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Lerner, Friedman e Candilis-Josic-Woods: ideias transatlânticas e afinidades projetuais

Lerner, Friedman, and Candilis-Josic-Woods: transatlantic ideas and design affinities

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Resumo

Os contatos entre arquitetos europeus e americanos difundiram ideias, teorias e práticas ao longo do último século. Ao invés de promover um internacionalismo homogêneo, estes contatos têm revelado o jogo de forças internas e externas e a reconfiguração de ideias viajantes. Interações transatlânticas durante a ‘primeira era da máquina’ têm sido extensamente exploradas, diferentemente das experiências conjuntas depois da crise do pensamento modernista, particularmente no caso brasileiro. Arquitetos sediados em Curitiba tiveram um papel chave na atualização do repertório arquitetônico pós-Brasília, com isso vencendo vários concursos nacionais nos anos 1970. O engenheiro civil, arquiteto, político e professor no curso de arquitetura de Curitiba, Jaime Lerner, foi uma figura central naquela cena, embora sua atuação como urbanista e político tenha recebido mais atenção até agora. Antes de começar a prática profissional, Lerner trabalhou em 1962 no estúdio parisiense de George Candilis, Alexis Josic e Shadrach Woods e teve contato com Yona Friedman – o que se mostrou uma experiência seminal para o jovem arquiteto. Este artigo revê os projetos arquitetônicos de Lerner para a Ponte do Encontro (1969) e para o campus da Universidade Estadual de Maringá (1ª versão 1971, 2ª versão 1976) e, focando em ideias arquitetônicas como ‘mat-building’, ‘cluster’, rede e megaestrutura, os analisa diante de uma leitura mais global da história da arquitetura através das diferentes localidades para argumentar que aqueles projetos buscaram uma expressão alternativa à arquitetura brutalista hegemônica e insular vigente durante o regime militar no Brasil (1964-1985).

Palavras-chave: Circulação de ideias. Ideias transnacionais. Megaestrutura. Rede. Mat-building.

Abstract

The contact between European and American architects has had the effect of diffusing ideas, theories and practices throughout the last century. Rather than promoting a homogenizing internationalism, this contact has revealed both the interplay of internal and external forces and the local reconfiguration of travelling ideas. While transatlantic interactions during the ‘first machine age’ have been widely examined, the joint experiences following the crisis in modernist thought, particularly in the Brazilian case, have yet to be studied. A new generation of Curitiba-based architects played a key role in updating the post-Brasília architectural repertoire, winning several national and international design competitions in the 1970s. The Curitiba civil engineer, architect, politician and professor at the local School of Architecture, Jaime Lerner, was a pivotal character in that scene, although his planning work and political career have so far drawn the most attention. Before starting his professional practice, Lerner had worked at the Parisian architecture studio of George Candilis, Alexis Josic and Shadrach Woods in 1962; he also contacted Yona Friedman – which proved to have been a seminal experience for the young architect. This paper reviews Lerner’s architectural designs and contextualizes his proposals for the Ponte do Encontro (1969) and the Maringá State University campus (1st version 1971, 2nd version 1976). It analyses them with a more global reading of architectural history through the lens of different localities. By focusing on architectural ideas such as mat-building, web, clusters and megastructures, it is then argued that his designs sought an alternative expression to the hegemonic, insular, brutalist architecture promoted during the military regime in Brazil (1964-1985).

Keywords: Architecture diffusion. Transnational ideas. Megastructure. Web. Mat-building.

Resumen

Los contactos entre arquitectos europeos y estadounidenses han difundido ideas, teorías y prácticas durante el siglo pasado. En lugar de promover un internacionalismo homogéneo, estos contactos han revelado la interacción de fuerzas internas y externas y la reconfiguración de las ideas viajeras. Las interacciones transatlánticas durante la "primera era de las máquinas" han sido ampliamente exploradas, a diferencia de las experiencias conjuntas posteriores a la crisis del pensamiento modernista, particularmente en el caso brasileño. Los arquitectos radicados en Curitiba jugaron un papel clave en la actualización del repertorio arquitectónico posterior a Brasilia, ganando así varios concursos nacionales en la década de 1970. El ingeniero civil, arquitecto, político y profesor del curso de arquitectura de Curitiba, Jaime Lerner, fue una figura central en ese escenario, aunque su actuación como urbanista y político ha recibido más atención hasta ahora. Antes de empezar su práctica profesional, Lerner trabajó en 1962 en el estudio parisino de George Candilis, Alexis Josic y Shadrach Woods y tuvo contacto con Yona Friedman, lo que resultó ser una experiencia fundamental para el joven arquitecto. Este artículo revisa los proyectos arquitectónicos de Lerner para Ponte do Encontro (1969) y para el campus de la Universidade Estadual de Maringá (1a versión 1971, 2a versión 1976) y, centrándose en ideas arquitectónicas como 'mat-building', 'cluster', red y megaestructura, los analiza en vista de una lectura más global de la historia de la arquitectura a través de diferentes localizaciones para argumentar que esos proyectos buscaban una expresión alternativa a la arquitectura brutalista hegemónica e insular vigente durante el régimen militar en Brasil (1964-1985).

Palabras clave: Circulación de ideas. Ideas transnacionales. Mega estructura. Red. Mat-building.

Introduction

Criticism and revision of modernist architecture and urbanism led to new design approaches in the second half of the twentieth century (Venturi, 1995; Rossi, 1995; Koolhaas, 1994; Rowe & Koetter, 1983; Montaner, 2008; Cohen, 2013; Mumford, 2018). These new design approaches took a more comprehensive view, moving away from the architectural object, in order to encompass not only contemporary socio-cultural factors but also the territory and the landscape, thus producing more complex physical structures. The idea of a system then became fundamental for some experimental proposals in architecture and urbanism. Montaner (2008, p. 11) defines an architectural system as a set of heterogeneous elements that are related and organized in such a way that they tend to strategically adapt themselves to the complexity of the context and, at the same time, constitute a whole that cannot be understood through only one of its parts; in short, in an architectural system there are no isolated elements and each part depends upon the other. As a consequence, morphological terms (such as webs, nodes, clusters and mat-buildings) became widespread, highlighting the relationships between the object and its setting, rather than its isolated characteristics (Montaner, 2008, p. 11).

In the late 1950s, Team 10 and, more particularly, the British architects Alison and Peter Smithson explored versatile forms that could adapt themselves to the pre-existing architecture, diversity of urban tissues, irregularities of the topography, and that could also grow (Montaner, 2008, p. 92). The 'cluster' was then an effective response to architectural design as well as to town planning. Interestingly, the urban policy developed by the architect and mayor of Curitiba, Jaime Lerner, was seen as a system whose general structure had the organic form of a 'cluster' (Montaner 2008, p. 94).

The 'mat-building' was another proposition of an architectural system that rejected the simplification and unity of the architectural object in order to "create more articulated, associated, flexible and complex forms" (Montaner, 2008, p. 95). The first mat-buildings were those by George Candilis, Alexis Josic and Shadrach Woods, who held that contemporary architecture should not create closed and complete forms, but rather place organizations, i.e., systems. Mat-buildings were based on the interconnection and association of parts and the possibility of sprawling, changing, and interchanging. Thus, they emphasized the relationship between the building, the city and the landscape – between the structure, which has a clear logic, and its context-, and were characterized by their adaptability and capacity for sprawl, creating open, enclosed spaces. Moreover, mat-buildings avoided the rationalist urbanism segregation of urban use and function in order to achieve spatial flexibility. Their horizontal appearance, courtyards and patterned features were intended to foster the establishment of social spaces and avoided the artificiality and imposition of modernist architecture. There are designs by Candilis, Josics and Woods that combined both cluster and mat-building solutions, specifically the proposal for Toulouse-le-Mirail (1962-1977) – a design done in collaboration with Jaime Lerner, when he worked at their studio in Paris.

The intention of a megastructure was to think of an architectural design as a city, by envisioning a system that amplifies the design approach from the object to the context. Megastructures were architectural complexes, generally polyfunctional, developed in the tri-dimensional space and built with advanced technology, which aimed for multifaceted programs such as regional and cultural centres and consumption hubs (Montaner, 2008, p. 103). In this case, the continuity of the rationalist order led to higher technological complexity, increasing the potential for prefabrication and industrialized construction systems.

This paper explores these new design approaches such as clusters, mat-building and megastructures in order to explain their adoption and adaptation in the Brazilian milieu. Therefore, the architectural designs of Jaime Lerner are presented as a relevant case study. In general, his town planning work and political career have overshadowed his architectural practice and for this reason his architectural designs have been less explored. However, Lerner was an important member of that new Curitiba generation of architects and his contribution to its body of work has yet to be analysed. Therefore, this paper examines how the architect Jaime Lerner contributed to innovative architectural expression in 1970s Brazil.

The paper first establishes the context for that new architectural expression. Then presents an overview of Lerner's Paris work experience along with some of the contemporary, cutting-edge architectural ideas that he had come across during this experience, including megastructures, mat-buildings, and webs. Finally, two of his designs are analysed: the Ponte do Encontro (Bridge of the Encounter, 1969) and the Maringá State University campus (1st version 1971, 2nd version 1976). These designs were created after Lerner's Parisian sojourn (1962) and his graduation in architecture (1965). This analysis will show how foreign ideas were adopted and adapted, introducing an innovative architectural approach and alternative expressions to mainstream architecture in Brazil.

Curitiba-based architects and alternative architectural expressions

From the mid-1960s, discussions on contemporary design processes and innovative architectural approaches had stagnated due to the insular attitude imposed on the country by the military regime (1964-1985). The consequent professional focus on the critical politico-social situation and the hegemony of the Paulista architecture-school ideology worsened the situation (Gnoato, 2002, p. 54; Bastos, 2007, p. 6 and 23). Concrete buildings and modernist aesthetics once again gave expression to the governmental targets of economic development, territorial integration and social transformation, just as they had done during the Estado Novo period (the 1937-1945 authoritarian regime) and during the construction of Brasília (Bastos, 2007, p. 4). Little attention was paid to post-modernist ideas at that time; Robert Venturi's work had a limited and late impact on Brazil (Gold et al, 2019) and Aldo Rossi visited the country almost in anonymity, despite having visited Latin America professionally (Souza, 2013, p. 222). The layout of new towns created in the 1970s employed the rationalist/functionalist approach to urbanism and Palmas, the new state capital in Tocantins that was created in the re-democratization period, is soundly modernist, notwithstanding the planners' intention (Rego, 2017).

The creation of Brasília had marked an inflection in Brazilian architectural history, with the mounting prominence of Paulista architecture over the Carioca style (Bastos & Zein, 2010). Sparse innovative designs were more evident in the 1970s, revealing alternative building systems and materials as well as a more contextually-friendly approach (Bastos, 2007). Even so, such designs were less consciously related to the criticism and rejection of modernist thinking than to an interest in pragmatic experimentation in order to advance modern architecture.

In the 1960s and 1970s, many architectural design competitions in Brazil were won by young architects based in Curitiba.¹ This group of architects was identified as the new

¹ In 1960s and 1970s Curitiba-based architects were awarded more than 50 prizes in architectural design competitions; seventeen first prizes (Gnoato, 2002; Pacheco, 2004, 2010; Dudeque, 2010; Silva, 2018; Januário, 2018).

generation of professionals in Curitiba; some of them had moved to the city for work opportunities, some were alumni of the local architecture school, where most of them also taught.² They often worked as partners, managing their own studios in groups of three or four.³ Some of these studios were located in the same buildings⁴ and they sometimes collaborated on the competition entries.⁵

The Architectural Design prizes being awarded to young architects in the state of Paraná drew broad attention from Brazilian critics and colleagues at the time when the Paulista (São Paulo) school was the hegemonic architectural expression in Brazil. The singularity of the architecture produced in Curitiba to a certain extent resulted from the creative transformation of previous references; according to Hugo Segawa (1986, p. 32), if there existed a common ground for architectural expression in São Paulo and Paraná, then what was found in Curitiba was a dialect of the original Paulista formulation. The different backgrounds of the co-workers, the favourable environment, a fairly common professional understanding, a pragmatic approach to architecture, external contacts (international publications, trips abroad, and overseas experiences), and the introduction of contemporary foreign design references all contributed to the expression of Curitiba's new generation of architects, according to the few researchers that have studied them (Xavier, 1985; Segawa, 1997; Bastos, 2007; Bastos & Zein, 2010; Pacheco, 2010; Gnoato, 2002; Gnoato, 2004; Dudeque, 2001; Santos, 2011; Januário, 2018; Januário e Rego, 2019).

The assorted background of the architects who migrated to Curitiba to teach in the new (and only) architecture school in the city contributed to the diffusion of heterogeneous ideas, including those relating to the evolution of modern architecture (Gnoato, 2002, p. 71; Santos & Zein, 2009). While the professors came from different states of the country (Rio Grande do Sul, Minas Gerais, and São Paulo), most of them had graduated from the Mackenzie School of Architecture, in São Paulo, a more pragmatic architecture school, compared to the Faculty of Architecture and Urbanism at the University of São Paulo (Gnoato, 2002, p. 68; Segawa, 1997, 131 and 152).⁶

Curitiba was then a fairly humble provincial city (Dudeque, 2001). Its 250th anniversary, celebrated in 1943, was the occasion for the presentation of an urbanization plan developed by the French urbanist Alfred Agache. Economic prosperity, its rising importance as an industrial centre and the creation of an architecture course and a planning institute contributed to a reversal of its circumstances. The implementation of the urbanization plan, along with urban improvements and new modern buildings, gave form to the efforts for modernization of the state capital (Dudeque, 2010). Moreover, the new city theatre and the governmental palace at the civic centre foreseen by Agache's plan were built along modernist lines.

² Luiz Forte Netto, José Maria Gandolfi, Roberto Gandolfi, Vicente de Castro and Joel Ramalho graduated from Mackenzie Presbyterian University (in São Paulo), and, apart from José, all taught in the Department of Architecture at the Federal University (UFPR) in Curitiba; Jaime Lerner, Leonardo Oba, Guilherme Zamoner, Domingos Bongestabs, José Sanchotene, Oscar Mueller, Alfred Willer, Lubomir Ficinski Dunin, and Manoel Coelho were UFPR alumni and taught there; Marcos Prado graduated from Minas Gerais University and also was a UFPR teacher.

³ Forte Netto and José Gandolfi were partners; Ramalho Jr., Oba and Zamoner were partners; Lerner, Bongestabs and Prado were partners; Sanchotene, Mueller and Willer were partners; Lubomir Ficinski Dunin ran his own studio.

⁴ Studios Forte-Gandolfi and Ramalho Jr-Oba-Zamoner were located in the same building in the Curitiba city centre.

⁵ Among the most important competitions won by them were the Euro Kursaal, in San Sebastián (1965, 2nd prize: Forte Netto, Gandolfi, Gandolfi, Lerner and Bogestabs); the Instituto de Previdência do Estado PR (1967, 1st prize: Forte Netto, Gandolfi, Castro and Ramalho); the Edifício Sede da Petrobrás (1968, 1st prize: Gandolfi, Gandolfi, Sanchotene and Forte Netto); the Pavilhão do Brasil na Expo 70 (1969, 3rd prize: Sanchotene, Mueller and Willer); and the Edifício-sede BNDE-DF (1973, 1st prize: Sanchotene, Willer, Mueller, Ramalho and Oba; 2nd prize: Forte Netto, Gandolfi and Castro).

⁶ Those architects who graduated from Mackenzie Presbyterian University between 1958 and 1959 had contact with prestigious São Paulo-based architects, such as Eduardo Kneese de Mello, Fábio Penteadó, João Batista Vilanova Artigas, Pedro Paulo de Melo Saraiva and Paulo Mendes da Rocha, particularly in the paulista branch of the Brazilian Architects Institute – IAB.

Distant from the industrial state capital of São Paulo and its metropolitan issues, Curitiba-based architects dealt with a singular context and a more traditional society. It is fundamental to bear in mind the dynamics involved in the diffusion of ideas – the set of initial circumstances in which ideas are born; the influence of differing contexts as the ideas travel from place to place, over time, and among people; and, finally, acceptance or rejection, as ideas are reconstructed (Said, 1983; Said, 2007). As a result, the Curitiba architectural output has been acknowledged as the transformation from the Paulista architectural form to a more widely acceptable architecture, less ideologic and more pragmatic, with the introduction of ornamental details and environmental concerns, featuring a less ‘brutal’ appearance (see Gnoato, 2007; Gnoato, 2004). Moreover, some innovative foreign ideas were also transferred in.

Lerner and his formative experience in Paris

Jaime Lerner received a grant from the French government to study urbanism in Paris in 1962, after graduating from engineering school the previous year. In Paris, Lerner attended a presentation of the proposal for Le Mirail, a satellite town of Toulouse, and ‘fell in love with that design’. Lerner came to work in the studio of architects Georges Candilis, Alexis Josic and Shadrac Woods, co-authors of the Toulouse proposal, and he was in charge of developing its pilot residential block. Lerner also worked on their Fort Lamy project (Berriel & Suzuki, 2012, p. 110; Silva, 2018, p. 56).

The Candilis-Josic-Woods studio had been awarded first prize in the 1961 design competition for the Toulouse satellite town.⁷ As members of Team 10, Candilis, Josic and Woods were rooted in modernism; however, they simultaneously had an antagonistic relationship with it, which suggests a singular position in architectural history (Krunic, 2012). Team 10, officially formed in 1954, was named after the group responsible for organizing the 1956 CIAM, 10th Congrès Internationaux d’Architecture Moderne. This event is seen today as the end of CIAM, and the name ‘CIAM’ was no longer used after the 1959 congress. Team 10 ideas were, to a great extent, the ideas of its most prominent members: Jacob Bakema, Georges Candilis, Aldo van Eyck and Alison and Peter Smithson, resulting in a diversity and plurality of opinions. However, based on sociological and ethnographic research, Team 10 members supported the criticism of CIAM’s universalist approach (see Joedicke, 1968), and precipitated the end of the congresses (Cohen, 2013; Mumford, 2000). In a 1962 publication, Team 10 defined themselves as a group of architects who ‘came together in the first place, certainly because of mutual realization of the inadequacies of the processes of architectural thought which they had inherited from the modern movement as a whole’ (Vianna, 2018, p. 39).

In the Toulouse-Le Mirail project, a system called ‘from stem to cluster’ was proposed, where long blocks were repeated from large to small scale, laying out the open spaces and indoor activities in a branching system of elements. The non-orthogonal geometry of the stem formed a system that could grow in different directions according to the need for expansion and take into account topographic accommodation. The ‘from stem to cluster’ system was also used by Candilis-Josic-Woods in the Fort Lamy project, also designed in 1962 (Vianna, 2018, p. 44).

The proposal for the University of Toulouse Le Mirail campus (1966-1972), developed shortly after Lerner’s contribution to the French studio, stemmed from Candilis, Josic and Woods’ new satellite town layout. The university layout is based on a particular configuration capable of adapting to the changing conditions of a multi-

⁷ With a background in philosophy and literature, Woods was the writer, lecturer and presenter at the studio, and, thus, this paper refers principally to his texts.

phase construction integrated into the vast territory (Woods, 1965). The University of Toulouse campus essentially follows the mat-building architectural system proposed by Team 10. Actually, that university layout was part of a long-term design study in which Candilis-Josic-Woods' designs explored the notion of cell, cluster, stem, and web as composition strategies (as well as the groundscraper concept). These strategies envisaged complex and versatile structures, adaptable to the specific context of each design, be it urban or natural. The term 'mat-building' dates from 1974, when Alison Smithson defined it, but it comprises the idea of web previously defined by Woods in 1962 (Solano Rojo, 2013).

Woods considered architecture and planning to be interrelated, organized continuously so that no single element is in danger of isolation. What is more, the parts of a system will take their identity from the system. As it is not possible to conceive of any long-range plan based on fixed spatial or compositional relationships, the system would remain open in both directions and be flexible so as to permit growth and change within itself. The notion of web incorporates this approach: its non-centric, open-ended, homogenic, geometric structure responds to the modern-life process in a changing world (Woods, 1962). It can grow horizontally and combine empty spaces and built areas in a new urban tissue whose order and orthogonal logics confer its formal and spatial liberty. The web allowed different practices and programs to be woven into a continuous patch without limits.

Candilis-Josic-Woods later incorporated these ideas in their entry to the design competition for the new Free University of Berlin campus (1963), which was awarded first prize. Reyner Banham (1978) related this design to the notion of megastructure, a term coined by the Japanese architect Fumihiko Maki in 1964. Maki understood the megastructure as a large frame in which all the functions of a city, or part of a city, are housed; an artificial feature of the landscape (Banham, 1978, p. 218⁸). A slightly more precise definition appeared in 1968, whereby the megastructure is "not only a structure of great size but also a structure constructed of modular units, capable of 'unlimited' extension; a structural framework into which smaller structural units can be plugged-in or clipped-on after having been prefabricated elsewhere" (Banham, 1978, p. 9). Furthermore, the notion of megastructure is relevant for this paper as it was frequently associated with the work of Yona Friedman, another architect with whom Lerner had dealings in Paris.

At the time, Friedman was known for his concept of spatial urbanism and his spectacular sketches of 'aerial cities'. Lerner revealed in a recent interview that during his time spent in Paris, he had the chance to attend a lecture by Friedman at which an extraordinary proposal was presented. Instead of the Eurotunnel, Friedman proposed "a very light bridge – with life in it, work, leisure, everything. I got excited about that design. I used to chat with him. He lived just off Boulevard Garibaldi, and was really a creator (...) The design I submitted to the Paris Biennale [Ponte do Encontro] was influenced by it" (Silva, 2018, p. 57).

Back in Brazil, Lerner began to study architecture at the recently created School of Architecture at the Univerasity in Curitiba and graduated in 1965. He then, once again, set up a prolific professional practice, this time as an architect in association with Domingos Bongestabs and Marcos Prado (Lerner, Bongestabs & Prado, 1967; Gnato, 2002; Silva, 2018). The Instituto de Pesquisa e Planejamento Urbano de Curitiba – IPPUC (Institute of Urban Planning and Research of Curitiba) – was founded that year and Lerner was a member of the staff from the beginning, becoming its president

⁸ Maki also used the term megaform. According to Frampton, the megaform may display certain megastructural characteristics although what is much more pertinent is the topographic, horizontal thrust of its overall profile, together with the programmatic place-creating character of its intrinsic program. Frampton, 2010, p. 11; Frampton, 1999.

in 1968. Due to a student protest against the professors at the Brasília School of Architecture, Lerner was invited to teach there and spent three months in 1968 living in the modernist federal capital, working at the gigantic curvilinear building designed by Oscar Niemeyer (Berriel & Suzuki, 2012, p. 114; Gnoato, 2002, p. 71).⁹ He was appointed mayor of Curitiba in 1971 (as municipal elections had been outlawed during the military regime).

In the next section, the outcome of Lerner's Parisian work experience will be analysed within the setting of the Curitiba environment favourable to the development of innovative architectural approaches.

Challenging designs

In 1969, Lerner and his partners were invited by the mayor of Maringá to present a proposal for the university campus to be built in the city. As an engineer, Lerner had designed the city's stadium before travelling to Paris. In the original design of the Maringá State University presented by Lerner and his team, the campus was laid out in four main curvilinear buildings (the UMA plan, Fig. 1), which concentrated and organized academic activities. The buildings occupied the central area of the plot at the edge of the new town, which had been planned and built from scratch in 1945-1947. The longest block accommodated the pedagogic functions, while administrative facilities were housed in the shorter one. A conference hall was located between them, as well as the dean's office and the library, all located in the 'great square'. The university hospital, clubhouse, an open-air theatre, and student housing were located further away (Avanci, 2016, p. 67).

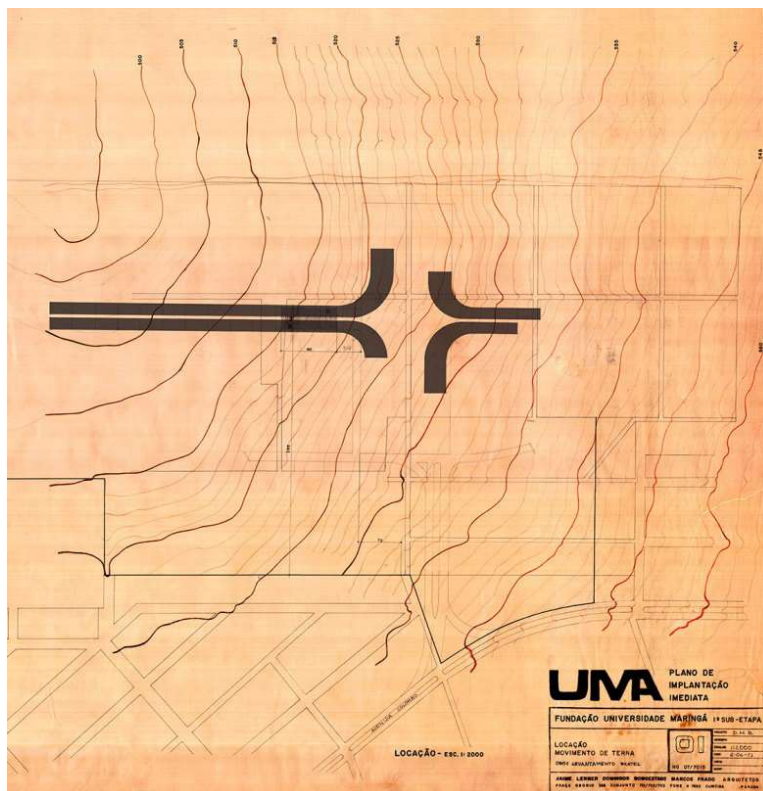


FIGURE 1 – UMA plan, 1969, site location.

⁹ Lubomir Ficinski, Luiz Forte Netto, Marcos Prado, and Roberto Gandolfi were also invited to temporarily replace architecture professors at the University of Brasília.

The classroom buildings were approximately 640 metres long and 36 metres wide, with a central corridor 14 metres wide. The smaller buildings were nearly 210 metres long (Fig. 2). These buildings had two floors and a lower level, which in part adapted the long buildings to the uneven ground. Concrete slabs were to be supported by bare concrete beams and pillars, while the roof was planned as a flat steel structure (Fig. 3). The buildings resembled the double, 700-meter long, curvilinear block that Oscar Niemeyer designed for the University of Brasília, where Lerner had taught three years before. However, Niemeyer's block is monumental in its abstract volume and isolation while Lerner's proposal defined a unique sense of place by arranging four blocks around a 'great square' and placing the circular conference hall at its centre as a monument. Structured like the Brasília cathedral, the conference hall was composed of irregular radial concrete beams leaning against a central ring.

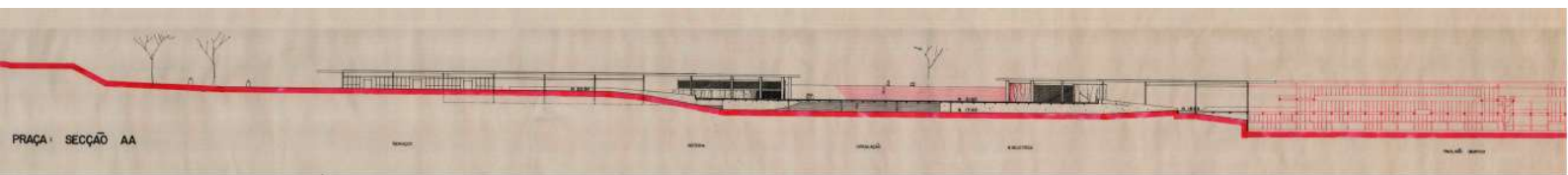


FIGURE 2 – UMA plan, 1969, longitudinal section.

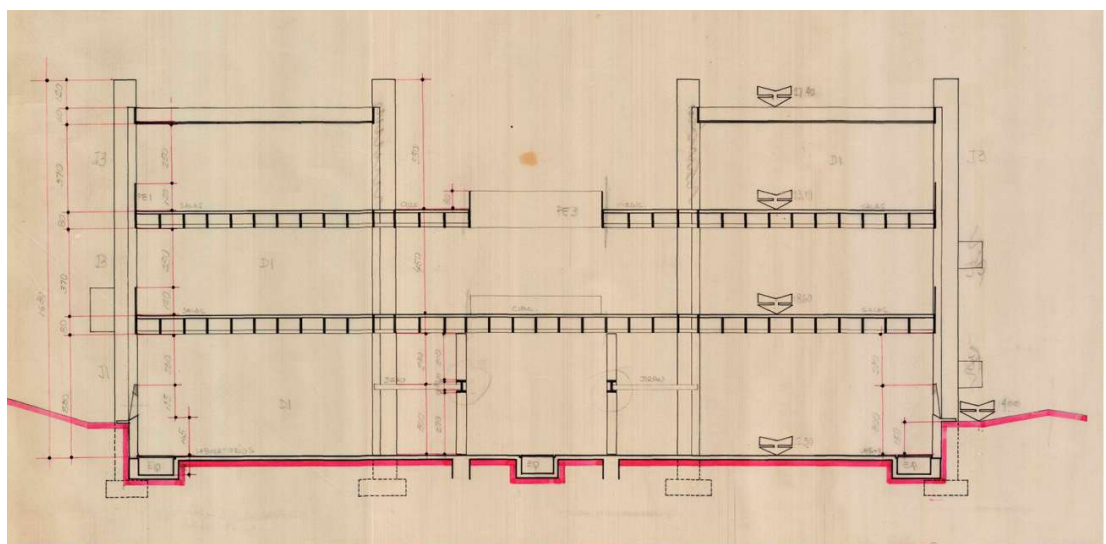


FIGURE 3 – UMA plan, 1969, cross section.

In terms of engineering and construction the design was fairly simple, though it was challenging in terms of size and configuration. A range of activities would be located in each of the four buildings and a walk along them would have been like walking on a street. Lerner had a strong memory of traditional European streets (Berriel & Suzuki, 2012, p. 111) and, remembering his formative experience abroad, he seemed to have projected it onto those corridors.

The 'unlimited' long buildings would have created an artificial landscape (megastructural characteristics in a megaform). On the other hand, their modular structural framework would have allowed the construction of varied room sizes and the creation of voids along the linear form, when the modular units remained open. The building's accommodation to the ground and the economical metallic roofs can be understood as consideration for real, local aspects of the project.

Changes in the educational system determined by the 1968 governmental University

Reform¹⁰ prompted a revision to the UMA plan. While the monobloc building design granted internal flexibility due to its open plan, it was nonetheless externally rigid and could only be extended at the extremities, which would end up disturbing its functional zoning (Avanci, 2016, p. 76). Moreover, some land movement would be required and much of the built area was designated as a circulation area, leading to the rejection of the design. The architects were then asked to prepare another proposal that: considered organizing university activities into blocks, which would be built in sequential phases; had the shortest possible human displacements; had an 'articulated system'; and took into consideration the inter-relationship of different departments (Universidade, 1976). According to the architects, the web was the basis of the new, totally different campus layout, presented in 1976 (Avanci, 2016, p. 92).

Brazilian university campuses had been designed along modernist lines; that is, autonomous, isolated buildings dispersed on a vast green open space, and like the modernist city, the modernist campus had inverted the traditional urban configuration, transforming it from continuous solid to continuous void (Rowe & Koetter, 1983, p. 56). Lerner's new proposal to some extent reverted to the traditional idea of continuous buildings framing open spaces, and gave less status to each building and more emphasis on the exterior space that the buildings configured.

The Maringá State University web (Fig. 4) was formed by three oblique axes that constructed triangular and hexagonal spaces. Its dimensions had the capacity to respond to any extension of the planned blocks and to allow flexibility for the organization of the buildings, in addition to offering suitable walking distances (Avanci, 2016, p. 92). The triangular spaces were considered to be courtyards and the hexagonal knots were intended for auditoriums, cafeterias and sanitary installations (Fig. 5). The courtyards were to be seen as parts of the whole buildings. Single-floor classroom buildings were positioned on the axes and were independent (and visually distinct) from the hexagonal buildings which articulate them. The classroom buildings measured 60 metres in length and 15 metres in width, and their open floors would be divided by light prefab panels. Three-floor buildings were foreseen for future expansion, creating more intense usage in some parts of the web. The web articulation could easily rest on the terrain.

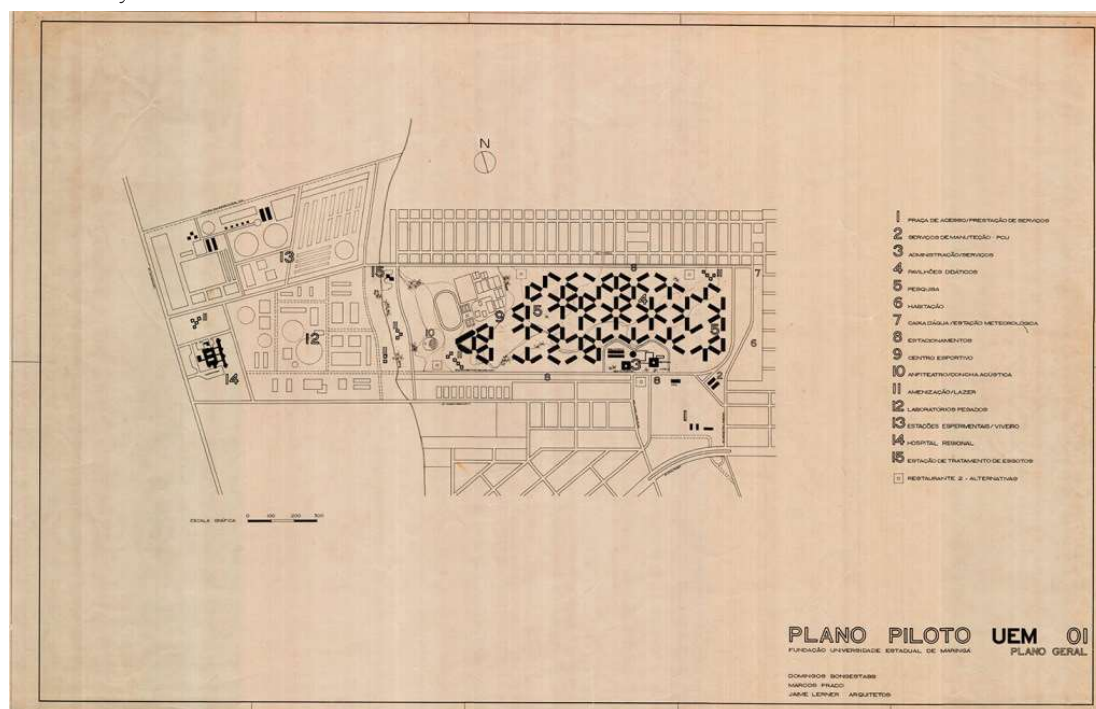


FIGURE 4 – Maringá State University, 1977, site plan.

10 See Brazilian federal law n. 5.540, 28th November 1968.

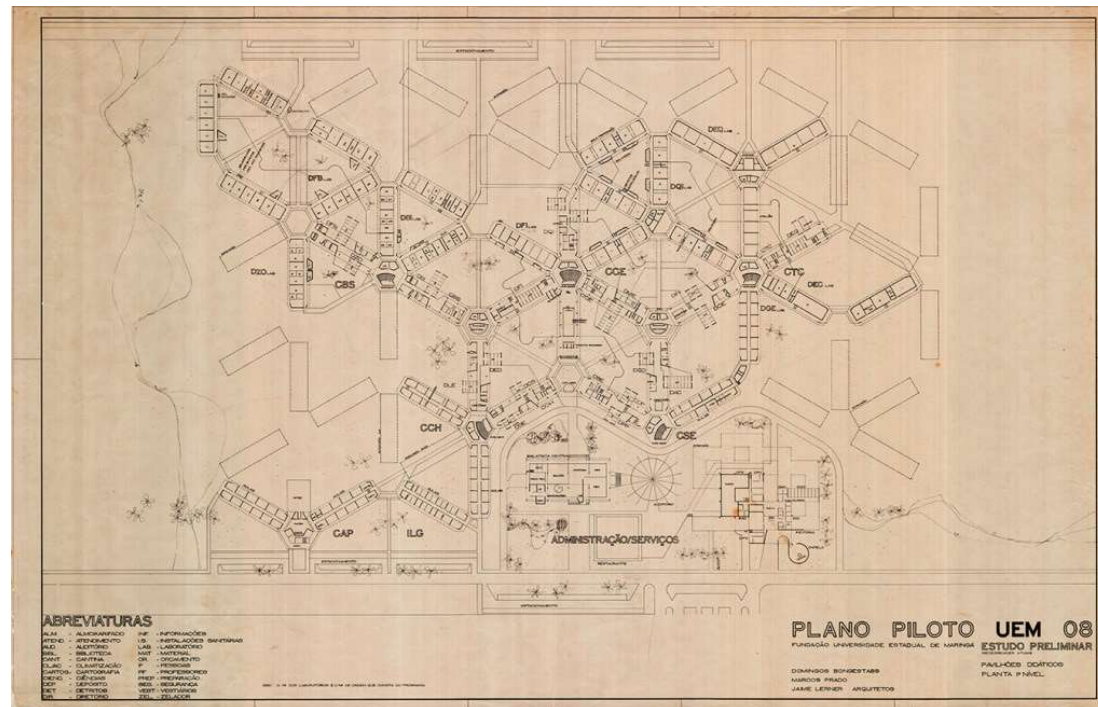


FIGURE 5 – Maringá State University, 1977, cluster plan.

Apart from the dean's office, library, chapel, conference hall and restaurant, which are located separately from the web at the entrance of the campus, there is no hierarchy or differentiation among the blocks. Bare brick walls and metallic roofs were to be used, following a traditional building system (Fig. 6). The web would be partially or totally consolidated by repetition of these blocks and knots. In the web, the isolated buildings are much less important than the clusters of buildings, which are the core of community life. The public areas were established in the buildings as well as between them (see Joedicke, 1968, p. 159). In the non-centric, open-ended, homogenic, geometric web, the architecture to some extent avoided conventional urban structures (buildings, blocks and streets) as clusters brought the architecture and urbanism into unity (see Smithson & Smithson, 1957).

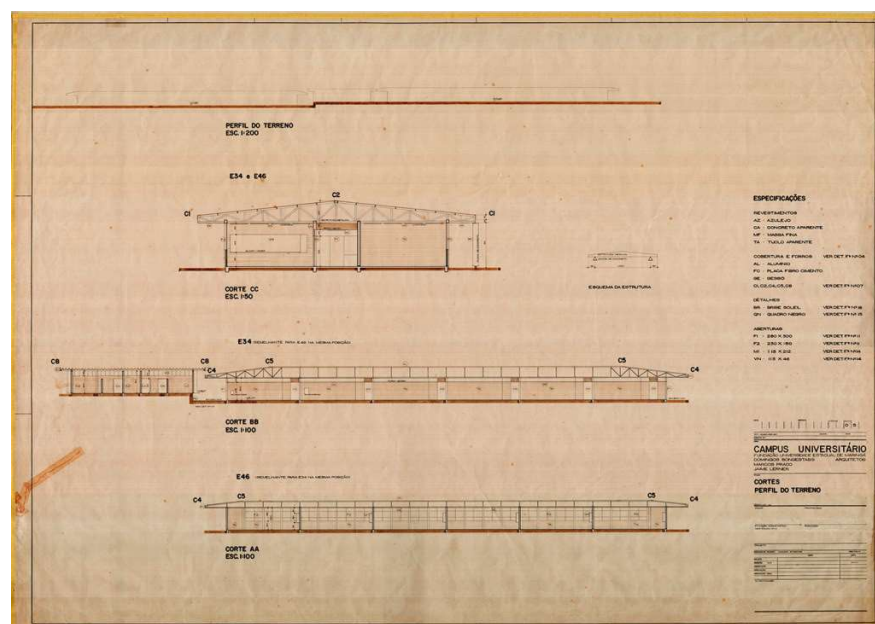


FIGURE 6 – Maringá State University, 1977, section.

The fusion of building and city, architecture and urban life, into a single form is also seen in the design of the Ponte do Encontro (1969. Fig. 7 and 8). Lerner's 'bridge-town' aimed at creating an international tourism centre in Foz do Iguaçu, as well as a connection between Brazil and Argentina in the form of a 200-meter long life-space structure (Silva, 2017, pp. 7-8). The project's proposal states that

'Le centre de tourisme des cataractes de l'Iguassú tente traduire l'essence d'un nouvel urbanisme, prospectif et surtout cohérent : la technique des structures en trois dimensions qui contiennent et en même temps supportent un équipement de rencontre intégré au milieu et qui le valorise' (Silva, 2017, p. 9).

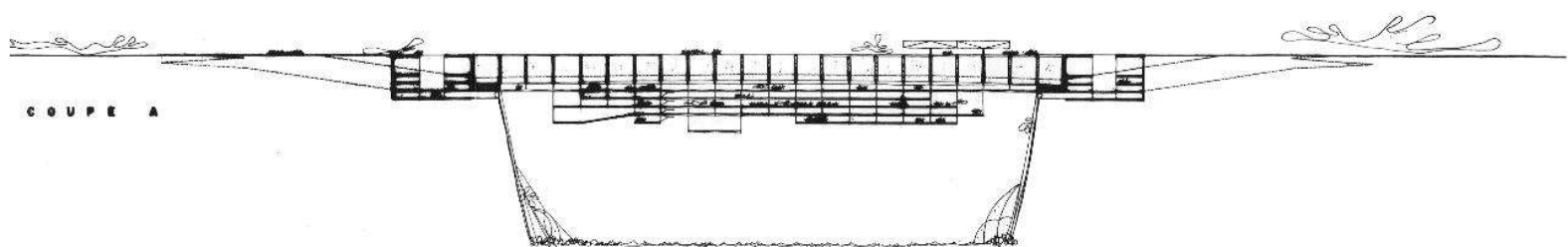


FIGURE 7 – Ponte do Encontro, 1969, longitudinal section Silva, 2018, p. 162.

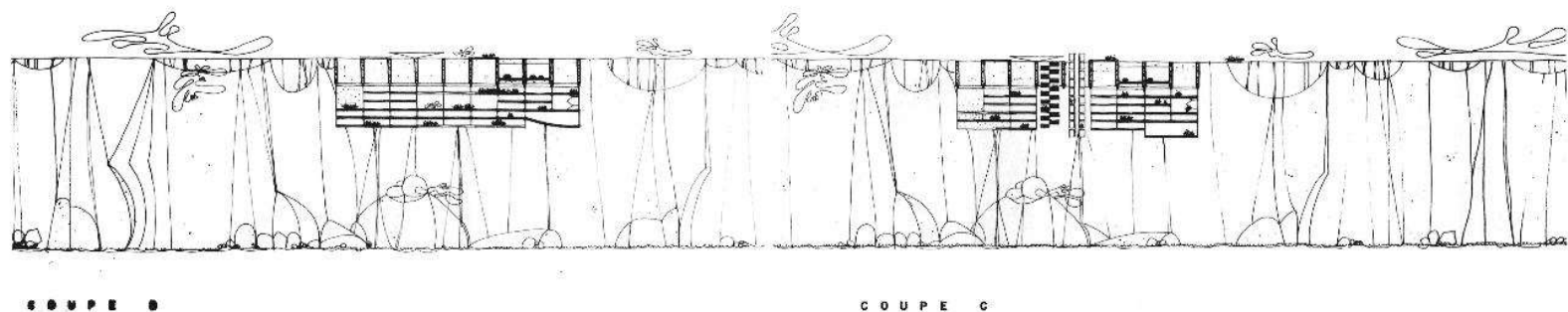


FIGURE 8 – Ponte do Encontro, 1969, cross section. Silva, 2018, p. 162.

Lerner and his colleagues (Forte Netto, Roberto Gandolfi, Sanchotene, Lubomir Ficinski, Abrão Assad) submitted the bridge design in response to an invitation for submissions from the Paris Art Biennale. They had been selected as the Brazilian representatives to participate in the World Young Artists Exhibition. After seeing the bridge proposal, the Brazilian government prohibited its presentation in Paris, although it ended up happening anyway via unofficial channels.

Less adaptable than the web concept, Lerner's bridge more closely resembles Friedman's proposal for the English Channel. Nevertheless, the design 'translates the essence of a new urbanism, integrated to the natural milieu' for the Brazilian audience. It has a built area of 60,000 m² and motor traffic was allowed on the bridge access level, where restaurants, hotel lobbies, tourism, and information agencies were located. The commercial levels, where shops, cafés, bars, bank agencies, etc. were located were reserved for pedestrians only. The concrete megastructure established a spinal, landmark building.

Lerner referred to a 'new urbanism' in the bridge project proposal, though it is not totally clear what he had in mind. He may have been acknowledging Friedman's planning ideas, according to whom the future of cities was to become recreation centres. Other functions are increasingly automated' and 'buildings must be skeletons that are refillable at will' (see <http://www.yonafriedman.nl>).

Conclusion

Professor and architect, Jaime Lerner was an influencer and, along with his team, a promoter of new architectural ideas. He pursued alternative architectural expressions in the midst of the dominant Paulista canon and the insular conditions of the dictatorship. Lerner was one of the protagonists in a network of collaboration and cooperation among the new generation of Curitiba-based architects. The contemporary ideas analysed in this paper, namely the web system, mat-building, and megastructure, diffused through his work in the 1970s, revealed the interplay of internal and external forces and the local reconfiguration of travelling ideas.

Lerner's bridge-town megastructure was merged into the landscape, emphasized it, and illustrated the idea of a gigantic infrastructure with an internal urban dimension. The UMA plan for the State University of Maringá endorsed the topographic aspect as a megaform, in line with Frampton's description (1999, p. 40), a 'unifying environmental trope in twentieth century architecture and civic design'. The campus web plan adapted the cluster system to a more vernacular construction method; distant from modernist urbanism and its isolated, autonomous buildings', it introduced a new joint approach to architecture and open space. They were both all-horizontal interventions in a territorial context, and the campus explored the use of other materials beside bare concrete. Lerner adapted the European ideas to the local circumstances, technological constraints and buildings possibilities. The flow of such transatlantic ideas revealed an affinity for unconventional design, an exception in Brazilian mainstream architecture when few dared to defy modernism.

Ultimately, the bridge was never built and the UMA plan was replaced by the web campus version, which in the end was only partially built and significantly modified. Still, today these proposals seem as challenging as they were invigorating. Each of these projects conveyed a specific design strategy, and while such diversity might be commonly result from teamwork, as was the case here, it was nevertheless Lerner who was the team leader and the point of contact with the source of the ideas. His approach, pragmatic and critical of the modernist universal attitude, reveals a postmodernist thinking inasmuch as it is a less idealized and less ideological attitude towards reality.

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Submetido em 10/03/2020

Aprovado em 13/08/2020