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Research Innovation and Internationalisation

National and international experiences in Cultural Heritage digitisation

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Cultural Heritage digitisation*

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NEST Project. Focus on Milanese polytechnic design culture in Argentina since 2nd Postwar

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The close economic, social and cultural relations between Italy and Argentina have been extensively studied and have produced a copious narrative, centered on the epic of transatlantic migration as an escape from the misery and atavistic backwardness of certain Italian regions.

Instead, the phenomenon of intellectual and professional migrations has been less analyzed, except with strict reference to the early 20th century [D'Amia, 2015]. Driven by the need to meet new job opportunities and, at the same time, to broaden the own horizon – it has largely contributed not only to the export and diffusion overseas of Italian know-how, but it also constituted a formidable opportunity for discussing, triggering an overall rethinking some consolidated knowledge in the design field and a boost towards further developments of that same know-how.

It so happened that many Italian architects, engineers and designers, in the mood of economic and cultural fervor characterizing the Second Postwar, decided to try their hand at the opportunities offered in those years by the favorable economic trend in South America and, in particular, in Argentina.

A significant contingent of these “graduated migrants” who were trained at the Politecnico di Milano and faced the challenges the new world was offering them, strengthened precisely by that technical and intellectual baggage. Thus, enriched with the transatlantic experience and stimulating interest in scenarios different from those of the European cities from every point of view (physical, economic, social and cultural), this experience contributed to distancing themselves from the stylistic features of the Interna-

tional Style, outlining the peculiar characteristics of the so-called “Scuola di Milano” [Canella, 2010].

This interest by the Milanese designers towards the whole Latin America also persisted in the following decades, as evidenced by the substantial monographic issue that the Zodiac magazine dedicated to what the editorial designated as “Laboratorio Latinoamerica” in 1992. This latter, thereby, acknowledged its ability to stimulate and nurture a response that was solidly based on reality to the problem of the metropolis and contemporary architecture. [Zodiac, 1992, pp. 6-13].

Synergistic and shared experiences between Italy and Argentina, carried out both in the professional field and exchanges and in diverse academic relationships, have been materialized in a rich legacy of knowledge.

The aim of describing, understanding, and enhancing this significant and wide heritage constituted the focus of a research funded by the Department of Architecture, Construction Engineering and Built Environment (ABC) of the Politecnico di Milano, within the framework of the NEST-NIDO project (fig. 1).

This latter is an international research group, conceived as an incubator for young



Figure 1: Poster of the NEST project funded by the Department of Architecture, Construction Engineering and Built Environment (ABC) of the Politecnico di Milano.

scholars including PhD students and fellows, professors, and archival staff of the hosting academic structure, all gathered around a Visiting Researcher from the Universidad de Belgrano of Buenos Aires. The resulting survey is based on the study of a considerable miscellaneous of materials that are currently dispersed in various archives (public and private, in Italy and abroad) and involve prominent figures such as Ernesto Nathan Rogers, Franca Helg, Gae Aulenti, Guido Canella, Marco Zanuso, Guido Oberti and Maurizio Mazzocchi, who faced the new world with the support of their design culture, characterized by the training course taught at the Politecnico di Milano.

The toolbox of Milanese polytechnic designers in Argentina

To understand how the migrations of Milanese designers from the Second Postwar onwards interacted with the Argentine context, activating mutual exchanges and contributions, it is essential to analyze their academic background and the specific characteristics of the Milanese polytechnic culture.

The sources preserved in the historical archives of the Politecnico di Milano- the academic yearbooks, the official bulletins and the volume drawn up on the occasion of the university's centenary- have been the basis from which to collect all the information related to the study courses since its foundation with the respective teaching programs.

With reference to the overmentioned architects who have been all graduated from the Politecnico di Milano, the project training between 1932 and 1959 was based on the study of the architectural design in its declinations, ranging from architectural composition, interior design, urban planning, to distributive characters and restoration, and other subjects.

This structure, albeit with slight changes, derived from the first important change that the training course of architects underwent, coincided with the institution of the Facoltà di Architettura in 1933¹. Thus began a series of transformations within the training courses, which was then stabilized with the definitive drafting of the statute in 1936.

In fact, the disciplines of a strictly design nature were separated from the original block of the drawing teachings: Elementi di Composizione, Caratteri distributivi, Caratteri stilistici e costruttivi dei monumenti, Composizione architettonica, Architettura degli interni, arredamento e decorazione, Urbanistica. Such a process of knowledge sectorization and disciplines' separation started during these years, reaching its conclusion with the transformation of the training courses carried out by Carlo De Carli in 1963, and concluded in 1969 with the birth of the technological sector (fig. 2). This educational structure derived from the original one, with small variations recorded in previous decades, established by Camillo Boito for the Regio Istituto Superiore di Milano from 1863. Drawn up by Boito himself with the aim of pursuing a new architecture that could combine both technical-scientific teachings with the cultural-artistic ones [Monica, 2018, pp. 439-440], it gave to the discipline of drawing

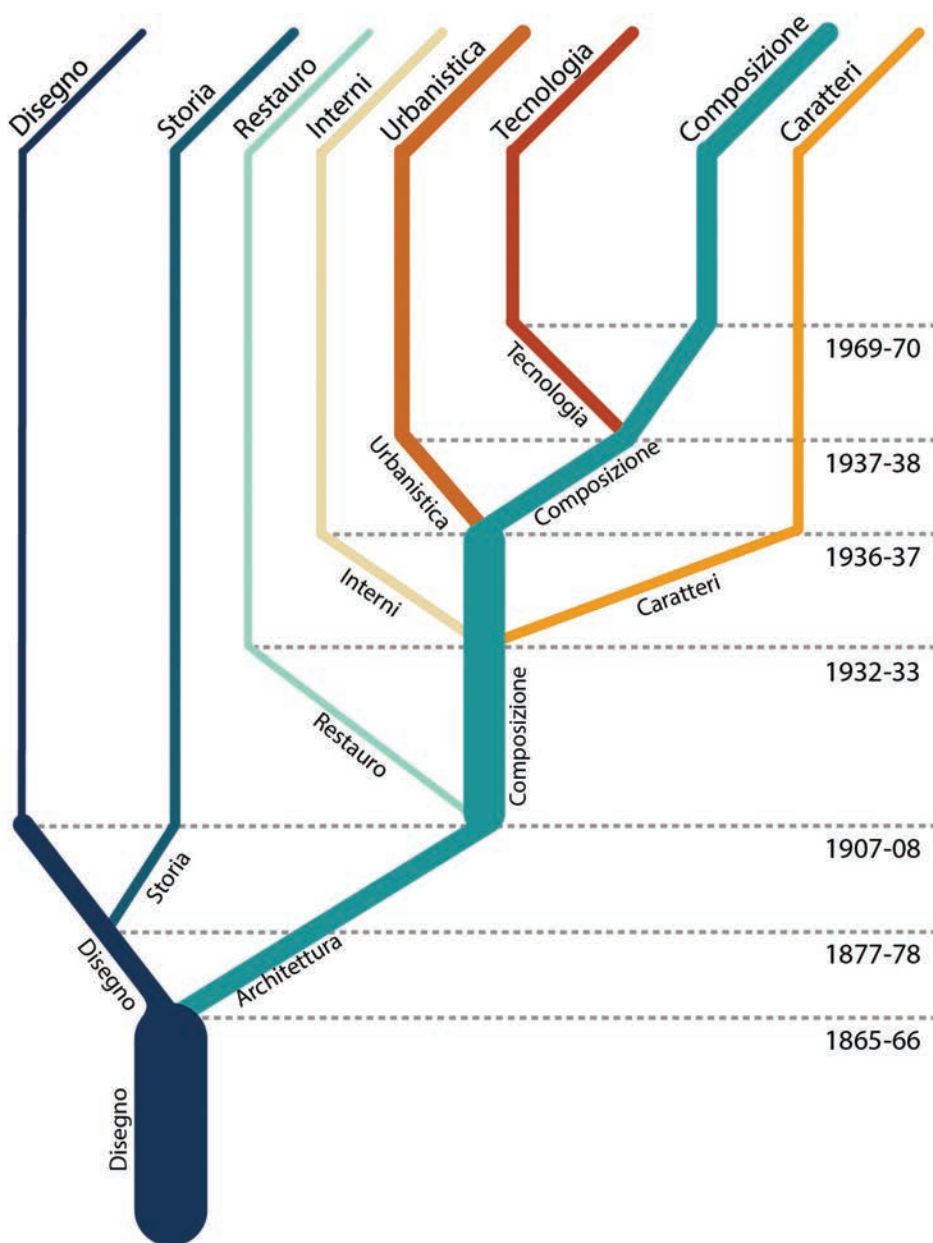


Figure 2: Evolution of the training project in architecture in the Politecnico di Milano and branching in different sectors related to the project teaching starting from the unique initial block corresponding to the drawing disciplines.

of academic origin (so much so that it was taught by professors from the Accademia delle Belle Arti of Brera) a fundamental and crucial role for the training of new architects [BOITO 1861, p. 584]. In fact, drawing acts as a guarantor of the balance between different knowledge, articulating itself in courses that, through the metabolization and reinterpretation of history through the practice of drawing, would help the students to build their background of forms' models of architecture provided by history, leading them to the design of the new.

Despite the change in the educational structure of the Politecnico di Milano, which influenced the formation of the figures analyzed in this research, the Boitian approach to drawing as an educator of architectural forms is still very present in these personalities, as evidenced by the drawings and sketches found that correlate their projects and their way of approaching the design question (fig. 3).

Ernesto Nathan Rogers in Argentina, 1948-49. A round-trip between two CIAM Congresses. The figure of Ernesto Nathan Rogers takes a considerable importance in the panorama of transatlantic exchanges of European intellectuals and professionals occurred after World War II. In April 1948, Rogers left Milan for Buenos Aires. Roger's book *Experience of Architecture*, edited in 1958, is an indispensable primary source to outline the boundaries of this journey, including some texts of conferences conducted during his stay and, additionally, reflections on his academic experience

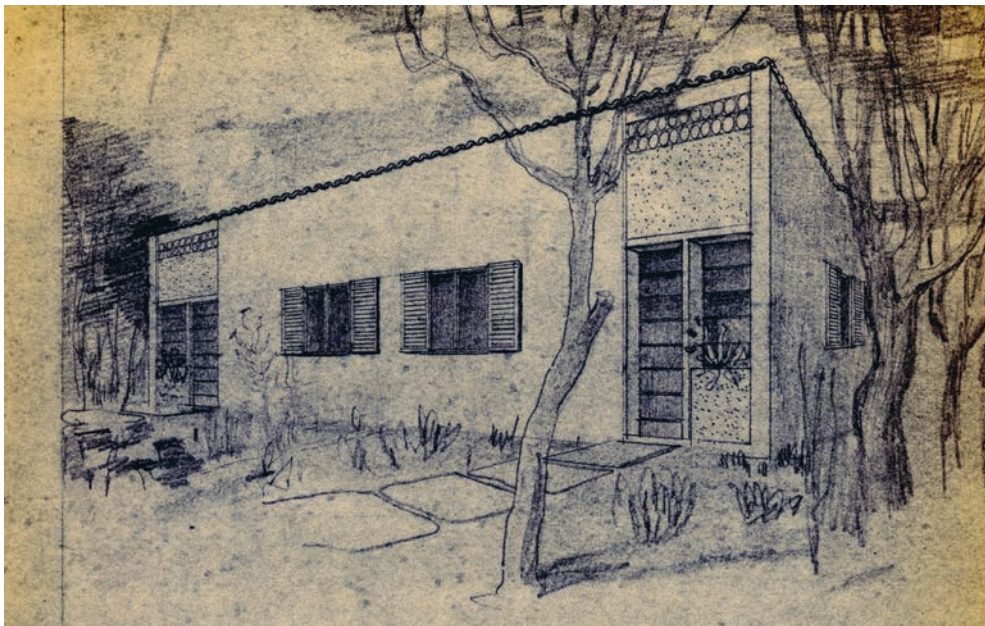


Figure 3: Part of Maurizio Mazzocchi's drawing. Source: Fondo Maurizio Mazzocchi, Archivio MART, Rovereto.

at the Instituto de Arquitectura y Urbanismo de Tucumán. The reasons for this journey are diverse. At the end of 1947 Milan suffered the lack of work, and Rogers lived a great disappointment due to the exclusion from Domus, directed since January 1946. A complex state of mind accompanies a wandering existential condition, already experienced since the aftermath of the Italian armistice in 1943, when Rogers was forced to flee to Switzerland. A solitary two-years experience, but crucial for intensifying his activity within the CIAM Committee [Molinari, 2008]. Those were intense years, in contrast to his intimate and dramatic personal state, evidence of which can be found in his correspondence. During his long periods of loneliness, affectionate letters were constantly exchanged with his associates, Peressutti and Belgiojoso [Molinari, 1998] (fig. 4). As he wrote to his fraternal friends, he decided to travel to Argentina also to look for professional opportunities for BBPR Studio. Rogers was not the only Italian architect to cross the Atlantic Ocean in the aftermath of World War II. Unlike the group of Roman colleagues who arrived at the solicitation of Luigi Piccinato [Marino, 2015], already involved in urban planning projects in Buenos Aires since 1947, Rogers established a link with Argentina on the occasion of the VI CIAM Congress, held in 1947 in Bridgwater. Indeed, he got in contact with the Argentine group represented by Jorge Ferrary Hardoy and Jorge Vivanco. Eventually, he accepted the invitation to collaborate as a consultant to Plan de Buenos Aires project, and also to assume the role of extraordinary professor at the Instituto de Arquitectura y Urbanismo de Tucumán.

Rogers held the course of Teoría de l'Arquitectura for a semester, between June and October in 1948. It has certainly contributed to the construction of the myth of the Escuela de Tucumán, one of the most significant experiences in the panorama of teaching architecture in Argentina. Then, Rogers moved to the capital in November 1948, where he experienced some resistance from his colleagues involved into Plan Buenos Aires project [Maffioletti, 2010]. His perplexities about the relations of modern architects with the Peronist government led him to continue the journey across the continent, returning North, through Chile and Peru. In Lima the lecture held in Tucumán, *Función del arquitecto en nuestra sociedad*, was re-proposed for the conference *El drama del arquitecto* [Rogers, 1997]. The speech focused on the question of the role of the architect-artist. Rogers' answer passed through the analogy between the architect's task of attempting the synthesis of utility and beauty and the goal that every artist has to set in his advancement. Furthermore, it emerged the idea of a project as a synthesis between an artistic idea and a forerunner concept of *preesistenza ambientale* (environmental pre-existence). The epilogue of this round-trip is the VII CIAM Congress organized in 1949, not surprisingly in Italy, in the city of Bergamo. Once settled back in Milan, Rogers began in 1952 the lectures for the course *Stylistic and constructive characters of monuments* at the Faculty of Architecture of the Politecnico di Milano. Many of the numerous pages read during those lessons, had been written in Argentina. These texts have given life to that Methodology of architectural composition which still maintains its relevance today.

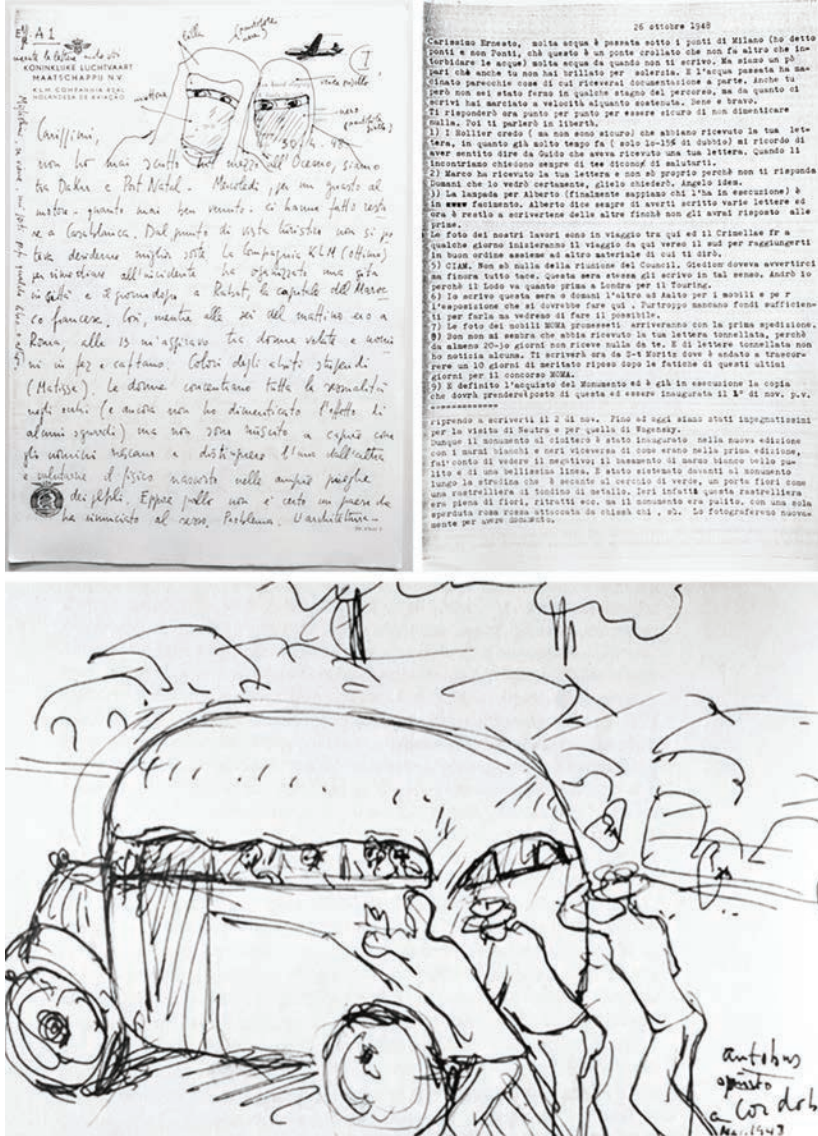


Figure 4: Letter by Ernesto Nathan Rogers to Enrico Peressutti and Lodovico Belgiojoso (BBPR), 30th April 1948. Source: BBPR Archive, then published in Molinari L., Milano-Tucuman-Buenos Aires-New York-Milano, 1947- 1949. Circolarità dei saperi e delle relazioni: il carteggio E.N. Rogers-BBPR, in Bonifazio P., Pace S., Rosso M., Scrivano P. (a cura di). Tra guerra e pace, società, cultura e architettura nel secondo dopoguerra. Milano: Franco Angeli. p. 156.

The framework of exchanges and the birth of “networks”

The process of introducing Latin American delegates among the members of the International Congresses of Modern Architecture began in the 1940s, making a significant contribution to the start of a season of international exchange between architects and intellectuals.

The historian and critic of architecture Sigfried Giedion [Giedion, 1931] proposed to the Brazilian architect, of Ukrainian origin, Gregori Warchavchik that he direct the Latin American CIAM section, even if the extent of the continent and its internal conflicts would lead to the formation of distinct groups and representatives of individual states.

Starting after the Second World War, a dense network of collaborations [Ciarcià, 2021] with Italian architects, engineers and designers, trained at the Politecnico di Milano, developed and consolidated. For academic or professional occasions they would travel to Argentina for shorter or longer periods, intertwining relationships with the local intellectual environment.

Among these, two significant figures are Guido Oberti and Marco Zanuso (fig.5). The former already in 1931 had begun working, along with Arturo Danusso, on setting up the Laboratorio Prove Modelli e Costruzioni annexed to the Istituto di Scienza delle Costruzioni of the Regio Politecnico di Milano, becoming its deputy director. In the second half of the 1940s he received two commissions for the executive projects of two Argentine works of great impact on a local scale, which were then not realized. One was the Aviorimessa for the Buenos Aires National Airport, for which he was contacted in 1947 by the Italo-Argentine company Boccazzi Lodigiani, which participated in the tender for the construction of six hangars for the capital’s airport.

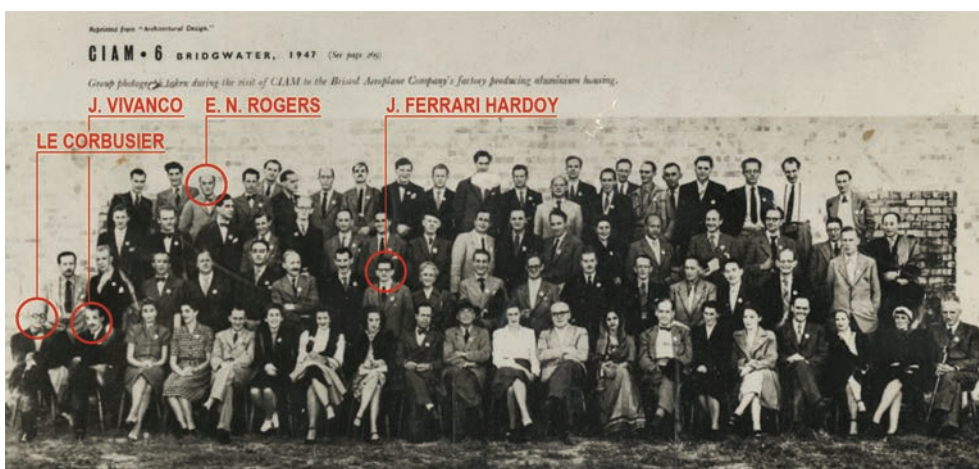


Figure 5: Group photo. Source: Ferrari Hardoy Archive, Special Collection, Frances Loeb Library, GSD, Harvard.

Oberti was involved and in charge of the preliminary project for participation in the tender. In 1949 Oberti was also contacted by the Argentine Horacio Caminos, one of the authors [Villavicencio, 2019] of the preliminary project of the Ciudad Universitaria de Tucumán, for the realization of the static studies and the 1:25 scale model, in reinforced plaster, of the Centro Comunal coverage of the complex.

The documentary heritage of both projects has been reconstructed mainly through the consultation of the material of the Oberti Fund, kept at the ISMES in Bergamo, but also of the Pier Luigi Nervi Fund, kept at the MAXXI in Rome and of the Archivo Histórico de la Universidad Nacional de Tucumán, Argentina.

Another important figure is that of Marco Zanuso appointed by Adriano Olivetti to carry out the project for the local headquarters of the company (1958-1961), in the province of Buenos Aires.

Marco Zanuso, who graduated in architecture with full marks in 1939, began his professional activity after World War II, inaugurating the studio in Milan where he met Adriano Olivetti.

From that occasion he began his connection with Argentina and the construction of the Olivetti network in the country between the 1950s and 1970s, which would see the participation of the Politecnico di Milano-trained designers- Marco Zanuso and Gae Aulenti- and local authors – Amancio Williams, Clorindo Testa, Irene van der Poll, Luis Hevíá Paul, Victor Pelli and Horacio Torrello.

Zanuso traveled to Argentina in March 1954, May 1958, December 1959 and June 1961, as evidenced by the documents kept in the Archivo del Moderno, occasions on which he came into contact with the Argentines Ernesto Katzenstein, José Luis Delpini, Fina Santos, later founding member of MSGSSS [Katzenstein, 1956], Carmen Córdova and Giorgio Puppo, then young students of the faculties of architecture and engineering or close to their first professional experiences.

The rediscovery of the archival material dispersed among funds preserved in both Italy and Argentina, has allowed the reconstruction of exchanges and mutual influences that arose from this encounter with the social and cultural reality, on the one hand, and the change of scale and territorial extension on the other.

Gae Aulenti and the Olivetti showroom in Buenos Aires as pyramid of ideas

The case study highlighted in this article sheds light on the relationship between architect Gae Aulenti and Argentina and, more specifically, the process of conceiving the design for the Olivetti store in Buenos Aires.

Furthermore, the lack of an actual travel diary by the architect made it necessary to reconstruct the Argentine chapter from materials kept at the Aulenti archive in Milan. Working for the design of the Olivetti showroom in Buenos Aires, as the architect points out in a 2011 interview, was the occasion for her first ever overseas trip. Through a red diary with the wording “The Economist Diary” kept in her archives, it was possible to reconstruct the stages of Aulenti’s journey.

Many times, this project has been juxtaposed with the one in Paris. In fact, in

1966 Gae Aulenti was selected to set up Olivetti's store in the French capital, at 91 Faubourg Saint Honoré. As a matter of fact, analyzing the projects' materials revealed how, on the contrary, the two projects differ both in the generating principles and in the realization processes.

The building is in the city center, on Calle Suipacha, at the corner of Sargento Cabral and Avenida Santa Fe, built between 1961 and 1968. The transparent storefront on the commercial ground floor is the result of architect Amancio Williams' design in 1966, in line with the postulates of the Modern Movement. Aulenti composes, then, within an already prefigured space; the Buenos Aires case, in fact, represents a resounding insertion in terms of expressive intensity (fig.6).

The architect Aulenti visited Buenos Aires from the 2nd to 14th April 1968; in the following months, a comprehensive dossier on the Argentine city, accompanied by tapes of music, songs and sounds of Buenos Aires, was delivered to her Milanese address. While drawing the project on transparent sheets, Gae Aulenti thus tries to read reality from the urban fabric, from the city. Hence, if the new design of the Paris store follows the idea of creating an Italian "piazza", the Buenos Aires showroom reinterprets the city plots in all their complexities.

The architect's drawings, moreover, depict two completely different plans: the Parisian one is characterized by an unparalleled sinuosity of forms, fluid spaces without any furniture and continuous shelves on various levels with leather cushions that allow them to be seated. In the center, between the curvilinear surfaces, a tribal sculpture, and a red pillar with cut-out display shelves, make the square inhabited.

On the contrary, the drawings of the Buenos Aires showroom show a floor plan made of rigid angles, a 52 square meters-pentagon. To the right of the entrance, a red pillar is enclosed in a large cylinder; moreover, a passageway that leads to the internal staircases connected with the underground office splits the interior space in half. To the left and right of such passage, five tiers of steps fan out: these stands compose the exhibition pyramid (fig. 7).

The Italian architect, within a pure prism, wants to cancel the weight of the 115-meter-tall building and multiplies its volumes through the technical stratagem of mirrors. But, above all, the design of the two showrooms for Olivetti prove how Aulenti gave value to the genius loci, to the specificity of both Paris and Buenos Aires. Hence, she includes the pattern of the Argentine blocks, while enhances the intersection, the corner, as a mythical place in the city.

«It is difficult to understand where the space of the store ends and where the city of Buenos Aires begins. I wanted the city to enter the store, and there was no seamlessness between the interior and exterior»² - this is how the architect describes the project.

In a play of repetitions that kaleidoscopically unify the space, Buenos Aires really enters the showroom and explodes at the corner, emanating its own light in such a vibrant metropolis.

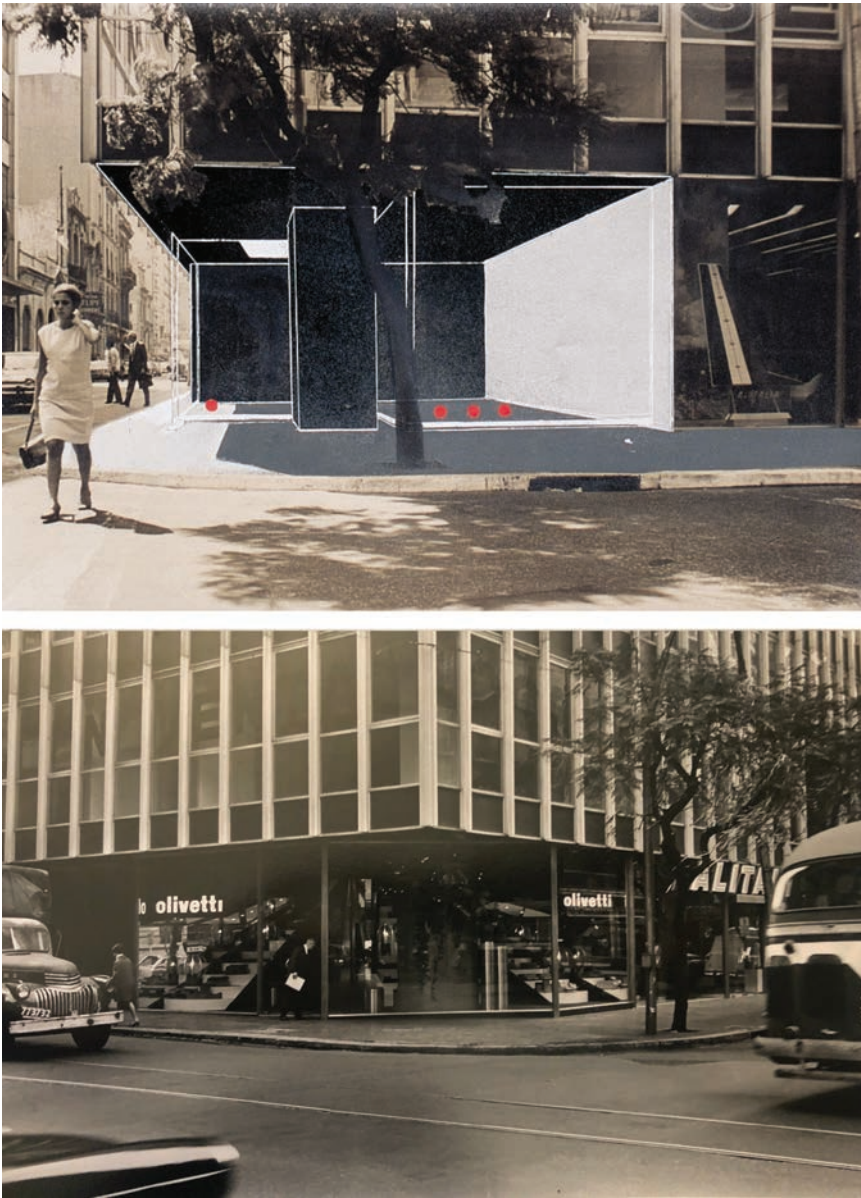


Figure 6: Montage by Amancio Williams and photo of the exterior showing Gae Aulenti's design. Sources (from top to bottom): Unbuilt project for Olivetti commercial showroom in Buenos Aires by Amancio Williams, 1966. Courtesy of Archivio Amancio Williams. Photograph of the exterior by Erich Hartmann, Showroom Olivetti in Buenos Aires by Gae Aulenti, 1968. Courtesy of Gae Aulenti Archive, Milan.



Figure 7: Interior space with the pyramid by Gae Aulenti. Source: Photograph of the interior by Erich Hartmann, Showroom Olivetti in Buenos Aires by Gae Aulenti, 1968. Courtesy of Gae Aulenti Archive, Milan.

Conclusions

The research carried out has shown how the professional migrations to Argentina by some important figures of Milanese designers have stimulated the birth of a dense network of collaborations and exchanges with South American technicians and intellectuals, fertilizing and enriching in addition the culture of design in Milan. Finally, such context of mutual and fruitful contributions involved both the world of construction and professional practice, the academic training and the research field.

Credits

Even though the essay results from a synergy between all the members of the research group, Maria Pompeiana Iarossi wrote the introduction and conclusions, Cecilia Santacroce *The toolbox of Milanese polytechnic designers in Argentina*, Fabio Marino *Ernesto Nathan Rogers in Argentina, 1948-49. A round-trip between two CIAM Congresses*, Federica Ciarcià *The framework of exchanges and the birth of "networks"* and Francesca Giudetti *Gae Aulenti and the Olivetti showroom in Buenos Aires as pyramid of ideas*.

This research was possible thanks to the courtesy of the Archivi Storici del Poli-

tecnico di Milano, Archivio storico Olivetti, Archivi MART di Rovereto, Archivio del Moderno, Archivio Gae Aulenti, Fundación Clorindo Testa, Estudio Horacio Torcello, Archivio Storico ISMES, Studio Luca Molinari, Archivio del MAXXI di Roma.

Notes

¹ In 1933, with the R. Decreti 27 October 1932 n°2104 and R. Decreto 26 October 1933 n° 2392 “Modifiche allo statuto della R. Scuola di Ingegneria di Milano” the Faculty was founded. The Deans of Faculties that followed one another until the 1970s are: Gaetano Moretti (1934-35), Arnaldo Masotti (1935-39), Piero Portaluppi (1939-45), Gian Giuseppe Mancini (1945-48), Piero Portaluppi (1948-63), Luigi Dodi (1963,65), Carlo De Carli (1965-68), Paolo Portoghesi (1968-76).

² Aulenti G. (1969). Dottore Architetto Gae Aulenti. In *Quadernos de Arquitectura*, n. 74, p. 31.

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During the Restoration and Cultural Heritage Days held in Ferrara on the 24th March 2022, it was organized the fourth edition of the Unione Italiana Disegno UID (Italian Association for Drawing) Symposium dedicated to the internationalisation and innovation of research entitled: "National and international experiences compared. Technology transfer, products and processes". The research projects presented are the result of both competitive tenders and experiences triggered by scientific relations between research centres and institutes from countries of three continents: Africa, America, and Europe. Once again the event was presented as the fruit of the joint work of the two commissions, "Innovation" and "Internationalisation", of the scientific association. The annual symposium aims to highlight applied research, carried out by groups in which UID colleagues are either coordinators or members of interdisciplinary teams, aimed at the development of innovative products or processes. The aim of this publication on the association's international research and innovation activities is to update the catalogue of the experiences and enhance them by publishing a report animated by a strong project spirit that, through discussion, can explore opportunities and channels for the promotion and strengthening of activities on the research, teaching, seminar and conference at an international level.



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Architect, PhD, Full Professor (ICAR/17) at the Department of Architecture, University of Ferrara in Italy. Since January 2006 he is the Director of the DIAPReM centre (Development of Integrated Automatic Procedures for Restoration of Monuments). He was scientific responsible for several national and international research projects and his activities took place in various important world archaeological sites, in monumental contexts and in relation to several small centres in many regions of the Italian peninsula. He has developed restoration and urban regeneration projects in several Italian historical centres. He is a member of the Italian Union for Drawing, of the National Institute for Urban Planning, of ICOMOS and of the Focus Area Cultural Heritage, Horizontal Issue Archaeology. Since March 2010 he is scientific director of TekneHub and Scientific Coordinator for the Construction Platform of Emilia-Romagna High Technology Network.



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Architect, PhD, Full Professor (ICAR/17) at the Department of Architecture, University of Florence, Italy, where he teaches Architectural Survey in the Bachelor of Architecture and Design, Graduate School and Doctoral School of Architecture. He managed numerous researches related to the opportunities offered by 3D digital survey and remote sensing in the field of archaeology, architecture and urban planning of Historic Centers. He is the author of numerous scientific publications on the issues of redevelopment of historic centers and UNESCO heritage sites. He has been interested in numerous buildings of monumental character in Florence, Italy and abroad from the point of view of scientific investigation aimed at documentation and conservation. Major works include research on wooden architecture in Russia and Northern Europe and investigations of various archaeological sites in the Middle East (including the Crusader fortresses of Petra in Jordan and the fortress of Masada in Israel).



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Architect, PhD, Assistant Professor RTDb (ICAR/17) at the Department of Architecture, University of Ferrara, in Italy. His areas of investigation are both the vernacular and modern architecture documentation, representation, and enhancement. In these fields he was project coordinator for the DIAPReM centre activities in India and Brazil. He was visiting professor at Pontificia Universidade Católica do Paraná (Curitiba, Brazil), CEPT University (Ahmedabad, India), Mackenzie University (São Paulo, Brazil) and at Burgundy School of Business (Dijon, France). Since 2021 he's the scientific director of the international network I N S I D E Modern Heritage. He's deeply involved in publication fields and he's been member of editorial staff for "Paesaggio Urbano" scientific journal and author and co-author of more than 150 publications. He is a member of ICOMOS National Scientific Committee CIPA-HD for Heritage Documentation and Italian Union for Drawing (UID).



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