

FROM HOSPITAL TO CRIMINAL JUSTICE COMPLEX

Notes on architectural flexibility through the Santa Casa de Misericórdia de São Paulo

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ABSTRACT: This article analyses the conversion of a big hospital and teaching complex, designed between 1968 and 1978 and commissioned by Santa Casa de Misericórdia de São Paulo to a team of architects led by Fábio Moura Penteadó, into the biggest criminal justice complex in Latin America, since it was acquired by the State of São Paulo in the mid-1990s and opened in 1999. The architectural characteristics and the superlative scale of the complex constitute a privileged object to analyze the potentialities and limits of architectural flexibility, as well as how this concept is related to the modern project culture, specifically with the general strategies developed by the so-called Escola Paulista.

KEYWORDS: modern hospitals, healthcare architecture, brazilian brutalist architecture, architectural flexibility, adaptable design

INTRODUCTION: Terms like flexibility and related concepts such as multipurposeness, adaptability, and multifunctionality are concepts introduced and popularized by architectural modernity and, as such, have already been broadly discussed and criticized. However, it is worth revisiting them since the conservation of buildings from the past depends, to a large extent, on their ability to adapt to social transformations, changes in use, and new technological requirements.

As a central part of the functional corollary, was the search for flexible buildings developed in close relationship with the mass demands that characterized the last century. For Pevsner (1980) what distinguished modern architecture from its predecessors was not the invention itself but precisely the need for quantitative exploration. Throughout the 20th century, accelerated technological development also required and stimulated specialization movements, which resulted in new programmatic responses based on the search for efficiency.

In this context, the degree of complexity reached by certain programs, such as a hospital, induced certain morphological solutions and functional strategies in response to highly specialized medical, sanitary, and technological requirements, which at the same time need to accommodate the need for flexibility, adaptability, and

standardization to meet the constant demands for reorganization and expansion.

The project of the teaching hospital Júlio de Mesquita Filho of the Santa Casa de Misericórdia de São Paulo, later converted into a criminal justice complex constitutes a privileged object to analyze the potentialities and limits of flexibility in architecture and how this concept relates to the modern design culture, more specifically to the strategies developed by the so-called Escola Paulista. It is also possible to question the place and type of expected flexibility in structures of gigantic scale, in which the technical demands aggregate onto others, related to the efficiency and capacity to support a high flow of users and the need to adapt to the Brazilian socio-cultural conditions.

The design of the hospital complex, developed by a team of architects led by Fábio Moura Penteadó (1929-2011), started in 1968 and had its final version presented in 1978. After the beginning of the construction of the concrete superstructure in 1976, a rectangle measuring approximately 240 m by 180 m, the project was paralyzed in 1978 due to a lack of resources. More than a decade later, it was acquired in the mid-1990s by the State of São Paulo government to instate the *Fórum Criminal Ministro Mário Guimarães*, inaugurated in 1999, with the adaptation project by Borelli & Merigo Architects [FIGURE 01].



01 Santa Casa Teaching Hospital: The gigantic structure under construction, early 1970s. © Fábio Penteadó's Archive, 2022.

The initial project intended to build a complex of approximately 100,000 m² on a large plot of 240,000 m² on the banks of the Tietê River, a region close to the north side of the city center of São Paulo and a strategic point of access to the city. In addition to having almost 800 beds and clinics capable of serving 4,500 daily consultations, it would have a medical school with 600 places and a training course for 3,000 health technicians, which would total an approximate flow of 15,000 people per day—between doctors, patients, students, staff, and visitors (Penteadó, 1978).

At that moment, the debates on health management and hospital planning in Brazil deepened with the consolidation of entities founded in the 1940s, which in the following decades boosted the offering of specialized courses at the undergraduate and graduate levels and publications about hospitals. It is important to emphasize that the concept of a modern hospital in the country was forged in strong dialogue with engineering and architecture by institutions such as the Hospital Organization Division DOH (1941), led by medical doctor and engineer Ernesto de Souza Campos, and the Hospital Research Institute IPH (1954), whose founder and first president was the architect-engineer Jarbas Karman. Both helped to stimulate the debate about the design and construction of hospitals, in close relationship with experiences developed in the United States.¹

In the context of the work's conception, the rapid population growth of the São Paulo metropolis cannot be disregarded, whose cities went from 8,139,730

inhabitants in 1970 to 12,588,725 inhabitants in 1980², driven by strong internal migration, mainly of people from the northeast region of Brazil, in search of better living and working conditions in the most industrialized city in the country.

No less superlative than the teaching hospital, the criminal justice complex that took its place decades later houses almost all the criminal justice facilities of the São Paulo metropolis and constitutes the largest of its kind in Latin America. Its facilities house 31 criminal courts, a prison for 400 inmates, and several other courts, departments, and sectors of the city's judiciary system. With an average daily flow of 5,000 people, around 1,400 employees and more than 100 magistrates work at the justice complex (AM, 2012).

By analyzing the specific and peculiar case of an ambitious hospital project that ended up housing a criminal justice complex, this paper intends to raise broader questions about aspects of flexibility in architecture, its relations with architectural culture and Brazil's socioeconomic and cultural characteristics at the time.

WHAT IT SHOULD BE: A HOSPITAL

In the late 1970s, the charitable institution Santa Casa de Misericórdia de São Paulo began to implement a project that had been put on hold since 1963 to create a modern teaching hospital, destined to serve a contingent of about 1 million people in a situation of "absolute poverty", in the words of Penteadó (1998).



02 Santa Casa Teaching Hospital, São Paulo by Penteadó. The two first conceptual designs, 1968-1971. © Fábio Penteadó's Archive, 2022.

The proposal presupposed a profound institutional renovation, joining the concept of a teaching hospital with that of a general hospital, according to Teófilo de Almeida (1965), “one that receives all or several types of patients with different diseases” and, therefore, required high levels of training of the technical staff, treatment techniques, equipment and care with safety and contagion that also resulted in specific requirements for spatial organization.

In this sense, the concept of a general hospital, whose characteristics have been the subject of research by the DOH since the 1940s, integrated the theses of economy, functionality, and efficiency that came to dominate the modern hospital vocabulary into the charity character of the secular entity.

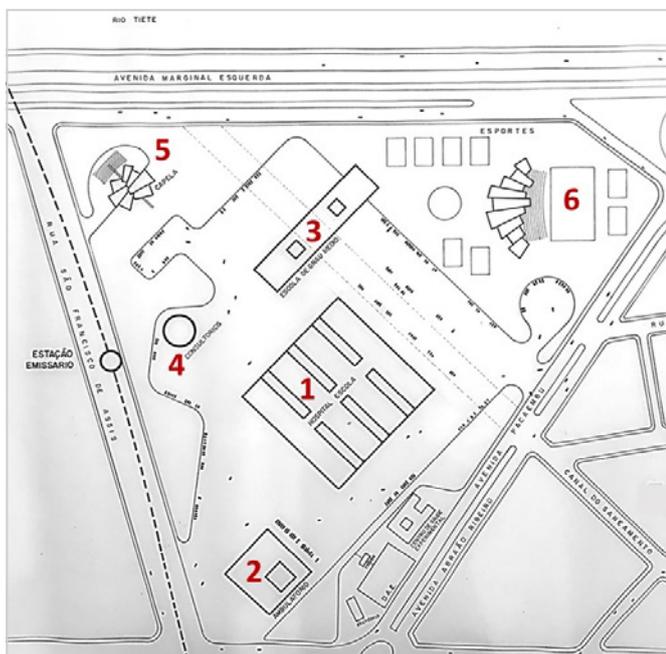
The land, provided by the city hall in the industrial origin district of Barra Funda, touches the left bank of the Tietê River, being large enough to house a complex that, in

addition to the enormous main building, also provided for the later installation of a high school, institutes of research, and a chapel, which were never executed.

The existing documentation in the architect's collection records four different preliminary designs of the project, developed since 1968. In a first implementation study—according to Penteadó (1998), made in a hurry to guarantee the donation of the land—, the team suggested a set of parallel and transversally connected laminar bars, forming a dynamic design marked by the difference in length between the blocks, interspersed with patios. In the second version of the project, still only indicating a location solution on the ground, six parallel linear blocks of equal size are crossed by a connecting axis in the north-south direction, delimiting a regular and symmetrical occupation [FIGURE 02].

In the third proposal, the first to include more detailed plans, functional sectors and the number of floors, the architects chose to enclose the functional wings in a single elongated volume with a rectangular plan. The fourth version of the project, from 1971³, is a synthesis of the previously tested architectural designs; the option of a horizontal building with a rectangular plan, organized in wings interspersed with landscaped courtyards and connected by a central strip, surrounded by a continuous lateral surface of exposed concrete that demarcates a single volume [FIGURE 03].

In the definitive proposal, an offshoot of the latter from 1978⁴, Penteadó and his team presented a solution that offered the identity that previous generic solutions lacked [FIGURE 04]. The building's program would be distributed on three main floors—a basement, the ground floor, and the upper floor, in addition to a technical floor—and in three functional strips in the plane—two sides, cut by open patios on the roof, and a central section with the main function of distributing the flows. It is a tripartite organization that reflects on the facades, characterized by three



03 Project dated March 1971, which includes buildings foreseen in the complete proposal: 1 - Teaching hospital; 2 - outpatient clinic; 3 - technical school; 4 - exam rooms; 5 - chapel; 6 - sports zone. Only the teaching hospital building was built. © Fábio Penteadó's Archive, 2022 (adjusted by author).

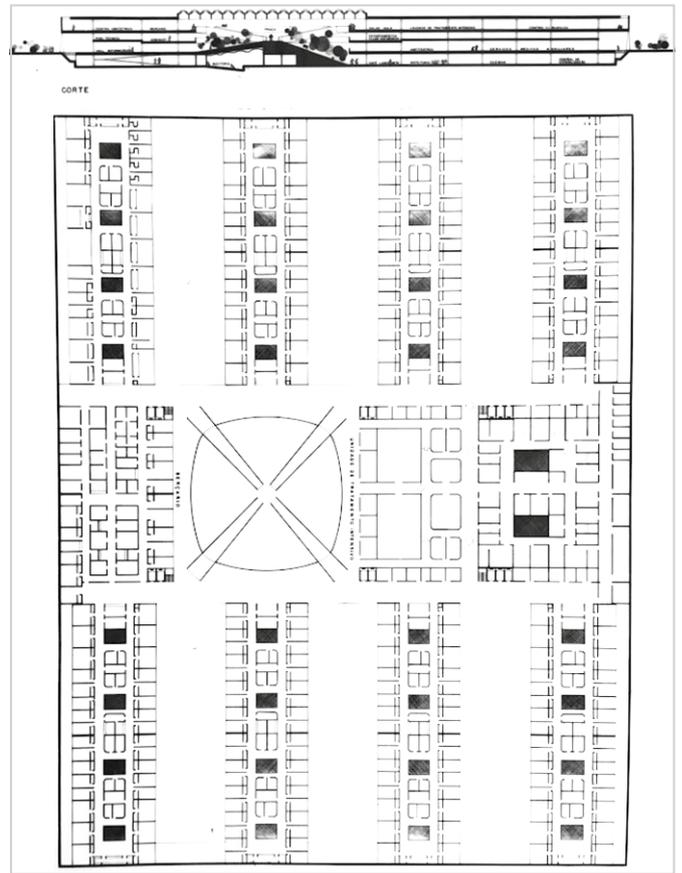
large lowered arches that, on two sides, coincide with the functional strips and, on the other two, with the centers of the garden patios.

The crucial difference of this last proposal lies in the idealization of a square-gardened central square, arranged in the central strip close to the main access to the building. On the ground floor, from the corners of the square, four ramps start at an intermediate level, from where four others go up to the upper floor.

The option for a large horizontal building was opposed by the “podium on a platform” typology, vertical and hermetic; a centralized model generally considered more efficient because it better separates functions and optimizes the routes through the building. For Pevsner (1997), once the belief in the contagious power of miasmas was overcome and after the discovery of penicillin in 1928, the pavilion “can no longer be used as a base for hospital construction” and must be replaced by the advantages of the “compact multi-storey building”, namely, segregated circulations of services and patients, and better efficiency of heating, lighting, cleaning, etc.

According to Renato Gama-Rosa Costa (2011), the monoblock system, created in the USA in the first decades of the 20th century, attracted the attention of more and more Brazilian hospital planners and would achieve hegemony in the country after the 1950s, in part due to the great dedication from architects to projects that would increasingly employ high technology. Also, the demand for large plots of land for implantation, increasingly scarce and peripheral, seemed to indicate the vertical solution as the most appropriate.

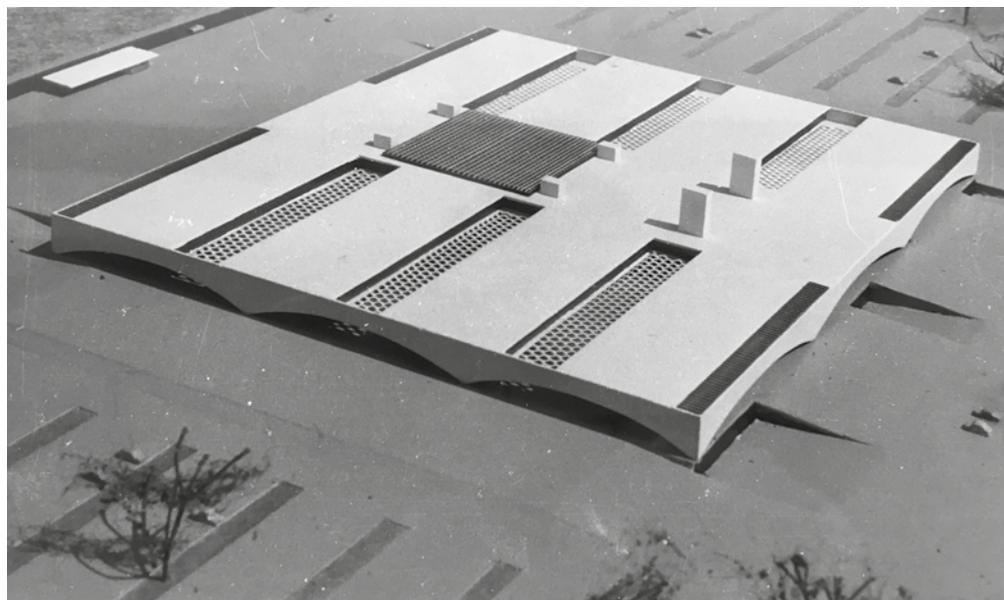
However, Penteadó’s project combined the typology in a single but horizontal block with the logic of pavilion spatial structuring, with the wings interspersed with open patios [FIGURE 05]. Thus, it establishes a historical



04 Penteadó, Santa Casa Teaching Hospital, São Paulo. Section and upper floor with the central square, 1978. © Fábio Penteadó's Archive, 2022.

dialogue with several paradigmatic hospitals such as the Renaissance Cá Granda (1546) by Filarete in Milan or the 19th-century Hôpital Lariboisière (1832), designed by Martin Pierre Gauthier in Paris, also structured around large central courtyards with smaller secondary courtyards delineated by the wards.

But if medical and surgical processes came to be considered virtually deterministic as regards building form, putting typology in strict relation to the functionality and flexibility of the building, why, then, would Penteadó opt for an immense horizontal hospital with paths that could reach 200 meters of extension?



05 Model Santa Casa Teaching Hospital by Penteadó, São Paulo, undated. © Fábio Penteadó's Archive, 2022.

An answer may lie at the crossroads of several questions and conditions. First, and the most obvious, is that there were no space restrictions for its implementation; on the contrary, the land was so wide that the architect foresaw a series of buildings and additional programs, including the opening of a “Health Park” around the building, open to the public.

Second is in the design tradition of the so-called Escola Paulista de Arquitetura Moderna, of which Penteadó was an important part, alongside such greats as João Batista Vilanova Artigas (1915-1985) and Paulo Mendes da Rocha (1928-2021). In the architectural repertoire of many members of this generation, buildings of marked horizontality prevailed, functionally and plastically resolved by the definition of generic grid roofs, under which the program of needs was freely articulated, surrounded by relatively continuous and blind facades in exposed concrete. In Penteadó’s work, many projects are defined by the same strategy, but with the notable recurrence of a central point that hierarchically organizes the space, as in the cases of Sociedade Harmonia de Tênis (1964) or the proposals not carried out for the Hotel in Praia do Peró (1958) and to the Catedral Presbiteriana de Brasília (1965).

A third possible reason is directly related to the second. The idealization of the internal space as an infrastructural prototype and urbanity metaphor, a thought common to the “brutalist” architects of São Paulo, which, in Penteadó’s work, took on meanings that went beyond public suggestion to reach the individual dimension of the most disadvantaged inhabitants of the metropolis. In this way, the idealization of interiors that emulate a system of streets and a central square sought to configure the familiar spatiality of a small town with an open and spontaneous character to facilitate internal orientation [FIGURE 06].

The predominance of the single vertical block model,

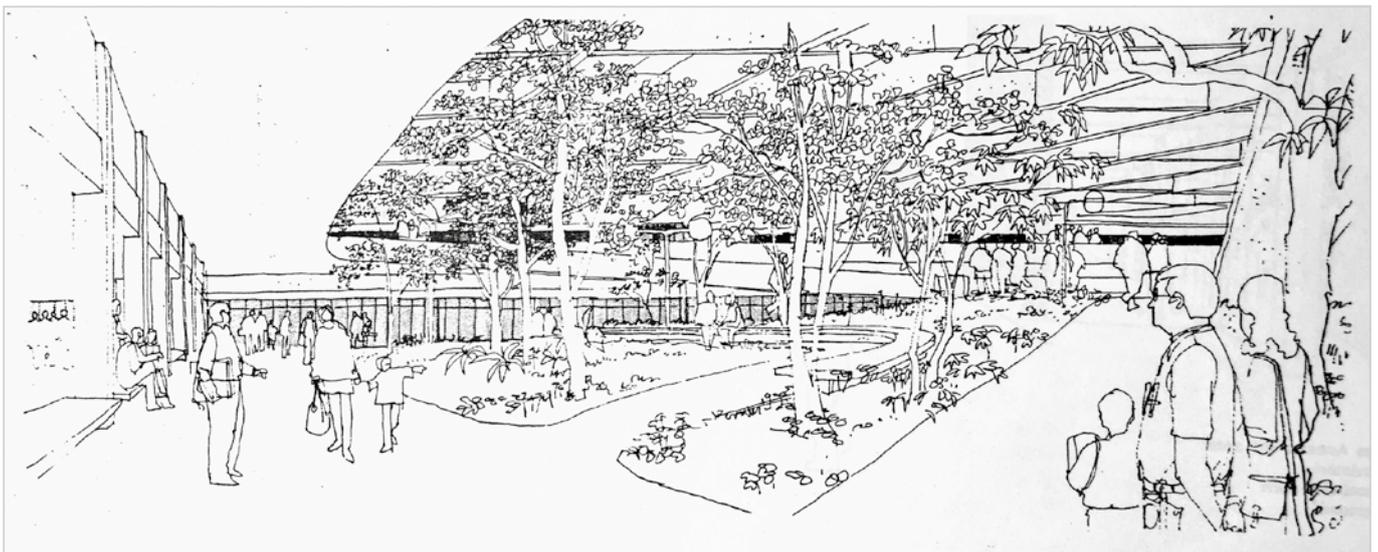
however, was not free of questioning. A decade before the beginning of the Penteadó project, Jarbas Karman (2014) observed that:

There was a time when the development of a hospital, according to horizontal or vertical lines, was more a matter of fashion. (...) Planning now has scientific and rational, economic and functional bases. It can even be emphasized that only a hospital with a decisive horizontal development is well planned. The “pavilion” and “adapted residential” systems are already outdated; the time has come to jettison the “apartment building type hospitals”

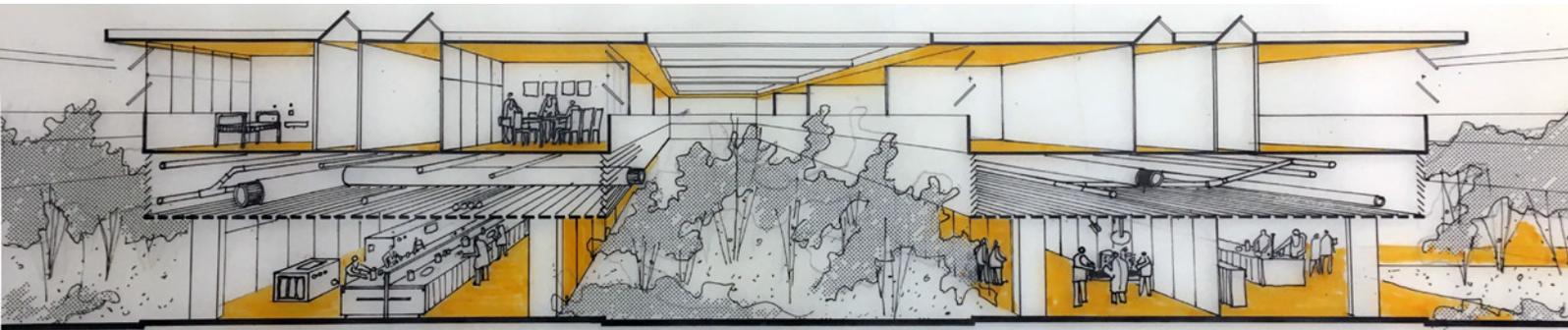
Regardless of the typology adopted, the founder of the IPH highlighted the importance of an efficient scheme concerning the optimization of the routes by nursing professionals, whose lengthening would result in greater physical wear and tear and financial burden, as “each step weighs and costs”.

In addition to efficiency issues, Penteadó considered the vertical solution wrong for the Brazilian conditions because if, on the one hand, the circulation system efficiently met the technical demands of doctors and staff, on the other hand, it was complex and not very intuitive to patients and visitors, resulting in an intimidating spatiality to users, mostly poor and poorly educated. As a “crowd hospital”, he defends the dilution of traffic flows through the ramps and internal streets, loaded by the presence of a large number of visitors, a problem that he did not consider relevant in European and American hospitals (Penteadó, 1978).

As for the questions about the efficiency of the circulation and distribution of hospital services, Penteadó (1998) mentions the carrying out of “research to rationalize the movements, carried out in conjunction with the Santa Casa de Misericórdia hospital consultancy”, whose tests were carried out “by pushing carts with a stopwatch



06 Santa Casa Teaching Hospital: Drawing of the central square by Vallandro Keating, undated. © Fábio Penteadó’s Archive, 2022.



07 Santa Casa Teaching Hospital: Drawing of the wings interspersed with landscaped courtyards, undated. © Fábio Penteadó's Archive, 2022.

on the hand”, demonstrating that only 4 minutes separated the most distant points of the building. The diagonal arrangement of the four ramps that are in the center of the square would avoid peripheral routes through the wings, shortening them.

In fact, research shows estimates that, at the peak of the “podium on a platform” typology, nurses spent 40% of their time in patient transport logistics mostly because circulation patterns were confusing, without any external cues of directionality, setting or hierarchy, which indicates that not only the distances should be taken into account for the optimization of the routes (James & Tatton-Brown, 1986).

In the design of circulation and internal spatiality, in addition to the fundamental requirement of flexibility, the logic of connection between the parts reveals a deep affinity with the concepts of modern urbanism. As Jonathan Hughes (1997) notes, obsessive attention to the physical separation of functions and traffic flows in hospital environments, in addition to satisfying specific needs, reveals a recurring association between clinical and civic design during the last century, when hygiene started to support discourses defined by health, efficiency and speed criteria, with an emphasis on the circulatory system. Thus, the hospital was not only the place of medical interventions but also linked to the city as a way of testing planning techniques similar to those of modern urbanism.

As for the city, faithful to its principle of obtaining the greatest “social profitability” of each project opportunity, Penteadó (1998) defended the creation of a Health Park as a way of integrating the building into the urban fabric of the old industrial district, offering green space and public leisure to the city. In this way, the teaching hospital sought to establish a powerful civic presence and to display a desirable continuity with the urban public realm, ideally giving and receiving life to the urban environment where it would be inserted [FIGURE 07].

WHAT IT ENDED UP BEING: A CRIMINAL JUSTICE COMPLEX

In the mid-1990s, with the large concrete structure, whose construction took more than a decade in the 1970s, in a state of disrepair, the government of the State of São Paulo acquired the area and resumed the project [FIGURE 08]. The

project to convert the hospital into a criminal justice complex was carried out by architects José Borelli Neto and Hércules Merigo on the recommendation of Fábio Penteadó himself, with whom recent graduates had worked on the detailing of the teaching hospital project. The adaptation also had the collaboration of Teru Tamaki, who participated beginning with the first studies of the original project and is listed as a co-author of its definitive version.

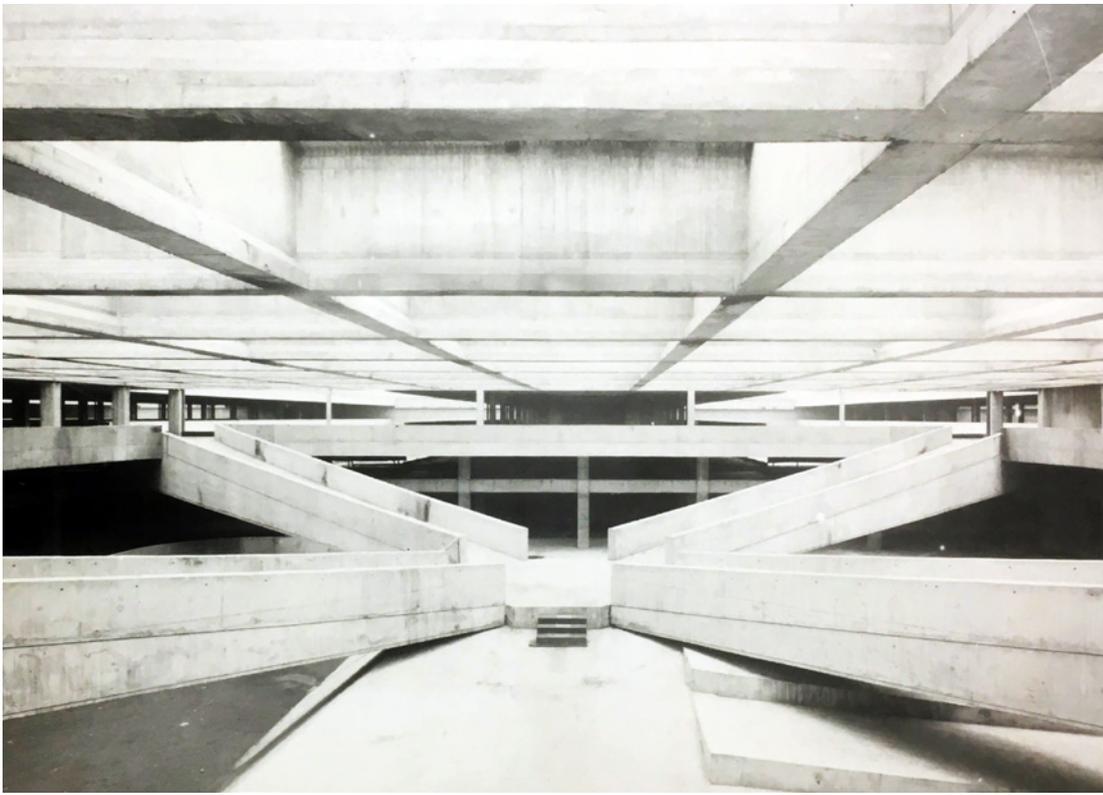
In summary, the hospital project intended for the ground floor to be the main entrance for users and for various administrative sectors, in addition to reserving one of the three functional lanes for outpatient clinics. The first floor houses similar functions, with the difference that this floor contains several public service rooms and institutional headquarters. On the upper floor would be the hospital’s “critical area”, intended for hospitalizations and surgeries, pediatrics and nursery, in addition to the Intensive Care Unit. In the justice building, the courtrooms (up to 52) were concentrated in this floor, designed in modules that adapt to the original structure and circulation.

The hospital’s complementary services—changing rooms, storage, warehouses, and other technical support spaces—would be located at the basement level, which would also house the emergency unit, food sectors, and an auditorium for 250 people. In the justice complex, the support and food structures were kept, the auditorium is used for the plenary sessions of the jury, and the emergency sector was converted into a maximum-security prison for up to 400 prisoners.

Although, obviously, the new use required design adjustments, there were no major changes in the spatial or formal structure of the building. Certainly, the close



08 Aerial image of the Fórum Criminal Ministro Mário Guimarães by Penteadó, former Santa Casa Teaching Hospital, São Paulo, Brasil, undated. © Unknown, author's archive.



09 Santa Casa Teaching Hospital: The central square with its ramps under construction, undated. © Fábio Penteadó's Archive, 2022.

relationship between the architects contributed to maintaining its main characteristics. However, the conservation of its original architecture seems to be mainly due to two factors. The first one being the multipurpose structuring scheme of functions and circulations. Borelli and Merigo reiterate the validity of the internal organization from an urbanistic view, where the different scales of “avenues and streets” create a spatial hierarchy that facilitates orientation.⁵

The second is due to Penteadó's intention to create a building that could be completed and occupied in stages within an intact structural shell that would avoid the appearance of indefinite “under construction” work. The idea was that once the large concrete structure was completed, the building would appear finished, although its interior could be occupied over time, according to the institution's financial possibilities.

If, on the one hand, the strategy of occupation in stages proved to be intelligent and the objective of guaranteeing the architectural integrity of the work was achieved, it did not, on the other hand, represent an economic constructive option, given that it was a large-scale structure and could not be executed following an incremental logic.

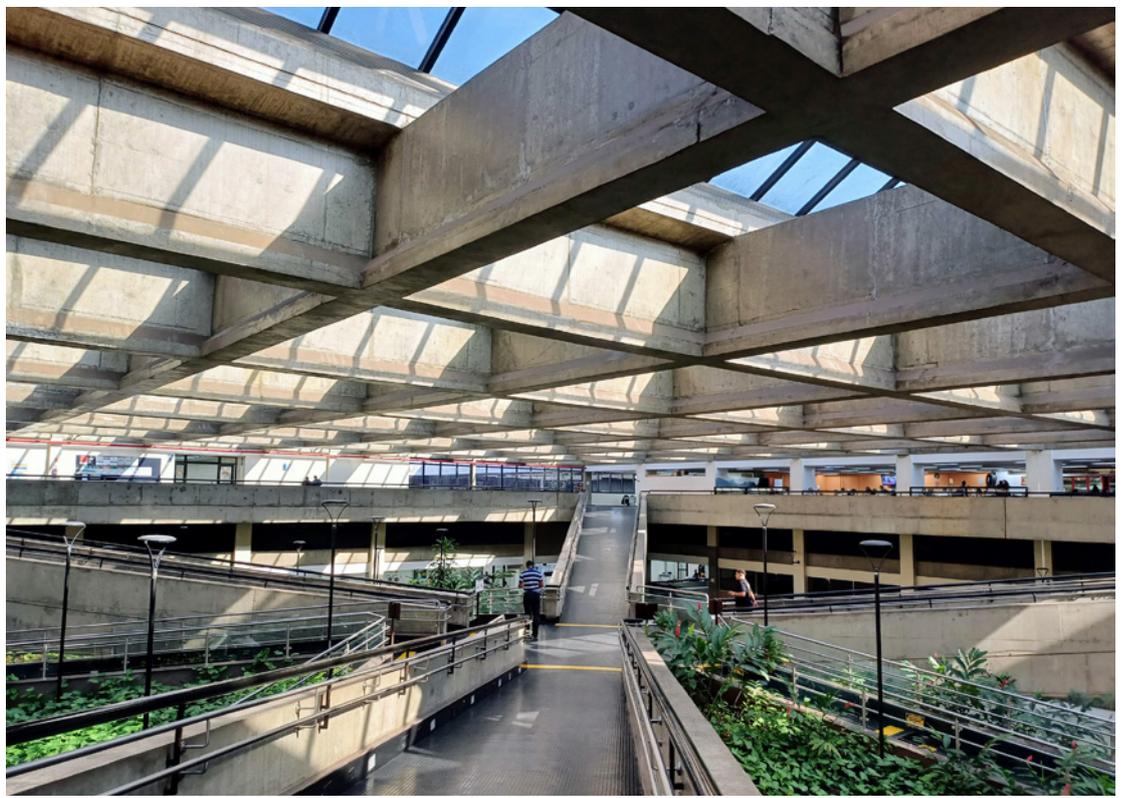
Returning to the functional analysis, the hospital memorial describes (Penteadó, 1978) that the development of an open-ended project would provide sufficient flexibility for installations or relocation of sectors in the hospital and in the school. Even with a different use, it can be stated that the structure meets the new functional demands well, even though the imagined spontaneous and familiar atmosphere has succumbed to the formality and excess of controls that usually characterize justice buildings—there

is no reason to imagine that it would be very different in a hospital, where the feeling of concern inevitably predominates, and the aseptic character prevails.

The established São Paulo strategy of idealizing large covered spaces, whose inclusive public character would be reflected in the ability to support the unpredictability of life certainly helps. In this sense, a modern architect like Paulo Mendes da Rocha (2012) relativized functionality in architecture, considering that the functional dimension in architecture was more linked to modern technical means than to the architectural form itself. Effectively, it is not difficult to imagine the conversion of the former hospital space, without great difficulties, to several large projects beyond a justice complex, such as a shopping center or a university.

The drawings of the definitive version reveal that the project did not start from forms strictly defined by functions; on the contrary, it previously defined a flexible and virtually expandable formal-functional scheme. However, it is not a merely generic building, especially due to the conception of a network of circulations that transcends its functional destination by defining the central square as a symbolic and hierarchical anchor of its interior [FIGURE 09].

In this sense, it manages to avoid the side effects that Herman Hertzberger (1999) identified in the obsessive search for eminently functionalist flexibility, which, when trying to adapt to all kinds of changes, ends up not meeting any in an ideal manner. In his well-known analyses, the Dutch structuralist defended the adoption of multipurpose forms, which lend themselves to different uses without the need to undergo major changes or lose their identity; of archetypal forms that, because they are associated with



10 View of the central square garden from the first floor. © author, 2024.

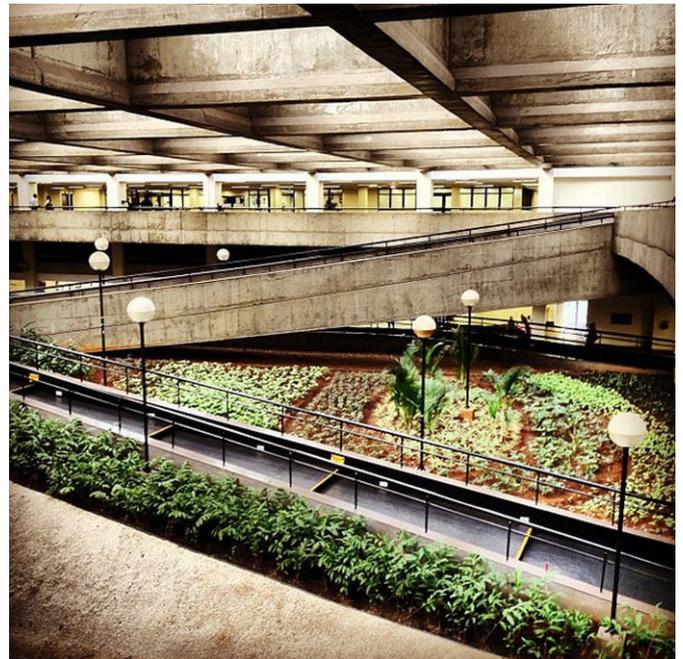
multiple meanings, are capable not only of absorbing, but also of generating a program.

Penteado and his team did not design a building that could serve a function other than that of a teaching hospital, but they did not submit the design of its architecture to the formal result of applying medical and technological requirements. For Young-Ju Kim (2013), it is common for architects in the design process to base multifunctionality on the prediction of possible future uses, which, contradictorily, limits the flexibility of a building in a deterministic way.

In their definition of adaptable design, Andrew Rabeneck, David Sheppard, and Peter Town (1974) defended the idealization of environments with generous dimensions and similar proportions, adaptable to a change of furniture and light partitions, avoiding the need for large infrastructural works. Based on research on historic residential buildings, they found that, as in the Penteado project, the possibilities of adaptation are facilitated by the presence of a central coordinating courtyard or hall, without fixed functions, surrounded by environments without major hierarchical differences or fixed furniture.

CONCLUSION

As described, a comparison between the hospital project and the justice complex into which it was converted reveals the maintenance of its main formal, structural, and aesthetic characteristics, which reveals great resilience to withstand such a radical change in use. The complex's quality and value for the architectural culture of São Paulo were recognized on February 12, 2018, when



11 Criminal Forum by Penteado, Borelli & Merigo: Image of the central square, 2012. © Unknown, author's archive.

it was listed by resolution 29 of CONPRESP (*Conselho Municipal de Preservação do Patrimônio Histórico, Cultural e Ambiental da Cidade de São Paulo* - Municipal Council for the Preservation of Historical, Cultural and Environmental Heritage of the City of São Paulo).

It is worth noting that the conception of a flexible architecture, when guided by a narrow functionalist view, often mistakenly equates uses to users, functions to people, which ends up frustrating—in Lefebvre's (1991) words, "the very possibility of multi-functionality".

In the Santa Casa de Misericórdia hospital project, Fábio Penteado reaffirms one of the main values of his

architecture: the principle of contemplating human diversity and, based on it, idealizing multipurpose buildings. More than the ability to change physically, his projects tried to foresee the possibility of sheltering different people with different interests and living conditions in spaces marked by a suggestion of spontaneity and democratic openness.

After all, like every work of architecture, "Hospitals are not intended to be only the product of an excellent work of space rational organization; they have to be also habitable places, places reflecting the plurality and dynamism of the society, places for the people and designed around the people" (Lacanna, 2014).⁶

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ENDNOTES

- Ernesto de Souza Campos (1882-1970) was an interlocutor of the Rockefeller Foundation in Brazil and one of the founders of the University of São Paulo Medicine School and Minister of Education and Health in 1946. Jarbas Karman (1917-2008) worked at the Special Public Health Service – SESP, established in 1942 and which marked the beginning of cooperation between Brazil and the United States in the field of health.
- Information available on SECRETARIA Municipal de Desenvolvimento Urbano/SMDU - Departamento de Estatística e Produção de informação/Dipro. São Paulo: SMDU. [Accessed 02 Mar. 2022]. Available at https://www.prefeitura.sp.gov.br/cidade/secretarias/upload/urbanismo/infocidade/htmls/7_populacao_recenseada_1950_10552.html.
- The first versions of the project were developed by Fábio Penteado and Eduardo de Almeida, with collaboration from Alfredo Paesani and Teru Tamaki.
- In the definitive version of the project, Fábio Penteado and Teru Tamaki are listed as authors, with collaboration from Tito Lívio Frascino, Eduardo de Almeida and Giselda Visconti.
- Information available on Borelli & Merigo's website: "Fórum criminal de São Paulo", [Accessed Jan. 28 2022], Available at <http://www.borellimerigo.com.br/intitucional/forum-criminal-de-sao-paulo>.