View of the SESC – Fábrica da Pompeia's hangar of general activities. Figure 094ARQf1202. Photo: Sérgio Gicovate.
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Bauhaus and Lina Bo Bardi: from the modern factory to the Pompeia leisure center

BY RENATO ANELLI

The importance of Bauhaus to Lina Bo Bardi is herein analyzed from two perspectives. One that follows her trajectory from the industrial design course she taught at MASP to its critique, searching in the Brazilian Northeastern popular culture for sources of renewal. The second one focuses on the project of adapting a factory to be used as a leisure center in São Paulo. In addition to valuing the rationality of the factory architecture built in the first phase of Brazilian industrialization, its preservation encompassed, in order for the building to be used for leisure purposes, interventions that altered the disciplinary attributes of the space. The design was conceived as part of the architecture, discarding its serial reproduction.

Bringing the work of Lina Bo Bardi (1914–1992) into the reflections on the centenary of Bauhaus offers an interesting opportunity to meditate on the process of cultural and productive modernization of a country like Brazil, relatively remote from the European avant-garde — "remote" in the sense of spatially away from the leading centers of production of the avant-garde: France, Germany, the Netherlands, and the Soviet Union. As a consequence, Brazilian modernists started defining their agenda in 1922, searching the native roots and the colonial past for a way to construct a form of art that would be modern and national. Such remoteness of Brazilian art resembled which Italy faced in the years of Lina Bo Bardi's education in Rome on the eve of WWII, under the fascist rule of Benito Mussolini (1883–1945).

The Bauhaus in the Italian background of Lina Bo Bardi

After the closure of the first futuristic avant-garde, Italian culture also searched its past, in this case the classical Roman tradition, for the specifics for a modern and national project. With the rise of Benito Mussolini in 1922, the modern Italian field saw in it the possibility of the modernization of Italy. This project was to be made explicit by Pietro Maria Bardi (1900–1999) in 1931,[1] when he publicly proposed to the *Duce* that art and modern architecture should be the official styles of the fascist state.

Between 1931 and 1937, despite all the mishaps concerning disputes with the establishment of architecture, Italian rationalists gained a prominent position in the production of public buildings. It was only after 1937, during the production of the E-42, that Mussolini decided he would no longer accept the rationalists in representing the fascist state, then transformed into an empire and ally of Germany under Nazi rule. The appropriated architecture was classic monumentality, discreetly modernized by Marcello Piacentini (1881–1960) and his followers.

Lina Bo Bardi studied at the School of Architecture of Rome [*Facoltà de Architettura di Roma*] between 1934 and 1939, where teachers discouraged students from adopting the avant-garde architecture of countries beyond the Alps. Thus, she became acquainted with the art and architecture of the European avant-garde through the magazines *Casabella* (Giuseppe Pagano/Edoardo Persico), *Quadrante* (Pietro Maria Bardi and Massimo Bontempelli) and *Domus* (Giò Ponti). While *Casabella* was more aligned with the Bauhaus and the German New Objectivity, *Quadrante* was directly affiliated with Le Corbusier (1887–1965), and *Domus* remained equidistant, focused on the modernization of decorative arts in the new architecture.

After graduation, she worked for Giò Ponti (1881–1979) between 1941 and 1943, in his new magazine *Lo Stile — nella casa e nell'arredamento*, a magazine dedicated to the refinement of the fine and applied arts, where architecture was also one of the topics addressed. In this and other magazines, Lina Bo Bardi worked as an illustrator and interior designer, planning decorations and furniture.[2] Her companion and partner in those years, architect Carlo Pagani (1913–1999), was invited to direct *Domus* in June 1943, where he takes her as a co-director.

The resumption of the modern and national project in Italy took place in the last years of the war, anticipating the reconstruction process that would follow after the conflict ended. There the architect participated in a cultural environment rich in debates about proposals for reconstruction. Beyond the resumption of pre-war rationalism, architecture gave new importance to popular culture, a direct consequence of the Resistance's role in the defeat of Nazi-fascism.

Lina Bo Bardi maintained a broad perspective of the architect's role, from the production of objects to the architecture of buildings. When she took part in the editorial staff of *A — Attualità, Architettura, Abitazione, Arte* magazine, with Carlo Pagani and Bruno Zevi (1918–2000), such breadth of her perspective embraced the notion that Italian reconstruction would be an opportunity for radical changes in the country's way of life.

This condition is relevant for understanding how Bauhaus design concepts got to her while she was still in Italy — before, during and immediately after the war. Design was understood as an evolution of manufacturing, conceived as the basis for an industrialization that incorporated the handcrafts produced in the country. It is possible to find parallels between this conception and the production of the first phase of the Bauhaus, still marked by expressionism and lore present in artisanal manufacture. A position that would mark her design production in Brazil.

The modern project of the Bardi couple in Brazil

Lina Bo Bardi got to know Brazilian modern architecture through the catalog of the *Brazil Builds* exhibition, while still living in Italy. In addition to her fascination with a country that was building, while Europe was being destroyed, she recognized in it a modern national project similar to what had been interrupted in Italy years earlier. In 1946, the journey to Brazil with Pietro Maria Bardi, as they were newly married, was seen by her as an opportunity for insertion in this political, cultural and productive project, which animated a young architecture of Corbusean inspiration.

The year after their arrival in Rio de Janeiro, the couple moved to São Paulo, as they were invited to set up and direct the São Paulo Art Museum (MASP). There she dedicated herself to museography, applying the principles of Italian expography by Franco Albini (1905–1977), BBPR,[3] Ignazio Gardella (1905–1999) and many others. Paintings liberated from the walls, fixed in panels and tubular structures, brought to São Paulo a modern way of exhibiting art, bringing it closer to an audience without a thorough education in art history.

In design, she joined the Italian Giancarlo Palanti (1906–1977) between 1949 and 1950, producing chairs with Brazilian fabrics and timbers. In the first issue of *Habitat* magazine, in November 1950, in order to illustrate the article that presented the chairs produced by this partnership, a photo of hammocks strung in a passenger river vessel was chosen. In the caption, she states that they provide a "perfect body grip", a feature she transported to the design of a timber chair with the fabric attached only at both ends; a rudimentary Brazilian version of the Marcel Breuer's Wassily armchair (1925–1926), grasping the feeling of sitting "on a resilient column of air".

In that same issue, the magazine presented the handcrafted fabrics of Clara Hartoch (1881–1970), a weaver artist presented as a Bauhaus graduate, who would be one of the teachers in the industrial design course at MASP's Contemporary Art Institute (IAC).[4] Created in 1951, the IAC course brought together Brazilian and foreign architects, artists and designers in a Bauhaus-inspired program. The German school was already well-known and respected in Brazil during those years, mediated, however, by the Chicago Institute of Design, created at the Illinois Institute of Technology, and by the Ulm School of Design.

This was the first course to train industrial designers in Brazil, being part of the efforts of the Bardi couple to participate in the process of Brazilian industrialization. They thought it was possible to replicate the experiences of the *Werkbund* and the Bauhaus in Brazil, which did not happen due to the type of industrialization that took place in the latter, based on multinational companies that brought their projects from their headquarters. The course closed in 1953 due to the lack of support from companies. In 1955 Lina Bo Bardi joined the University of São Paulo's Faculty of Architecture and Urbanism (FAU/USP) as a temporary teacher in the discipline of "Decorative Composition", where she introduced students to the practice of modern design.

Design and popular culture: Lina in Bahia

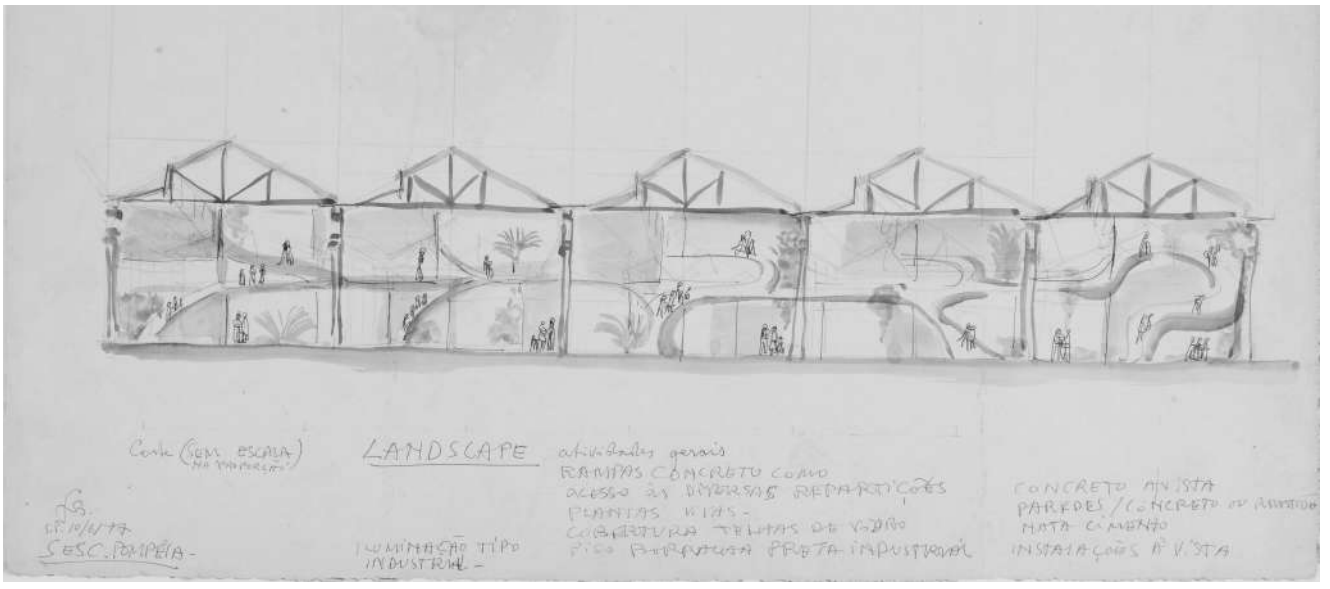
Lina Bo Bardi's experience in Brazil changed her in those years. Living in the radical transparency of her Glass House (Morumbi, São Paulo, Brazil, 1951), whose elevated living room — with three of its four faces fully glazed — awaited the growth of the surrounding garden to create conditions suitable for the tropical climate, the architect approached Bruno Zevi's organicism. She stated in a letter to her husband in 1956 that she was disillusioned with this kind of architecture and that if she were to make another house at that time, she would do it with brick and timber walls.

Shortly thereafter, in 1958, she designed the Valeria Cirell house, in São Paulo, and the Chame-Chame house, in Salvador, where she experimented in this new direction — traditional masonry and thatched-timber structured roofs in the first, and winding shapes in the second, both lined with round pebbles and shards of pottery.

She returned to Salvador in 1960 to head the Bahia Museum of Modern Art (MAM-BA), a project that made it possible for her to undertake extensive ethnographic research into traditional forms of production in the region, which served as the basis for the creation of the Center for Studies and Craft Work (CETA), in 1962. In the program manifesto, the reference to German design is taken up:

> *A Bauhaus or Metaphysical-Experimental Ulm-type of school would be useless in a young country, with civilization of strongly primitive and directly earth-bound factors, very modern factors from a modern cultural point of view.*[5]

In addition to research in the interior of the region, CETA would have an industrial design course, bringing together architecture and engineering students with masters of crafts – ceramics, wood and weaving. She gambled on the possibility of the renewal of modern design from the approach of the popular roots of crafts and manufacturing. Such a proposal sought support in Northeast regional development projects inspired by UNECLAC guidelines for poor regions,



01 Lina Bo Bardi, Section of the SESC – Fábrica da Pompeia's hangar of Activities, 1977. Aquarelle, ballpoint pen, hydrographic pen, on paper; 38,7 x 57,5 cm. Figure 094ARQd0007. © Instituto Bardi / Casa de Vidro. Detail.

to implement an economy based on labor-intensive manufacturing and little investment in technology.[6]

The project was interrupted by the military coup of 1964, but not before the new headquarters of the museum in Solar do Unhão were completed. This typical agro-industrial complex of sugar mills, consisting of a big house (*casa-grande*), chapel, slave quarters (*senzala*), warehouses and quays, built in the 16th century on the shores of the Bay of All Saints, had gone through various uses, including industrial in the 19th century, and had been listed as a national historical heritage site in 1943. To restore it and adapt it for use as a museum, Lina Bo Bardi experimented with the principles of Cesare Brandi's Italian critical restoration,[7] which would substantiate the wording of the Venice Charter that same year. Interventions to adapt the building to new uses should be made without pretending to mimic the past, making explicit the moment in which it was performed. Orienting itself within this position, the architect designed a new staircase, where the abstract geometric shape, a helical insert into a square, was constructed using handcrafted timber techniques used on ox cart wheels, demonstrating the potential of a new design, both modern and popular.

The modern factory

Lina Bo Bardi attributed the invitation she received from two directors of SESC, Renato Requixá and Glaucia Amaral, in 1976 to the positive reception of the adaptation of Solar do Unhão for use as a museum.[8] She was asked to analyze the design situation of a cultural and sports center on the site occupied by a deactivated factory in the Pompeia neighborhood in São Paulo, evaluating the possibility of its preservation and adaptation. With the project by Julio Neves' firm already approved, the factory would be demolished. However, the factory had already been poorly adapted by SESC for temporary use as sports facilities, being widely used by residents of the neighborhood.

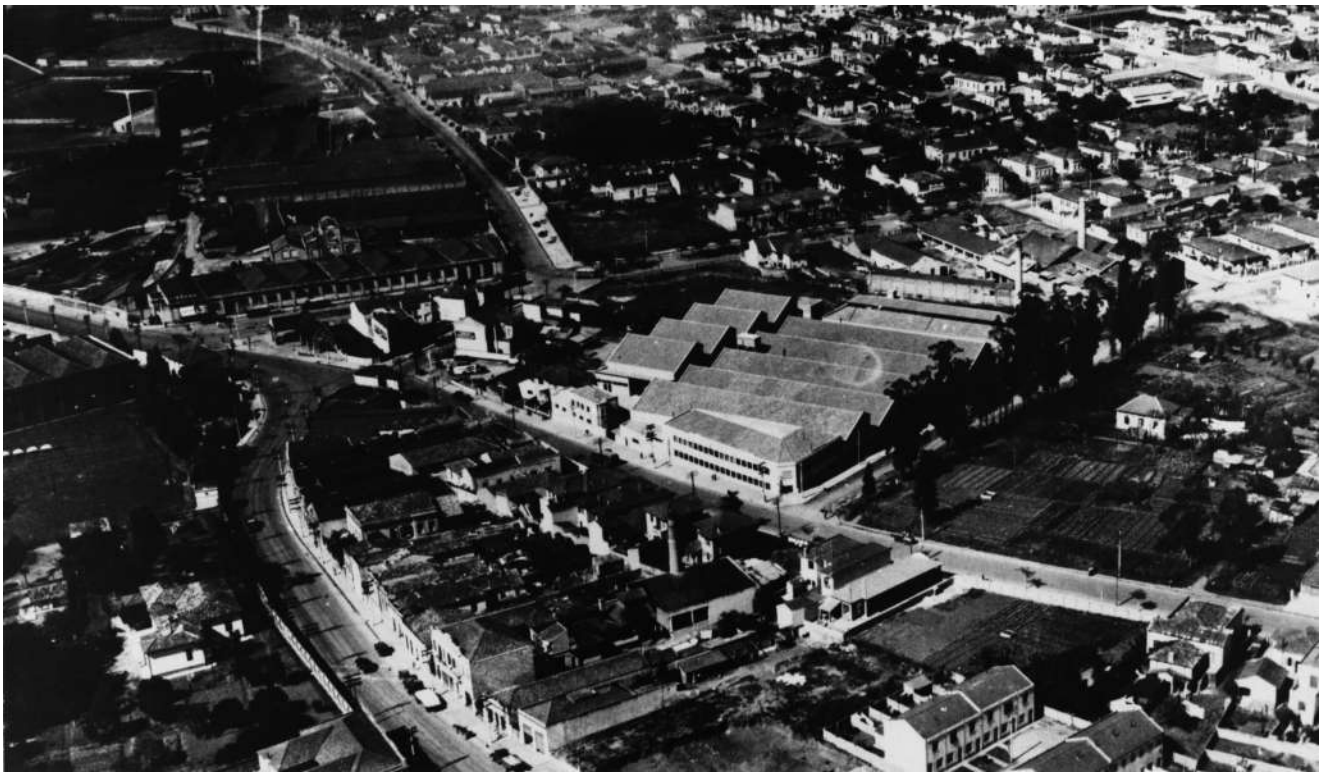
Reporting on her first visit to the site, Line writes:

> *When I first entered the then abandoned Pompeia barrel factory in 1976, what piqued my curiosity, in view of a possible recovery to transform the place into a leisure center, were those warehouses rationally distributed according to the English projects of the beginning of European industrialization, from the mid-19th century. However, what enchanted me was the elegant concrete structure. Kindly remembering the pioneer François Hennebique, I immediately thought of the duty to conserve the work.*[9]

Even without the factory being listed as an item of historical heritage, the values attributed by her to the building would justify its preservation as an example of the modernization of construction and of the country. The rationality of warehouse distribution and the structure similar to those of François Hennebique (1842–1921) were the two main highlights of the project in preserving and the adapting the factory for the new use.

The factory, owned by the company Mauser & Cia LTDA., was built between March 1938 and March 1939. The blueprint located in the São Paulo City Hall archive showed the designer to have been the German architect and engineer Max Hans Fortner, who was replaced in February 1938 by the engineer José Diez to lead the construction.

Max Hans Fortner is a professional little known within Brazilian architectural historiography. Through Sylvia Ficher it is possible to know that he was born in Reutingen, Germany, in 1907, graduating from the Mackenzie College School of Engineering in São Paulo in 1929.[10] As a student, he published the article "A Anti Architectura Moderna" [The Anti-Modern Architecture] in the *Revista de Engenharia Mackenzie* in 1927, arguing that the architect should be "primarily an engineer and an economist", opposing the preponderant academic orientations of the school. He worked with industrial buildings such as those of Vigor



02 The old drums' factory, 1940s. Figure 094ARQf0012. Unknown photographer. © Instituto Bardi / Casa de Vidro.

Dairy, Brahma Brewery, Walita, projects guided by principles of rationality and economy, as well as the barrel factory in the Pompeia neighborhood.

The plans made for approval by the city hall in 1937 refer to the construction of the administrative building, located on the corner, and the warehouses, which in SESC, would become the covered square and the theater.

The structure of the warehouses is mixed with columns and reinforced concrete beams supporting the timber roof trusses. In the cuts one can see the geometry of the defined structure, but not yet in detail. The trusses, which open on sheds for light distribution, are supported by the columns, interconnected by a pair of upper beams, both in reinforced concrete.

In the plans they are drawn with some differences from the constructed one, showing sections of square and rectangular beams, and not as a "T". The elevation also appears to differ, as it is shown as a Vierendeel beam, with the diagonal ribs inwardly facing corners, and not as it was built, with two corbels on the lower faces of the beams.

The reports of Marcelo Suzuki, one of Lina Bo Bardi's assistant trainees on the site, state that the surveys of the structure carried out by Figueiredo Ferraz's company revealed a characteristic structure of the Hennebique system, where the stirrups play a relevant structural role.

The dating of the project, however, puts it outside the period in which the structures designed by Hennebique were built in Brazil. Research in the *Maison Hennebique* collection, in Paris, states that his projects in South America were carried out between 1894 and 1914. Despite the success in establishing a network of licensed agent companies in Brazil, mastery of reinforced concrete structure design technologies was pursued at the Office of Resistance of Materials of the Polytechnic School of São Paulo, created in 1899. Already in 1913 the school handouts presented this technology, and in the 1920s its laboratory performed tests for quality control of materials used. It was an applied research process that allowed the construction complex in São Paulo to be consolidated in the 1930s, facilitating the design and construction of reinforced concrete.

There are no references to structural design in the application filed at the city hall. Due to its performance in other industrial projects, it is possible that it was developed by Fortner, although no records were found to prove it. Reference to "English projects" or "importation from England" remains vague, with no possibility of documentary confirmation.

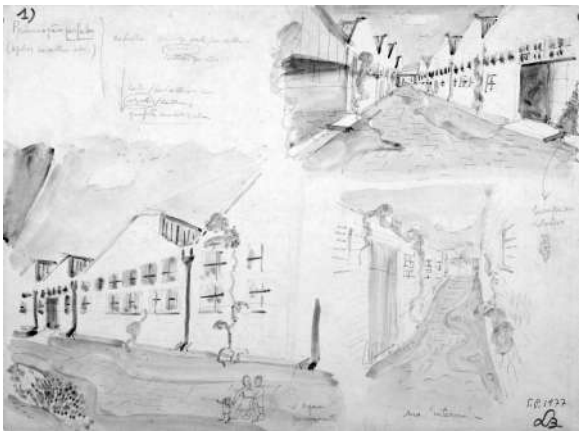
Based on maps of the city, it is likely that the land had an initial occupation as late as the 1920s. The 1924 São Paulo map did not record any building on the newly deployed parcel of land, while on the 1930 SARA Brazil map, an outline of a square plan appears in the position of the factory's main warehouse, now the covered square. The graphic record is of project or work under construction, but official documentation indicates the construction as occurring between 1938 and 1939, a date of completion that can be corroborated by the 1940 aerial photo, where the factory appears complete.

The factory is located on the northwestern edge of the Pompeia neighborhood, on the city's expansion axis to the interior of the state, and on a road and rail link that had attracted a large industrial complex, around which workers'

03 View of the SESC – Fábrica da Pompeia's hangar of general activities. Figure 094ARQf1192. Unknown photographer. © Instituto Bardi / Casa de Vidro.

04 View of the SESC – Fábrica da Pompeia's hangar of general activities. Figure 094ARQf1189. Unknown photographer. © Instituto Bardi / Casa de Vidro.

05 View of the SESC – Fábrica da Pompeia's hangar of general activities. Figure 094ARQf1226. Photo: Paquito. © Instituto Bardi / Casa de Vidro.



06 Lina Bo Bardi, Study for internal street of the SESC – Fábrica da Pompeia, 1977. Aquarelle, ballpoint pen, graphite, on paper; 28,5 x 38,5 cm. Figure 094ARQd0003. © Instituto Bardi / Casa de Vidro.

houses were installed. The barrel factory was set up years after major industries, in a position on the edge of residential areas. Such a position would be relevant for it to be the first factory structure converted to new uses. In this case, used to shelter social services for the residents of the neighborhood, when the region was deindustrialized in the 1970s.

From work to leisure: the resignification of factory space

Lina Bo Bardi's fascination with the factory's structural components is clear from the prominence they received in her speech. By extoling it, the architect aligned herself with Walter Gropius (1883-1969), Le Corbusier, Nikolaus Pevsner (1902-1983), Siegfried Giedion (1888-1968), and other modern architects for whom the rationality of industrial structures should be a starting point for the new architecture.

In the project to transform the larger warehouse into a covered square, the architect emphasized the mesh of columns. The uninterrupted spatial continuity of the hall dialogs with the water mirror and the two-level mezzanine constructions, elevated planes for reading and playing areas that bring the user closer to the top of the structure to the point of almost touching it.

As she had done in Unhão, the preservation of any pre-existing elements was selective. Tilting glass windows have been replaced with exposed brick walls that allow for permanent ventilation. All original or later masonry coatings have been removed to reduce exposed materials to only apparent concrete and exposed bricks.

The new interventions were made with apparent, in-situ cast concrete, marked by the texture of the narrow timber formwork board shapes, the masonry of concrete blocks with a coat of spackle, and glue-laminated timber furniture. Stone floors with rocks from Minas Gerais [*pedra mineira*], shards of pottery and cobblestones complemented the palette of materials and colors of the set.

The rough character of the factory building was maintained, but the details, colors and textures sought to bring it closer to the users, as if capable of humanizing it.

The main problem of the project, according to the architect's interpretation, stems from the need to transform the factory workspace into a leisure space. The call to discipline and focus of attention at work, characteristic of a factory, should be replaced by the encouragement of relaxation, easiness and fun, essential for leisure. However, the architect chose to maintain the tension between work and leisure, not erasing the meaning of the pre-existing structure. The memory of the industrial brick chimney, which had collapsed years before the intervention, is referenced in the water tank design and graphic communication. In this, the chimney releases a cloud of flowers into the air, covering the words "SESC Fábrica Pompeia, Centro de Lazer" [SESC Pompeia Factory, Leisure Center].

The emphasis on the opposition between work and leisure stems from her interpretation of the fundamentals of social leisure, a theory developed by the French Catholic intellectual Joffre Dumazedier (1915–2002) and adopted by SESC in the elaboration of its activity programs.[11] The facility should have characteristics that stimulate relaxed enjoyment by users.

Besides the humanization of the industrial structure through the use of exposed materials, Lina inserted elements with a figurative character, seeking to establish symbolic empathy with the users: the water mirror in the covered square becomes the São Francisco River, the parapets of the pathways configure a Mandacaru flower. She makes use of her scenography experience for such interventions, controlling the design decisions in the construction process.

Thus, her project work in the office set up at the construction site allowed for constant experimentation in an endless process of revisions and additions to the executive project. New inventions, directly linked to the experience of the space under construction, came about thanks to this way of designing: the arrangement of stones on the concrete floor, the channels for rainwater, the restaurant menu consisting of food sculptures made of wood by one of the workers, and many others that contribute to the successful use of the facility.

Applied arts and design, already present at the IAC of MASP and at CETA of Unhão, return literally at SESC Pompeia, in its workshops of ceramics, painting, carpentry, tapestry, engraving and typography, transmitting these crafts to new generations. However, the formative project of designers would not be repeated.

The design within the impasse

"The great attempt to make Industrial Design the regenerating force of the whole of society has failed". With this statement Lina Bo Bardi enunciated the impasse she identified in design from the 1960s on.

For her, the abstract geometric forms of design and modern architecture had lost their original transformative meaning, becoming simple disposable consumer products. From then on, Lina Bo Bardi stopped designing for industrial serial production and started developing furniture for her architectural projects, using simple techniques and materials, with a unique language, full of meaning and possibilities.

In 1992 Pietro Maria Bardi emphasized the construction root that remained in the late work of his recently dead wife throughout her career:

For Lina to design a chair, it should obey the architecture. She gave architectural importance to a piece of furniture. That is, she saw architecture in every object. I always saw and understood that, for Lina, design meant construction as architecture.

Lina Bo Bardi adopted a glue-laminated timber construction system for the SESC Pompeia furniture project. Developed by engineer Vinicio Walter Callia for structural use, the *Pinus Oocarpa* laminated timber bonding system, extracted from trees grown in replanted areas, has been marketed by Laminarco since 1960. The glue-laminated parts had sections capable of overcoming spans, being cut to form tables, chairs, and benches of the leisure center, some with reinforced concrete bases. The result of visual and physical weight hampered its movement in space and signaled its belonging to the architecture.

The shape of each piece proposes a way of sitting related to the environment and its use. Lina Bo Bardi designed large sofas for relaxation in the living area of the covered square, hard theater chairs to arouse attention during the play, large round tables in the study areas of the library, long rectangular tables with fixed benches in the restaurant.

Design no Brasil: história e realidade [Design in Brazil: History and Reality], an exhibition, curated by her in 1982, for the inauguration of the leisure center summarized the narrative of her career in the country. It presented industrial design in production at that time in Brazil: cars, airplanes, computers, utensils of an urban and modern civilization alongside objects with popular roots, the essentiality produced with low technology and much accumulated traditional knowledge. It was like juxtaposing two paths. One composed of the developments of the IAC/MASP, through the courses of the School of Industrial Design at the State University of Rio de Janeiro, the Sequence of Industrial Design and Visual Communication of FAU/USP, in São Paulo. The other, with a countercultural character, bringing together the research proposals of the Northeast exhibition at Solar do Unhão to the avant-garde theatrical production and the social movements based in the peripheries, which did not have a consistent development in the formal economic production, but which is still present in the Brazilian informal production.

Her uneasiness stemmed from the reproduction of Bauhaus design principles at the IAC/MASP, underwent profound revisions as she sought to renew industrial design by means of incorporating popular manufacturing knowledge in Bahia, and came to the denial of industrial serial production at SESC Pompeia.

From a Eurocentric attitude to a participatory and *third-worldish* attitude, Lina Bo Bardi was an isolated character in the review of post-CIAM modern architecture. Faithful to the social and formal principles of the early vanguards of the 1920s, she sought in popular culture the avenues for its renewal.

Now, in the 21st century, her legacy still continues to offer new perspectives on contemporary architecture.

Notes

1 The Second Exhibition of Rational Architecture at the *Galleria d'Arte* in Rome, directed by Pietro Maria Bardi, was visited by Benito Mussolini at its inauguration on March 10, 1931.
2 Lina also worked for *Bellezza*, *Grazia*, *Vetrina* and *L'Illustrazione Italiana*.
3 BBPR was an architectural partnership founded in Milan, Italy in 1932, by Gian Banfi (1910-1945), Lodovico Belgiojoso (1909-2004), Enrico Peressutti (1908-1976) and Ernesto Rogers (1909-1969).
4 Despite the statement, no records of Hartoch were found in the school archives in Berlin and Dessau, as highlighted by Ethel Leon (2015, 68) in her study on the IAC.
5 Presentation text of CETA, Bardi Institute / Glass House collection.
6 Renato Anelli, "Lina Bo Bardi and her relationship to Brazil's Economic and Social Development Policy". in *Lina Bo Bardi 100. Brazil's Alternative Path to Modernism*, Berlin, Hatje Cantz, 2014.
7 Ana L. Cerávolo, *Intepretações do Patrimônio*, São Carlos, EduFSCar, 2013, 135-163.
8 As the central theme of this essay is the intervention in the factory building, we chose not to approach the sports center, inaugurated in 1986. This set of buildings present complexities that would exceed the limits of this article.
9 Lina Bo Bardi, "A fábrica da Pompéia", 1986, in Marcelo Ferraz, *Cidadela da Liberdade. Lina Bo Bardi e o SESC Pompéia*, São Paulo, Edições SESC SP, 2013, 31.
10 Sylvia Ficher, *O curso de Arquitetura da Escola de Engenharia do Mackenzie*, 2017, 79. Available at: <www.mackenzie.br/fileadmin/ARQUIVOS/Public/1-mackenzie/universidade/unidades-academicas/FAU/SFicher_EEMack.pdf>.
11 Renata Bechara, *A atuação de Lina Bo Bardi na criação do SESC Pompéia (1977–1986)*, São Carlos, Master thesis, Instituto de Arquitetura e Urbanismo Universidade de São Paulo, 2016.

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