Article

When Modern Housing Built Optimistic Suburbia: A Comparative Analysis Between Lisbon and Luanda

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Abstract
Throughout the 1960s, the urban peripheries in several Portuguese colonial cities embarked on a profound process of transformation. With different urban histories and distant geographical contexts, Lisbon and Luanda were united by urban planning and public policies defined by the Estado Novo's response to the lack of housing supply. The neighbourhoods that expressed modern affiliation in their architecture witnessed profound changes brought about by the April 25th Revolution and the consequent process of democracy in Portugal (1974) and independence in Angola (1975). This article proposes a comparative analysis of middle-class housing complexes, demystifying the urban peripheries by an optimistic architecture that helped shape the built environment and echoed its time's urban and political concerns. It analyses four case studies, taking into account their inherent characteristics (urban layout, architecture, and interior design), their significance as a testimony to the social and political aspirations of the time, and the quality of life and lifestyles of their current population. It draws on sociological surveys and analysis of plans, photographs, and maps to carry out a broader picture of modern housing through the work of Fernando Silva in Lisbon and Fernão Simões de Carvalho in Luanda. Based on current research, this article aims to assess the resilience of these neighbourhoods by analysing the housing landscape from an urban and architectural perspective. By mapping the changes after 50 years of use, the intention is to understand how they have adapted to current conditions (urban and social) and support future actions.

Issue
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1. Introduction

As an outcome of the Second World War, the modern movement had the assignment of building a *new society*, promoting an *international style* intent on applying *standardised* models in the construction of large housing estates. The future was envisaged as something better than the present, with the home being the architectural canvas through which personal comfort expressed domesticity and elegance. With its epicentre in Europe, modern principles were implemented in Portugal and later projected in Angola. From the 1960s onwards, the collective housing block became a crucial element in suburbia's growth in Lisbon and Luanda. Vertical density, modern urbanism, and international architecture

became synonymous with collective housing; the site's surroundings were planned as part of a new narrative between building and landscape, as a symbolic and functional affirmation of turning utopian dreams into reality. The industrialisation of construction processes made it possible to define solutions for environmental comfort and sustainability in housing, taking new forms, resulting from geopolitical forces and realities in both territories. At the same time, the middle class that no longer wanted to live in the city centre was looking for other ways of living more comfortably in the suburbs. Although relatively short, the modern period coincided with late Portuguese colonialism, cementing their relationship until 1975. The transition to independence occurred later than in any other country in Europe

and forced Portugal to redefine its relationship with its colonised territories over time. The same military coup d'état that led to the end of the autocratic regime that had ruled Portugal for over 48 years also marked the end of colonial occupation in Africa, leading to democracy and independence.

During this period, architecture played a compelling part, taking two different architectural paths that do not oppose each other but are distinct on a formal and programmatic level. The official policy became more evident with the opening, in 1944, of the Gabinete de Urbanização Colonial (Colonial Urbanisation Office) by the Ministry of Colonies, led by Marcello Caetano. The Colonial Urbanisation Office was used as a vehicle for modernising and simultaneously homogenising the built landscape in the colonial territories according to the ideals of the Estado Novo, the name of António de Oliveira Salazar's autocratic regime. Furthermore, it was also when members of this planning office visited the areas to be planned as part of the plan-making process. At the same time, as an outcome of the First National Congress of Architecture in Lisbon in 1948, a group of architects affiliated themselves with the modern principles proclaimed by the Congrès Internationaux d'Architecture Moderne (CIAM). Some architects and planners later travelled to the Portuguese African colonies (Fernandes, 2002; Milheiro, 2012). After the course of their architectural education at the Schools of Fine Arts (Lisbon and Porto), a small group continued their studies through international training at institutions such as the Architectural Association in London or the Institut d'Urbanisme de l'Université de Paris. This was the case of Angolan architects such as Vasco Vieira da Costa and Fernão Simões de Carvalho who, after apprenticing at Le Corbusier's studio, set off back to Angola. Others emigrated (or fled) from Portugal, such as Francisco Castro Rodrigues, who devoted himself to the language of modernity in his work as an architect until after the end of the colonial period and the civil war that began thereafter.

In some way or another, these architects were responsible for transforming Luanda into a huge urban-architectural experimental laboratory for Western modernity, reflected in global visions of urban and territorial transformation with housing at the core of the challenges involved (Rodrigues, 2015). Modern architecture challenged the canonical architecture championed by the Estado Novo; however, by being subordinate to the official legislation of Salazar's regime, it inevitably led to urban processes that could not hide their colonialist vision and the subsequent segregation of local populations. Still, the commitment of some modern architects, even in the role of coloniser, led to projects that revealed an interest in applying modernity for the benefit of the most disadvantaged society, including approaches to local communities such as the interventions built in East Africa by Ernst May. The German architect did valuable work in building affordable housing for socially and economically disadvantaged population segments. The implementation of industrial methodologies in solving the question of urban housing for African populations and the use of concrete and modern materials in the evolving housing typologies show the apparent compatibility between modern linguistic solutions in architecture and the focus on comfortable housing for European and local populations. This does not mean that the colonisers were passive actors; on the contrary, they managed to bring modernity occasionally closer to local realities. As a case in point, it is worth analysing Simões de Carvalho and Pinto da Cunha's plans for the Bairro dos Pescadores (Fishermen's District, 1963–1965). The architects envisioned the island as Luanda's future major tourist and recreational area to create new residential neighbourhoods that would contribute "to the social stability of the native group" (Carvalho & Cunha, 1963, p. 1) for the resident fishing population, the "Axiluandas." In this case, the architects carried out surveys of the fishing population to study traditional construction methods, and local housing types were adapted to the functional and linear logic of the modern project (Rodrigues, 2021, p. 279; Figure 1).

This article seeks to understand how the presence of modern housing estates on the city's outskirts became recognisable through the implementation of specific technical, functional, and visual elements. The recurrence of side-by-side buildings or volumes
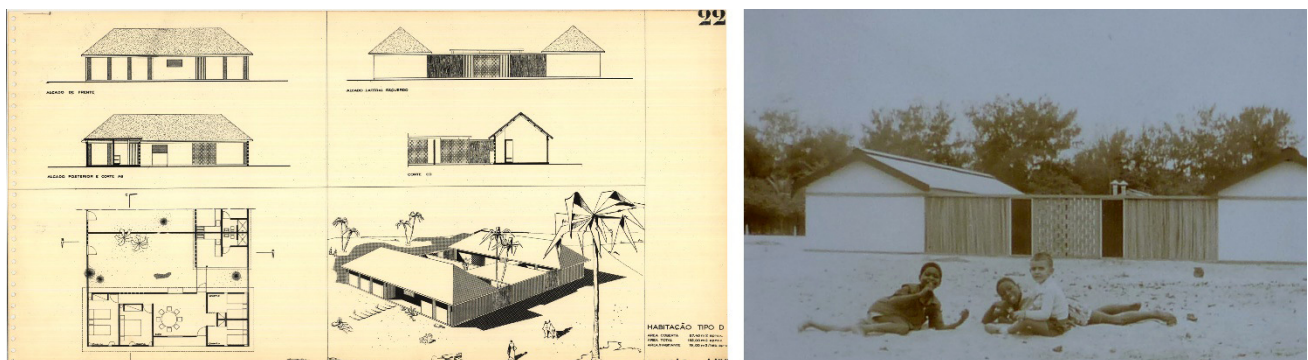

Figure 1. Fishermen's District in Luanda: Housing type D (left) and model houses (right). Sources: Carvalho and Cunha (1963; left) and courtesy of Fernão Simões de Carvalho (right).

arranged within green landscaped plots, an abstract architecture, and accentuating architecturally horizontal elements through the repetition of standardised features attributed a strong and clear identity to modern middle-class neighbourhoods. This article has been adapted from broader research projects, such as Homes for the Biggest Number: Lisbon, Luanda, Macao and the ongoing Middle-Class Mass Housing in Europe, Africa and Asia (ISCTE–IUL) to identify paradigmatic housing complexes in Lisbon, Milan, Antwerp, Luanda, and Macau. To substantiate my argument, I will analyse four case studies of projects designed for middle-class populations during the 1960s. The starting point was to identify dense residential estates which were used as models in the urban and architectural plans for other similar operations: Neighbourhood Unit No. 1 of the Prenda neighbourhood in Luanda (started in 1963) and Portela de Sacavém in the Lisbon Metropolitan Area (begun in 1964). The first was a municipal urban project that sought to wed modern architectural residential needs to the interests of private entities. It was adopted as a model by Simões de Carvalho, despite Angola's independence which would later put a stop to this goal. In Lisbon, the pioneering spirit of Portela would be proven by a series of later initiatives in which Fernando Silva was involved and also by the replication of its organisation by other architects and developers operating in the Lisbon Metropolitan Area up until the 1980s (Ferreira, 2010).

Even though they were pursuing different professional careers, the architects Fernando Silva in Lisbon and Fernão Simões de Carvalho in Luanda had the same experience acting as coordinators between municipal real estate plans and private promoters to build the housing complexes. Both architects incorporated similar experimental planning solutions into their projects. The last neighbourhood unit designed by Simões de Carvalho in Luanda was the Portuguese National Postal Service (CTT) neighbourhood (1968–1974). In parallel with his experiences in the Portela district, Fernando Silva implements some of his characteristic architectural principles in housing in the Alto da Barra Neighbourhood (1962–1976), on Lisbon's western periphery. When its inhabitants turned their backs on the historic city centre due to its insalubrity and decline, it led to a "radiant" moment for the peripheries. Was it coincident with the beginning of the optimistic suburb era in Lisbon? Projected as an entirely modern residential unit, could colonial neighbourhood-built homes engage with the traditions of the local population? Are the current residents comfortable living in dwellings inherited from the colonial era?

Providing a written overview of the residential complexes, research into the quality of life for current inhabitants is introduced with a sociological approach based on questionnaires and qualitative interviews to assess residents' social satisfaction. In collaboration with Angolan researchers, this allows us to map out a broader mosaic of modern housing in Luanda. And yet, as Rossa (2016,

p. 114) pointed out, "the non-recognition of the cultural value of Portuguese-influenced heritage by natives is in itself also a colonial legacy and therefore must enter into the equation." The aim is to map the shared modern heritage, finding similarities and differences in the construction of the first residential neighbourhoods on the outskirts of Lisbon and Luanda, demystifying the negative perception of mass housing based on a clichéd perspective of life in the suburbs. With this approach, we hope to contribute to the postcolonial analysis while expecting that the outcomes can influence decision-making about the demolition, revitalisation, or reuse of these residential complexes, in response to an age of planetary crisis in which a precarious present reflects an inequitable past and a challenging future.

2. Building the Urban Periphery of Lisbon and Luanda

Between the 1960s and 1970s, Luanda and Lisbon saw the emergence of several residential complexes that had a shared matrix: privately developed high-rise buildings aimed at the middle classes and located on the urban periphery. The two cities had different urban histories, despite Portuguese political and administrative control serving as a common denominator to define parallel housing strategies. The context under which each project was designed and built was also very different, giving an insight into the work conditions that prevailed in both regions at the time—at the design level and in terms of urban planning and construction (Milheiro et al., 2018). Different authors (Rodrigues, 2015; Silva, 2015; Tostões, 2013) argued that the post-Second World War period was also characterised by an intensive transnational flow of planning ideas, as in previous decades. The openness to modernity of Salazar's dictatorial regime came as a response to international pressure. In 1951, the revision of the Constitution paved the way for the promulgation of new laws on different aspects of colonial policy, including those related to urban affairs (Silva, 2015, p. 12). In 1960, the United Nations approved the Anti-Colonialist Declaration, and Portugal found itself increasingly isolated. With the beginning of the struggle for independence in Angola in 1961, Portugal's position became even more fragile. From 1966 onwards, the Portuguese government ordered colonial governors, such as in Angola, to regularly organise conferences on engineering and architecture in the respective colonies to produce recommendations to be applied in both fields (Silva, 2015, p. 13).

An undeniable fact was the inefficiency of the public infrastructure in responding to the different housing needs in both cities. Aware of this situation, the state opened up the private property market to construct large residential neighbourhoods. Another critical factor was the creation of the horizontal property regime in Portugal under Decree-Law No. 40333 (14/10/1955), which was applied with some minor changes in Angola under Order No. 15984 (6/10/1956). However, the major

innovation was to invest in high-end construction on the urban peripheries, hoping to attract an emerging middle class. The private sector took the lead in providing housing in the suburbia of both cities, but the role of the public sector was not passive in the early urban planning stages. While mass housing has been the preferred model for urbanising the peripheries, it has come with a certain negative stigma inherited from its worst examples, such as Pruitt-Igoe in Missouri. Insecurity, rootlessness, anonymity, and the repetitiveness of dormitory city life are among the foremost contemporary stereotypes of mass housing on the outskirts (Dufaux & Fourcaut, 2004; Tauton, 2009). From Portuguese, the word suburbia has diverse interpretations and uses on these two continents; it has had implications for the periphery, the non-urban, and a hierarchy of social division of space (Mabin et al., 2013, p. 168). Within this scope, understanding the urban context developed by the state to provide adequate mass housing solutions is sought by analysing four residential estates in Lisbon and Luanda.

2.1. From Collective Housing to Planned Suburbs: The Prenda Neighbourhood in Luanda and the Portela District in Lisbon

Like many other cities, throughout the 1960s, Luanda was overcrowded, a result of extraordinary demographic growth due to the colonial war and the central government's incentives for European colonisation, having increased from 224,540 inhabitants in the years before the war to 475,328 in 1970 (Amaral, 1960). This is the more visible outcome of the Estado Novo's migratory policies that, after the Second World War, and facing increased international pressure from the United Nations, encouraged settling a European, mainly middle-class population (Milheiro et al., 2018). The city's high demand for private investment was initially hampered by the lack of a planning instrument that regulated new construction, a gap that the creation of the Luanda Planning Office sought to fill. At that time, Fernão Simões de Carvalho, head of urbanisation of the city of Luanda, advocated for a good relationship between the central road system and the city's key feature—the neighbourhood unit—announcing his futuristic vision of a "Luanda of the future" (Carvalho, 1963, pp. 27–29). Faithful to the Athens Charter doctrine, the neighbourhood units were interpreted as city design elements, avoiding excessive zoning well located and integrating different types of populations, establishing themselves as a growth model for the new areas of expansion of the city.

The Luanda Planning Office benefited from the experience of Carvalho, who had specialised in urbanism at the prestigious Institut d'Urbanisme de l'Université de Paris. Here, the presence of Robert Auzelle, whose principles contradicted the tabula rasa of the Athens Charter, was key, giving importance to the contextualisation of socio-economic and demographic factors in an integrated, technical vision. As an architect, Carvalho

worked at André Wogenscky's atelier, an offshoot of Le Corbusier's firm, which gave him valuable practical knowledge in the area of modern housing. Besides his professional experience, Simões de Carvalho, born in Luanda, knowing in advance the difficulties of proposing a completely multi-racial neighbourhood, suggested a differentiated approach, building residential slab blocks and towers for a colonial population and a second housing proposal—single-family houses—designed for the local people that already inhabited the area. Combining these two socio-economic groups would make the city more racially integrated, according to the architect's vision. Therefore, the city required a growth strategy that allowed for the accommodation of these new inhabitants. To this end, planning strategies begin to be put together seeking, on the one hand, to solve the issue of the newcomers, and, on the other, the resident citizens', mainly the Africans located on the outskirts in makeshift, unofficial neighbourhoods—the *musseques*. In line with urban planning strategies, the municipality of Luanda fostered public-private partnerships for the completion of major housing projects (Correia, 2018, p. 147). Simões de Carvalho suggested exchanging municipal land in the centre to expand new residential areas in the suburbs by attributing construction to private companies, stressing the importance of applying modern theory to the dynamics of real estate construction (Carvalho, 1963a, p. 28). The aim was to encourage private developers to exchange building permits on small plots of municipal land with greater development potential in the suburbs, using the urban plans developed by the City Council. Each developer or group of developers was then responsible for hiring the architects, who prepared their architectural projects based on the respective urban plans (Amaral, 1968).

For the Prenda Musseque, as an urban expansion strategy to the south, a city with a total area of 337 ha was planned, with an average density of 150 habitants per hectare and an estimated population of 50,000 inhabitants distributed across five neighbourhood units. Besides the residential complexes, it included the planning of roads (15% of the total area) and public open spaces with school amenities taking precedence (official primary schools, private primary schools, technical schools, and secondary schools for each of the neighbourhood units; Correia, 2018, p. 182). In addition, a health centre, a cinema, a chapel and shops for daily needs, open and wooded areas, and playing fields were planned with places where "space, sun and nature" (Carvalho, 1963a, p. 28) fostered the individual's sense of self-sufficiency. Neighbourhood Unit No. 1 of the Prenda District was the one whose construction was seen through somewhat to completion, the most successful example in terms of construction among all proposed neighbourhood units in Luanda. Drawn up by the City Council's Urbanisation Office between 1961 and 1963, Simões de Carvalho and co-author Luis Taquelim da Cruz designed it as a sustainable urban settlement

unit which was self-sufficient, based on three basic principles: hierarchy, zonification and racial integration, to reinterpreting the Athens Charter and approaching the notion of cluster or, in Carvalho's words, "unit," "neighbourhood," or "sector" (Rodrigues, 2011, p. 146). By consolidating modern architecture as the leitmotif of these new residential areas, Carvalho's team intended a ratio of two-thirds native population and one-third European population but actually ended up with the opposite proportion. The architect developed a series of urban strategies and sourced specific architectural features and prefabricated materials that could be applied to the various types of housing, public spaces, and amenities to foster a sense of neighbourhood community interaction among residents. The Corbusian hierarchy of the seven road types organised the flow of the entire unit. In the centre, public facilities could be found, with direct access to the shopping street, offering residents the opportunity to get valuable exercise (Figure 2).
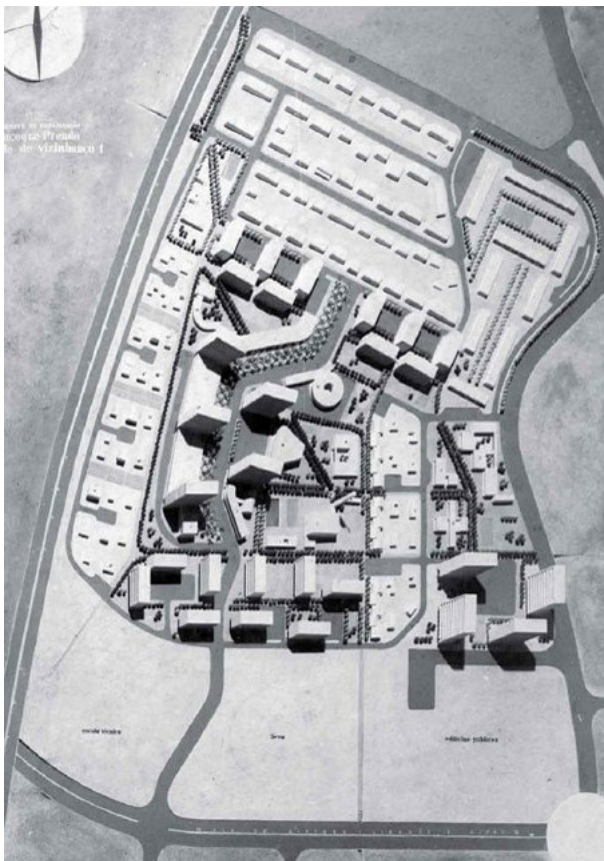

Figure 2. Neighbourhood Unit No. 1, Luanda (model photograph, 1961–1963). Source: Courtesy of Fernão Simões de Carvalho.

The new housing project consisted of 28 slab and point blocks, a total of 1,150 apartments for a population of 3,300 residents, occupying an area of about 30 hectares. The housing proposal supported infrastructures that ensured services nearby, intending to bring together different social classes and ensure family diversity. The residential area included single-family houses

for the upper-middle class, collective housing (11 and five storeys) for the emerging middle-class, and low-cost detached houses for the more vulnerable population already living in the Prenda Musseque. While aiming to integrate the resident population, it followed the guideline that indigenous people should live in low-cost housing in semi-detached, single-family, or row houses and the Portuguese in high-rise buildings. As Correia (2018) noted, after 1961, in a few rare cases the local population was already being allowed to live in high-rise buildings or to acquire/receive from their employment housing in any of Luanda's neighbourhoods. In this case, the allocation of housing was equal for both social groups (Correia, 2018, p. 182; Figure 3).

Figure 3. Neighbourhood Unit No. 1, Luanda (drawing). Source: Carvalho (1963b).

The housing buildings constructed resulted from a direct award of contract to the PRECOL construction company, which operated in Angola during the colonial period. Simões de Carvalho, with Fernando Augusto Pereira and José Pinto da Cunha, all architects from the urbanisation office, designed a housing project with a rational structure that allowed different environments. Each cluster had a central square for social interaction and the buildings were supported on pillars, among which the free space flowed, extensively, throughout the unit (Rodrigues, 2015, p. 83). Despite the diversity of each cluster, the consistency of modern expression and the repetition of architectural elements across the different sections endowed the whole with a great sense of cohesive unity, without each cluster losing its uniqueness and identity (Figure 4). Le Corbusier's famous Modulor system greatly inspired him to define every single aspect of the residential project, from the overall urban scale to the interiors of the residential housing. In general, Prenda's residential buildings follow the same internal layout, only varying in the number of rooms or the placing of the "interior street" and the stairwell and lifts. With this in mind, the semi-duplex typology was adapted to the different dimensions and the challenges of the

Figure 4. Simões de Carvalho, Alfredo Pereira, and José P. da Cunha. Prenda neighbourhood: Housing types A, B, and D. Photos taken by the author in 2010.

climate, ensuring ample cross ventilation and good protection from the sun.

However, not all residential structures ended up being built: Only 20 residential blocks were completed, eight of which were based on an architectural design by other teams, with a visible loss of aesthetic quality, while three were left unfinished and only later completed and occupied. As a result, the overall effect suffered from a lack of focus what with the cutting back on green space, for example. It is interesting to add that it was thought of as a prototype of a new urban model to be applied in new areas of expansion, to be put into practice in various locations across the city. Despite the promise of such a planning approach, as Milheiro et al. (2015) have recognised, the post-independence period failed to continue what had been outlined before.

In Lisbon, the first mass housing complexes with real public impact were the result of state intervention, even though the Estado Novo advocated for architecture that favoured semidetached houses or small buildings. Therefore, these set the tone for future investment in urbanisation on the outskirts of Lisbon. They were the result of what Lamas (2010) called "operational urbanism," the bureaucratic adoption of the principles of modern urbanism that were progressively translated into operative procedures, both at the level of the approval of urbanisation projects and in the development of new construction practices. They heralded a new relationship between, on the one hand, the forms of urban growth and, on the other hand, the emergence of the automobile as an urbanistic premise (Nunes, 2011, p. 48). Despite the wealth of international scientific research on these issues (Dufaux & Fourcaut, 2004; Glendinning, 2021; Tauton, 2009), only recently has more attention been paid to this phenomenon in Portugal (Ferreira, 2010; Nunes, 2011), identifying the driving force of modern mass housing in the late 1960s and early 1970s, during the Marcelista period. Marcello Caetano replaced António de Oliveira Salazar as head of the Portuguese Government between 1968 and 1974, when some hope for political change arose, even if the colonial war remained a topic that weighed heavily on society.

Similar to what was happening in Luanda, the lack of quality housing for the middle classes in the centre of the Portuguese capital led to the occupation of land plots along the city's northern periphery, outlining new metropolitan strategies through the 1964 Lisbon Region Master Plan (Ferreira, 2014). The goal was to foster the urban development of this territory, of which the Portela urbanisation, developed by Fernando Silva, is a paradigmatic example. He brought significant know-how on housing for the middle and upper classes into the traditional urban context. The original plan covered an area of 54 hectares, with 196 plots reserved for the construction of 4,557 apartments (the final version of 1969 had 199 plots with 179 of them forming 44 slab blocks and 20 of them forming point blocks), intended for a total of around 18,500 inhabitants (Milheiro et al., 2018, p. 55). The main structuring followed modern principles defined by a rational and hierarchical road scheme, and by establishing functional clusters. The central core concentrated the commercial, cultural, and recreational amenities; the remaining public space was privatised (Figure 5).

The housing units are organised around the civic and commercial centre, defining an abstract and homogenous urban landscape, where horizontal stripes and long windows accentuate the horizontality of the façades. The internal organisation of the apartments favours the distribution of utilitarian space according to daytime/night-time routines, revealing by association a degree of the social hierarchy in the addition of a maid's room adjacent to the kitchen area, or the even more exclusive access to some of the residences. The neighbourhood was built in the early 1970s, taking place during a period marked by political and economic upheaval and a significant shrinking of real estate activity (which partially explains the interruption of the pace of construction in Portela in 1974–1975). The subsequent handing over of the plots to 134 different private developers did not question the semblance of the neighbourhood; its only impact was in making changes to interior layouts in certain cases. Nevertheless, the deviations and alterations made concerning the initial project did not prevent the Portela development from becoming a benchmark for other private developers who started to operate in other areas of the outskirts of Lisbon. It is possible to identify about 30 projects influenced by the Portela plan, which reveals its decisive role in the creation of an identity for the urban periphery of Lisbon (Milheiro et al., 2018, p. 48). This identity was characterised not only by
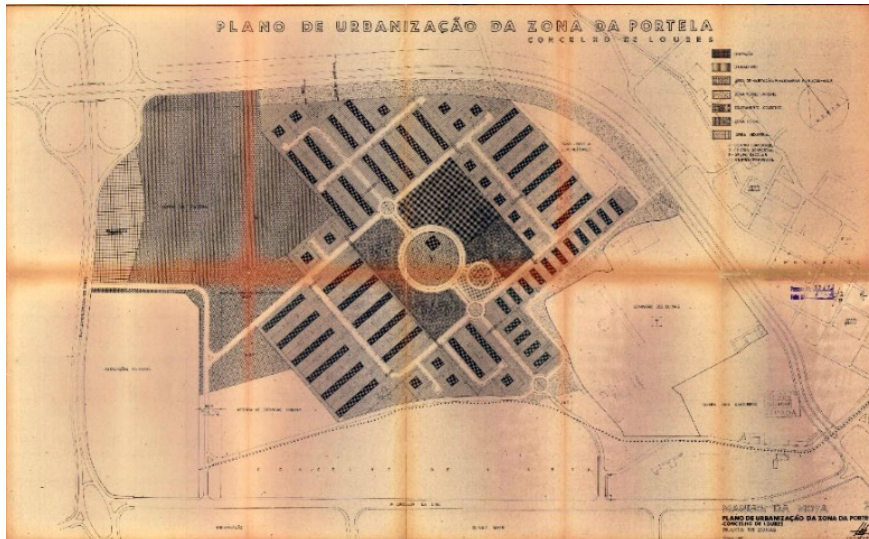
Figure 5. Urbanisation plan of Portela Zone (drawing). Source: Silva (1969).

the centralised orientation of the urbanisation but also by the abstract and pragmatic nature of the architecture itself (Figure 6).

2.2. Using an Urban Periphery Model as a Template for the Future: The Alto da Barra Complex in Lisbon and the CTT Neighbourhood in Luanda

Fernando Silva was a paradigmatic architect in the growth of the suburbs by setting a standard for housing for the middle classes living in Lisbon's suburbs. Besides the Portela neighbourhood, he developed urban plans for Quinta do Marquês (1961–1975), Alto da Barra (preliminary plan in 1962, urbanisation plan in 1964), and Quinta da Luz (urbanisation plan in 1972, intervening from 1975 onwards), as mentioned by Ferreira (2010). These case studies were discussed at great length in the most recent International Conference Optimistic Suburbia 2: Middle-Class Mass Housing Complexes (ISCTE–IUL, Lisbon, 16–18 June 2021). In the presentation "Demystifying Lisbon's Periphery from an Optimistic Perspective: Urban Context and Architectural Analysis of the Alto da Barra Neighbourhood" (Cardim & Rodrigues, 2021), the Alto da Barra district in Oeiras was mentioned as a case in point. In Oeiras, the neighbourhood began to take shape on the city's western outskirts in 1962, according to the design of Fernando Silva. The architect established a benchmark standard: architectural, through its language, and technological, in its construction methods, by defining a series of construction elements that offered a level of comfort still uncommon in residential architecture in the country. In the case of the Alto da Barra Complex, the proposal for large apartment blocks, with a modern layout (on *pilotis* and scattered throughout a lush public garden), was in strict contrast to the previous template established by the Costa do Sol Urbanisation Plan characterised by detached single-family dwellings located in the centre of the plot (1935–1948).

The modern collective housing model was thus a more profitable alternative for property developers and the emerging middle class who aspired to a "better home" but could not afford individual housing of the type available to upper-class families. As a result, the middle class could settle in a prime location but with access to a more "affordable housing" type. For the plot closest to the sea, Fernando Silva proposed five housing blocks with a similar exterior form and appearance and surrounded by wide open spaces with a carefully landscaped environment. This multi-family complex, whose good location allowed for panoramic views, made these residential complexes suitable for a high-income middle class, as they advanced towards the sea (Figure 7). By consolidating Lisbon's western urban periphery, the Alto da Barra Complex presented itself as a model for life

Figure 6. Fernando Silva's Portela District, Lisbon, Portugal. Source: Courtesy of Bruno Macedo Ferreira.

on the outskirts of Lisbon. Portela's pioneering spirit is reflected in a series of later initiatives in Lisbon in which Fernando Silva was involved, by other architects and developers operating in the Lisbon Metropolitan Area as late as the 1980s.
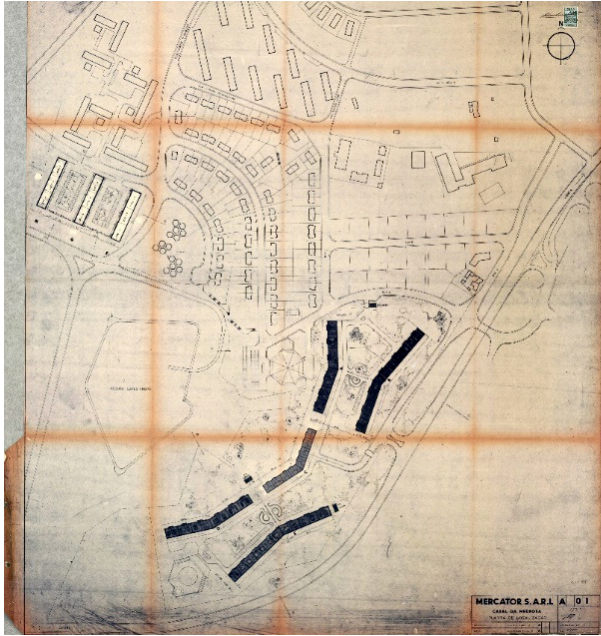

Figure 7. Urbanisation plan of Alto da Barra Neighbourhood (drawing). Source: Silva (1973).

In Luanda, after the experience of Prenda, Simões de Carvalho, with Lopo de Carvalho, precipitated the growth of the city to the east with the CTT neighbourhood, nowadays better known as the Precol District, from the name of the construction company that was responsible for building the first single-family houses in the 1950s to the last CTT block in (1968–1974). The urbanisation plan was structured around an internal traffic system for vehicles and pedestrians on a hierarchical circulation grid, articulated with three new residential areas adapted to the existing neighbourhood. Around single-family houses in the northern part of the plan, two clusters of collective housing (four storeys) were concentrated, and the third consolidated the south-eastern section. The high-rise buildings (eight and 15 storeys) surrounded the commercial area. At the same time, new and pre-existing amenities were incorporated, such as the Manolo Potier Technical School, now known as School Ngola Mbandi. Despite the clear approximation to the principles of the Athens Charter (street hierarchies, housing with amenities, green spaces, etc.), the dominance of straight lines and linear blocks characteristic of the modern movement was replaced by a fluid public space with blocks of different orientations, defining a more organic vision of modern architecture. The housing project was designed within a rational framework that enabled the creation of different environments, thus becoming a new potential path to progress. An urban logic defined the balance between built and open space, housing, and amenities

within walking distance and well connected to transport. From this complex, only one residential block was built, which is, today, a lost building amongst the city mesh (Rodrigues, 2015, p. 82).

Despite the different outlines of urban growth and geographical terrain, the Alto da Barra Complex became a landmark on the western periphery of Lisbon, and the CTT neighbourhood contributed to the expansion of Eastern Luanda, qualifying the urban fringe for housing to a growing middle class. Both proposals advocated new residential models that prioritised green spaces and areas for residents to wander about and socialise. The angle or wedge became a unifying urban, architectural design element of these complexes, providing the façades with a "geometric undulation" that captures the light differently throughout the day (Figure 8).

As mentioned above, in both Lisbon and Luanda, the public intervention at the urban level was followed by private investment in large-scale residential projects. Private investment in the construction sector ensured the adoption of standardised systems adapted to the construction of housing and innovations in the construction methodologies ensured adequate housing for the masses. The insertion of prefabricated design elements led to functional innovations that were equally formal and aesthetic, benefiting from foreign know-how. In Lisbon, Alto da Barra had the advantage of Silva's privileged standing as a founding partner of the construction and project management company Mercator, allowing greater control of the process during the development of the complex. In Luanda, supported by the Ministry of Overseas Territories, the PRECOL company was awarded contracts for the CTT neighbourhood, which, as we mentioned, also occurred in the Prenda neighbourhood. The use of industrial construction systems ensured economic viability. The buildings themselves revealed a pragmatic approach that matched architectural design to construction standards.

Textured materials in their natural state set apart the Angolan projects, adopting a style historically known as "brutalist" (Milheiro & Fiúza, 2013). In the Lisbon Metropolitan Area, Fernando Silva opted for an abstract expression that was also a strategy to guarantee the uniformity of the built complexes, even when they were being worked on by other entities, as was the case in Portela. As an architectural statement, the building's layout also reflects the modern spirit of each architect and the nuances resulting from their interpretations. While acknowledging that the widespread use of *pilotis* in Prenda has failed, as they are almost all occupied by shops or other housing, in the case of the CTT block, the slight elevation is high enough to ensure ventilation and humidity control. This technical feature has been common in tropical architecture since the 19th century, unlike residential buildings in Portugal with occupied ground floor plans. After other experiments, Fernando Silva opted, in Oeiras, to open up the ground floor plans, which only served as entrances and for the doorman's office.

Figure 8. Undulating façades: Alto da Barra Complex (left) and CTT block (right). Sources: Photo taken by the author in 2019 (left) and courtesy of Ana Vaz Milheiro (right).

3. Social Mapping to Know the Residents' Profile

The sociological studies carried out in the four case studies focused on the relationship between changes in socio-demographic and family expectations and the practical and symbolic forms of homeownership. The aim was to add to our understanding of the interaction between spatial forms, behaviours, and perceptions of quality of life and to develop architectural and social analysis methodologies with field surveys to characterise the social structure of ownership and its internal heterogeneity. In the research project Housing for the Greatest Number: Lisbon, Luanda and Macau (Milheiro, 2012), an analysis of the degree of satisfaction of the inhabitants was incorporated, as well as their knowledge of the value of the architecture as patrimony, and of Portela and Prenda when juxtaposed. In this sense, a similar methodology was developed in both cases, supported mainly by a survey—Prenda (N = 289) and Portela (N = 354)—and interviews with residents. Both procedures took place between 2014 and 2015 (Guerra & Pereira, 2018, p. 65). In addition to creating profiles of respondents and respective households, the questionnaire addressed the following topics:

1. Type of housing (history and current situation);
2. Local networks and experiences;
3. Representations, resilience, and receptivity;
4. Ideas and perspectives for the future.

Some interesting outcomes as regards the insinuated "ghetto" aspect of the complexes in the cityscape were a factor of self-identification and the manifestation of a significant level of "residential satisfaction" (84.8% in Lisbon and 74.4% in Luanda; Figure 9).
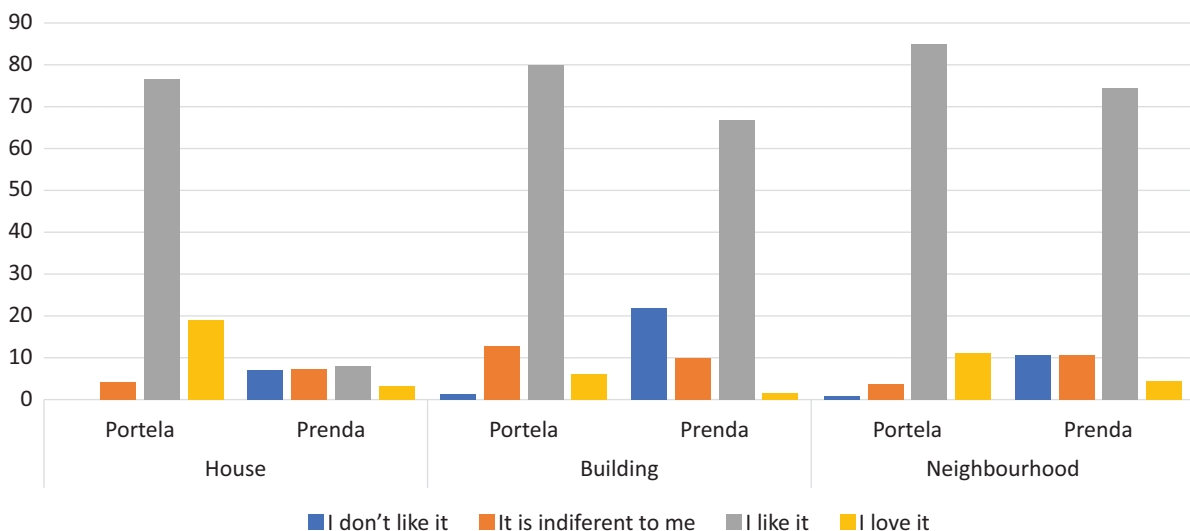

Figure 9. Residential satisfaction in Portela and Prenda: House, building, and neighbourhood, in %. Population Surveys of Neighbourhood Unit No. 1 of Prenda Neighbourhood (2015) and the Population of Portela Urbanisation (2014) by Dinâmia'Cet. Source: Guerra and Pereira (2018, p. 81).

The apartments in Prenda were occupied above all by middle-class European families during the colonial period. This population largely abandoned Luanda during the decolonisation and independence process, returning to Portugal between 1974 and 1976, thus leaving the apartments vacant. They were part of a wave of colonists returning to the metropolis that constituted, curiously enough, an integral part of the residents of Lisbon's periphery and the Portela development (Figure 10). Over time, Prenda became a densely populated neighbourhood, a fact proven in the interviews and sociological surveys of residents conducted by Guerra (2018), uncovering new information that explains the processes of the occupation of Prenda in the post-colonial period and gives an overview of the current situation.

When comparing the two Portuguese case studies, we find that location prevailed as the most essential criterion (Dinâmia'Cet, 2020). Residents consider that the quality of the setting with its green areas, solid construction quality, light, ventilation, and insulation are essential for the area to remain attractive. The positive perception of residential design is inextricably linked to the construction quality of the apartments (Portela—44%; Alto da Barra—26%). In addition to these physical aspects, the familiarity of the area (proximity of friends and family) is another essential factor in both neighbourhoods (Figure 11).

Only informal interviews with residents of the CTT block in Luanda were conducted by Angolan architect Filomena Espírito Santo and sociologist Orlando Santos. During the interviews, once again, the convenience of the neighbourhood's location stood out to residents of the CTT block, reinforced by the perception of peace and tranquillity of the complex compared to other areas of the city. Residents expressed their appreciation and a solid feeling of neighbourhood and building community; on the other hand, they pointed out the building's deterioration in quality and would like to see it renovated (Santo, 2021; Figure 12). The surveys show that the suburbs of both cities have undergone increasingly different forms of territorial development, alongside a divergence in lifestyles, social dynamics, interests, and
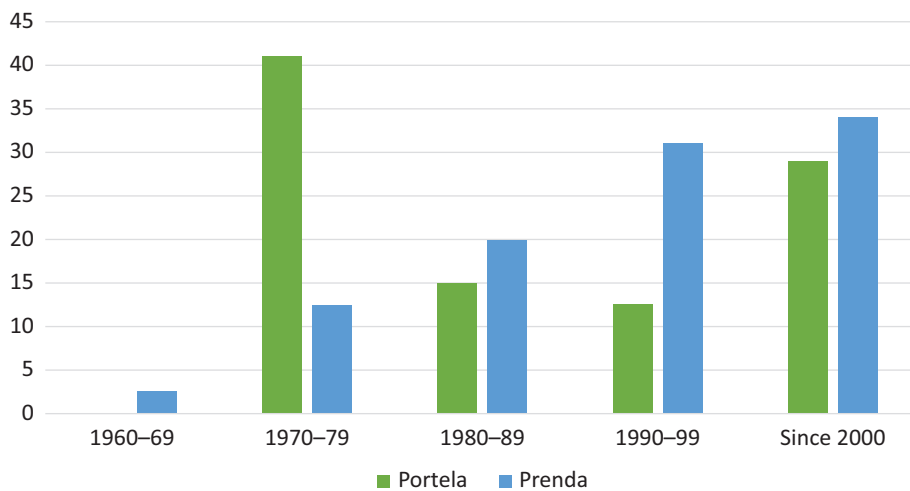

Figure 10. Time of settlement of current residents of Prenda and Portela by decade, in %. Work based on the Population Surveys of Neighbourhood Unit No. 1 of Prenda Neighbourhood (2015) and the Population of Portela Urbanisation (2014) by Dinâmia'Cet. Source: Guerra and Pereira (2018, p. 72).
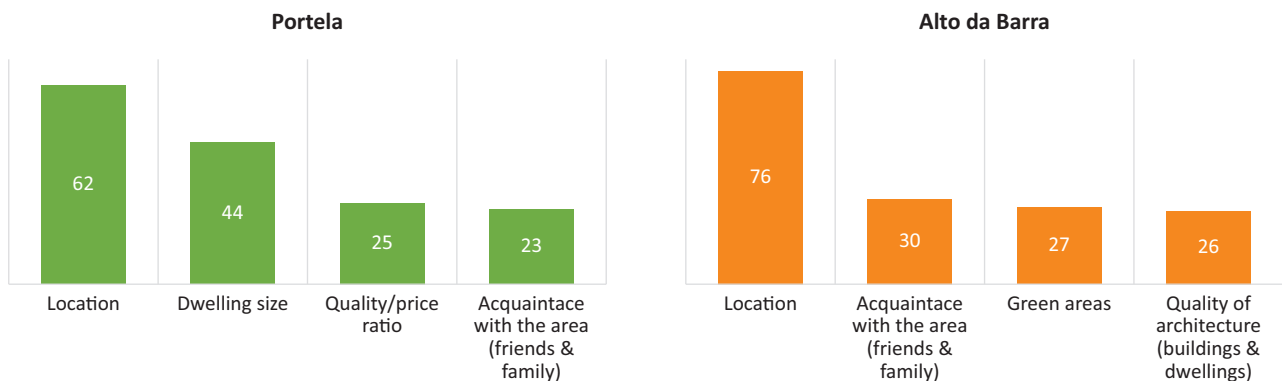

Figure 11. Residential satisfaction in Portela and Alto da Barra, in %. Source: Work based on the Population Surveys of Portela Urbanisation (2014) and the Population of Alto da Barra Urbanisation (2020) by Dinâmia'Cet. Source: Pereira and Corte-Real (2021).

Figure 12. Population survey of CTT block, Luanda. Source: Courtesy of Filomena Espírito Santo.

needs reflected in housing choices. This socio-spatial multidimensionality should be considered in metropolitan urban planning, as opposed to the prevalence of a vision centred on central city areas. A concept implemented with different approaches, although the sociological surveys carried out in the four case studies revealed a high level of resident satisfaction, from the urban neighbourhood planning to the well-lit and ventilated interiors of the apartments.

4. Conclusions

This cross-reading of Lisbon and Luanda's sprawl identified several residential neighbourhoods with similar aims in mind: collective housing for the middle class located on the urban periphery. The four cases presented here span almost 20 years, showing how a similar model responded to comparable problems in very different contexts. Despite all being cases of high-rise buildings with a high occupancy density, these initiatives present very different responses to the challenges of internal space and urban plan design. Implementing these projects in their respective territories further emphasises how they established the periphery as a sought-after location through autonomous neighbourhoods with a strong urban identity. These properties were developed by public authorities and built by the private sector; their main target was the broad spectrum of the middle class.

In Luanda, through the CTT project, Simões de Carvalho tried to reinforce the idea of the modern city that the Prenda neighbourhood heralded. A great diversity of typologies was intended for this new neighbourhood. However, the CTT block would be the only one to be built, leaving a void in the city, progressively occupied by other post-colonial initiatives. The failure of the urban project left the block isolated from the new

town that Simões de Carvalho was proposing for the Angolan capital in the final cycle of Portuguese colonialist urbanism. However, the project's intention to articulate the various residential and social programmes, including the pre-existing buildings, could be described as the bearer of greater hybridity, along with what we find if we analyse Lisbon's Metropolitan Area. Built on flat land, Portela (with equally ghettoised pre-existing utilitarian purposes—seminary, military, or industrial barracks) facilitated the creation of a rigorous and well-defined geometric layout. A sloping topography and diversity of previous uses resulted in Alto da Barra having a more flexible urban structure. However, the principles of ease of access to public facilities were equally crucial (the centrality of the commercial area or the walking access to schools).

As a feat of urban engineering, what is clear is the highly segregated nature of the Portela urban plan, designed for a homogeneous middle-class population that creates a distance between them and the inhabitants of the surrounding neighbourhoods. Based on a more integrated model, the urban project of Prenda aimed at a diverse population with inclusive claims of ethnic integrity, despite the implicit whiff of colonial segregation. In short, unlike Prenda's plan, conceived as a piece of a larger urban framework, Portela was conceived more as an isolated concept, aiming to build a neighbourhood (or urbanisation, as it is usually called) per se (Guerra & Pereira, 2018, p. 67). The proposed allocation of public amenities also corroborates these assumptions. The widespread diversity of the Prenda neighbourhood, ordered by pedestrian paths and the coexistence between different social classes, contrasts with the centrality and concentration of the facilities in the Portela urbanisation. In both Prenda and Portela, the amenities were not built at the same time as the

residential buildings, undermining the initial principles of the urban plans. Over time, in Portela, changes were made with the connivance of the municipality, while the lack of rehabilitation strategies led to the degradation of the Prenda neighbourhood. Typological diversity is another factor that highlights the difference between the two locales, with Prenda serving as a testing ground for different accommodation typologies, as opposed to the supremacy of three-bedroom apartments found in Portela.

When these urban developments were placed on the market, their sales pitch focused above all on the attractiveness of the location, ease of mobility and the pleasantness of the surroundings, emphasising the unique qualities of the neighbourhood's setting. As a result, these developments tended to be self-sufficient, with a range of commercial and leisure amenities offering significant advantages to homebuyers. Secondly, the well-designed floor plan was amply demonstrated in the generous kitchen areas, along with the elimination of "undesignated" spaces without a specific purpose, maximising the apartments' spatial flow. Finally, mention was made of the modern construction techniques and finishes, highlighted as distinctive elements in the mass housing design. These criteria would eventually give rise to modern architecture, sophisticated as the investment justified with a clear identity. The approaches to contemporary living in their respective geographies further emphasised the consecration of the periphery through autonomous, iconic residential structures. Simões de Carvalho in Luanda and Fernando Silva in Lisbon proposed an architecture that aimed to build an optimistic periphery supported by a modern lifestyle. These neighbourhoods and isolated modern buildings, symbols of architectural, technological, and social aspirations, were trying to overcome the heavy historical colonial burden and, nowadays, have begun to be appreciated by residents and officialdom alike as an integral part of the city as it stands now.

However, today's debate focuses mainly on how to keep these metropolises alive and at the same time maintain and better them according to contemporary standards of comfort. Similar to the Portuguese case scenario, as seen in other political and geographical contexts, e.g., the Belgian colonisation of Congo, most of the colonial-era buildings in Luanda survived the fight for independence and were immediately re-used in the post-colonial period. This built legacy fosters memory in a complex way. As argued by Lagae (2004, p. 173), while colonial buildings embodied the ideologies of the various "colonisers," from the outset, they were also imprinted with meaning by the "colonised." Dealing with this legacy inevitably raises the question of whose heritage we are talking about. Aware of this issue, ICOMOS (International Council on Monuments and Sites) and DOCOMOMO (Working Party for the Documentation and Conservation of Buildings, Sites, and Neighbourhoods of the Modern Movement) have labelled this legacy "shared built heritage" (Lagae, 2004, p. 188). Drawing attention to these structures and encouraging the development of legal protection for them is beginning to gain momentum through the World Heritage and Modern Heritage programmes.

Still, until a few decades ago, the Portuguese ex-colonies were conspicuous in their absence, in national and international debates. It was not until the mid-1990s that Portugal was ready to deal with its colonial past. On one side, feelings of shame, guilt, and perplexity endure, while on the other, a sense of revulsion and discriminatory injustice rear their heads. The long colonial history of Portugal became an awkward topic of conversation and a thorn in the side of the national and international image of the nation (Matos, 2010, p. 27), a transformational process that, as Lourenço (1991) has noted, has taken its time. Drawing on recent insights from heritage policy and architectural historiography and the work of Angolan historians, planners, and architects, a call is being made to study this "shared" colonial heritage. Such a heritage can offer a powerful critical tool to reappraise the ideologically loaded history of the colonial past by interweaving Portuguese and Angolan perspectives. Can we still be modern?

Acknowledgments

Conflict of Interests

The author declares no conflict of interests.

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