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RESEARCH ARTICLE

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150 YEARS OF URBAN EVOLUTION (1800-1950) AND PORTUGUESE INFLUENCES IN TERESINA

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ABSTRACT

This scientific article aims to present the process of urban evolution of Teresina - Piauí, Brazil from 1800 to 1950 and discuss the influences of 18th century Portuguese urban planning on the city's urban design. The study showed how the creation of new cities during the colonial period in Brazil influenced urban planning in Teresina, the first planned capital of the imperial period. Although influenced by Portuguese norms, urban planning in colonial Brazil was adapted to local conditions and city formation needs. The analysis reveals that Teresina, despite being a city founded in the imperial period (1852), shows clear influence of Portuguese urban principles developed in the 18th century, particularly those associated with the reconstruction of Lisbon after the 1755 earthquake. The regularity of the orthogonal grid layout, the centrality of the main squares, the hierarchization of road axes, and the strategic arrangement of institutional buildings constitute elements that demonstrate this influence. Yet Teresina's plan does not represent a simple transposition of the Portuguese model, but its creative adaptation to the specific conditions of the site and the functional and symbolic needs of a Brazilian provincial capital. The choice of location for implementation, the relationship of the layout with the rivers, the generous dimensions of the blocks, and the importance attributed to commercial spaces reflect this adaptation. The effectiveness of these urban principles, applied a century after their formulation in Portugal, confirms their versatility and adaptability to different contexts, and their legacy persists in Teresina's current morphology.

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INTRODUCTION

The transfer of urban models between Portugal and its colonies constitutes one of the most relevant phenomena in the formation of Brazilian cities. It reflects not only the political-administrative objectives of the metropolis but also the adaptation of these models to local conditions. The case of Teresina represents a singular example in this process because, although founded in 1852 during the Brazilian imperial period, its urban conception refers to principles and practices developed in 18th century Portugal, especially after the reconstruction of Lisbon following the 1755 earthquake. Teresina's history begins in the mid-19th century, when the provincial seat of Piauí was transferred from the city of Oeiras to Teresina. The reasons that led to the change of capital resulted from the decadent condition of Oeiras, as well as the favorable possibilities that this process could trigger for greater development of the entire state (Façanha, 1998). The city of Oeiras had land of poor fertility and was distant from the main natural outlet of Piauí territory: the Parnaíba River. The city no longer corresponded to the needs required for a capital city, whose administration had different expectations regarding the

role that an urban center of such size should play in the considered context. The poor population had few prospects beyond the decadent cattle trade, which according to Abreu (1983) reflected the economic situation of the province of Oeiras. In this context, the creation of Teresina as a planned city to be the new provincial capital reveals itself as a relevant case study for understanding the transfer of Portuguese urban models and their adaptation to Brazilian local conditions. As Rossa (2018) observes, the urban heritage of Portuguese influence is characterized by its capacity to adapt to different geographical contexts while maintaining characteristic structural elements. This article aims to: (1) analyze the urban evolution process of Teresina between 1800 and 1950; (2) identify the influences of 18th century Portuguese urban planning on the city's initial design; (3) understand how the transfer and adaptation of this urban model occurred; and (4) evaluate the permanence of these elements in the subsequent development of the city. The relevance of this study lies in its contribution to understanding the urban formation of Teresina as an exemplary case of transfer and adaptation of Portuguese urban models in the specific context of imperial Brazil. According to Teixeira and Valla (2018), the analysis of cities of

Portuguese origin allows for the identification of elements of continuity and rupture in urbanization processes, revealing how metropolitan models were reinterpreted in colonial and post-colonial territories.

MATERIALS AND METHODS

This research adopts a qualitative approach based on historical documentary analysis, comparative cartographic study, and specialized bibliographic review. The methodological procedures included:

1. **Bibliographic survey:** Primary and secondary sources on the urban history of Teresina, 18th century Portuguese urbanism, and the transfer of urban models between Portugal and Brazil were consulted. This survey included reference works by both Brazilian and Portuguese authors.
2. **Cartographic analysis:** Historical maps of Teresina, particularly the 1852 map that records the city's initial plan, were analyzed and compared with cartographic documentation of Lisbon's Baixa Pombalina, seeking to identify similarities and adaptations in morphological patterns.
3. **Morphological analysis:** Application of urban morphology analysis methodologies to identify characteristic elements of Portuguese urban planning in Teresina's urban layout, such as square configuration, road system hierarchization, and the relationship of the urban grid with topography and hydrography.
4. **Periodization:** Organization of the analysis of Teresina's urban evolution into three main periods: antecedents (until 1852), initial development (1852-1900), and urban transformations (1900-1950).
5. **Comparative analysis:** Identification of elements of permanence and rupture between the Portuguese urban model and its application in the specific case of Teresina, considering both formal and functional aspects.

The theoretical-methodological framework is based on the contributions of authors such as Teixeira (2019), who identifies characteristic patterns of cities of Portuguese matrix; Correia (2020), who analyzes the structuring role of squares in Portuguese urban planning; and Oliveira (2018), who proposes a systematic approach for morphological analysis of Portuguese cities.

RESULTS

Theories about the Portuguese Colonial City: The Portuguese colonial city constitutes a complex urban phenomenon that has been the object of various theoretical interpretations. Traditionally, a dichotomy was established between Portuguese urbanism, characterized as organic and spontaneous, and Spanish urbanism, seen as regular and planned. However, contemporary studies have revisited this view, highlighting the existence of a specific rationality in Portuguese urbanism. Teixeira (2019) argues that cities of Portuguese matrix present an "organic order" which, although distinct from the Spanish orthogonal layout, cannot be considered absent of planning. This order adapted to local topographic and climatic conditions, resulting in layouts that, even when apparently irregular, followed clear organizational principles. As the author states, "there was always an erudite component in Portuguese urbanism, associated with the definition of major layouts and the location of the main urban elements" (Teixeira, 2019, p. 47). Correia (2020) complements this perspective by identifying in squares the fundamental element of urban structuring in Portuguese cities. According to the author, "the square, in cities of Portuguese origin, is not merely an urban void, but a structuring space that organizes the urban fabric and establishes spatial hierarchies" (Correia, 2020, p. 83). From the second half of the 18th century, with the Pombaline reforms, Portuguese urbanism underwent a significant transformation, incorporating principles of Enlightenment rationalism. França (2019) highlights that the

reconstruction of Lisbon after the 1755 earthquake represented a decisive moment in this process, establishing new parameters for Portuguese urban planning, characterized by regularity, hierarchization, and functionality. This evolution in Portuguese urban thinking was also reflected in colonial practices. Bueno (2019) identifies, from the 18th century onward, a growing presence of military engineers in the conception of new urban centers in Brazil, introducing principles of regularity and rationality in the layout of settlements. According to the author, these professionals "were the main agents of the Portuguese crown in the implementation of a more systematic and scientifically based territorial policy" (Bueno, 2019, p. 124).

Evolution of Brazilian Urbanism in the 19th Century: The 19th century represented a transition period in Brazilian urbanism, marked by the passage from the colonial period to the imperial and subsequently to the republican period. Despite political ruptures, there is a continuity in many urban practices, with the persistence of Portuguese models adapted to new realities. Gomes (2021) observes that cities founded during the Brazilian imperial period, although already inserted in a context of political independence, continued to reflect influences of the Portuguese urban tradition. The author identifies a "cultural permanence" that manifests itself in urban design, architectural typologies, and construction practices, constituting what he calls "transition Luso-Brazilian urbanism" (Gomes, 2021, p. 78). Santos (2020) complements this analysis by highlighting that, even after independence, the engineers and architects responsible for urban planning in Brazil continued to be trained within the Portuguese tradition or strongly influenced by it. Thus, "the Portuguese urban matrix remained as a fundamental reference, being gradually enriched with French and English influences throughout the 19th century" (Santos, 2020, p. 156). In the specific case of Teresina, founded in 1852 as a planned city to be the new capital of the province of Piauí, this continuity is clearly observed. As Braz e Silva (2011) points out, although it is an imperial city, its layout reveals direct influences of urban principles developed in Portugal in the 18th century, particularly those associated with the Pombaline reconstruction of Lisbon.

The Role of Provincial Capitals in Imperial Brazil: Provincial capitals played a fundamental role in the territorial and administrative organization of Imperial Brazil. These cities not only represented state power but also functioned as centers for the diffusion of urban and architectural models considered "modern" and "civilized" according to the standards of the time. Vasconcelos (2017) highlights that provincial capitals constituted "nodes of modernity" that articulated the territory and established links between central power and local realities. According to the author, these cities "functioned as urban experimentation laboratories, where new models of spatial and social organization were tested" (Vasconcelos, 2017, p. 22). Costa (2022) complements this perspective by analyzing the persistence of urban forms in these capitals. The author identifies that, despite social and economic transformations, certain morphological patterns were maintained over time, constituting what she calls the "spatial grammar" of Brazilian cities. This persistence manifests itself "both at the scale of the city as a whole and at the scale of blocks and buildings" (Costa, 2022, p. 103). In the case of Teresina, its condition as a planned capital conferred specific characteristics to it. As Nascimento (2020) observes, the city was conceived as a symbol of administrative and urban modernity, in contrast to the former capital, Oeiras, considered inadequate for the new requirements. Thus, "Teresina's urban plan not only organized the physical space but also symbolically represented the aspirations for progress and administrative rationality of the provincial government" (Nascimento, 2020, p. 85).

Permanence and Ruptures between the Colonial and Imperial Periods: The transition from the colonial to the imperial period in Brazil was marked by both continuities and ruptures in urban practices. If on one hand certain principles inherited from the Portuguese tradition were maintained, on the other, new influences and needs emerged, resulting in adaptations and innovations. Correia

(2019) identifies that, despite political independence, a "Portuguese cultural matrix" persisted in 19th-century Brazilian urbanism, manifesting itself in patterns of territorial ordering, building typologies, and social practices associated with urban space. However, as the author highlights, "this matrix was gradually enriched with contributions from other urban traditions, particularly the French, which gained increasing influence throughout the 19th century" (Correia, 2019, p. 58). Silva (2019) complements this analysis by studying the permanence and ruptures in the urban morphology of Brazilian cities between the colonial and imperial periods. The author identifies that "certain morphological elements, such as the structuring role of squares and the hierarchization of road axes, remained as defining characteristics of urban layouts, even when these adopted more regular and geometric configurations" (Silva, 2019, p. 132). In the specific case of Teresina, this dialectic between continuity and rupture is observed. As analyzed in the following sections, its initial urban plan incorporates principles of 18th-century Portuguese urban planning, particularly those developed after the Lisbon earthquake, but adapted to the specific conditions of the site and the functional and symbolic needs of a provincial capital of imperial Brazil.

The Portuguese Urban Experience of the 18th Century: The 18th century represented a period of profound transformations in Portuguese urbanism, marked by the influence of the Enlightenment and the administrative centralization promoted during the reign of D. José I (1750-1777), under the leadership of the Marquis of Pombal. This period was characterized by an increasing rationalization of urban practices, which found its most significant expression in the reconstruction of Lisbon after the 1755 earthquake. França (2019) highlights that 18th-century Portuguese urbanism emerges in a context of administrative and cultural modernization, in which "the city comes to be conceived as a space ordered according to rational principles, aiming at both functional efficiency and the symbolic expression of state power" (França, 2019, p. 87). This new conception represented a partial rupture with previous urban practices, characterized by a greater degree of organicity and adaptation to local conditions. Carita and Araújo (2018) complement this analysis by identifying that, even before the Lisbon earthquake, there was already a tendency towards rationalization of urban practices in Portugal, manifested in specific interventions and in projects for new settlements, particularly in the colonies. According to the authors, "Pombaline urbanism did not emerge ex nihilo, but represents the apex of a gradual process of rationalization that was already developing in Portuguese urban culture" (Carita & Araújo, 2018, p. 112). The reconstruction of Lisbon after the 1755 earthquake constituted a paradigmatic moment in the history of Portuguese urbanism, establishing new parameters for urban planning that would influence not only metropolitan practices but also colonial ones. The plan developed by Eugênio dos Santos and Carlos Mardel for the Baixa Pombalina represented a synthesis between the principles of Enlightenment rationalism and Portuguese urban traditions. Lamas (2000) highlights that the Baixa of Lisbon was a watershed in the history of classical urbanism, due to the peculiarities of its plan. After the earthquake, two fundamental questions were raised: which plan to adopt and which construction processes and cadastral redivision to implement. The adopted plan, by Eugênio dos Santos and Carlos Mardel, responded to these questions through an Enlightenment rationalist inspiration, a system of blocks that adopted simplicity in relation to land issues, and the management of costs related to reconstruction.

Teresina: Historical Background and Foundation: The foundation of Teresina as the capital of the province of Piauí in 1852 results from a historical process that dates back to the colonial period, when the region began to be effectively occupied by Portuguese colonizers. The occupation of the territory that today constitutes the state of Piauí began in the 17th century, linked to the expansion of livestock in the interior of the Brazilian Northeast. As Dias (2001) observes, in 1760, in Barra do Poti, a region between the confluence of the Parnaíba and Poti Rivers, crossed by the road connecting Oeiras to Parnaíba, there was already a cluster of "fogos," or homes inhabited by fishermen,

canoeists, and tobacco and cassava planters. This initial nucleus, later called Vila do Poti, grew in importance due to its privileged geographical position, registering an extraordinary population increase and becoming one of the largest commercial centers in the region. However, as Façanha (1998) observes, although Vila do Poti provided favorable conditions for the use of the Parnaíba River's navigability and for greater articulation between the main urban centers of the region, the urban site was constantly subject to flooding on the river banks, which frequently caused the entire Vila to be flooded. This factor was paramount for the displacement of Vila do Poti to a new area called Vila Nova do Poti, which would later be called Teresina. The decision to transfer the provincial capital from Oeiras to Teresina was motivated by various factors, as analyzed by Abreu (1983). The former capital, Oeiras, had land of poor fertility and was distant from the main natural outlet of the Piauí territory, the Parnaíba River. The city no longer corresponded to the needs required for a capital city, whose administration had different expectations regarding the role that an urban center of such size should play. Thus, the transfer of the capital to Teresina represented a strategic decision, aiming both to improve the economic conditions of the province, through the exploitation of the potential of river navigation, and to establish an administrative center more suitable for the functions of a provincial capital. As Nascimento (2020) observes, the founding of Teresina was a modernizing project that sought to insert the province of Piauí into regional and national economic circuits, reflecting the aspirations for progress and development that characterized the Brazilian Empire in the mid-19th century.

The Initial Plan and Urban Morphology of Teresina: The initial conception of Teresina, developed under the leadership of the provincial president, Counselor José Antônio Saraiva, reveals a clear influence of 18th-century Portuguese urban principles, adapted to local conditions and the specific needs of a provincial capital in the context of imperial Brazil. As documented by Braz e Silva (2011), the city was built with influences from erudite Portuguese urbanism, given its importance as a capital. The initial planning, which used the orthogonal system, apparently followed the urban norms of the Royal Provision of D. João VI, dated August 1, 1747. This policy reflected the Pombaline vision for the urban and architectural layout of cities and towns, and included rules of alignment, as well as the demarcation of the square in the first place, followed by the location of the church and other public buildings. Souza (2004) addressed the foundation of Teresina considering its urban context, proposing that the city's initial design is related to the Portuguese urban plan and resulted from administrative choices to establish and organize the city. Although founded in the 19th century, the planning of Teresina resumes the application of some of the same principles employed in the reconstruction of Lisbon. The map of October 1852, reproduced by Nascimento (1999), evidences the characteristics of the initial plan: an orthogonal grid layout, with straight streets that intersect at right angles, forming regular blocks. The Church of Nossa Senhora do Amparo, the first building constructed in the city, served as a reference point for the layout, whose territory comprised, from north to south, a quarter of a league to each side, with the church as the center; and from east to west, the space between the Parnaíba and Poti Rivers (Dias, 2001). This spatial arrangement reveals the application of urban principles that characterized 18th-century Portuguese urbanism, particularly after the Pombaline reforms. As França (2019) observes, the association between geometric regularity, functional hierarchization, and centrality of institutional buildings constituted a distinctive feature of Portuguese Enlightenment urbanism, which found in Teresina a late application, already in the context of imperial Brazil.

Urban Development of Teresina (1852-1950): After its foundation in 1852, Teresina experienced a period of marked development, albeit below initial expectations. As Dias (2001) observes, the Chapada do Corisco, the site chosen for the implementation of the new capital, initially had only 49 inhabitants, but by the second decade after the transfer, the number of inhabitants was over 8,000. Nevertheless, as Façanha (1998) points out, the urbanization process in Piauí did not have the expected expression with the transfer of the capital to

Teresina. There was no regional articulation that would enable the economic sustenance of the capital and, consequently, of the state's own economic and social organization. This apparent paradox between reports of marked growth and limitations of urban development can be explained by growth that was less than expected, considering the initial ambitions of the project. The urban morphology of Teresina in this initial period remained faithful to the original plan, with the checkerboard layout structuring the occupation of the center, contained between the Parnaíba River and the railway ring. As Moreira (1972) observes, the streets were generally oriented north-south and east-west, featuring narrow roads and blocks generally of 100 meters. The period between 1900 and 1950 marked a new phase in the urban development of Teresina, characterized by significant transformations in the spatial and economic dynamics of the city. As Façanha (1998) observes, the economic conjuncture was altered, provoking new relationships between the various urban centers of the state and the region, and breaking the cycle of hierarchy existing in the second half of the 19th century. This period, marked by extractive economic activity, brought important modifications to the spatial organization of Piauí. Another factor for the development of the state was the strategic function that river navigation performed, interconnecting the Piauí cities to the commercial centers of Brazilian regions and the international market. However, it is interesting to observe that, despite the advancement in the urbanization process, the population of Teresina was characterized as basically rural (Dias, 2001). Façanha (1998) notes that the city showed a decline in its demographic growth from 1900 until the 1940s, while cities such as Parnaíba, Floriano, and Piri-piri began to receive an ever-increasing contingent of people.

Despite these demographic limitations, Teresina expanded beyond the original nucleus. Moreira (1972) observes that the city expanded from the initial center beyond the railway line that connects Piauí to Maranhão, incorporating new neighborhoods in the north and south directions. In the period from 1920 to 1950, Teresina consolidated itself in the state scenario as a marketplace eminently focused on commercial activity. As Abreu (1983) observes, Teresina was the main city of the state, not only for containing functions that its situation as a capital allowed it to house and exercise (medical and hospital services, education, communications, and rudimentary industry), but mainly for possessing a relative commercial dynamic, where the redistribution process took place. A significant aspect in this period was the displacement of the more affluent populations from the traditional center to a "new residential area," following the path of Av. Frei Serafim, a former road opened in 1890 to provide access to the Poti River. Abreu (1983) highlights that these residences, built in the form of mansions, attested to the political and economic power of their residents. By the end of the 1950s, Teresina confirmed its position as the most important city in the state, with a population of 142,691 inhabitants, with the majority concentrated in its northern portion, reached by navigation (Abreu, 1983). As Façanha (1998) observes, the urbanization of Piauí gained, from 1950 onwards, a new dynamic, with the national and regional conjuncture contributing to the "development of the state" and consolidating Teresina as the main Piauí city.

The Relationship of the City with the Parnaíba and Poti Rivers: The Parnaíba and Poti Rivers played a fundamental role in the conception and development of Teresina, conditioning not only the choice of site for the implementation of the new capital but also influencing its urban morphology and economic dynamics over time. The location of Teresina at the confluence of these two rivers responded to clear strategic objectives, as highlighted by Façanha (1998). The navigability of the Parnaíba River, the main communication route of the region, would allow better integration of the capital with other cities of Piauí and with regional commercial centers, particularly the port of Parnaíba and the city of Caxias, in Maranhão. This relationship between the city and the rivers reflects a recurring characteristic in cities of Portuguese origin, as Rossa (2018) observes. According to the author, "sensitivity to geography and, particularly, to hydrography, constitutes a distinctive feature of Portuguese urbanism, which frequently privileges locations near water courses, adapting the

urban layout to the specific conditions of the site" (Rossa, 2018, p. 97). In the case of Teresina, the initial plan established a direct relationship with the Parnaíba River, with the urban layout developing parallel to the water course. As Braz e Silva (2011) highlights, the location of the most important public buildings of the city near the river, built facing it, reflects a defensive strategy and a building typology typical of Portuguese colonial urban planning. Over time, this relationship between the city and the rivers was transformed, accompanying the changes in economic and social dynamics. If initially the Parnaíba River constituted the main route of communication and commerce, gradually other forms of transport, particularly the railway and, later, highways, assumed greater importance, altering the logic of urban expansion.

DISCUSSION

Comparison between the Layout of Teresina and Portuguese Models: The comparative analysis between the urban layout of Teresina and 18th-century Portuguese urban models, particularly those developed after the Lisbon earthquake, reveals both significant similarities and specific adaptations to the local context. Braz e Silva (2011) highlights that it is possible to observe a significant difference between the rational and functional layout of the Saraiva Plan in relation to the organic-functional urban layout of Brazilian colonial cities built according to traditional Portuguese urban culture. In Teresina, the plan offers a design with streets arranged symmetrically parallel and crossing at right angles, similar to a checkerboard, resulting in a mesh of functionally hierarchized streets and blocks. This regular geometric configuration directly refers to the urban principles applied in the reconstruction of Lisbon after the 1755 earthquake. As França (2019) observes, the plan developed by Eugênio dos Santos for the Baixa Pombalina was characterized by "an orthogonal grid, with hierarchized streets and regular blocks, expressing the ideals of rationality and order characteristic of the Enlightenment" (França, 2019, p. 156). Yet, as Teixeira (2019) points out, even this geometric regularity does not imply a complete rupture with the Portuguese urban tradition. According to the author, "the tendency towards regularization of urban layouts had already been manifesting in Portugal since the 16th century, intensifying in the 18th century, without, however, completely abandoning sensitivity to local conditions" (Teixeira, 2019, p. 132). In the case of Teresina, this dialectic between geometric regularity and adaptation to local conditions is manifested in the relationship of the layout with the Parnaíba and Poti Rivers. As Braz e Silva (2011) observes, although the plan adopts an orthogonal grid, its implementation considers the topography of the site and, particularly, the presence of the rivers, which condition the limits and orientation of the layout.

Identification of Specific Elements of Portuguese Urban Planning in Teresina: Beyond the general configuration of the layout, it is possible to identify specific elements of Portuguese urban planning in the plan of Teresina, particularly regarding the role of squares as structuring elements of urban space and the location of institutional buildings. As Braz e Silva (2011) highlights, the document of Auto de Demarcação of the territory of Teresina states that the Main Church is the zero mark of the city, which gives the church forecourt a religious and monumental character and makes it a differentiated space of great social and spatial importance in the structure of the city. Thus, the Main Church functions as a reference point for the layout of the city, while its forecourt, known as Praça Marechal Deodoro da Fonseca, is the main structuring element of the plan. This centrality of the main square, associated with the main church, constitutes a characteristic element of Portuguese urban planning, as Correia (2020) observes. According to the author, "in Portuguese cities, the square of the main church frequently assumes the role of articulating space of the urban structure, concentrating not only religious functions but also civic and commercial activities" (Correia, 2020, p. 87). Another significant element is the arrangement of the most important public buildings of the city around the main square. As Braz e Silva (2011) highlights, this configuration follows a strategy similar to that adopted in Portuguese squares, reflecting the institutional hierarchy and the

centrality of political and religious power. The presence of the public market around the square, however, represents a specific adaptation that differentiates Teresina from other cities built according to the Portuguese tradition. Braz e Silva (2011) suggests that the construction of the market in this location was probably motivated by the symbolic importance that commercial activity should have in the life of the city, in consonance with the economic development strategies that guided the change of capital and the construction of Teresina.

Adaptations of the Portuguese Model to Local Reality: The transfer of urban models does not occur in a mechanical or linear manner but involves complex processes of adaptation and transformation. In the case of Teresina, it is possible to identify various ways in which the Portuguese model was adapted to the specific conditions of the site and the functional and symbolic needs of a Brazilian provincial capital. One of the most significant adaptations concerns the scale of the plan. As Braz e Silva (2011) observes, the layout of Teresina, although regular, presents more generous dimensions than the blocks of the Baixa Pombalina, reflecting the availability of space and the specific conditions of a new city, implemented in a territory that was practically unoccupied. Another important adaptation refers to the relationship between the urban layout and the topography. As Teixeira (2019) highlights, a distinctive characteristic of Portuguese urbanism is its capacity to adapt to the specific conditions of the site, even when it adopts principles of geometric regularity. In the case of Teresina, the choice of location for the implementation of the city – the Chapada do Corisco – considered not only its strategic position in relation to the rivers but also its relatively flat topography, which facilitated the implementation of a regular layout (Dias, 2001). The adaptation of the model is also manifested in the relationship between the urban layout and the tropical climate. As Costa (2022) observes, Brazilian cities of Portuguese origin frequently incorporated elements that responded to local climatic conditions, such as the orientation of streets in relation to dominant winds and the provision of shaded spaces. In the case of Teresina, known for its hot climate, it is possible to identify these concerns in the orientation of the streets and the presence of green areas. Finally, it is worth highlighting the adaptations related to the specific function of Teresina as a provincial capital. As Nascimento (2020) observes, the city was conceived not only as an administrative center but also as a commercial hub that should drive the economic development of the region. This dual function is reflected in the spatial organization of the city, particularly in the importance attributed to commercial spaces and the roads that connect the city to navigable rivers.

Innovations and Particularities of the Teresina Plan: Beyond the adaptations of the Portuguese model, the plan of Teresina presents innovations and particularities that distinguish it, reflecting both the specific context of its conception and the diverse influences that informed its design. One of the most significant particularities concerns the very nature of the plan as a modernizing project in the context of imperial Brazil. As Nascimento (2020) observes, Teresina was conceived as a symbol of progress and administrative rationality, in contrast to the former capital, Oeiras, considered outdated and inadequate for the new requirements. This symbolic dimension of the plan reflects the specific political context of Brazil in the mid-19th century, characterized by a modernization project that sought to affirm national identity and promote economic development. Another particularity concerns the relationship between the plan and river navigation. As Façanha (1998) highlights, the choice of site for the implementation of Teresina was strongly determined by the potential use of the Parnaíba and Poti Rivers as routes of communication and commerce. This emphasis on river navigation reflects the specific conditions of the region and the economic development strategies adopted by the provincial government. A significant innovation of the Teresina plan, in relation to traditional Portuguese models, concerns the provision of a hierarchical system of squares, with Praça Deodoro (forecourt of the Main Church) and Praça Rio Branco functioning as articulating poles of the urban layout. As Braz e Silva (2011) observes, this bipolar configuration represents an adaptation of the traditional model of the single square as the center of the city,

responding to the specific needs of a provincial capital that should house various administrative and symbolic functions. Finally, it is worth highlighting the particularity of the implementation process of the plan. Unlike many colonial cities, whose development was gradual and frequently divergent from the original plan, Teresina was implemented relatively quickly and faithful to the initial project. As Souza (2004) observes, this characteristic gives the city a morphological coherence that distinguishes it from many other Brazilian cities of the time.

The Legacy of Portuguese Urbanism in the Current Morphology of the City The legacy of Portuguese urbanism in the morphology of Teresina persists to the present day, manifested in various elements of the urban structure, despite the significant transformations that the city has experienced over time. The most evident aspect of this legacy is the permanence of the checkerboard layout in the historic center of the city. As Moreira (1972) observes, the original checkerboard layout constituted the basic guideline for the growth and occupation of the Center, contained between the Parnaíba River and the Railway Ring. This regular geometric configuration, with streets generally oriented north-south and east-west, represents the application of the principles of rationality and regularity characteristic of 18th-century Portuguese urbanism. The centrality of the main squares, particularly Praça Marechal Deodoro da Fonseca (former forecourt of the Main Church), also constitutes a significant element of this legacy. As Braz e Silva (2011) highlights, these squares continue to function as symbolic and structuring spaces of the city, concentrating important institutional buildings and significant civic activities. The hierarchization of road axes, with main avenues and secondary streets clearly differentiated, represents another aspect of this legacy. As Teixeira (2019) observes, this hierarchization constitutes a characteristic feature of Portuguese urbanism, particularly after the Pombaline reforms, and remains as a structuring element of the morphology of Teresina. Finally, the relationship of the city with the Parnaíba and Poti Rivers, although transformed over time, continues to reflect the sensitivity to hydrography that characterizes Portuguese urbanism. As Rossa (2018) highlights, the capacity to adapt the urban layout to the specific conditions of the site, particularly in relation to water courses, constitutes a distinctive feature of the Portuguese urban tradition, which is manifested in the current configuration of Teresina.

Recommendations

Based on the analysis of the urban evolution of Teresina and the influences of Portuguese urban planning in its design, it is possible to propose some recommendations for the preservation and enhancement of this urban heritage, as well as for the development of future urban policies that respect and dialogue with this historical legacy:

1. Preservation of the historical layout: Urban heritage preservation policies in Teresina should prioritize the maintenance of the checkerboard layout of the historic center, with its hierarchized streets and regular blocks, as a material record of the influence of Portuguese urbanism in the formation of the city.
2. Enhancement of historical squares: Considering the structuring role of squares in the Portuguese urban tradition and their importance in the initial configuration of Teresina, it is recommended to implement specific programs for the requalification and enhancement of these spaces, particularly Praça Deodoro (former square of the Main Church) and Praça Rio Branco.
3. Integration between built and natural heritage: Considering the importance of the relationship between the urban layout and the Parnaíba and Poti Rivers as a characteristic element of the adaptations of the Portuguese model to local conditions, it is recommended to develop projects that strengthen this integration, valuing both the built and natural heritage.
4. Heritage education: Implementation of heritage education programs that disseminate knowledge about the historical

formation of Teresina and its urban influences, contributing to the strengthening of local identity and public awareness about the importance of preserving this heritage.

5. Comparative studies: Development of more in-depth comparative studies between Teresina and other cities of Portuguese influence, both in Brazil and in Portugal, contributing to a broader understanding of the processes of transfer and adaptation of urban models.
6. Urban planning sensitive to the historical context: Urban planning policies for expansion areas of Teresina should be sensitive to the historical context of the city, seeking not only to preserve the existing heritage but also to establish a coherent dialogue between the historical legacy and contemporary needs.
7. Documentation and digitization of the cartographic collection: Implementation of documentation and digitization programs of the historical cartographic collection of Teresina, facilitating access to these documents by researchers and the general public, and contributing to the preservation of the urban memory of the city.
8. Cultural tourism: Development of thematic tourist routes that explore the Portuguese urban legacy in Teresina, contributing both to the local economy and to the enhancement and dissemination of this heritage.

CONCLUSIONS

The analysis of the urban evolution of Teresina between 1800 and 1950 and the influences of 18th-century Portuguese urban planning in its urban design reveals a complex process of transfer and adaptation of urban models, with important value for understanding the formation of Brazilian cities and the Portuguese legacy in their development. The study demonstrated that, although founded in 1852, during the Brazilian imperial period, Teresina presents urban characteristics that directly refer to principles developed in Portugal in the 18th century, particularly after the 1755 Lisbon earthquake. The regularity of the orthogonal grid layout, the centrality of the main squares, the hierarchization of road axes, and the strategic arrangement of institutional buildings constitute elements that evidence this influence. However, Teresina's plan does not represent a simple transposition of the Portuguese model, but its creative adaptation to the specific conditions of the site and the functional and symbolic needs of a Brazilian provincial capital in the mid-19th century. The choice of location for the implementation of the city, the relationship of the layout with the Parnaíba and Poti Rivers, the generous dimensions of the blocks, and the importance attributed to commercial spaces reflect this adaptation. As Fernandes (2019) highlights, Luso-Brazilian urbanism constitutes a cultural manifestation of its own, resulting from a continuous dialogue between metropolitan traditions and local innovations. The case of Teresina exemplifies this process, demonstrating how Portuguese urban principles were reinterpreted in light of the specific conditions of imperial Brazil. The transfer of these urban models was not limited to formal aspects but also involved conceptions about the social and political organization of space. As França (2019) observes, Pombaline urbanism expresses ideals of rationality, order, and hierarchy that reflect the political project of the Marquis of Pombal. Similarly, the plan of Teresina manifests the aspirations for modernization and development that characterized the political project of the provincial government.

The efficacy of these urban principles, applied a century after their formulation in Portugal, confirms their versatility and adaptability to different contexts. As Braz e Silva (2011) highlights, the success of the Portuguese urban program experienced in the 18th century is confirmed in its late application in Teresina. Finally, it is worth highlighting that the legacy of this process of transfer and adaptation persists in the current morphology of the city, despite the significant transformations it has experienced over time. The permanence of the original layout, the centrality of the main squares, and the hierarchization of road axes constitute elements that still structure the

historic center of Teresina, testifying to the lasting influence of Portuguese urban planning in its formation. This study contributes to a deeper understanding of the processes of transfer and adaptation of urban models between Portugal and Brazil, highlighting the complexity of cultural interactions that shaped the formation of Brazilian cities. Through the analysis of the specific case of Teresina, it was possible to identify both recurring patterns and significant particularities in these processes, contributing to the debate about the Portuguese heritage in Brazilian urbanism. As Bandarin and Van Oers (2019) suggest, understanding cities as complex historical urban landscapes, resulting from multiple layers of influences that overlap and interact, allows a more adequate appreciation of their urban heritage. In the case of Teresina, recognizing the Portuguese influence in its formation contributes to a richer appreciation of its urban morphology and its cultural significance.

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