brand name Columbus, to produce the metal tube furniture by Wohnbedarf AG of Zurich, which marketed the Bauhaus models. It added to its catalogue and produced as standard items furniture designed for custom projects by Rationalist architects Giuseppe Terragni, Pagano, Figini and Pollini or Bottoni[74].

A similar standardisation process was enacted in applying the research conducted by architects to rationalise the design of construction components. In the 1930s, for example, these experiments involved new materials – such as the Pirelli foam rubber, which was tested many times, for example, by Bottoni – and materials imposed by the Fascist policies of economic self-sufficiency, such as textiles or the aluminium used by Ponti in his projects, produced by factories such as Montecatini and Snia Viscosa, amongst the finest in Europe[75].

In-house technical departments most often headed by engineers continued to design projects in contexts with strong technical specialisation, such as the heavy mechanical industries that produced vehicles for individual and public transportation. One exception was the collaboration between Breda and Ponti and Pagano for the interiors of a railway car (1933), and with Pagano for the Etr200 electric train (1936) [Fig. 6], for which the goal was twofold: to renovate the overall design of a new vehicle and to bring a domestic feel to technical spaces[76].

The mechanical and light electro-mechanical industry was more open to the collaboration with architects, working closely with the in-house technical staff. While the 5-valve radio receiver designed by Luigi Caccia Dominioni, Livio and Pier Giacomo Castiglioni (1940) for Phonola gave specific form to household objects at a time of great public demand, leading to a proliferation of manufacturers, it was the experience of Olivetti, a company founded in Ivrea in 1908 and directed after 1932 by Adriano Olivetti, an engineer with experience in the US, that laid the foundations for the relationship between company and design culture that would become a standard in post-war Italy and other countries.



1- Fig. 6. Construction of the Etr200 electric train by Giuseppe Pagano (with Ferrovie dello Stato and Breda technical offices), Breda, Sesto San Giovanni (Milan), 1936 ca., Archivio Storico Breda, Fondazione ISEC, Sesto San Giovanni (Milan)

Conceiving industry as the fulcrum of progress for territorial and social communities, Olivetti believed that it should lead the country's development by embracing the values of the modern age and therefore, by conveying an identity that expressed them. This plan included the institution of the Advertising office in Milan in 1931, which involved intellectuals and artists as well as architects steeped primarily in the Rationalist culture. Olivetti's collaboration with the firm of Figini and Pollini ranged from regional planning and the architecture of industrial buildings, to exhibition design and the design of devices, in an emblematic overlapping of different roles[77].

3.2. Entrepreneurs and designers for the construction of an "industrial style"

In the period following World War II, the process to transform the socio-economic structure of the country resumed, considering industrialisation as an opportunity for its definitive modernisation.

Until 1963, the year in which the trend began to reverse following the years of the "economic miracle", the Italian economy expanded at an unprecedented rate, aided by the possibility of exportation consequent to its membership in the EEC which it joined in 1957. The expansion of job opportunities in industry,

supported by the Marshall plan and by investments in energy sources, led to significant emigration from the South to the Northern regions of the country, urbanising vast areas and leading to a rise in average household income and the national demand for consumer goods.

Old and new manufacturing companies, seeking to give form to the growing needs of an increasing number of consumers – who in the first national broadcasts by Rai television in 1954 found a new medium for exposure to consumer goods – continued to partner with architects who were consolidating their roles as designers.

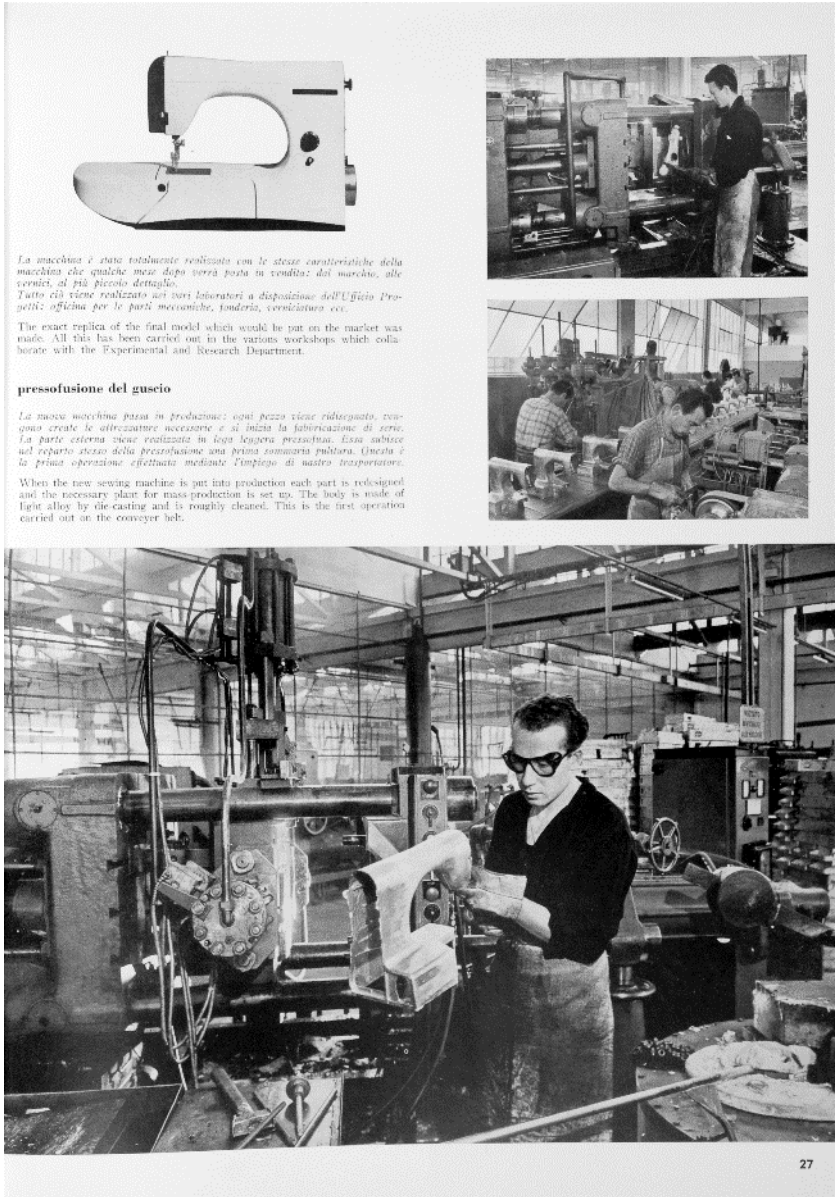
Heavy industries still struggled to accept a similar figure. At the first International Congress of Industrial Design in 1954, Gino Martinoli, an engineer who had worked at Olivetti and became the general technical manager for Necchi in 1948, remarked on the superiority of the engineer and the difficulty of fitting the industrial designer into the process beyond his role in adjusting forms to 'the needs of taste and style'[78].

It is no wonder that in the tumultuous process of motorisation, the first consequences of the conversion of wartime production, the two scooters that marked the country's resurgence – the Vespa by Piaggio and the Lambretta by Innocenti – were designed by Corradino D'Ascanio and Cesare Pallavicino, both aeronautical engineers. This was also the case with Dante Giacosa's work for the Fiat 600 and 500 models (1955-57), following which in 1959 he became the head engineer for the newly-established Centro Stile. In the transport sector, the collaboration of architects with company technical offices was sporadic and generally limited to interior design. This was true with Ponti, Minoletti, Giancarlo De Carlo, Monaco and Luccichenti in the ship-building industry, with Gardella for Alitalia (1960) and Minoletti for Breda (1948) in the airline industry[79]. The latter designed the entire Etr300 Settebello (1950) for Breda, contributing in part to the design of the vehicle[80].

It should not be forgotten that Martinoli was one of the managers who brought to industry a different concept of the relationship between the entrepreneurial culture and the design culture, that *Italian approach* which would be recognized as the industrial specificity and aesthetic distinction of the national product[81]. With Leonardo Sinisgalli, the intellectual who most greatly influenced the rise of an Italian "machine civilisation"[82] – he shared the intent to merge the project for a neo-Capitalist renewal, American theories on businesses as "public" institutions and the modernist taste of designers, with the aim of creating an "industrial style" that could humanise the industry by integrating a technical and humanistic approach, leading the country to accept it and educating the people's taste[83]. It was no coincidence that the magazine most interested in fostering this design culture came out in 1954: titled *Stile industri*a, its subtitles were "industrial design, graphics, packaging' to underline that these results "could not be achieved through isolated cases, or the imagination of any one graphic designer, any one architect, but with a specific approach and the specific intent to apply it in every expression'[84].

The architect-designers, coordinated and supported by management and in-house design staff, worked with graphic designers, photographers, illustrators and literati to define the identity of large and medium industries, oriented towards industrialisation, and determined to expand into foreign markets.

From the 1930s, Olivetti was the model for the implementation of this strategy, demonstrating its vocation to innovation in the diversity of contributions by designers working in various fields, but united in their profoundly modern outlook. In the 1950s-60s the company commissioned Gabetti e Isola, and Gardella and Zanuso to design buildings, Leo Lionni, BBPR, Albini-Helg, Carlo Scarpa and Aulenti to design showrooms, Giovanni Pintori marketing campaigns, Nizzoli cars, BBPR office furniture. Sottsass Jr. was put in charge of designing the Elea 9003/01, one of the few *mainframes* that competed for world markets. Whereas Pirelli, choosing to work exclusively with architect-designers, hired Roberto Menghi and Ponti.



La macchina è stata totalmente realizzata con le stesse caratteristiche della macchina che qualche mese dopo verrà posta in vendita: dal marchio, alle vernici, al più piccolo dettaglio.
Tutto ciò viene realizzato nei vari laboratori a disposizione dell'Ufficio Progetti: officina per le parti meccaniche, fonderia, verniciatura ecc.

The exact replica of the final model which would be put on the market was made. All this has been carried out in the various workshops which collaborate with the Experimental and Research Department.

pressofusione del guscio

La nuova macchina passa in produzione: ogni pezzo viene ridisegnato, vengono create le attrezzature necessarie e si inizia la fabbricazione di serie. La parte esterna viene realizzata in lega leggera pressofusa. Essa subisce nel reparto stesso della pressofusione una prima sommaria pulitura. Questa è la prima operazione effettuata mediante l'impiego di nastro trasportatore.

When the new sewing machine is put into production each part is redesigned and the necessary plant for mass-production is set up. The body is made of light alloy by die casting and is roughly cleaned. This is the first operation carried out on the conveyer belt.

27

Fig. 7. Marcello Nizzoli, *Mirella* sewing machine, prototype and production at the Necchi factory, in *Stile Industria*, no. 15, 1958, p. 27

Necchi employed Nizzoli e Zanuso [Fig. 7] and, like other companies in the electro-mechanical and light mechanical industries, offered these designers many opportunities for collaboration. This was true of Borletti with Zanuso, or Salmoiraghi with Mangiarotti-Morassutti, as well as Solari which turned to BBPR and Gino Valle, whom they would work with for 40 years. In the same field and inspired primarily by the requirements of home modernization, manufacturers of "white" and "brown" appliances achieved significant volumes of production through the late 1960s, while producing a significant share of replacement parts for the major European brands as well[85]. In 1958, Zanussi, which was one of the largest, was among the first to establish its Industrial Design Unit for product development, naming Valle as its art director. To satisfy similar requirements, Radiomarelli hired Pierluigi Spadolini, and Brionvega commissioned Zanuso with Richard Sapper, the Castiglioni brothers and Albini-Helg. This was a phase in which advances in technology and production processes – such as the control of plastic resin moulding techniques and the simplification introduced by modular systems – made it possible to achieve unexpected production milestones[86].

In 1960, Zanuso, referring to his collaboration with Borletti and remarking on the differences between the instrumental conditions provided by Italian companies and those in other industrialised countries, argued that the "level at which the industrial designer works… implies a series of far more numerous and complex contacts'[87].

This situation, in which the architect's role also included coordinating the design team, was even more evident in manufacturing companies such as those in the furniture or household goods industries, which often remained attached to their roots as craft industries. Their concentration in production districts and their limited structures afforded them particular flexibility in terms of organisation and production, conversely giving decisive significance to the entrepreneurs' attitudes towards innovation and the establishment of close bonds between the entrepreneurs themselves, the designers and the factory technicians. In these cases, the role of the architect-designers became even more crucial because their ability to lead the product development process as a "whole", gave them the capacity to compensate, for example, for the phases of technological and aesthetic research that this type of industry simply could not afford. The field of furniture and household items offers a perfect example not only of the special relationship between entrepreneurs and designers, but of the role played by designers in the different approaches to development adopted by these companies[88].

The relationship, which never waned, between the hand-crafted and semi-mechanised production tradition and the design culture for the creation of limited series or one-of-a-kind products, is exemplified in the collaborations between furniture manufacturers in the Piedmont region and Mollino or Gabetti e Isola, or the Murano glass district with Afra and Tobia Scarpa, Mangiarotti and others. Equally fruitful were the collaborations between Poggi and Albini, as well as the experience of Azucena – the first manufacturer-boutique in Milan to produce furniture designed by the founding architects themselves starting in 1947 –, and Mim in Rome with Parisi, and the more eccentric collaboration between Dino Gavina in Bologna and the Castiglioni brothers, Gardella and the Scarpas.

Similarly, in the case of "historical" manufacturers that became industrialised, such as Cassina, which had been operating in Meda since 1927, the choice of commissioning Ponti, and then Albini, Magistretti, Frattini or Parisi, made it possible to modernize the design and production processes, while maintaining reminiscences of the traditional models.

New companies founded for mass production also turned to architect-designers, especially when they chose to venture into the application of new synthetic materials, and therefore sought non-imitative forms for their products. Arflex, for example, began industrial production of upholstered furniture in 1948 as a result of its collaboration with Zanuso, relying on the unusual combination of foam and 'nastrocord' belting. Kartell, founded in 1949 by Giulio Castelli, an engineer and a student of Giulio Natta (winner of the 1963 Nobel prize for polypropylene), began to produce household items made of plastic, collaborating with Menghi, the Castiglioni brothers, Zanuso and Sapper, and hiring Gino Colombini, also an architect and a student of Albini, to be its technical manager. In 1959, the application of plastics and the encounter between aeronautical engineer Ernesto Gismondi and architect Sergio Mazza led to the foundation of Artemide. And experimentation with a synthetic material known as *cocoon,* on lighting projects designed by the Scarpas and the Castiglioni brothers led to the foundation of Flos in 1962.

C&B, later to become B&B Italia, was also conceived as an industry: it was founded in 1966 in Brianza to develop Cesare Cassina and Piero Busnelli's idea for perfecting machines to cold-form polyurethane foam [FIG. 8]. This technology allowed designers such as the Afra and Tobia Scarpa, Mario Bellini or Gaetano Pesce to work at the Research and Development Centre on concepts for upholstered seating in a myriad of forms, devoid of rigid structural supports, made to accommodate the new attitudes arising in home living[89].

Fig. 8. Production of the *Bambole* sofa (Mario Bellini, 1972), B&B Italia, B&B Archives, Cantù (Como)

Starting in the mid-1960s, as furniture production took off, driven in part by the widespread use of particle board, a fully industrialised element [90], the decision to maintain a certain flexibility in concepts and production allowed Italian furnishing companies to tackle issues "alternative" to the entrepreneurial culture, producing pieces that were designed to counter the idea of modernity, which had been largely accepted until then, in the production models and more[91].

This was a task for industries such as B&B Italia, Cassina or Kartell – relying on their in-house research[92] laboratories – , as well as handcrafting or semi-mechanised industries such as Gufram, Poltronova, Zanotta or Martinelli Luce.

It was in fact no coincidence that in 1972, the Italian furniture design "system"[93] had its greatest international impact in the exhibition *Italy: the New Domestic Landscape. Achievements and Problems of Italian Design* at MoMA in New York[94]. It documented and institutionalized the pluralism and contradictions that distinguished the design of the 1960s, in which the same designers and the same manufacturers, such as Artemide, Kartell, Cassina, Anonima Castelli, Gufram, Olivetti, Danese, Poltronova, exhibited items for the market as well as *environments*, autonomous spaces that gave form to critical considerations on the consumer society[95].

4. Interpreting Italian design

In a nutshell, the transition to an economy based not on production but on financial transactions – which began with the abolition of the dollar convertibility into gold in 1973 –, the oil crisis that in 1973 led to the crisis of the "plastic civilisation", and in Italy, the aggravation of problems involving nationwide competition, industrial policies insufficient to address the transition to a global corporate dimension, as well as limited research and technological innovation, led to the gradual decline of heavy industry in Italy[96].

Thus, a more complex phase ensued for the design culture and the enterprise system, triggered by the growing number of issues it had to address, especially for companies operating in fields in which the country had less of a competitive edge, such as low manufacturing costs increased by the rise of salaries.

Within the framework described above, Italian design increasingly identified itself – and was identified – with the manufacturing sectors of furniture, lighting and household goods, based essentially on a network of small and medium manufacturing districts, which could also rely on outsourcing to respond to the growing complexity in the demand for goods, and enjoyed an international image built through its collaboration with designers[97]. These companies, in the early 1980s, were ready to exploit the impulse provided by the introduction of design among the specializations of what is known as Made in Italy[98].

Fully aware of the acknowledged dual nature of Italian design, they branded themselves, on the one hand, as manufacturers of objects classified as "good design", and on the other hand, as manufacturers of pieces that carried new

meaning , sometimes mixing both concepts – especially the larger companies – and being open to the different languages developed by both the architect-designers, and more often the designer-designers, such as Sapper, Bonetto, Mari or Piretti[99].

On the other hand, it should be emphasised that at the end of the 1970s, the architect-designers were again the protagonists of an important event for the development of Italian design. Using different approaches, Mendini and Sottsass Jr. concretized the most critical positions against the logic of capitalism in the entrepreneurial projects of Alchimia (1976-87) and Memphis (1981-87), where self-production and handcrafted pieces coexisted with a reinterpretation of laminated plastics manufactured by Abet Print[100].

At the same time, Alessi involved 11 "pure" architects in post-modern experimentation for its Tea & Coffee Piazza project (1979-83), a limited-series collection coordinated by Mendini, the company's art director. This operation allowed the company to launch many more products that were equally iconic and commercially profitable, but more accessible to consumers such as, for example, Aldo Rossi's la Conica espresso coffee maker (1984)[101].

A different story unfolded after that, whereby it grew increasingly important to pursue actions that could have considerable media impact, aimed at a wider and indistinct audience of consumers often focused on the value of the brand, which could be identified with the company but also with the designers, be they architects or product designers.

NOTAS

[1] CASTIGLIONI, Achille & Pier Giacomo, "Le dessin industriel italien", *L'architecture d'aujourd'hui,* n° 48, (1953), 88-94. The paper is the result of a continuous dialogue between the two authors. In particular, paragraphs 1 and 4 are attributable to both, paragraph 2 to Elena Dellapiana and paragraph 3 to Fiorella Bulegato.

[2] SPARKE, Penny, *Modern Interiors* (London: Reaktion, 2008).

[3] GIOVANNONI, Gustavo, *Corso di architettura* (Cremonese Rome, 1932), vol. I, 7-17.

[4] ROGERS, Ernesto Nathan, "Ricostruzione: dall'oggetto d'uso alla città", *Domus*, n° 215 (1946), 5.

[5] See DELLAPIANA, Elena & PRINA, Daniela, "Craft, Industry and Art: ISIA (1922-1943) and the Roots of Italian Design Education", in G. LEES-MAFFEI & K. FALLAN eds., *Made in Italy. Rethinking a Century of Italian Design* (London-New York: Bloomsbury Academic, 2014), 109-25; PANSERA, Anty, *La formazione del designer in Italia*, Marsilio, Venice, 2015; BULEGATO, Fiorella, "La formazione dei designer nell'Italia del secondo dopoguerra", in M.T. GUERRINI, R. LUPI & M. MALATESTA eds., *Un monopolio imperfetto. Titoli di studio, professioni, università (secc. XIV-XXI)*, (Bologna: Clueb, 2016), 189-200.

[6] Noteworthy books on industrial history focused on the product include Vv.Aa., *Civiltà delle macchine. Tecnologie prodotti progetti dell'industria meccanica italiana dalla ricostruzione all'Europa*, exhibition catalogue (Milan: Fabbri, 1990); AMADORI, Franco & COLLI, Andrea, *Impresa e industria in Italia. Dall'unità ad oggi*, Marsilio, Venice, 2001; CREPAX, Nicola, *Storia dell'industria. Uomini, imprese e prodotti*, Il Mulino, Bologna, 2002.

[7] See, among many, VINTI, Carlo, *Gli anni dello stile industriale, 1948-1965* (Venezia: Marsilio, 2007).

[8] Among many, see BECATTINI, Giacomo, *Distretti industriali e made in Italy: le basi socioculturali del nostro sviluppo economico* (Milan: Feltrinelli, 1998); COLLI, Andrea, *I volti di Proteo. Storia della piccola impresa in Italia nel Novecento*, (Milan: Bollati Boringhieri, 2002).

[9] SCODELLER, Dario, "Architettura, arte e design: le scuole di studi storici tra armonie e conflitti', in P.P. PERUCCIO & D. RUSSO eds., *Storia hic et nunc: La formazione dello storico del design in Italia e all'estero*, (Turin: Allemandi, 2015), 43-67.

[10] DALLA MURA, Maddalena & VINTI, Carlo, "A Historiography of Italian Design', in LEES-MAFFEI & FALLAN, cit., 35-40.

[11] BULEGATO, Fiorella & DELLAPIANA, Elena, *Il design degli architetti italiani 1920-2000* (Milan: Electa, 2014). This paper is a compendium of the introductory essays in the aforementioned book, published only in Italian; its goal is to make the research by the authors more accessible to the international public.

[12] See RICCINI, Raimonda, "(Pre)historia dell'insegnamento del design in Italia", *Quad. Quaderni di architettura e design*, n° 1 (2018), 225-236

[13] DELLAPIANA, Elena, "Camillo Boito (1836-1914)", in A. RESTUCCI ed., *Storia dell'architettura italiana. L'Ottocento,* (Milan: Electa, 2005), 622-39.

[14] BOITO, Camillo, "L'architettura della nuova Italia", *Nuova Antologia*, vol. XIX, fasc. II, (April, 1872), 755-33.

[15] SILVESTRI, Andrea, *La nascita delle facoltà di ingegneria e di architettura in Italia*, in A. BUCCARO, G. FABBRICATORE & L.M. PAPA, eds, *Storia dell'ingegneria* (Naples: Cuzzolin, 2006), 223-34.

[16] BESANA, Renato ed., *Il design prima del design. Guido Marangoni e le Biennali di Monza* (Milan: Triennale, 2016).

[17] PANSERA, Anty & CHIRICO, Maria Teresa eds., *1923-1930. Monza verso l'unità delle arti* (Cinisello Balsamo [Milan]: Silavana, 2004), 51.

[18] MARANGONI, Guido, *Enciclopedia delle moderne arti decorative*, 6 volls. (Milan: Ceschina, 1925-27).

[19] DELLAPIANA, Elena, *Il design della ceramica in Italia* (Milan: Electa, 2010), 83-109.

[20] CIUCCI, Giorgio & MURATORE, Giorgio eds., *Storia dell'architettura italiana. Il primo Novecento* (Milan: Electa, 2004), 520-1.

[21] PONTI, Gio, *La casa all'italiana* (Milan: Domus, 1933).

[22] PICA, Agnoldomenico, *V Triennale di Milano* (Milan: Triennale), 557-60.

[23] BASSI, Alberto, "La mostra internazionale della produzione in serie di Giuseppe Pagano (VII Triennale, 1940): contesto e preparazione della prima esposizione di design in Italia", *AIS/Design. Storia e ricerche*, n° 3 (2014), <http://www.aisdesign.org/aisd/la-mostra-internazionale-della-produzione-in-serie-di-giuseppe-pagano-vii-triennale-1940-contesto-e-preparazione-della-prima-esposizione-di-design-in-italia> accessed 24 May 2018.

[24] CIAGÀ, Leyla & TONON, Graziella eds., *Le case nella Triennale. Dal parco al QT8*, (Milan: Electa, 2005), 162-3.

[25] DELLAPIANA, Elena, "De Poli, le arti applicate e decorative in Italia", in A. BASSI & S. MAFFIOLETTI eds., *Paolo De Poli artigiano, imprenditore, designer* (Padua : Il Poligrafo, 2017), 184-96.

[26] MARTIGNONI, Massimo, *Gio Ponti. Gli anni di Stile* 1941-1947 (Milan : Domus, 2002).

[27] ROGERS, Ernesto Nathan, "Ricostruzione: dall'oggetto d'uso alla città", *Domus*, n° 215 (1946), 2-5.

[28] BASSI, Alberto & RICCINI, Raimonda, *Design in Triennale 1947-68*, (Cinisello Balsamo [Milan]: Silavana, 2004), 73-83.

[29] For QT8 housing, the orders to furniture companies are constant, Archivio triennale, *Corrispondenza dattiloscritta*, TRN_08_DT_108_C, 1949 sgg. A similar episode occurred with the exhibitions of the Rima, Italian Association for furnishing exhibitions, nel 1946; Ibid., 79.

[30] DELLAPIANA, Elena, "Il Neorealismo nella cultura di progetto: quartieri, case, oggetti", in G. CARLUCCIO, E. MORREALE, M. PIERINI eds., *Intorno al Neorealismo*, Scalpendi, Milan, 2017, 287-99; DE BIAGI, Paola ed., *La grande ricostruzione. Il piano Ina-Casa e l'Italia degli anni cinquanta* (Roma: Donzelli, 2001).

[31] Ibid., 242-7.

[32] ROGERS, Meyric R., *Italy at Work. Her Renaissance in Design Today*, CNA, Rome, 1950, 22; DELLAPIANA, Elena, "Italy Creates, Gio Ponti, America and the Shaping of Italian Design", *Res Mobilis*, vol. 7, n° 8, (2018); ROSSI, Catherine, *Crafting Design in Italy. From post-war to post-modernism* (Manchester: Manchester UP, 2015); SCRIVANO, Paolo, *Building Transatlantic Italy. Architectural Dialogues with post-war America* (Burlington: Ashgate, 2013).

[33] SPARKE, Penny, ""A Home for Everybody?" Design, Ideology and the Culture of the Home in Italy, 1945-1972", in P. GREENHALGH ed., *Modernism in Design* (London: Reaktion, 1990), 194-195.

[34] BAGLIONE, Chiara, *Casabella 1928-2008*, Electa, Milan, 2008; GIANNETTI, Anna & MOLINARI, Luca eds., *Continuità e crisi: Ernesto Nathan Rogers e la cultura architettonica in Italia nel secondo dopoguerra* (Florence: Alinea, 2011).

[35] MOLINARI, Luca ed., *La memoria e il futuro. Il Congresso Internazionale dell'Industrial Design, Triennale di Milano, 1954* (Milan: Skira, 2001).

[36] FALLAN,Kjetil, "Annus Mirabilis: 1954, Alberto Rosselli and the Institutionalisation of Design Mediation", in LEES-MAFFEI & FALLAN, cit., 255- 70.

[37] In 1956, ADI, the Industrial Design Association, was founded; it also attempted to define a model of a school and a design museum (DE FUSCO, Renato, *Una storia dell"ADI*, ADI, Milan, 2010).

[38] DELLAPIANA, Elena & SIEKIERA, Anna, "Come scrivono i designer: Note di letture comparate per una linguistica disciplinare", *AIS/Design. Storia e ricerche,* n° 6 (2015), <http://www.aisdesign.org/aisd/come-scrivono-i-designer-note-di-letture-comparate-per-una-linguistica-disciplinare> accessed 24 May 2018.

[39] GABETTI, Roberto & ISOLA, Ajmaro, "L'impegno della tradizione", *Casabella-Continuità*, n° 215 (1957).

[40] BASSI & RICCINI, cit., 120-34.

[41] DELLAPIANA, Elena, "La lunga marcia del design. La mostra "Colori e forme nella casa d'oggi" a Como (1957)", *AIS/Design. Storia e ricerche,* n° 3 (2014), <http://www.aisdesign.org/aisd/la-lunga-marcia-del-design-la-mostra-colori-e-forme-nella-casa-doggi-a-como-1957> accessed 24 May 2018.

[42] BANHAM, Reyner, "Neo Liberty. The Italian Retreat from modern Architecture", *Architectural Review* n° 747 (1959); DORFLES, Gillo, "Neobarocco", ma non Neoliberty!", *Domus*, n° 358 (1959), 72-3.

[43] CANELLA, Guido & GREGOTTI, Vittorio, *Nuovi disegni per il mobile italiano*, Osservatore arti industriali, Milan, 1961; POLIN, Giacomo & SELVAFOLTA, Ornella eds, *Neoliberty e dintorni* (Milan: Electa, 1989).

[44] DORFLES, Gillo, "Una mostra di mobili a Milano", *Domus*, n° 367 (1960), 84-5.

[45] See experimentations by Zanuso, Mangiarotti, Gregotti-Meneghetti-Stoppino, Menghi, Valle who attempt to qualify structures, panels and prefabricated covers, in formal terms among others.

[46] ROGERS, Ernesto Nathan, *Gli elementi del fenomeno architettonico* (Rome-Bari: Laterza, 1961).

[47] BAFFA, Matilde, MORANDI Corinna & al., *Il Movimento di Studi per l'Architettura 1945-1961* (Rome-Bari: Laterza, 1995).

[48] DORFLES, Gillo, "Alla Triennale. Convegno "Arte-artigianato- industria"", *Domus*, n° 373 (1960), 37-8.

[49] FINK, Guido & MINGANTI, Franco, "Il modello americano in Italia", in P. ARIÈS & G. DUBY eds, *La vita privata. Il Novecento*, Mondadori, Milan, 1994; DE GRAZIA, Victoria, *Irresistible Empire. America's Advance through Twenthieth-Century Europe*, (Harvard University Press, 2005).

[50] ZANFI, Federico, "Giardini La Viridiana: "un fortino di bella gente in una periferia mica da ridere"", in F. DE PIERI, G. CARAMELLINO & al. Eds., *Storie di case. Abitare l'Italia del boom* (Rome: Donzelli, 2013), 107-29.

[51] Among the architects present, the Castiglioni brothers, De Carli, Gregotti-Meneghetti-Stoppino, Mangiarotti, Ricci, Savioli, Sottsass, Zanuso, *La casa abitata. Biennale degli interni di oggi, Firenze, Palazzo Strozzi, 6 marzo-25 aprile 1965* (Florence: Formatecnica, 1965).

[52] In addition to the architects, the semiologist Umberto Eco and the artists Fontana, Baj, Munari, collaborated in the T13 (BASSI & RICCINI, cit., 157-63).

[53] ARGENTA, Elisa, "Decorare, arredare, abitare. Tre decenni di design per la casa nelle pagine di Domus", BA thesis (Politecnico di Torino, 2009).

[54] *Edilizia Moderna*, directed by Gregotti, was organized in monograph issues; issue N. 85 in 1965 was dedicated to design, with contributions by Bellini, Castiglioni, Mangiarotti, Mango, Rosselli, Sottsass, Valle, Zanuso.

[55] COOK, Peter, *Archigram* (London: Studiovista, 1972).

[56] Translated and disseminated in Italy by Nanda Pivano, wife of Ettore Sottsass jr.

[57] BRANZI, Andrea, "Global Tools", *Casabella*, n° 377 (1974), 8; ROSSI, Catherine, "Crafting and Design Counterculture: the Pastoral and the Primitive in Italian Radical Design, 1972-1976", in LEES-MAFFEI & FALLAN, cit., 145-60.

[58] AMBASZ, Emilo, *Italy: the New Domestic Landscape. Achievements and Problems of Italian Design* (New York: Emmedici, 1972), 137.

[59] TOURAINE, Alain, *La société post-industrielle* (Paris :Denoël, 1969), immediately translated in Italian (1970).

[60] BAUDRILLARD, Jean, *Le système des objets* (Paris : Gallimard, 1968) (It. trans. 1972).

[61] LYOTARD, Francois., *La condition postmoderne* (Paris : Les éditions de minuit, 1979), (It. trans. 1981).

[62] SAMBONET, Giulio, *Alchimia 1977-1987* (Turin: Allemandi, 1986).

[63] JENCKS, Charles, *The story of post-modernism, Five Decades of the Ironic, Iconic and Critical in Architecture*, Wiley, London, 2011, 175; ANDERSON, Glenn & PAVITT, Jane eds., *Postmodernism. Style and Subversion, 1970-1990* (London: V&A, 2011).

[64] RADICE, Barbara ed., *Elogio del banale* (Turin: Studio Forma, 1980).

[65] Lombardy, in particular, would play a key role (See PANSERA, Anty, *L'anima dell'industria. Un secolo di disegno industriale nel milanese*, Skira, Milan, 1996; RICCINI, Raimonda, "Disegno industriale in Lombardia: un modello per il made in Italy", in D. BIGAZZI & M. MERIGGI eds., *Storia d'Italia. Le regioni dall'Unità a oggi. La Lombardia* (Turin: Einaudi, 2001), 1161-93.

[66] Exemplifying what happens in the furniture production in Brianza, north of Milan (V.G. [V. Gregotti], *1860-1919*, in GREGOTTI, Vittorio, *Il disegno del prodotto industriale. Italia 1860-1980* (Milan: Electa, 1986), 25, 31-32).

[67] See the case of Breda (BASSI, Alberto, "Progettazione e costruzione ferroviaria alla Breda agli inizi del secolo scorso", in A. BASSI & R. RICCINI eds., *La locomotiva Breda 830 del 1906* (Milan: Silvia Editrice, 2006), 46-62).

[68] Such as Depero, Bruno Munari, Marcello Nizzoli, Nicolaj Diulgheroff or Franco Grignani (the latter two are architects). See DE GUTTRY, Irene & MAINO, Maria Paola, "Dagli artisti-artigiani agli architetti-designer", in G. BOSONI ed., *Il modo italiano* (Milan: Skira, 2007), 59.

[69] GIOLLI, Raffaello, "Saggi della ricostruzione: l'esempio della Richard-Ginori", *Emporium*, vol. LXX, n° 417 (1929), 149-162.

[70] DELLAPIANA, *Il design della ceramica*, cit., 83-113.

[71] BAROVIER, Marino ed., *Carlo Scarpa. Venini 1932-1947* (Milan: Skira, 2012).

[72] See MIODINI, Lucia, *Gio Ponti. Gli anni trenta*, Electa, Milan, 2001; 52-3; BASSI, Alberto, *La luce italiana. Design delle lampade 1945-2000* (Milan: Electa, 2003), 28-39.

[73] For example, in 1938 architect Gino Maggioni patented a process to bend plywood, which was used by Pagano in his design for the furniture of the Università commerciale Bocconi in Milan (with G. Predaval, 1937-41): BASSI, Alberto & CASTAGNO Laura, *Giuseppe Pagano* (Rome-Bari: Laterza, 1994), 113.

[74] PANSERA, Anty with BASSI, Alberto & OCCLEPPO, Tiziana eds., *Flessibili splendori. I mobili in tubolare metallico. Il caso Columbus* (Milan: Electa, Milan 1998).

[75] TONELLI MICHAIL, M. Cristina, *Il design in Italia 1925-43* (Rome-Bari: Laterza, 1987), 87-114.

[76] BASSI, Alberto, "Streamline italiano", *Casabella,* n° 653 (1998), 30-39.

[77] See DE GIORGI, Manolo & MORTEO, Enrico eds., *Olivetti: una bella società* (Turin: Allemandi, 2008).

[78] MARTINOLI, in MOLINARI, cit., 58-9.

[79] MORTEO, Enrico, "*L'abitacolo da trasporto"*, in M. DE GIORGI, ed., *1945-1963. Un museo del disegno industriale in Italia* (Milan: Abitare Segesta, 1995), 46-57.

[80] BASSI, Alberto, "Architettura in movimento: il progetto dei mezzi di trasporto", in M.C. LOI, C. SUMI, A. VIATI NAVONE eds., *Giulio Minoletti: lo spettacolo dell'architettura* (Cinisello Balsamo- Mendrisio: Silvana-Mendrisio Academy Press, 2017), 571-92.

[81] BIGATTI, Giorgio & VINTI, Carlo, *Comunicare l'impresa. Cultura e strategie dell'immagine nell'industria italiana, 1945-1970* (Milan: Guerini e Associati, 2010).

[82] Sinisgalli started as director of the Olivetti Advertising office in 1938 (see LUPO, Giulio "Sinisgalli e le industrie milanesi (1934-1973)", in G. LUPO, *Sinisgalli a Milano. Poesia. pittura, architettura e industria dagli anni trenta agli anni sessanta* (Novara: Interlinea, 2002), 213-42).

[83] VINTI, cit., 10-5.

[84] RED., "Grafica", *Stile industria*, 2 (1955), 37.

[85] CREPAX, cit., 216.

[86] MORTEO, Enrico, "1964-1972. Nasce un linguaggio degli oggetti", in A. COLONETTI ed., *Grafica e design a Milano 1933-2000*, Abitare Segesta-AIM-IED, Milan, 2001, 148; DE GIORGI, Manolo, "Numeri che alimentano storie", in C. ALESSI, M. DALLA MURA, M. DE GIORGI, R. RICCINI & V. PASCA eds, *Storie* (Milan: Electa-La Triennale di Milano, 2018), 486.

[87] ZANUSO, Marco, "Disegno industriale in Italia", in M. GRIGNOLO ed., *Marco Zanuso. Scritti sulle tecniche di produzione e di progetto* (Cinisello Balsamo-Mendrisio: Silvana-Mendrisio Academy Press, 2013), 162.

[88] CASTELLI, Giulio, ANTONELLI, Paola & PICCHI Francesca eds., *La fabbrica del design. Conversazioni con i protagonisti del design italiano*, Skira, Milan, 2007; DWORSCHAK, Gunda ed., *Design in Italia. Dietro le quinte dell'industria*, 5 Continents Editions, Milan 2008; ALESSI, Alberto, "Le fabbriche del design italiano vs Industrie di mass production", in *Le fabbriche dei sogni* (Milan: Electa-La Triennale di Milano, 2011).

[89] MASTROPIETRO, Mario ed., *Un'industria per il design. La ricerca, i designers, l'immagine B&B Italia* (Milan: Lybra Immagine, 1986) (2nd ed.).

[90] FLORIO, Massimo, "Perché l'industria italiana del mobile ha avuto successo?", in C. DONÀ ed., *Mobili italiani. Le varie età dei linguaggi 1961-1991* (Milan: Cosmit, 1992), 30-1.

[91] BRANZI, Andrea, "Il Sessantotto italiano e i gruppi d'avanguardia", in ID. ed., *Il design italiano 1964-1990* (Milan: Electa, 1996), 108-37.

[92] An interesting case study may be found in LECCE, Chiara, "Il Centro Progetti Tecno. Dal clima "partecipativo" degli anni sessanta al design "globale" del nuovo millennio", in *AIS/Design. Storia e ricerche*, n° 7 (2016), <http://www.aisdesign.org/aisd/centro-progetti-tecno-dal-clima-partecipativo-degli-anni-sessanta-al-design-globale-del-millennio> accessed 24 May 2018.

[93] PASCA, Vanni, "Il design italiano elementi per una storia", in L. SETTEMBRINI ed., *1951- 2001 Made in Italy?* (Milan: Skira, 2001), 106.

[94] AMBASZ, cit.

[95] SCODELLER, Dario, "Anti-design/anti-exhibition su alcune questioni espositive del radical-pop design italiano (1966-1981)", in *AIS/Design. Storia e ricerche*, n° 3 (2014), <http://www.aisdesign.org/aisd/exhibition-anti-exhibition-su-alcune-questioni-espositive-del-pop-e-radical-design-italiano-1966-1981> accessed 24 May 2018.

[96] For a useful summary, see GALLINO, Luciano, *La scomparsa dell'Italia industriale* (Turin: Einaudi, 2003).

[97] DEMATTÈ, Claudio, "I segreti del sistema dell"offerta. L'innovazione nelle aziende piccole medie dei settori produttivi per la casa", in BOSONI, Giampiero ed., *La cultura dell'abitare. Il design in Italia 1945-2001* (Milan: Skira, 2002), 62-73.

[98] COLOMBO, Umberto, "Caratteri peculiari del modello produttivo industriale italiano", in O. CALABRESE ed., *Il modello italiano. Le forme della creatività* (Milan: Skira, 1998), 3-13; SETTEMBRINI, cit.

[99] University courses in design increased starting in the mid-1970s, specializing the profession which was thus gradually separated from architecture (PANSERA, cit., 129-53).

[100] ROSSI, Catherine, "Making Memphis: "Glue Culture" and Postmodern Production Strategies", in ADAMSON & PAVITT, cit., 160-5.

[101] PASCA, cit., 109.

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