

GARDENS AND LANDSCAPE

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Notes on the therapeutic values of historic gardens in neoclassical hospitals in Rio de Janeiro (1830-1900)

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ABSTRACT

The immediate surroundings of hospitals assume great relevance in treatment therapies, whether the basis of isolation, fresh air and the use of exposure to the sun. It is thus known that the emergence of a new health program in neoclassical hospitals built in the city of Rio de Janeiro was directly associated with urban and sanitary improvements. The article explores the context of the creation and the role played by gardens in the architectural production of hospitals in the imperial period in Brazil during the nineteenth century, as well as in exposing the health policy of the city.

Keywords: Healing gardens, Historic gardens, Hospitals, Urban Landscape, Rio de Janeiro.

ARTICLE

Introduction

Many studies in the contemporary world have sustained the benefits of green spaces for the treatment of patients in health institutions - the so-called healing gardens. In this way, and in addition to contemplation, promoting and maintaining good health are other highlighted attributes for these gardens. This new understanding has guided the design of new hospitals at the end of the twentieth century, as health is considered a quality of life assumption.

Studies on "healing gardens" in hospital settings are in line with this discussion. Surveys were initially conducted in the United States, but other countries followed. One of the earliest scholars to seriously work on gardens as healing spaces was Roger S. Ulrich in 1984. He advocated the importance of green areas, especially in sanitariums. In his research he analyzed the relationship between the duration of hospitalization, the use of pain medication and the ability to observe nature through the hospital window. He concluded that patients with views of nature recovered faster and required less medication.

¹ The use of the garden as a place for healing has been systematically studied in the publications and books by Roger Ulrich, Rachel Kaplan, Stephen Kaplan, Clare Cooper Marcus, Marni Barnes, Clare Hickman and Annalisa Gartman Vapaa, among others.

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At the basis of this viewpoint are the nineteenth century theoretical debate and experiences in the field of health, including social medicine². A new look on the city was developed throughout the eighteenth and nineteenth centuries. Physicians, based on theories that locate the disease within its environment, have elaborated a discourse that proposes the medicalization of space and society, influencing urban practices and policies³. At the end of the nineteenth century, treatises on public hygiene suggested creating norms that would echo on legislation, especially municipal laws (*posturas*)⁴. A new conception of the city emerges, as well as of the hospitals' new spatial organization. In Rio de Janeiro, this change is linked with the city's growth and the urban densification that allowed the proliferation of diseases and epidemics, causing death amidst the capital city's population. Faced with a calamity scenario, many hospitals were built to provide care and comfort to the sick (SANGLARD, 2007: 259).

This period's architectural production of scholarly hospitals combines a neoclassical language with the modern health guidelines of the therapeutic hospital - ventilation, natural lighting, bed layout, and the limitation of the number of patients per ward. In addition to this, an ideal form is also determined and applied – the pavilion morphology, displayed on the landscape. This new spatial configuration reveals the important role played by internal courtyards and external garden areas both in hospital programs and in the history of the cultural heritage of health.

Therefore, the immediate environment of hospitals assumes great relevance in treatment therapies, with isolation, fresh air and direct sunlight in extensive gardens and landscapes as an important part of healing. It is thus established that the emergence of a new health program in neoclassical hospitals built in the city of Rio de Janeiro was directly associated with urban and sanitary improvements. In this paper, I discuss the images, texts, and the processes that resulted in the spatial configuration of gardens in the nineteenth century hospitals, as well as expose the health policy of the city using recent studies of the History of Healthcare and literature in the field of medical sciences.

The purpose of this article is not to explore the history of the Brazilian gardens ⁵, but to focus on the relationship between gardens and hospitals. Key and symbolic examples were selected to understand the history of the health-built heritage of the nineteenth century in Rio de Janeiro and how gardens were taking part in the discussions about the importance of the built environment for the patient's health and well-being.

Medicine, health and the city

According to Rosen (1994: 115), the period from 1750 to 1830 inaugurated the foundations of the health movement in Europe. During the eighteenth and nineteenth centuries, the number of inhabitants began to grow rapidly in several European urban centers, causing various problems such as the spread of epidemics. Faced with an alarming scenario, medical schools have become more than training places for professionals to fight against diseases; they have been a privileged place for thinking and intellectual creation by ruling elites. This innovation in the public health area is for Foucault (1984: 47) a result of the unfolding of the profound political and economic transformations arising from the Enlightenment and the Industrial Revolution.

² The term social medicine was first used in France in 1848. Social medicine understands that social and economic conditions have important effects on health and disease, and that these interconnections must be subjected to scientific investigation in order to act for the public good.

³ To discuss this matter further we have analyzed the following works: Michel Foucault (1984), *Microfísica do Poder*, Rio de Janeiro: Edições Graal LTDA; George Rosen (1994), *Uma História da Saúde Pública*, São Paulo: Hucitec; and Gisele Sanglard (2007), "Hospitais: espaços de cura e lugares de memória da saúde", *Anais do Museu Paulista*, São Paulo, v. 15, nr. 2, pp. 257-289.

⁴ The laws issued by these administrative bodies came to be known as posturas. In Brazilian villages, the Municipal council issued several posturas concerning health and hygiene.

⁵ For that purpose, is suggest reading Rubens de Andrade and Carlos Terra's 2016 article "A historiography on the gardens of Brazil", *Ornamental Horticulture*, Campinas, SP, v. 22, nr. 1, pp. 7-19.

"By combining the intellectual optimism and boldness of the Enlightenment with a practical perspective stemming from the tradition of Locke's empiricism, Bentham exerted a large influence on social thought and legislative practices in both England and the Continent. In the hands of his disciples - the Radical Philosophers - his ideas provided the theoretical underpinning for British social and health policy throughout most of the Nineteenth Century, thus helping to create the modern Public Health movement" (ROSEN, 1994: 115).

This led to the advancement of the study and debate on the spread of diseases and their prophylaxis, especially in France, where the first public hygiene university course was created in 1794, at the University of Paris. The public hygiene policy is understood as the use of control techniques to guarantee health and hygiene within the urban space, that is, the material and social conditions capable of ensuring the best health for individuals.

Based on theories that placed the cause of diseases in the environment, physicians elaborated a discourse that proposed to medically treat spaces and society, thus influencing social practices and urban policies. The immediate consequences were the participation of physicians in political life, which led to the creation of Health Committees in French cities. In this way, physicians, together with engineers and architects, began to play a crucial role in urban planning and in creating knowledge about the city. Urban interventions started following criteria like organization, health and hygiene, functionality, and also urban beautification. It is therefore possible to state that the current principles of the idea of urban sanitation have begun to be developed in the end of the eighteenth century with the French hygienist movement: "[...] in the nineteenth century, the birth of a movement in favor of urbanism is directly linked to a generalized sensitivity to issues of public hygiene " (CALABI, 2008: 81).

Therefore, buildups that could generate confusion, danger and diseases in the urban space began to be analyzed and avoided in the urban network. The circulation of water and air began to be controlled to avoid contaminations and the distribution and sequences of water and sewage were organized to avoid contamination. These prophylactic measures to prevent epidemics were guided by the miasmatic theory of diseases.

The miasmatic theory of diseases was first formulated in the seventeenth century and various medical treatises propagated it throughout the eighteenth and nineteenth centuries. It was based on the theoretical principle that the air would be filled with fetid odors (the miasmas) from putrefying organic matter in soils and contaminated groundwater. Therefore, it was necessary for the air to move to dispel such exhalations. If the infected air would stay still and never be renewed, and especially if it was inhaled for a long time, damaging consequences could be expected.

The measures designed for air purification extended mainly to prisons and hospitals, since they were considered spaces of agglomeration and disease. It is noteworthy that in Europe the therapeutic values of nature had already been recognized (Marcus, 2000: 61 and MULÉ, 2015: 140), from the nurseries facing cloisters in the medieval age⁶ to the 1859 writings of Florence Nightingale⁷ (1820-1910). Fresh air and sunlight were considered essential elements for a good hospital project, deriving from the consolidation of the hospital model of the nineteenth century.

⁶ According to Mule (2015: 140) the gardens in the cloisters of the monasteries, which served as infirmaries, fulfilled a therapeutic function through meditation and contemplation. They were shielded places where patients could stroll and rest in tree-lined, shady courtyards. He cites the report of Saint Bernard (1090-1153), who refers to the Hospital de Clairvaux in France, mentioning the improvements observed in patients who enjoyed spending time in these green spaces, because the contact with nature stimulated the five senses and comforted the sick. In the following centuries, the tradition of the courtyard in many hospitals was not lost, with many infirmaries being built facing internal courtyards.

⁷ In her writings, the Englishwoman Florence Nightingale considered the contact with the open air, the flower gardens, the well-ventilated dorms and the head of the beds near the windows as essential for the treatment of patients in hospitals.

According to Foucault (2008: 99-111), starting 1780, the role of the hospital undergoes a great theoretical reappraisal. It is no longer limited to a purely architectural evaluation; it becomes the object of functional and rational analysis following the principles of a therapeutic hospital, that is, it comes to play a role as a therapeutic instrument, interpreted as an intervention instrument on the disease and the patient. Soon, hospitals ceased to be mere institutions of assistance to the poor and socially excluded, to assume the mission of healing. In order to comply with this, both medical practices and hospital buildings underwent major transformations.

Thus, in the nineteenth century, several hospitals were built with separate pavilions, with a formal composition guided by the principles of the miasma theory and later improved by the model of the Nightingale ward (1860). According to Miquelin (1992: 40), the most celebrated example was the Lariboisiere Hospital (1846) in France, whose layout was then repeated numerous times in many projects throughout Europe and in its colonies, including in Brazil. The building was distributed as follows: two groups of five parallel pavilions, interspersed by gardens, connected by a circulation area that ran around an internal courtyard. The pavilions, shaped like an "L", were connected by a smaller pathway to the main circulation area. The administration, outpatient department, kitchen and pharmacy occupied the front pavilions adjoining the main access. The main access longitudinal axis crossed the internal courtyard and reached the chapel, which was surrounded by support buildings and facilities- bathrooms, the mortuary, a surgical ward and a community area. The miasma theory was only surpassed in the late nineteenth century.

From 1880 onwards, the French bacteriologist Louis Pasteur and his disciples established the micro bacterial theory with new experiments and studies. The new understanding of the spread of disease and the advancement of industrial technology (air conditioning, exhaust fans and elevators) during the twentieth century culminated in the consolidation of the hospital model in a vertical Monoblock and the gradual loss of interest in the therapeutic values of nature (MULÉ, 2015: 140 and TOLEDO, 2005: 3). As Marcus (2000: 61) puts it: "by the mid and later decades of the 20th century, however, access to nature and the therapeutic value of gardens had all but disappeared in medical settings in many Western countries." In this still very common model, garden-free areas no longer play a therapeutic role and are often suppressed to make room for parking.

Concept of therapeutic gardens in the early nineteenth century

The 1808 arrival of the Portuguese Royal Court in Brazil inaugurated the so-called Joanino Period (1808-1821) in the history of the country. The transfer of the Court to the colony directly affected the local administration and triggered significant changes in scientific, economic and political order⁸. This also applied to the field of health, through the creation of a Medical Policy⁹, especially with regard to ports. It is enough to consider that the first great measure taken by D. João VI (1767-1826), as soon as he arrived in Brazili¹⁰, was to promote the opening of the Brazilian ports to "friendly nations". This led to an intense migratory movement from Europe to the country, which resulted in the arrival of so-called tropical diseases that were responsible for decimating the workforce and undermining international trade of colonial products. Brazilian ports thus faced problems receiving shipments,

⁸ It is noteworthy that the opening of ports also had repercussions at a cultural level, since scientific expeditions, headed by scientists and scholars of various types, arrived in the country. They explored Brazil's vast territory, promoting a valuable record of the up to then unknown natural wealth of the country.

⁹ The Medical Policy in Brazil comprised a way to control and prevent diseases by monitoring the behavior and attitudes of citizens and the organization and regulation of the medical profession.

By the end of the 19th century, Brazil faced serious public health problems and projected an extremely unhealthy image, where life was at constant risk due to the precarious sanitary conditions of its urban centers and various epidemic outbreaks affected the population.

since many shipping companies refused to contribute in Brazil. These economy-related problems became so preeminent that public health policies began to be thought out, planned and implemented. The nineteenth century was the period of institutionalization of medicine and state organization in the health area. Although health care was not officially considered as an assignment of the state¹¹ until the Proclamation of Republic in 1889, the network of hospital assistance did increase during the imperial period and there was a strengthening and an expansion of the prestige of the career (MACHADO, 1978; 156), helping establish the basis of Social Medicine¹² in the country. The intervention of medicine in society was not only possible but also, and above all, necessary. Debates and changes in the public health field, especially those coming from France, were recognized by healthcare professionals. The city of Rio de Janeiro became the center of sanitary actions to house the capital of the Portuguese Empire and to become the main port of the country.

By royal decree, the medical-surgical Academies were founded in Rio de Janeiro and Bahia in the first decade of the nineteenth century. They were immediately transformed into the first two medical schools in the country. It should be noted that in colonial Brazil the training centers for doctors - then known as physicians (Crown doctors), surgeons and apothecaries (pharmacists) - were almost non-existent due to the prohibition of higher education studies in the colonies¹³. In 1829, the Medical Society of Rio de Janeiro was founded, which, together with the Medical-Surgical School, were responsible for consolidating medical knowledge. The foundation of the Medical Society of Rio de Janeiro is related to the beginning of the institutionalization of hygiene principles in the country (FERREIRA et al, 1998: 478). The society even edited a specialized medical journal, the *Revista Médica Fluminense*, published since 1835. Along with the Reports of the Ministry of the Empire, the journal assumed an important role as a propagator of the mentality and practice of public health in the nineteenth century. In an article published for the first issue of the Society's journal, the physician Emilio Joaquim da Silva Maia highlights the importance of planting trees and maintaining forests as a preventive measure to contain epidemics, especially cholera:

"In Brazil there are also many swamps, which have not yet done any harm, because they still find themselves as they were left by the hands of nature that is, covered with trees. So everywhere, where the ponds are covered, no evil is produced; and this, which observation shows us, theory verifies; for it is known today that sunshine is necessary, so that the animal and vegetable matter found in the marshes can be decomposed, without which there will be no miasma. Still, trees are not only the best protection against diseases, which cause the *miasma paludosos* [fever believed to be produced by the emanations of marshes] for the reasons given above; but also, the best remedy to ward off the plague and even cholera" (MAIA, 1835: 26-5).

It is also worth mentioning the role of the inspection body of the Empire, the Public Hygiene Board. The first major outbreak of yellow fever in the city of Rio de Janeiro occurred in 1849 and led the imperial government to approve of the creation of a body in 1850 to inspect all places that might be causing harm to public health. Its creation was merely representative, because it is considered the moment in which medical instances take control of the measures of public hygiene. Among its duties was the inspection of vaccination, the control of the practice of medicine and the land sanitary policy, which included the inspection of food, pharmacies, groceries, restaurants, butchers, schools, aqueducts, cemeteries, workshops, laboratories, factories and even hospitals. According to Sanglard (2007: 259), and in what concerns hospital care, the nineteenth century marked a considerable growth of

¹¹ The hospital care network was administered and sponsored by religious orders and charity fraternities.

¹² Social Medicine in Brazil sought to build an urban health centered on goals and results that would lead to cleaner, more organized cities through hygiene and sanitary actions, which would then consequently result in the improvement of health and social conditions of the population.

¹³ Regulations were overseen by the Head Physicist and the Head Surgeon, who supervised this professional practice from Lisbon.

the hospital network in the city, as the epidemics in the city increased. Doctors and surgeons began to complain and impose the hospitalization of their patients in hospitals and nursing homes where new sanitary parameters applied (M.S, 1965: 48).

The fear of contamination among patients at the time led technicians to decentralize the hospital medical care system that had hitherto been concentrated. Many hospitals were renovated, and new ones were built using the architectural repertoire of neoclassicism. Within the history of architecture, neoclassicism can be inserted in the initial phase of the historicist movement. In Rio de Janeiro, neoclassicism predominated in architecture from the 1820s up until the third quarter of the nineteenth century. Neoclassicism was the official artistic expression employed by the modernizing and civilizing Portuguese administration and it was strongly influenced by the French school, rather than the English, Portuguese or Italian ones (CZAJKOWSKI, 2000: 32; PEIXOTO, 2000: 320). The second half of the nineteenth century was a period of great architectural production, a time when many hospitals in the city of Rio de Janeiro were planned and built.

This stage is marked by the production of Brazilian students of the Imperial Academy of Fine Arts and by a new migratory wave of foreigners who came to the city to work. The new hospital projects were now subdivided into specialized pavilions and included landscaped areas in the form of internal courtyards. The improvement of facilities and equipment is illustrated by the new monumental buildings of the Irmandade da Santa Casa da Misericordia (Holy House of Mercy Sisterhood) in Rio de Janeiro: the Hospital Geral da Santa Casa da Misericordia (General Hospital of the Holy House of Mercy) and the Hospicio Pedro II. However, in spite of all neoclassical features, few were laid out in extensive green areas or far from urban agglomeration centers, in places considered to be salubrious. The restricted green areas did not follow the desired air circulation parameters to combat the miasma. Some requests for the opening of nursing homes and the construction of new hospitals, such as the Hospital de São Sebastião, underwent criticism or were embargoed by the Public Hygiene Board. The reasons varied from inadequate facilities for its purpose to irregularities with the works permit. Despite negative advice, the Board's documents recognized the great need for new medical facilities to combat the smallpox and yellow fever epidemics of the mid-nineteenth century.

Table 1 - Neoclassical buildings of hospital medical care in the city of Rio de Janeiro in the 19th Century and configuration of their green spaces

Year	Institution	With garden in the back	With internal patio	With landscaped front recoil	Isolated in the ground; surrounded by extensive garden area
1829	Hospital da Venerável Ordem Terceira dos Mínimos de São Francisco de Paula	0			
1840	Hospital Geral da Santa Casa da Misericórdia		0		
1846	Hospital Bom Jesus do Calvário		0		
1852	Hospicio de D. Pedro II		0		0
1854-58	Hospital de São João de Deus da Real e Benemérita Sociedade de Beneficência Portuguesa		0	O	0
1866-70	Hospital da Venerável e Archiepiscopal da Ordem Terceira de Nossa Senhora do Monte do Carmo		0		
1889	Hospital de São Sebastião			0	0

The justification for this slow process of incorporation may be found in the tradition of Brazilian urban design, as far as the proportion and presence of gardens is concerned. Private gardens are, however, relatively recent additions that were introduced in Brazilian buildings during the nineteenth century.

In the Brazilian colonial tradition, gardens were rare in the city space. The Brazilian first public park built for leisure purposes was the Passeio Público (1779-1783), and it was introduced into Rio de Janeiro's historic center at the end of the eighteenth century¹⁴. Private gardens were restricted to great religious properties and backyards¹⁵ of residences. The utilitarian use predominated and *bortas* (backyard vegetable gardens) where very common, places where fruit trees, scent herbs, flowerpots and medicinal plants were grown. The practice of gardening was restricted to the yard, since "the daily toil demanded by the monastic life and support to the kitchen were the major motivations for cultivating those areas rather than their enjoyment for recreation" (MARX, 1980: 58).

Throughout the eighteenth and early nineteenth centuries, the implantation scheme in the urban plot of Rio de Janeiro continued to follow the standardization established by Royal Letters and municipal postulates¹⁶, with a traditional implantation aligned with the public highway – with or without a garden in the backyard (CZAJKOW-SKI, 2000: pp 14). This resulted in very narrow, deep lots, with often irregular shapes. Therefore, no urban houses were faced to the back or had a garden.

The beginning of the nineteenth century marks a historic turning-point in Brazil – the colony was transformed into the capital of the Portuguese kingdom. The royal family and the Portuguese court arrived in Rio de Janeiro in 1808, seeking refuge from Napoleon Bonaparte's invasion of Portugal. During the first years of Prince João VI¹⁷ regency and reign he was responsible for the construction of the cultural and educational governmental apparatus in Rio de Janeiro.

Dom João VI's most profound and lasting cultural initiative was the presence of a group of French artists within his court in 1816. Having been forced into exile, this group of artists became known as the *Missão Artística Francesa* (French Artistic Mission) (NORDENSON, 2018:13). The members of the *Missão*, including the architect Auguste-Henri-Victor Gandjean de Montigny (1776-1850), had studied at the École des Beaux-Arts in Paris (France), and had brought with them the neoclassical style in vogue in Europe. Constructions, particularly of public buildings, were designed, built or renewed in the neoclassical style.

During this period in the history of Brazil, commercial ports were opened to the United Kingdom and allies. According to Reis Filho (2000: 44), the first significant transformations in the urban morphology in Brazilian's cities occurred as a result of the socio-economic and technological changes that the Brazilian society experienced during the second half of the nineteenth century: the importation of new industrial materials for construction and wage-earning labor.

It was only during the second half of the nineteenth century that larger urban residences began incorporating a different outline, with an isolated building at the center of the property, surrounded by a garden. The new implantation scheme consisted of moving backwards from the lateral boundaries but maintaining the alignment with the public road, and creating lateral access. For the design of the gardens foreign qualified professionals were called in from Europe¹⁸.

Brazilian gardens followed the stylistic trends of European models in their shape and choice of plants and trees

¹⁴ From 1822 onwards, another garden was opened to the public in Rio de Janeiro – the acclimatization garden of Jardim Botânico.

The appropriation of the urban plots resulted in an occupation of the outskirts of the blocks that left a large free, often wooded, space inside - the yards (SILVA, 2004: 64).

¹⁶ The formal standardization by dimensions and number of openings, floor height and alignments with neighboring buildings were current requirements of the Portuguese Crown in the 18th century.

¹⁷ Prince João VI of Portugal was the son of Queen Maria I. He was prince regent of Portugal from 1792 to 1815. In 1816, he succeeded his mother as monarch of the Portuguese Empire, and became king of the United Kingdom of Portugal, Brazil and the Algarves from 1816 to 1826.

¹⁸ There were no specialized professionals in the country.

(LEENHARDT, 2003:186). According to Paulo Santos (1977: 69), the Carioca gardens in the nineteenth century followed two typologies: the *jardim-horta-pomar* (vegetable garden) and the *jardim ornamental* (design garden) of parks and public plazas. The hospitals' gardens fall into the second category.

Thus, in this scenario, *parterres* arranged in the French manner (*jardin à la française*) co-existed with romantic gardens in the English picturesque style (LEENHARDT, 2003:186). Throughout the Second Empire in France (1852-1870), the English picturesque garden or *jardin à l'anglaise* would be widely adopted and popularized by the French artists, both in Europe and America. The style was characterized by sinuous planting beds and curving paths, the preponderance of the use of exotic plants and the construction of picturesque atmospheres by using *rocaille*. The repertoire of *rocaille* works included bridges, waterfalls and artificial caves (grottos), large rocks, benches, kiosks, tables and arbors.

The *jardin à l'anglaise* style became popular and was widely employed in public parks and gardens in the city after the arrival of the French landscape designer Auguste François Marie Glaziou (1828-1906). In 1858, Glaziou came to Brazil at the request of Emperor Dom Pedro II. He was appointed General Director of Public Gardens for the city of Rio de Janeiro in 1860 and designed several public parks and streetscapes in the city using a mixture of the local tropical flora¹⁹ and exotic plants in the planting palette (NORDENSON, 2018:24).

Landscaped courtyards and neoclassical hospital gardens were designed to fulfill recreational functions for patients, especially oriented towards leisure and the contemplation of nature. There is no direct reference to gardening work being developed by patients in the nineteenth century, just some garden walks, as in the case of the garden of the Hospital of the Venerable Third Order of the Minimums of San Francisco de Paula. According to Azevedo (1969: 309), there was a courtyard for patients' recreation and an enclosed garden in the back.

It was not until the end of the nineteenth century that the taste for flowers was introduced in the city of Rio de Janeiro, especially for roses. It was essentially in the first decade of the twentieth century that the urban population began to value the use of vegetation for the beautification of streets and backyards, which, after several changes, have come to be known as gardens. A new practice was developed: gardening.

The therapeutic importance of the garden area in hospitals continued to be propagated and used when setting up new projects in the twentieth century. In a paper entitled "The Modern Hospital: Physical Comfort from Hygiene and Moral Comfort from Art" published in the periodical *A Ilustração Brazilieira* of 1909, it is highlighted that:

"They teach that the modern hospital must have a specific type of architecture and that it is extremely necessary to replace the old hospitals, so full of filth, mold, dust and mortiferous germs, which accumulate [...] Instead of the old dark houses, what is currently being done are modest pavilions, light and bright, along flower beds and among trees in a park" (A Ilustração Brazilieira, 1909: 54).

Although the miasma theory became obsolescent, many of its principles continued to dominate the Brazilian medical mentality and are present in the programs of new hospitals, as demonstrated by the general provisions for the construction of hospitals recorded in the *Universal Encyclopedia* of 1925:

- "(1) The hospital shall be located, whenever possible, outside the cities, in a dry and salubrious terrain.
- (2) The pavilions shall be parallel and well oriented, taking into account the climate and the direction of the prevailing winds.

¹⁹ Glaziou showed great interest in scientific research of native flora and organized a herbarium of immense historical and botanical value (LEEN-HARDT, 2003:186).

- (3) They shall be separated from each other by yards having a width of one and a half times the height of the pavilion.
- (4) The pavilions must have avenues or gardens.
- (5) Services that may be the cause of infections must be placed in such a way that the winds do not carry them into the infirmaries.
- (6) The building must be exposed to the sanitation action of the existing areas.
- (7) Closed courtyards and overhangs shall be avoided.
- (8) Overlapping wards shall be avoided.
- (9) The infectious and surgical wards shall in no case have more than one floor with patients.
- (10) Nurseries shall not be subjected to soil moisture, so they shall be erected on 2.00 high arches for lower air circulation.
- (11) The outer surfaces must be submitted as much as possible to the sanitizing action of the air.
- (12) Stale air must be expelled from the upper part of the room. [...]" (M.S, 1965: 44).

Bringing treatment into the hospital grounds: two case studies

The landscape compositions of the neoclassical hospitals vary little in their use as well as in space configurations. All of them have internal courtyards, but some examples also have external patios (within closed walls), front or back gardens. Some are formally more imposing while others are simple. Two neoclassical hospital care buildings were selected to have their landscape compositions analyzed. Features like the building's appropriation of the land, its location in the city of Rio de Janeiro and its landscape configuration in the nineteenth century were used as a reference.

It should be noted that the botanical repertoire of the neoclassical gardens of health institutions is unknown. No records were left in architectural plans or descriptive design memorials. The authorship of the compositions is also not known and there are no references to whether doctors followed the projects. This reinforces the assumption that the medicinal properties of the vegetation list were not one of the concerns when it came to choose plants. Therefore, it is possible that the choice criteria fell only on the ornamental value of the plant. Thus, these ornamental gardens, made for walking and contemplation, differed from those of an essentially utilitarian function, such as vegetable gardens.

Hospício Pedro II of the Santa Casa da Misericordia of Rio de Janeiro

The foundation of the *Irmandade da Santa Casa da Misericordia* (Brotherhood of the Holy House of Mercy) dates back to 1498 in Portugal, and it was created with the purpose of supporting helpless patients. With the support of royal patronage, the Holy House spread throughout the Portuguese empire, becoming the lay brotherhood of greatest power and impact in charity works. It became a landmark of the Portuguese colonization.

Operating in Rio de Janeiro since the end of the sixteenth century, the Holy House was the main instrument of social action of the Portuguese Crown in Brazil and it became the main institution of hospital assistance to operate in the city of Rio de Janeiro in the eighteenth and nineteenth centuries. It was only during the Republic years that a restructuring of the public health system took place and the brotherhood started taking a back seat as a philanthropic institution.

After the period known as the Second Reign (1840-1989)²⁰, the buildings of the Holy House began to be seen as uncomfortable and inadequate according to the new guidelines of hygiene and planning. The multiple functions

²⁰ The reign of Dom. Pedro II (1825-1891), second and last emperor of Brazil, is known as the Second Reign.

of that large architectural establishment centralized by the Brotherhood was considered the vehicle of numerous physical and moral contaminations. The Holy House of Mercy Hospital was questioned about the adequacy of its location, construction and medical specialties. The old hospital was built in 1582, without any planning, and it expanded gradually according to different needs but did not present satisfactory hygienic conditions for nineteenth century standards. Besides being overcrowded, its infirmaries were not separated; it was located in the foothills of Morro do Castelo and it had a graveyard in the back.

From the 1830s onwards, members of the newly founded Medical Society protested the conditions of the mentally ill in Rio de Janeiro, by then the Empire's capital, denouncing the presence of demented people wandering the streets as a threat to public safety and as a risk for insalubrity, besides criticizing the ill-treatment to which they were subjected to in the Holy House of Mercy of Rio de Janeiro.

In the Revista Médica Fluminense of 1939, Dr. Luiz Vicente de Simoni denounced the bad conditions of the hospital, especially the noise, the lack of air circulation and the scarce light of the infirmaries for the treatment of the homeless.

"It becomes evident from the description we gave above of the two locations where the mentally-ill patients are treated in the hospital of the Holy House, that they present not only an insufficiency, but also an impropriety for the charitable purpose to which they are destined. It is obvious how little they are in harmony with the precepts of science, the lights of the century, and the feelings of true humanity. Almost none of the most powerful means, those of moral healing, are attainable here: many of the physical activities are lacking or it impossible to do them. Adequate facilities for human practices, baths, gardens for walking, special diets, are but desired in vain: there are none; there can be none. The distressing lack of space, the construction of the building, the quality of the neighborhood, the inevitable and continuous noise, and the multiplicity of health care and chores make this wish impossible. There are a great number of mental alienations and curable aliases there that cannot be cured; others will exasperate terribly while they go from monomanias to general insanity [...] "(SIMONI, 1839: 254).

This criticism emerged in the context of a larger campaign in which physicians claimed for improvements in the conditions of public hygiene in the empire's capital (OLIVEIRA, 2013: 24). The treatment given to the mentally-ill patients by the Holy House was a strong beacon for proposals of social, medical and moral sanitation. The solution found for this and other questions related to medical treatment was the fragmentation of the hospital space, that is, making the Holy House wards identical and specialized for the nature of their functions. With this in mind, the *Hospicio Pedro II* (Hospice of Pedro II) was planned under the supervision of the Holy House.

The person who was directly responsible for the creation of the hospital was Jose Clemente Pereira (1787-1854), the president of the board of guardians (*provedor*) of the Holy House of Mercy from 1838 to 1854. During his term, changes were made to the finances of the brotherhood that resulted in an increase of revenue. A new cemetery was set up in Ponta do Calafate (in the Caju neighborhood, away from the hospital), and a new general hospital, a hospice for mentally-ill patients, and reforms in the regulations of the divisions were discussed. Thus, the foundations for the creation of the Hospice of Pedro II were laid out by decree in July 1841.

The hospice, also called the "Red Beach Palace", was the first hospice in Brazil and Latin America. It symbolically demarcated Rio's neoclassical architecture and it established a new health program through the construction of monumental buildings.

"The historiography of psychiatry in Brazil, produced both by a traditional history and by authors aligned with social or cultural history, unites in establishing as the origin mark of alienism in our country the creation, in

1841, of the first care institution focusing on mental alienation: the Hospice Pedro II. Its creation was one of the acts that the new emperor Pedro II instituted at the time of his coronation, although the hospice was only inaugurated in 1852 "(VENÂNCIO, 2011: 37).

The new project was designed by the Portuguese engineer José Domingos Monteiro (1765-1857) and he was assisted by the Academy of Medicine. The hospice, as well as the General Hospital of the Holy Mercy, followed the precepts of hygiene and the model of pavilions intertwined with courtyards, disseminated by the manuals of architecture of the end of the eighteenth century and the first half of the nineteenth century (AMORA and SOU-ZA, 2015: 1), including that of French architect Nicolas-Louis Durand (1760-1835). The institution had similar characteristics to those of the French model elaborated basically by the precursors of Phillips Pinel (1745-1826) and Jean-Étienne Dominique Esquirol (1772-1840). The configuration of the building was inspired by the architectural design of the Maison Nationalle de Charenton, in France (TEXEIRA, 2012: 265).

The hospice building was very airy, and it was located in a place far from the city center, in Praia da Saudade (presently Praia Vermelha), Parish of Lagoa, in the South Zone of the city, with a view to the coast of Guanabara Bay. Its neighborhood was composed of isolated farms in extensive grounds. Two questions, one theoretical and the other practical can help us understand the building's removal from urban centrality. Silence and clean air were seen as facilitating to the treatment of the mentally-ill patients. And, as Venancio (2011: 36) points out, hospices and asylums were founded on another premise: the idea coined by alienism and its 'moral treatment' that isolation itself was a therapeutic measure, since it had the intention of preventing the contact of the sick with the excesses of urban life, which were considered a major cause for mental disorders.

But the choice was also motivated by the ease the Holy House had in leasing that land. In Praia da Saudade, there was a farm belonging to the Brotherhood, where a women's ward was already functioning. In addition, the construction of the building would be sponsored by the emperor's contribution and voluntary subscriptions of citizens, who would be rewarded with titles and decorations known as "taxes on vanity" (VIEIRA FAZENDA, 1960:

178). Either way, its construction marked the beginning of the construction of buildings for diseases treated in isolation away from the city center.

The hospice was inaugurated on December 5, 1852, although construction works continued until 1855. It was initially planned to accommodate 300 patients. As soon as it opened, the building began housing 144 people who were transferred from the Holy House of Mercy and from the temporary asylum wards of the Red Beach (FACCHINETTI and REIS, 2016: 2). Shortly after, the project was modified by the Portuguese engi-

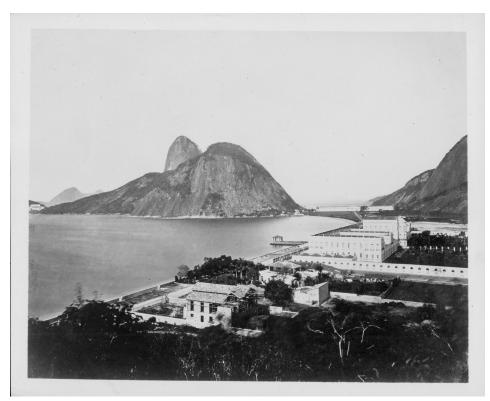


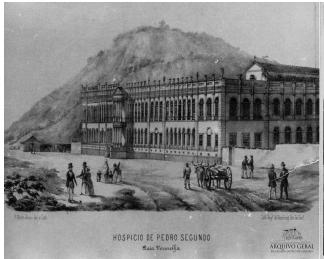
Figure 1. Surroundings of the Hospice of Pedro II, ca. 1867 (Collection of ANS/IPHAN).

neer José Candido Guillobel (1787-1859) and by the Brazilian engineer José Maria Jacinto Rebelo (1821-1871).

Originally the building was designed as a large rectangle, framing in its volume four large landscaped inner courtyards, separated by a central body (AZEVEDO, 1969: 473). The construction followed the traditional scheme of the nineteenth century, since it had no retreat and it was aligned with the public road. At the end of the nineteenth century, a garden was added to the main facade, receding the whole of the public road. The garden, which had a reception function, received sinuous planting beds and it was enclosed by a rail and walls that separated it from the outside yards of the hospice.

The building was built above ground level and stairs were used to access the landscaped areas. Their infirmaries were wide, ventilated and airy to facilitate the circulation of air, and they were distributed in two wings. The wings were separated by gender, being that the right side of the hospice was occupied by the men and the left by the women. Each ward was divided into three different classes of patients: first, second and third class, all to be paid. Exceptionally, by decision of the Holy House provider, indigents were admitted free of charge. In the central body of the building you could find part of the hospice administration and the offices. On the upper floor, at the center of the building, there was a chapel dedicated to Saint Peter of Alcantara.

The internal courtyards performed different functions. Some were for patient therapy and others for the medical and administrative offices. The design of some of the courtyards included water fountains decorated in an Andalusian style and French tiles from the second half of the nineteenth century (CALMON, 1952: 32). Two large outer patios intended for the patients to walk in were located at each end of the building and enclosed by walls, and they complemented the landscape composition.





Godfried Bertichem, 1856 (Collection of AGCRJ).

Figure 2. Appearance of the Hospice of Pedro II. Engraving of Pieter Figure 3. The National Hospice of Mentally-Ill Persons already with the reforms of the republican period. Photo of Erich Joachim Hess, ca. 1937-45 (ANS/IPHAN).

Workshops for the patients' therapeutic activities were located in the back of the ground floor. The activities were varied and one must highlight that, among the trades of shoemaker, tailor and carpenter, there was also the florist trade. The building was renovated on two different occasions in the nineteenth century, which resulted in the creation of two additional internal courtyards and a change in the later facade of the building in 1890.

Due to the proclamation of the Republic in 1889, the hospice was transferred to the Brazilian government and was then denominated Hospicio Nacional de Alienados - National Hospice for the Mentally-Ill. In 1890 a new hospice model was created - the agricultural colony. According to this new model, the therapeutic role of nature was directly present in the medical discourse. The patients were in charge of performing agricultural and artisanal work in green areas, far from the urban area. In 1944 the National Hospice for the Mentally-Ill is transferred to the neighborhood of Jacarepaguá, in the West Zone of Rio de Janeiro.

The building was recognized as a national historic heritage site in 1972. Federal protection includes internal courtyards, but outdoor landscaped spaces are considered only immediate surroundings. The building currently houses the University Palace of the Federal University of Rio de Janeiro, aimed at cultural and teaching activities. The front garden received new aesthetic treatment and it was attached to the outer courtyards, which had the separation walls. The inner courtyards have been greatly altered, but some still retain the essence of the original therapeutic spaces.



Figure 4. View of the andalusian style fountain and courtyard, in Figure 5. View of the courtyards of the hospital with 1949 (CALMON, 1952, p.32).

emphasis on patients at leisure time. Photo of Erich Joachim Hess, 1937-45 .(ANS/IPHAN).

Hospital São João de Deus of the Rio de Janeiro's Real e Benemérita Sociedade Portuguesa de Beneficência

The Real e Benemérita Sociedade Portuguesa de Beneficência (Royal and Meritorious Portuguese Charitable Society) of Rio de Janeiro was a private philanthropic institution. It was founded in 1840 by the Portuguese journalist José Marcelino da Rocha Cabral (-1849), who migrated to Brazil in 1831 with the intention of uniting the Portuguese settlers who lived in the city, since:

"... they lacked entities to gather them, to tell them about the distant homeland, to strengthen the bonds of fellowship between them and, above all, to avoid hostility towards those with a stronger and more active personality and marked partisanship - and they were many, given the number of political émigrés - as the environment of the resentments and quarrels of Independence [in 1922] was still very present" (S.P.B., 1960: 6).

This Society was idealized not only to fulfill the mission that the Third Orders already performed in the city, which was, to provide medical assistance, but also to help Portuguese settlers in need, providing them with work, literacy and vocational education.

The proposal for the creation of a hospital where the members of the Society could be treated, was launched in

1848, but it was only in 1853 that the Institution was able to gather the necessary funds for the construction of the hospital. Faced with the yellow fever epidemic in 1850, a townhouse was temporarily occupied as an infirmary by the Society to treat the indigent Portuguese citizens who were afflicted by the disease. The need to build a hospital of its own remained thus a part of the agenda in meetings of the Society's Board of Directors.

Finally, in 1853, conditions were favorable to carry out the construction. Announcements were published in newspapers inviting superintendents who wanted to build the hospital to present their proposals to the Board (S.P.B., 1960: 38). Of the two existing proposals, the one by architect Luis Hosxe was selected. The master builder Francisco Antônio da Silva was also hired to oversee the construction of the hospital facilities.

After the works on the ground had been concluded, the Hospital São João de Deus, located at Rua Santo Amaro, in the parish of Glória, Central Zone of the city, had its foundation stone launched on December 19, 1853. Its effective inauguration, with a religious blessing and great pageantry (including a music band) took place on September 16, 1858. It opened its doors to the first patients on January 7, 1859.

Throughout the progress of the construction works, the hospital land was also expanded, allowing a significant enlargement of the therapeutic green area.

"Thanks to the efforts of the Board, the site area where the hospital is being built was widened. After lengthy negotiations, the Meriti Baron sold the five fathoms of the contiguous land to the Society. With this purchase, the hospital will have a large area around it, and it may have gardens and playgrounds for the sick "(S.P.B., 1960: 38).

The hospital was conceived as an isolated construction in the lot, following the typology of a mansion, with two floors and a small internal courtyard for ventilation. Green spaces developed on two levels. Near the street, a garden welcomed visitors, as an iron staircase led them to the second level. A large garden in classic style surrounded the hospital and ensured sunlight and air circulation. The gardens near the street level also followed the classical lines, presenting geometric beds punctuated by topiary-cut trees. The wall of the garden, next to the street, received a rustic coating (rocaille). Between

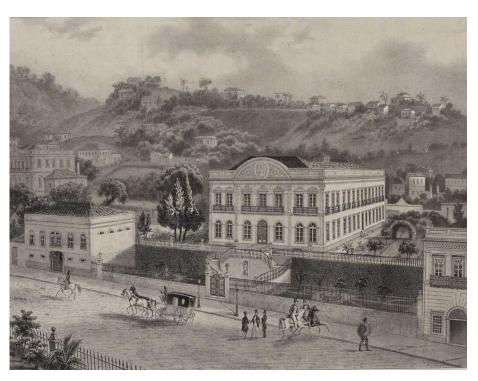


Figure 6. Facade of the Hospital of Beneficencia Portuguesa, seeing sculptures and public lighting post in the garden facing the street. Engraving of Alfred Martinet, ca. 1821-1875 (Collection of BN).

1867 and 1871, a mortuary chapel was built in the back of the hospital, surrounded by a beautiful romantic garden.





Figure 7. View of the gardens of the Hospital of Beneficencia Portuguesa. Photo of Augusto Malta, ca. 1910 (Collection of AGCR)).

Figure 8. View of the gardens of Hospital da Beneficencia Portuguesa, highlighting the living space. Photo of Augusto Malta, ca. 1910 (Collection of AGCR)).

Because of the institution's growth, a second pavilion, parallel to the first one, was inaugurated in 1880. Three wards were established: homeopathy; dosimetry and ophthalmology. The new construction faithfully reproduced the volume and stylistic language of the design conceived by Luiz Hosxe. In 1884 another building was inaugurated in the premises to house the *Asilo de Ensino Profissional – Professional Learning Home Care for the Elderly/ Vocational Education Institute*, and it was later used as an isolation hospital for the treatment of infectious and contagious diseases. At the beginning of the twentieth century, the gardens that united the pavilions still presented their original classic treatment, with flower beds with low topiary shrubs.

Most of the gardens that surrounded the building in the nineteenth century are still there; however, the urban silhouette of the complex is currently broken by the presence of a technological hospital, the Hospital Santa Maria, built in 1972 and following the vertical Monoblock model. This new building, together with the vicinity of tall buildings, overshadows the gardens. The compound, with its buildings and gardens, was recognized as historical heritage of the State of Rio de Janeiro in 2016 and is currently being renovated to house a private chain of hospitals.

Final Remarks

In the last two decades of the twentieth century, a critical reflection on the need to ensure not only health promotion, but also physical and psychological comfort for patients as subjects of the therapeutic process, fostered a new debate on the humanization of health care and hospital buildings.

At present, the work of the American researcher Clare Cooper Marcus stands out. In her studies, she conceptualizes "healing gardens" as well as gardens designed to promote spiritual, psychological or physical recovery, and advocates the idea of landscape design as a vector of healing and therapy. In the case of hospital gardens, they can be found in outer green spaces directed towards the therapeutic practice.

In Brazil, the Ministry of Health created a Technical Nucleus to define a National Humanization Policy and the document "HumanizaSUS" was launched in 2004. It was an important initiative that reflected changes that were already underway, especially with regard to the architectural projects of rehabilitation in hospitals such as the Sarah Chain. From the 1980s onwards, with architectural projects coordinated by the architect Jorge Ricardo Santos de Lima Costa - Lelé (1931-2014), private institutions developed inclusive and welcoming solutions for both patients

and staff, promoting a rapprochement with nature through the use of green spaces. The justification for this is that the hospital is interpreted as a symbol of the possibility for physical and mental reformulation, and therefore, its spaces must be organized from the users' point of view.

The concept of humanization is defined by the "Basic Document for Managers and Workers of SUS" (M.S., 2006: 18) as a commitment to the environment, and the improvement of work and healthcare conditions. On the other hand, environment is defined as the set of physical, social, professional and interpersonal relationships that must be taken into consideration in a health project that focuses on welcoming, resolute and thoughtful care. In the health services, the atmosphere can be marked, other than by medical technologies, also by affective components expressed in the way patients are welcomed and by its perception through other sensitive channels like the look, the smell, the hearing, luminosity and ambient noise, temperature etc.

"We therefore believe that the humanization of the hospital building is the result of a design process that is not limited to the beauty of lines, to the respect of functionality or to the mastery of constructive aspects. It also allies to these aspects the creation of spaces that, besides promoting health recovery and ensuring the physical and psychological well-being of the users of the hospital building, regardless of whether they are patients, visitors or employees, can also stimulate the incorporation of new procedures for medical practices" (TOLEDO, 2005: 9).

The thesis of the architect Luiz Carlos Toledo, a specialist in health projects, is supported as he states that: for an effective change to occur, medicine and hospital architecture must unite around a new paradigm which highlights the role of hospital architecture as an integral part of the humanization processes of health care services. In this context, greater attention needs to be given to the gardens that make up the environments of health care institutions.

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