



14th International docomomo Conference, Keynote by Joan Busquets, Gonçalo Byrne and Josep Maria Montaner, Lisbon, Portugal. © Leandro Arez, 7 Sept 2016.

Lisbon, a Modern City

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As a tribute to Lisbon, where the 14th **International docomomo Conference** – “Adaptive Re-use. The Modern Movement Towards the Future” took place, the argument of this 55th **docomomo Journal** is Modern Lisbon.

In the words of José-Augusto França, Lisbon “is the last of the old European cities and the first of the modern cities”, as confirmed by the 1758 *Baixa Pombalina* plan undertaken for the reconstruction of the city destroyed by the 1755 earthquake, as a pioneering example of modern urban planning.

Following the avant-garde plan, modern architecture in Portugal may be envisaged through three main moments¹ according to specific policies undertaken during the long *Estado Novo* dictatorship (1926–1974).

The architects born between 1896 and 1898 began to explore the formal potentialities of reinforced concrete without the MoMo ideological component. Their works coincide with the determinant era of public works. Through the action of Duarte Pacheco, from 1933, Lisbon witnessed a great modernization visible in a large number of key projects: the bridge over the river, the *Monsanto* park, the marginal Lisbon-Cascais, social neighborhoods and facilities such as hospitals, schools, stadiums, the airport, maritime stations, and the *Instituto Superior Técnico*, considered the first great modern public work, as the paradigm that took architecture to the scale of the city.

In the postwar period, the premises of the Modern Movement, referenced to Le Corbusier and the expressionism of modern Brazilian architecture, were adopted in an ethical and ideological way, integrating the social responsibility of architecture. It was the rebellious moment when MoMo architecture was globally embraced. The 1st *National Congress of Architecture* (1948) revealed the new concerns of architects demanding industrialization, their participation in solving the housing problem and the right to participate at the city scale. Architects organized themselves into groups united by common ideals, with the awareness that only a collective work could be effective. ICAT (Cultural and Artistic Initiatives) was created in 1946, around Keil do Amaral, and the magazine *Arquitectura* was renewed as an instrument for the dissemination of what was being produced in the world.

The *Alvalade* neighborhood, a municipal initiative within a plan by Faria da Costa, was the opportunity for the new generation to propose the first rationalist experiences applying

the principles of the *Charter of Athens*, such as to the set of *VãVã* and the *Estados Unidos da América* Avenue and the *Infante Santo* Avenue buildings.

The first major social housing undertaking in Lisbon was in *Olivaís*, following the spirit of the English New Towns. Significant for the experimental concepts used as the basis of a modern project, it was the laboratory of an enlightened modern attitude that prolonged the quality of urban values at the scale of architecture. The Master Plan for *Chelas* (1964) marks the revision of the principles of modern planning.

By the mid-1950s, the moment was of reflection, beginning a process of searching for local references, which would lead to organicist and critical regionalist explorations simultaneously with the *Survey on Portuguese Regional Architecture* undertaken in 1955 (published in 1961). If this attitude revealed the contradictions and the crisis that the Modern Movement was going through in the international context of the last CIAM, it pointed out the integrating wisdom that seems to be a constant in Portuguese architecture. In this framework, the studio of Nuno Teotónio Pereira worked as the most important space for debate and teamwork through which the most consistent authors of the following generations passed. We wish to pay tribute to Nuno Teotónio Pereira (1922–2016) through recalling its *Bloco das Águas Livres* in this DJ cover, one of his major works which was published in the last DJ 54.

Finally we wish to thank the wise commitment of João Belo Rodeia who acted as guest editor. As well, the authors, who generously shared their research, and the leading Lisbon figures (politicians, architects, historians) who agreed to discuss with DJ, in order to provide a comprehensive interpretation of the current city.

Lisbon is the locus of sustainable multi-functional urban developments and architectural preservation, beginning to be considered as one of the most important cities in terms of arts and technology development. The theme of the 2016 *International docomomo Workshop*, envisaging the integration of 21st century industries with a 20th century industrial complex, reveals the capacity of the city to grow and adapt itself into the future, in a creative way.

¹ Ana Tostões - “Arquitectura Moderna Portuguesa: os Três Modos” in Ana Tostões (coord.) — *Arquitectura Moderna Portuguesa 1920-1970*, Lisboa, IPPAR, 2004, 118.

Apropos of Lisbon's Modern Architecture (1925–1965)

BY JOÃO BELO RODEIA

in memory of Nuno Teotónio Pereira (1922–2016)

This issue of *docomomo Journal* is dedicated to the modern architecture of Lisbon, the city chosen to host the 14th *docomomo International Conference*. It includes a series of essays written by nine university researchers which, on the one hand, present specific examples (buildings, urban complexes, urban plans) and paradigmatic architects of Lisbon's modernity, and consequently, on the other hand, provide a succinct overview of almost four decades of modern architecture and urban planning in the Portuguese capital, spanning four generations of architects' and divided into two separate periods, broadly speaking before and after the WWII (1939–45).

Notwithstanding, the pertinence of this issue extends much further than the mere pretext of the venue for the 14th *International Conference* since, in view of *docomomo*'s specific rationale and aims, the modern experience in Lisbon (and Portugal) deserves a much wider and better dissemination in international terms, not only because of its own intrinsic value, but also because of its specificity, both of which are much more relevant when one considers the country's peripheral contingency, the respective absence of any of the main premises that generated modernity in European architecture, the political context from which it resulted and the subsequent socio-cultural conservativeness of the country, the city and many of its elites.

Even though there can be no doubt, and particularly so in this century, about the growing national recognition afforded to this modern architectural heritage, as expressed by the legal protection given to many of its buildings (which in itself is inseparable from the fertile research and documentation originating, above all, from the academic community), it is no less certain that much of this heritage is located in areas that are themselves being subjected to widespread and highly volatile processes of urban renewal. Not to mention the pressure that is being applied through land speculation, property development and the attempts to change the use of such heritage for inappropriate purposes, added to the fact that it is also subjected to a legal framework for building and construction that is largely unsuited to its specific nature and its aesthetic, functional and constructional characteristics. Or, in other words, at a time when Lisbon is witnessing an obvious economic resurgence, much of this heritage is under quite severe threat, whether as a result of its abandonment, its incapacity to envisage new uses, the rapid transformation of its respective contexts, the devastation caused by impetuous or erroneous interventions, or even, to put it bluntly, through its elimination, as recently happened with the Children's Swim-

ming-Pool in *Campo Grande* (1960–64), designed by Francisco Keil do Amaral (1910–1975), one of the city's foremost architectural references. Seen from this point of view, and taking into consideration Lisbon's modern architectural heritage, this *Journal* is seeking not only to make a contribution towards the enhancement of its heritage value or its respective socio-cultural recognition, but above all, to stimulate reflection and action with regard to its future safeguarding and foreseeing its correct and appropriate reuse. And, since this is the case, the local dimension of this case-study is transported to another, more global level, to the place that has been one of *docomomo International*'s main concerns under the presidency of Ana Tostões, as expressed in the very theme for the Lisbon conference: *Adaptive Reuse. The Modern Movement Towards the Future*. It is, in fact, within this framework that we should read and understand the quite unique essay by Catarina Wall Gago about housing and contemporaneity, looking at recent reuses that have been introduced in Lisbon's *Baixa Pombalina* district.

It is beyond the scope of this introduction to present the full historical context of modern architecture in Lisbon², from its somewhat late appearance in the late 1920s, motivated by the 1925 *Exposition Internationale des Arts Décoratifs et Industriels Modernes* in Paris, to its plurality in the 1960s, already out of the world of the *International Congresses of Modern Architecture* (CIAM, 1928–59). Even so, we consider it important to make some remarks and observations to help in the reading of the essays presented.

It should be stressed that Portugal did not escape the overwhelming authoritarian wave that swept across a large part of Europe in the 1930s, culminating in the victory of Franco and his supporters in Spain (1939) and in the *État français* of the Vichy government (1940). After the 1926 military coup that brought an end to the 1st Portuguese Republic (1910–1926), the beginning of the next decade was to witness the firm establishment of the corporative regime of the *Estado Novo* (New State, 1933–74), ideologically fuelled by the Catholic Church, the French far right and Italian fascism. One of its greatest particularities was to have lasted so long after the WWII, which proved possible both because Portugal did not take part in this conflict or join forces with the Axis countries, thus remaining distanced from the political execration of those who were defeated at the end of the war, and because of the regime's capacity of adaptation in the postwar period, immediately supported by the first phase of the Cold War (1947–53). Only in the transition from the 1950s to the following decade did the

Estado Novo begin to display any obvious signs of an internal crisis, caught between the outbreak of war in most of its African colonies and the distinct social and political expectations of growing sectors of society, inseparable from the country's ever more rapid economic development in the 1960s.

In other words, not only did Portuguese modern architecture always take place under the regime of the *Estado Novo*, to which it was obviously subjected but, at the same time, it was only possible with its compliance — or that of some of its protagonists — and its respective public commissions, no matter whether or not the architects were in favor of the situation. In fact, between the late 1930s and the end of the war, the period when the regime most fuelled the ambitions (so highly prevailing at that time) of a self-referential architecture caught up amid nationalistic historicism and folklorism, Portuguese modernity limited itself to survival through the completion of works in progress, with many of its modern pioneers devoted to those ambitions. And, furthermore, on countless occasions, both before and after the war, modern projects came up against all manner of obstacles raised by the more retrograde sectors of the regime (and of society itself), as well as the ever-spreading tentacles of State bureaucracy, with such difficulties becoming even worse immediately after the war, both because of the volatility of the political situation and the disappearance or gradual fading away of protectors, and because of the generational (and political) distancing of the more recently emerged architects, who were now determined to adhere to the radical modernity³, highlighted at the 1st National Congress on Architecture, held in Lisbon, in 1948.

The appearance and affirmation of pioneering Lisbon (and Portuguese) modernity, apart from the strong determination inherent in many young architects and the support of their *compagnons de route* within the regime, as was the case with António Ferro (1895–1956), the director of the *Secretariado de Propaganda Nacional* (Secretariat of National Propaganda, 1933–45), were due to the decisive role played by state commissions (both national and municipal), and most particularly the vast and rapid campaign of public works undertaken in the 1930s and led by the minister Duarte Pacheco (1900–1943) from the new Ministry of Public Works and Communications, who also played an important part in Lisbon as the mayor of its Municipal Council. The first two generations of modern architects were the ones who benefited most from these commissions, and because of this they enjoyed the possibility of traveling around Europe. And, in the case of the Council of Lisbon, the effects of Pacheco's reforming activity — in matters of planning, infrastructure, equipment and housing — were to endure well beyond his premature death and the war itself and afforded leading roles to architects who were active within that context, namely João Guilherme Faria da Costa (1906–1971) and Keil do Amaral, both of whom played decisive parts in shaping the city that we can still see today. Either wholly or in part, half of the essays published in this *Journal* deals with this time and its circumstances, with João Pardal Monteiro writing about his great uncle Porfírio Pardal Monteiro (1897–1957), Daniela Arnaut about the *Instituto Português de Oncologia* (Portuguese Oncology Institute, 1927–48), on which, among others, Luís Cristino da Silva (1896–1976) and, in particular,

Carlos Chambers Ramos (1897–1969), both worked, and Silvia Salvatore writing about Faria da Costa. The perfectly reasonable exception is the essay by Paulo Tormenta Pinto about the work of Viriato Cassiano Branco (1897–1970), which tended to be more the result of private Lisbon commissions.

In the same way, these same public commissions were no less important for strengthening and consolidating modern architecture in the postwar era, even though they had now lost the dimension and splendor of the 1930s, and were dissociated from the government's central planning system and from the influence of leading political figures with the caliber of Pacheco. Once again, it was the Council of Lisbon that was to play the most prominent role in this context, setting in motion a singular group of opportunities for the architects of the new generation, from the late 1940s onwards, with a major impact on the city's architecture and urbanism. If there was any surprise, then this arose not so much from the predictable difficulties for the reaffirmation of modern architecture in the regime's eyes (and all the more so when many of the young architects supported the political opposition), but more from the relative rapidity with which some members of the public administration were prepared to comply with or even serve as accomplices in this reaffirmation. In fact, from the early 1950s onwards and, for the first time, instigated by the State itself, there began to appear initiatives for the international dissemination of Portuguese modern architecture buildings, almost all of them originating from public commissions, namely in São Paulo (1953–54), London (1956) and Washington (1958). The second half of the essays demonstrates this time and its circumstances, with Tiago Farinha writing about the complex of *Infante Santo Avenue* (1945–55), designed by Alberto Pessoa (1919–1985), together with Hernâni Gandra (1914–1988) and João Abel Manta (1928–), Ricardo Carvalho writing about Ruy Jervis d'Athouguia (1917–1986), evoking a remarkable series of works that were the result of public (and municipal) commissions, and Teresa Heitor writing about the Chelas Urban Plan (1960–64), coming from the Lisbon Council's Technical Office for Housing and coordinated by José Rafael Botelho (1923–)⁴, and following on the other two large urban plans for the capital in the postwar period, Olivais Norte (1955–58)⁵ and Olivais Sul (1959–65)⁶. In turn, the essay by Ana Tostões highlights the singular nature of one of the most important modern buildings in Lisbon, the headquarters of the Calouste Gulbenkian Foundation (1959–69) designed by Athouguia, Pessoa and Pedro Cid (1925–1983), and commissioned by an important private socio-cultural institution.

For a long time, at least until the late 1950s and, continuing along the trail that had been established by the cyclical French influence on Portuguese culture since the 19th century, Paris was to be the central reference and preferred destination for the Lisbon (and Portuguese) modern architects — firstly (almost) without Le Corbusier (1887–1965) and then with him — in the two periods that have been marked out, i.e. before and after WWII. For both of these periods, especially after 1932, it is important to highlight the constant presence of the French magazine *L'Architecture d'Aujourd'hui* (1930–) in Lisbon, far and away the most pre-eminent among the foreign architecture journals received in Portugal until the mid-1950s, whose edito-

rial orientation over time was to maintain a reasonably analogous position with that of the Portuguese modern experience⁷.

It seems that the 1925 Paris exhibition was decisive in promoting the blossoming of Lisbon (and Portuguese) modernity, and it should immediately be noted that such an induction did not involve the expression of the more exuberant version of Art Deco, which was clearly omnipresent in Paris, but the more depurated one, which is truly surprising given the national context and even considering the endemic shortage of resources that, in general, shaped Portuguese commissions in architecture. Indeed, in many of its best results, the adherence to the moderate form of modernity⁸ exhibited by the first two generations of Lisbon architects was closer to that of the French *école constructive*, such as the work of François Le Cœur (1872–1934) or Auguste Perret (1874–1954) or, albeit only occasionally, to the prismatic and functional systematization of the primitive Germanic *Neues Bauen*. At the same time, it was also closer to a more or less refined *nudiste* expression, sometimes coming close to the radical modernity, especially of the so-called *école de Paris*, ranging from Marcel Roux-Spitz (1888–1957) to Robert Mallet-Stevens (1886–1945), but also to other temperate forms of modernity, such as that of the Dutch Willem Martinus Dudok (1884–1974) or even the German Erich Mendelsohn (1887–1953), with the distinct sensitivities sometimes being brought together in the same work. Towards the end of the 1930s, one could feel some Italian influence, not that of *razionalismo*, but the influence of the heirs of the *Novecento*, now refined in a narrow form of neoclassicism, such as the work of Marcello Piacentini (1881–1960). One should not, however, forget the so-called Parisian *moment 37*, which was also marked by simplified monumentality. And finally, as far as urbanism is concerned, the adherence to modernity was defined by the decisive influence of the *Institut d'Urbanisme de Paris* (1919–2015) — where Faria da Costa studied — and that of the *Société Française d'Urbanistes* (1911–), involved in an apology for the French variation of the garden city, whose leading figures were Donat Alfred Agache (1875–1959) and his disciple Étienne de Gröer (1882–1952), both of whom received commissions from the city of Lisbon, with the latter actually spending some years living in the Portuguese capital. Among the first two generations of Portuguese modern architects, attention is drawn in particular to Pardal Monteiro and Carlos Ramos, who were closer to the *constructive* model, or Jorge Segurado (1898–1990) and Cassiano Branco, who were closer to the *école de Paris*, with Keil do Amaral being more closely linked to Dudok, and Faria da Costa to the French models of the garden city.

As has been said, after the war and within a very short space of time, the predominant trend was towards radical modernity, which was now embraced by most of the third generation of Portuguese (and Lisbon) architects, both through the direct influence of the work of Le Corbusier himself and the influence of the Corbusian strain of Brazilian modern architecture, especially that of Rio de Janeiro, via *Brazil Builds*⁹, whose doctrine had been developed by Lucio Costa (1902–1998) and whose leading proponents, among others, were Oscar Niemeyer (1907–2012) and Affonso Eduardo Reidy (1909–1964). It should, however, be remembered that, in the

late 1930s and even during the war itself, Lisbon was a constant destination of many of the writings of the Swiss-French master, and as soon as 1945, of the *Brazil Builds* catalogue (1943), almost always through Nuno Teotónio Pereira (1922–2016). On the one hand, Le Corbusier represented the *nouveau temps*, which was synonymous with the adherence to the radical modernity that, for many architects, seemed a crucial recourse to the emancipation of Portuguese architecture from the nationalistic coerciveness of the *Estado Novo* but also, it should be stressed, from the burden of the moderate modernity of the previous generations, who were still being celebrated at the 1948 Lisbon exhibition of *15 Years of Public Works*. On the other hand, modern Brazil was the great novelty after 1945, fascinating the architects through its ample array of buildings, whose singularity also derived from the notion of a “modern and Brazilian” inevitability. For the new Lisbon (and Portuguese) modernity, besides the obvious socio-cultural connotations, such fascination and the same pretext were also invoked in order to cement its affirmation. It should be said that the initial adherence to this singular modernity was more akin to the *purisme* than to the *béton brut* of the Swiss-French master, incorporating some of the plasticity and the non-canonical requirements of the modernity of Rio de Janeiro, together with the resolute social determination to provide “housing for all” and to achieve an overall sense of urbanism through reference to the *Ville Radieuse* (1935) and the *Charte d'Athènes* (1943). Concomitantly, throughout the 1950s, there was another modern path, possibly linked to the debates of the Parisian *Maison de la Culture*, founded by the writer Louis Aragon (1897–1982) in 1936 in the context of the *Front Populaire* (1936–38), which enunciated an art and architecture that originated from popular tradition and were intelligible to ordinary people, induced by socialist realism and recontextualising the regionalism and the cultivation of folklore that, for endogenous reasons, had a powerful impact in postwar Italy. In 1947, Keil do Amaral proposed a survey of popular architecture that, with the paradoxical support of the government, was to actually take place between 1955 and 1961, when it was finally published. The criticism of radical modernity that was implicit in this path was later to be joined by other critical stances, most immediately those that had been formed within CIAM itself, in which the Portuguese architects participated from 1951 onwards. Many of the young Lisbon (and Portuguese) architects, from both the third and the fourth modern generations, were (greatly) influenced by the neo-realism of the newly developed Italian architectural culture, but also by the rediscovery of Frank Lloyd Wright (1867–1959), Alvar Aalto (1898–1976) and the more temperate Nordic modernity, and, finally, by the effervescent world of British architecture and urbanism. Also to be found following this same path were the last works of Le Corbusier, those of his *béton brut* and *lyrisme* period. Nuno Portas (1934–), the leading figure in the first approach to the history of modern architecture in Portugal and the driving force behind the Portuguese criticism of the “modern orthodoxy” in the late 1950s¹⁰, spoke of the two models of the postwar generations as being “French-Brazilian” and “Italian-Nordic” which, to some extent and somewhat ironically, reflected the hesitation of the regime's foreign policy in the late 1950s and early 1960s,

between choosing to follow its Atlantic vocation or drawing closer to Europe, at a time when the *Estado Novo* was caught in the throes of an internal crisis. In short, as Ricardo Carvalho states quite clearly in his essay, “in the 1950s, when the social, aesthetic and technological assumptions of the Modern Movement seemed to be consolidated, there was hesitation in Portugal. Two possibilities were open to what could be viewed as a postwar understanding of modernity. Some architects focused on the possible confrontation between the heritage of tradition and avant-garde proposals, in tune with international movements. Others assimilated the universal appeal of the Modern Movement and aimed to operate within those contexts, facing the shortage of technological tools and of scarce theoretical production”. It would be wearisome to list here the Lisbon architects of the first two postwar generations that followed either one or the other of these paths, although it is clear that some switched from the “French-Brazilian” to the “Italian-Nordic” path while there were yet others who followed them both, sometimes mixing them together in the same work. While Ruy Jervis d’Athouguia, Alberto Pessoa, Pedro Cid, Vítor Palla (1922–2006) and Joaquim Bento de Almeida (1918–1997) were closer to the first of these paths, Francisco Conceição Silva (1922–1982), Maurício de Vasconcelos (1925–1977), Sebastião Formosinho Sanchez (1922–2004) and even Nuno Teotónio Pereira evolved from this same path to the “Italian-Nordic” one, with Manuel Tainha (1922–2012) and Vítor Figueiredo (1929–2004) perhaps being more closely bound to the latter one. Raul Chorão Ramalho (1914–2002) was quite unique in his combination of the two models and José Rafael Botelho and, above all, Nuno Portas were more decisively attached to the second one. In the context of the current issue of this *Journal*, greater prominence is clearly given to the first ones with Pessoa’s complex of *Infante Santo* Avenue, Athouguia’s work, and the very building of the headquarters of the Calouste Gulbenkian Foundation itself. The second model gave rise to the Chelas Urban Plan, which denoted a clearly British influence.

To conclude this introduction, it should be said that some of these considerations and observations are not canonical or, in other words, that they occasionally deviate from the general direction followed by the historiography of Portuguese architecture in the 20th century, even though, in critical terms, they are firmly anchored within these. Furthermore, they do not always coincide with the contents of some of the essays presented here, allowing for a crossover and salutary comparison of different approaches. Nonetheless, we suppose that they help to clarify the purposes of this issue of the *Journal* dedicated to the modern architecture of Lisbon, highlighting its heritage importance and its singularity when compared with other modernities elsewhere, as well as complementing the general overview that was provided on the occasion of the 14th Conference of **docomomo** International.

Welcome to modern Lisbon.

Notes

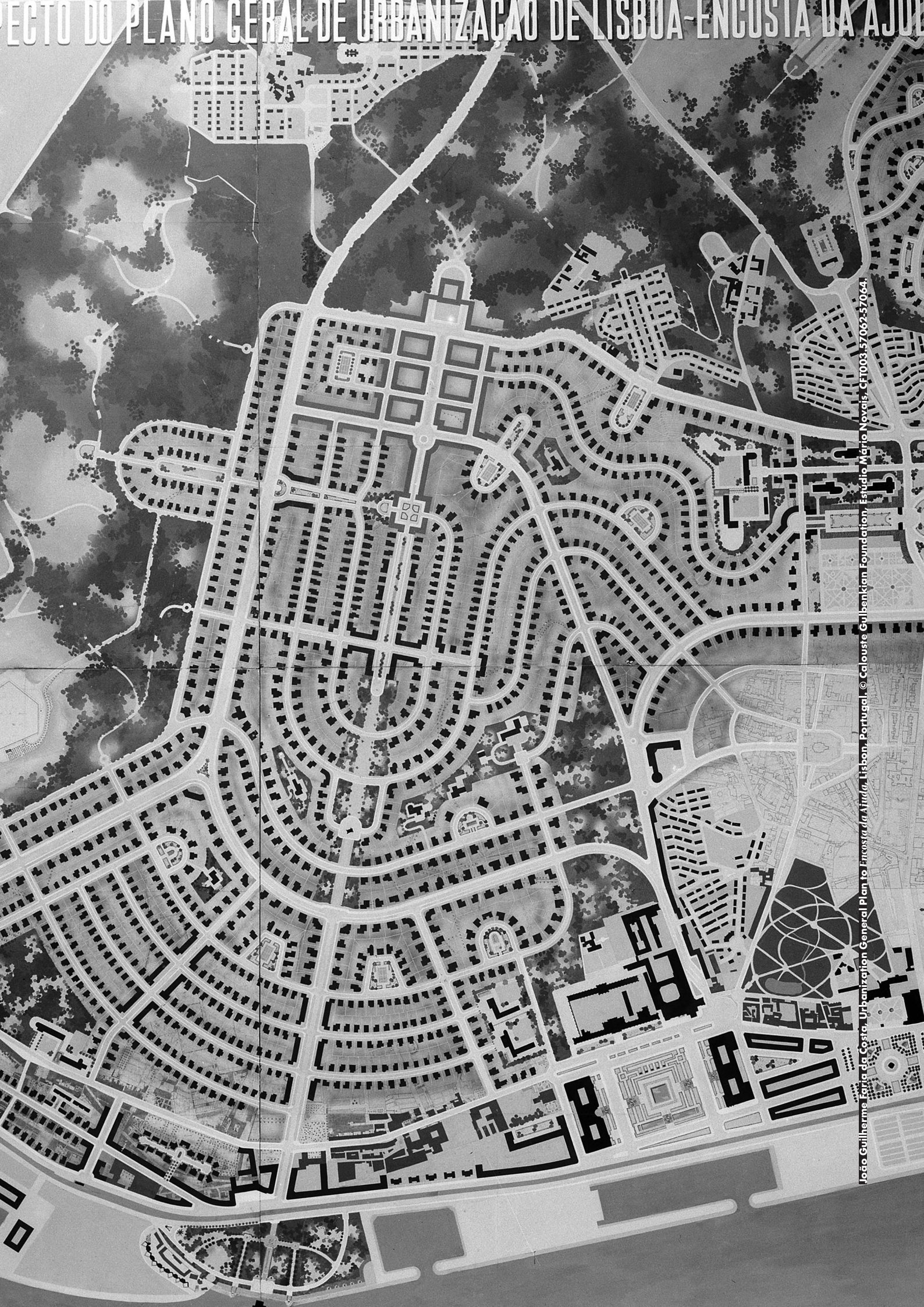
- 1 There are generally considered to be four successive generations of Portuguese modern architects. The first pioneering generation comprises those born around 1900, at the turn of the 19th and 20th centuries, who graduated immediately after the WWI (1914–18), such as Porfírio Pardal Monteiro, Jorge Segurado, Luís Cristino da Silva, José Cottinelli Telmo

- (1897–1948) and Viriato Cassiano Branco. The second generation comprises those born around 1910, during the transition from the monarchy to the Portuguese republic, almost all of whom graduated in the 1930s, such as João Guilherme Faria da Costa and Francisco Keil do Amaral. The third generation comprises those born around 1920, more or less immediately after the WWI, almost all of whom graduated in the late 1940s and early 1950s, including, among many others, Ruy Jervis d’Athouguia, Alberto Pessoa, Joaquim Bento de Almeida, Vítor Palla, Francisco Conceição Silva, Maurício de Vasconcelos, Nuno Teotónio Pereira, Pedro Cid and José Rafael Botelho. The fourth generation comprises those born around 1930, at the time when the *Estado Novo* was being installed, almost all of whom graduated in the late 1950s and early 1960s, such as Nuno Portas, Vítor Figueiredo and Francisco Silva Dias.
- 2 For the most recent and complete study on Portuguese modern architecture, see: Ana Tostões, *A Idade Maior, Cultura e Tecnologia na Arquitectura Moderna Portuguesa*, Porto, FAUP, 2015.
- 3 The idea of “radical modernity” has been retained, this being the expression that Kenneth Frampton used to characterise the modern avant-garde movements that took part in the first *Congrès Internationaux d’Architecture Moderne* (1928–59), in order to be able to consider other modernities that existed during this period and the following ones. See Kenneth Frampton, “Foreword”, in Eric Mumford, *The CIAM Discourse on Urbanism, 1928–1960*, Cambridge and London, MIT Press, 2000, XI–XV.
- 4 With the architects Francisco da Silva Dias, João Reis Machado, Alfredo Silva Gomes, Luís Vassalo Rosa, Carlos Worm and the engineers José Simões Coelho and Gonçalo Malheiro de Araújo.
- 5 Coordinated by José Sommer Ribeiro, Pedro Falcão e Cunha and the engineer Luís Guimarães Lobato.
- 6 Coordinated by José Rafael Botelho and Carlos Duarte.
- 7 Mention should also be made of the *Réunions Internationales d’Architectes* (RIA, 1932–48), organised through the auspices of *L’Architecture d’Aujourd’hui*, all of which were attended by Portuguese architects. Founded by Pierre Vago (1910–2002), the editor in chief of the French magazine from 1932 onwards, these meetings promoted study trips and working sessions for architects with modern tendencies, at the same time seeking an alternative third way to the academic approach and CIAM. The first meeting took place in the USSR (and Poland) in 1932, the second in Italy in 1933 and the third in Czechoslovakia (with Hungary and Austria) in 1935. In 1937, the fourth RIA was held during the *Exposition Internationale des Arts et Techniques dans la Vie Moderne* in Paris, alongside CIAM V. The fifth meeting, planned for the Scandinavian countries, was rendered unviable by the outbreak of the WWI. After the war, in 1948, RIA merged with the *Union Internationale des Architectes* (UIA, 1948–). It should be noted that, besides being a correspondent of the French magazine, Porfírio Pardal Monteiro was the Portuguese delegate to RIA, as well as the co-founder of UIA.
- 8 The generic concept of “moderate modernity” is employed as a counterpoint to the expression “radical modernity”, as used by Jean-Louis Cohen when referring to RIA — “they would develop a more moderate programme that was generally less radical than the views of most members of CIAM” — thus providing a framework for other sensitivities that contributed to the affirmation of the European Modern Movement, as well as the vanguards. See Jean-Louis Cohen, *France, Modern Architectures in History*, London, Reaktion, 2015, 92.
- 9 We are referring to the Brazilian modern architecture exhibited at or subsidiary to the exhibition *Brazil Builds, Architecture New and Old, 1652–1942* held at the Museum of Modern Art in New York in 1943 and curated by Philip Goodwin (1885–1952) in collaboration with George Kidder Smith (1913–1997). This later became an itinerant exhibition and was disseminated worldwide through the respective catalogue, especially after the WWI.
- 10 See Nuno Portas, *A Arquitectura para Hoje, seguido de Evolução da Arquitectura Moderna em Portugal*, Lisbon, Livros Horizonte, 2008.

João Belo Rodeia

(b. 1961, Portugal). Architect and visiting professor at the Architecture Graduate Schools of Autónoma University of Lisbon and Évora University, João Belo Rodeia is considered to be a distinguished specialist on architecture and the architecture profession as a whole through the holistic vision that was built from his own experience as president of the Portuguese Chamber of Architects (2008–2013), President of the International Council of Portuguese Language Architects (2011–15), President of the Portuguese Heritage (2003–05), President of the Iberian **docomomo** Foundation (2011–13), as well as from his long-time dedication to architecture teaching, research and criticism. He is member of the Advisory Committee of **docomomo** International.

PROJECTO DO PLANO GERAL DE URBANIZACAO DE LISBOA-ENCOSTA DA AJUDA



Towards a Modern Lisbon through the Work of João Guilherme Faria da Costa for the Lisbon City Council (1938-1948)

BY SILVIA DI SALVATORE

The urban planner João Guilherme Faria da Costa (1906–1971) is a leading figure of the generation of modern Portuguese architects, who distinguished himself by an intense professional activity in the field of urban planning since the 1930s, which is when this discipline was introduced into Portugal. In fact, with the institution of the *Estado Novo* regime (1933–1974), a completely new era was initiated for Portuguese urban planning, which evolved from being mostly the result of private initiative, to becoming an instrument for the public control of urban transformation. Faria da Costa, who worked for the Lisbon City Council from 1938, participated directly in some of the great urban transformations of the Portuguese capital which took place during this period.

From Lisbon to Paris and back again: background and education

Faria da Costa was born in Sintra on April 6, 1906. He studied architecture at the School of Fine Arts in Lisbon, where he obtained a scholarship from the *Junta de Educação Nacional*, for students of architecture to study abroad. He traveled to Paris in 1933¹ and enrolled at the *Institut d'Urbanisme de l'Université de Paris* (IUUP)², where he had the opportunity to come in contact with some of the masters present at the IUUP, such as Marcel Poëte and Étienne de Gröer (1882–1974), who was involved in the admission of Faria da Costa at the Department of Urban Planning of Lisbon City Council in 1938³. He also carried out an apprenticeship at the studio of Donat-Alfred Agache (1875–1959).

During his time in Paris, a city which had been the fulcrum for the international relations of Portuguese architects since the 19th century, Faria da Costa took part in an intense political and cultural debate, which reflected an institutional debate present throughout Europe, centred on the questions related to urban planning, that involved a new generation of ideas and operational practises⁴.

He finished his studies in 1936 and obtained his degree in urban planning on June 19, 1937⁵. Upon his return to Lisbon that same year he began a period of very intense professional activity in the fields of both urban planning and architecture.

Faria da Costa's First Works for the Department of Urban Planning and Public Works of Lisbon's City Council (1938–1943)

1938 is a key year since it marks the beginning of a new process of urban planning for the city of Lisbon, thanks to the return on the public scene of Duarte Pacheco (1900–1943), ex-minister for public works⁶, a figure with a peculiar ability

for crystallizing projects, and a great capacity for implementing large-scale undertakings. Duarte Pacheco himself set the guidelines for the great transformation projects for the capital, initiating a global strategic plan, based on various intervention levels, which would produce the Urban Plan for Lisbon, that Duarte Pacheco called “undoubtedly the most important of the city's needs today”.

It is at this moment that the City Council called in a series of technicians, architects, as well as an urban planner, Faria da Costa, who took his place in a team that included figures of the magnitude of the architects Keil do Amaral (1910–1975), Miguel Jacobetty Rosa (1901–1970) and Inácio Peres Fernandes (1911–1989)⁸. Faria da Costa began his activities at the *Department of Urban Planning and Public Works*⁹ (DSUO) in 1938, working incessantly on a great number of projects and development plans within the larger frame of Lisbon's Urban Plan, begun in 1938, under the direction of the Polish-French architect Étienne De Gröer.

From 1938 to 1948, Faria da Costa undertook the realisation of the plans for the areas of expansion of the capital, some of which were undergoing a vast process of expropriation, that marked the modern gateways of the city, and where most of the projects intended by the City Council were located: that is the airport to the north-east, and the port in the western section of the city¹⁰, in the direction of the *Costa do Sol*¹¹.

The first significant plan to be actually carried out by Faria da Costa (1938–40) was the important plan for the *Encosta da Ajuda* (essay cover), in the western limits of the city, which included the residential area known today as *Restelo* Neighborhood.

This plan envisaged the creation of a residential neighborhood for 36,000 inhabitants in an area of approximately 300 ha in the zone towards the *Tejo* river and next to the area of *Belém*.



This plan, resembling a great stage overlooking the *Tejo*, and structured on large communication axes, with a system of concentric secondary streets, is clearly under the influence of his French years, and has strong connections to the model of the Garden City, applied to the planning of suburban expansion areas in which the plan, as well as the continuity with the existing urban fabric, were devised with a specific residential need, with its own urban structures and services immersed in green areas¹². The plan was carried out in an altered version in two phases of development, first following a program for social housing (1940–1952) and subsequently, in the area north of the neighbourhood, with the construction of the 2nd phase of the *Restelo* neighbourhood, including hundreds of single-family units which in the 1950s represented an interesting experimental laboratory for a combination of traditional and modern architecture.

In 1938, Faria da Costa also started the development of plans for two large residential *Areiros* in the north-east section of the city, known today as *Areiro* and *Alvalade*, initially intended as a single unit¹³.

The development of the plan of *Areiro* (32 ha, 9000 inhabitants) (Figure 02), that Faria da Costa carried out first, constituted a preliminary experience for the following famous plan of *Alvalade*, as well as an urban connection between this expansion and the old urban fabric of the city.

These plans defined the development guidelines for this part of the capital, which in those years was still predominantly rural. The area, limited to the north-east by the area deliberately intended for the construction of the airport,

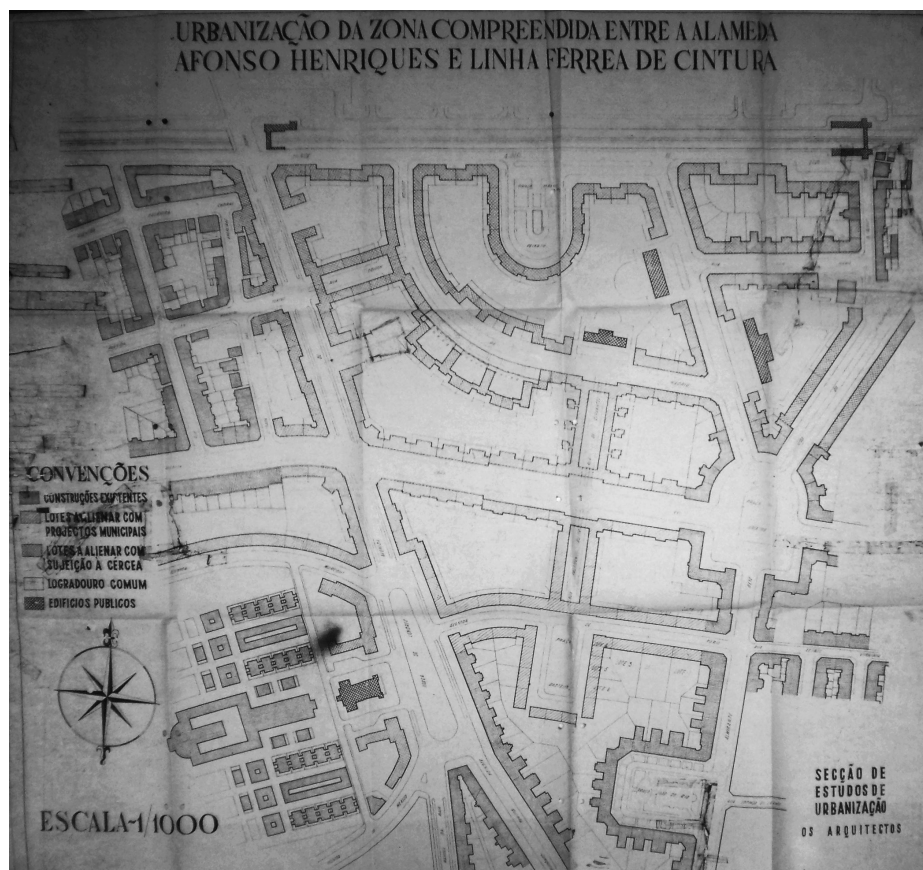
was set on the radial urban axis represented by the *Almirante Reis* Avenue, which connected it to various monumental city landmarks such as the square of *Areiro*, designed by the architect Cristino da Silva (1896–1976) in 1938, the *Alameda* and its Monumental Fountain and the *Instituto Superior Técnico*, the most prestigious school of engineering in Portugal since its foundation, which had been recently inaugurated.

Meanwhile, under a vast conjuncture of events, among which the lack of urban planners and of a topographical map of the city (that was currently underway)¹⁴ and the death of Duarte Pacheco in 1943, the global study of the city of Lisbon, which had been initiated in 1938, had to be abandoned in 1942–43 and later underwent a general revision in 1945–46¹⁵.

This situation provoked the revision of many detailed plans, such as Faria da Costa's renowned plan for the area of *Alvalade*, called *Plano a Sul da Avenida Alferes Malheiro* (South Plan for the *Alferes Malheiro* Avenue) that was included in the great public interest operation as a part of the construction of the Airport, together with the complex communications infrastructure in the entire expansion area, and finally the construction of a series of social neighbourhoods¹⁶.

Towards a Modern Lisbon: from the plan for *Alvalade* to the plan for remodelling *Baixa*

The *Alvalade* plan (Figure 04) envisaged the creation of a large residential area for 45,000 inhabitants, including those left homeless by the demolition of a vast zone of the urban



fabric of the historical centre (*Martim Moniz*), and which would also be the object of an urban plan that Faria da Costa would begin to develop in these years, as will be seen further on.

The plan of *Alvalade* introduces remarkably modern urban planning innovations, with a concept involving the integration of dwellings, services and urban facilities, as well as the inclusion of some productive sectors, in accordance with a hierarchy of routes. Faria da Costa applied the principle of the neighbourhood unit, according to which the urban space is divided into sectors, at the centre of which a primary school is placed¹⁷. The distance between school and dwelling is such to be easily covered on foot, and the same is true for urban services and facilities. 3-4 story buildings are envisaged, a novelty in the panorama of traditional social housing areas, which according to official programs were to be based on the usual single-family house with garden imbued with the symbolic values related to rural life.

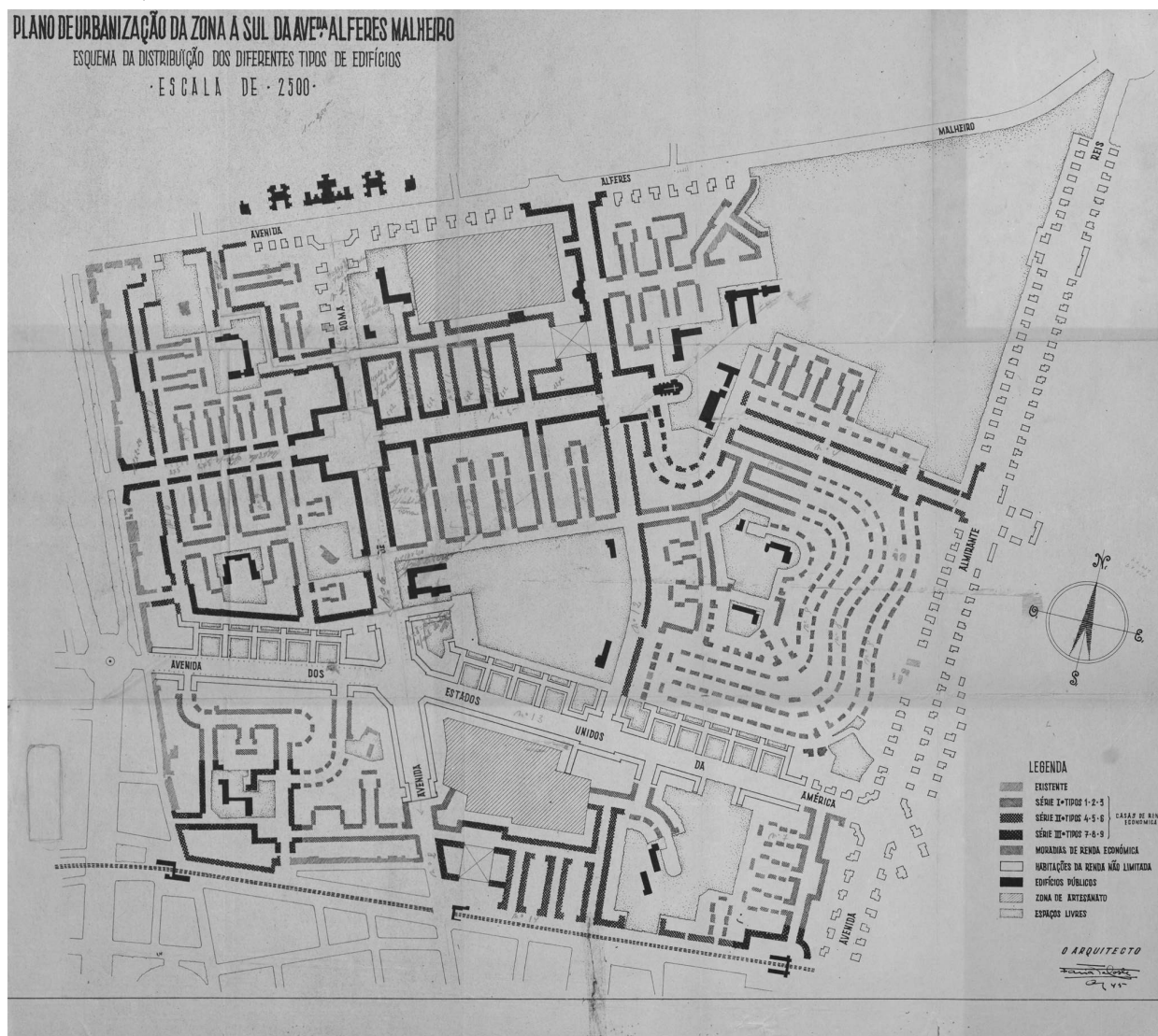
The realization of the plan of *Alvalade*, which was well on track since the end of the 1940s, was characterised by proposing a completely innovative conception of the organisation of the city, which represented a step towards a modern Lisbon, due in part to the presence of solutions (the neighbourhood unit, for example) to questions that are present in the context of the European Rationalist debate concerning urban planning, and which resulted in the latter phases of the construction of the neighbourhood, with certain alterations, in the application of the principles of the Athens Charter, as in the case of the social housing estate

Estacas Neighborhood, which followed suggested layouts of Rationalist inspiration created initially in 1949, based upon a project by Sebastião Formosinho Sanchez (1922–2004) and Ruy Jervis d'Athoguia (1907–2006)¹⁸.

In 1944, Faria da Costa started important studies for the historical centre of Lisbon, in the lower part of the city, known as Lisbon *Baixa*, within the larger framework of a vast operation of urban renovation and enhancement of urban mobility.

One of these studies was the project for connecting the western bank of the *Tejo* river (constituted by the 24 de Julho Avenue) and *Praça do Comércio* (the former *Terreiro do Paço*), facing the river. Faria da Costa, who in 1946¹⁹ had been given indefinite leave by Lisbon's City Council authorities, developed in 1947, under invitation by the Ministry of Public Works the project for connecting 24 de Julho Avenue to *Comércio* Square (Figure 05), the relief of the traffic congestion of a small internal street (*Arsenal* Street) and the creation of a connection between 24 de Julho Avenue and *Terreiro do Paço*, thus creating a continuity along the river.

Another important study was the “traffic project at the city center and sanitation of the area between *Socorro* and *Rossio*” (Figure 07) concerned the area of *Mouraria*²⁰, the highest density area in the *Baixa*, which, from 1949 onwards, for questions concerning public hygiene, was subjected to a series of numerous, progressive and drastic demolitions, an urban disemboweling that produced what is now known as *Martim Moniz*. The operation, which caused a deep transformation in the urban fabric, would



completely modify the urban image of this part of the historical centre.

Faria da Costa's proposal was the first step towards the creation of a ring road around the historical centre that would connect the various radial axes which converge in the *Baixa*²¹, an operation which, due to the topography of the area, was possible only through the creation of a system of tunnels. This solution was already present in De Gröer's plan, and would be developed by Faria da Costa in his plan for the remodelling *Baixa* presented in 1949 (Figure 04).

The proposal envisaged a ring road that connected, with a tunnel, the nodal points of the radial axes (from the *Largo do Corpo Santo* to the *Restauradores Square*, from *Restauradores* to *Martim Moniz* and finally from there to the *Campo das Cebolas*). These nodes were solved with a modern underground terminal in *Praça dos Restauradores*, and a roundabout on the surface at *Martim Moniz*, whereas a series of underground commercial galleries were envisaged for the two main squares of the *Baixa*: *Rossio*, and *Figueira Square*²². The *Praça de D. João I*²³ (Figure 08) was projected as a nodal point for the connection of the radial axis of *Almirante Reis*

Avenue, thought of as a modern nucleus with the integration of dwellings, services and urban facilities. The project reveals a vision of a functional and modern city referring to the ancient urban fabric and conjugated with a conception of a monumental urban system based on an axis of symmetry and a clear urban image with continuous façades, as in the French tradition.

The years devoted by Faria da Costa to the planning projects for the historical centre would be the last of his career at Lisbon's City Council, from which he would resign on February 26, 1948²⁴. In the following years, Faria da Costa kept on working incessantly on the revision of the plan for remodelling *Baixa*²⁵, as technical consultant, but it was never approved nor carried out.

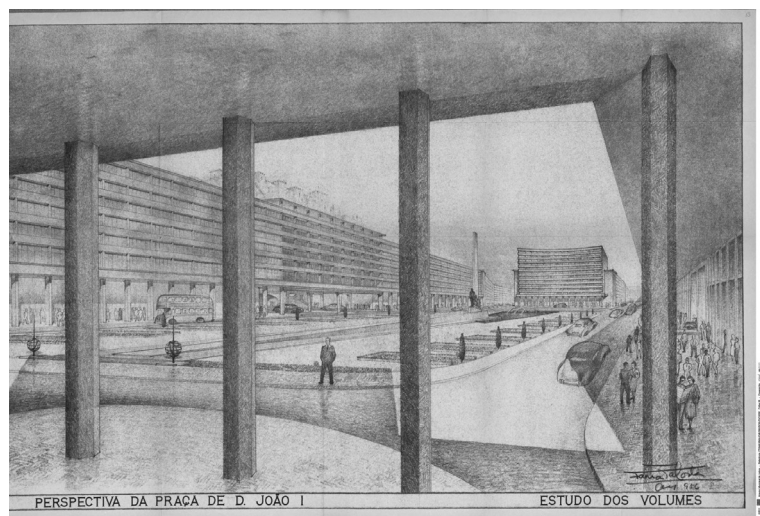
Conclusions

The city of Lisbon underwent through an extraordinary urban transformation during the years in which Faria da Costa worked at the Lisbon City Council. The first period, from 1938 to 1943, corresponds to the first years of frantic activity with the drafting of numerous projects concerning

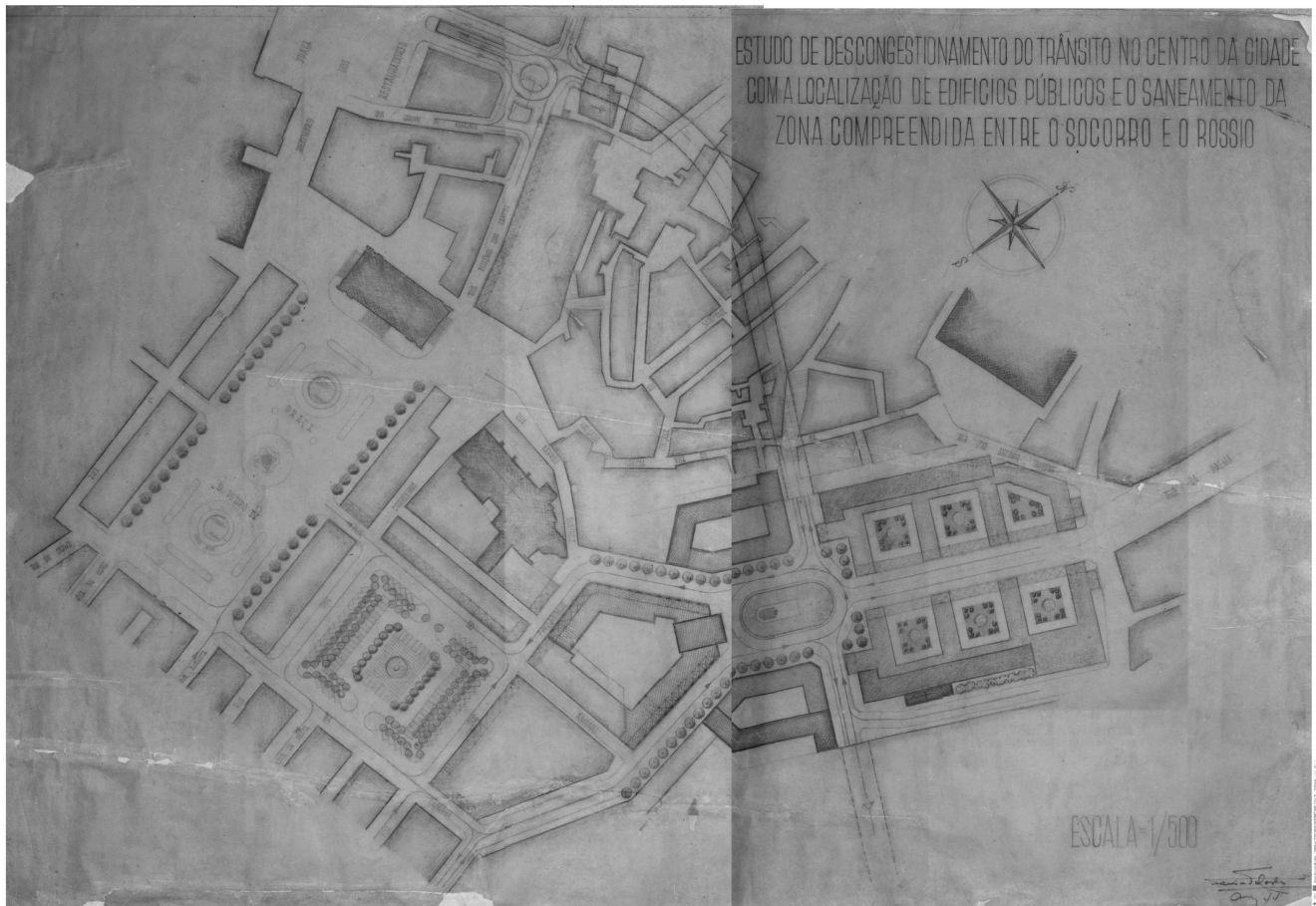
- 04 João Guilherme Faria da Costa, Plan for remodelling *Baixa*, Lisbon, Portugal. © Lisbon Municipal Archive, *Estúdio Mário Novais*, PT/AMLSB/MNV/S00254.



- 05 João Guilherme Faria da Costa, Preliminary project to the connection of *24 de Julho* Avenue and *Comércio* Square, Lisbon, Portugal, 1947. © Lisbon Municipal Archive, PT/AMLSB/CMLSB/UROB-PU/10/174.



- 06 João Guilherme Faria da Costa, Plan for remodelling *Baixa*, Lisbon, Portugal, perspective from *D. João I* Square, volumetric studies. © Lisbon Municipal Archive, PT/AMLSB/CMLSB/UROB-PU/10/291.



the comprehensive transformation of the city, reveals a process of adaptation to the Portuguese context, and a strong influence from the French tradition, which he absorbed whilst in Paris. Subsequently, fully engaged in the urban planning section of the City Council, in the period between 1944 and 1948, Faria da Costa underwent a process of great growth, which is reflected in his most important project, the plan for the *Alvalade* neighbourhood, that, along with the *Restelo* neighbourhood, today represent the areas of the 20th century Lisbon expansions with the most equilibrated spatial structure and a recognizable urban image that translated into neighborhoods with a good quality of life and which are very much sought after.

From 1948 started a period of changes, ensuing from the 1st National Congress of Architecture, which witnessed the production of some of the most uncertain results in the work of Faria da Costa, as a consequence of his attempts to reconcile recent trends in urban planning and design derived from the Modern Movement with the formal principles of the French tradition. It is a phase of great transformation in his work, the least well-known and also the least fulfilled, especially under the strong historical and morphological constraints of the areas in question, like *Martin Moniz*, which still represents an unresolved urban question in contemporary Lisbon.

Notes

- 1 Maria do Carmo Marques Pires, *O Ateliê de Arquitetura/Urbanismo de David Moreira da Silva e Maria José Marques da Silva Martins, Visibilidade da Memória*. PhD Thesis, Faculdade de Letras, Universidade do Porto, 2012.
- 2 Formerly known as *École des Hautes Études Urbaines (EHEU)*, founded in 1919 by Marcel Poëte (1866–1950) and Henri Sellier (1883–1943).
- 3 Teresa Marat-Mendes; Vítor Oliveira, “Urban planners in Portugal in the middle of the 20th century: Étienne de Groër and Antão Almeida Garrett”, *Planning Perspectives*, Vol. 28, No. 1, London, Routledge, 2013.
- 4 Donatella Calabi, *Storia dell'urbanistica Europea: Questioni, Strumenti, casi Esemplari*, Milano, Mondadori, 2004, 127–130.
- 5 With a thesis which consisted of the urban plan for the small Portuguese city of Figueira da Foz. Lisbon Municipal Archive, Diploma from *Institut d'Urbanism*, João Guilherme Faria da Costa personal archive, proc. n.º1657, f. 9. PT/AMLSB/CMLSB/GRHU/01/08310.
- 6 With the leadership of Duarte Pacheco, who took on his appointment as Mayor of Lisbon during the first 5 months of 1938 and then returned to the appointment as Minister of Public Works from May 1938, in the process of a deep reform of the municipal administration, legal and financial conditions were created to execute a vast program for the urban transformation of Lisbon, supported by specific legislation called *Regime dos Centenários*, Cfr. Decree Law 28 797/38. *Diário do Governo*, 1.ª série, n.º 150, of 01/07/1938, 1044. In this period there was a strong attraction towards French legislation and planning that probably influenced the design of the new legislation that Pacheco planned with the creation of the *Plano Geral de Urbanização* (DL n.º 24802, 21/12/1934), the first legal instrument which regulated town planning in Portugal and established the obligation for municipalities to develop town plans. This is an historic turning point beginning a season of great production of urban plans across the country, several of which were developed by Faria da Costa.

- 7 Lisbon Municipal Archive, Resolutions of Lisbon City Council, *Livro de Actas de 1938*, Acta nº4, Sessão de 17 de Março de 1938, 11.
- 8 Architects Keil do Amaral, Miguel Jacobetty Rosa and Inácio Peres Fernandes were accepted at DSUO in February 1938. Cfr. Lisbon Municipal Archive, Personal File of Francisco Caetano Keil Coelho do Amaral, proc. nº1658, f. 2. PT/AMLSB/CMLSB/GRHU/01/8311.
- 9 The DSUO is the municipal department where, in 1938, all the activities in the field of urban planning, previously dispersed, were concentrated. Duarte Pacheco accepted Faria da Costa at DSUO on 17/01/1938. Cf. Lisbon Municipal Archive, *Anais do Município de Lisboa de 1938*, Lisbon, Câmara Municipal de Lisboa, 1939, 11.
- 10 These two areas, the western zone and the north-eastern zone, are highlighted as priority "1" and "2" in the map indicating the urgent order for the execution of the land survey (*Map of Ordem de Urgência da Execução do Levantamento Topográfico*), Lisbon Municipal Archive, *Programa Concurso e caderno de encargos para levantamento topográfico*. PT/AMLSB/CMLSB/UROB-PU/10/090 Pasta 1, fl. 2.
- 11 The *Costa do Sol* is the region, along the coastline of the estuary of the Tejo river, leading from Lisbon to the town of Cascais, which is approximately 30 km away, where was developed a plan for the creation of an international tourist area that had been developed since the early 1930s, first by Alfred Agache and later by Étienne de Groër. From 1938, Faria da Costa developed a large number of plans and projects along the *Costa do Sol*, such as along the coastline at *Paço d'Arcos* and along the coastline of Cascais. He also collaborated on the project of the impressive bridge over the valley of *Alcântara*. This work, which was part of the construction of the inland Lisboa-Cascais-Sintra highway, marked, together with the *Costa do Sol*, the limits of the western expansion of the city of Lisbon. The project envisaged as well the creation of the Monsanto Forest Park. *Relatório da DSUO*, in *Anais do Município de Lisboa de 1939*, Lisboa, Câmara Municipal de Lisboa, 1940, 19.
- 12 Patrícia Almeida, *Bairro(s) do Restelo Panorama Urbanístico e Arquitectónico*, PhD Thesis, Universidade Nova de Lisboa, 2013.
- 13 See Faria da Costa, *Esboço dum bairro residencial para a zona norte da cidade de Lisboa*, Lisboa, Portugal. Lisbon Municipal Archive, PT/AMLSB/CMLSB/UROB/[PFC]/002.
- 14 The Italian company *Ottico Meccanica Italiana e Rilevamenti Aerofotogrammetrici* was designated to execute the land survey of Lisbon on February 14, 1939. The photographic survey was used as a base to develop the plan of Lisbon but the expected draft of the 243 maps (scale 1:10000) was not yet ready in 1947, so the assignment was given to the Portuguese institution *Instituto Geográfico Cadastral*. Lisbon Municipal Archive, *Relatório da DSUO*, in *Anais do Município de Lisboa de 1947*, Lisboa, Câmara Municipal de Lisboa, 1948, 113.
- 15 AML, *Relatório da DSUO*, in *Anais do Município de Lisboa de 1947*, Lisboa, Câmara Municipal de Lisboa, 1948, 112–113.
- 16 Beginning with the *Encarnação* neighbourhood, and followed by *Alvalade*, *Olivais* and *Cbelas*.
- 17 One of the pivotal points on which lies the extraordinary contribution of Faria da Costa to a new conception of urban planning, is the introduction of the paradigm of the neighbourhood unit, a planning concept that played a very important role in urban planning theories since the Garden City theories by Ebenezer Howard, who had a significant influence on Faria da Costa. Howard, in 1898, proposed the division of the city into areas, or wards, of approximately 5000 inhabitants, each with shops, services, schools and urban facilities. The principle was based on the allocation of services in a central position in the ward, in such a way as to allow the inhabitants to reach them on foot. The principle found no application in English cities but we find a reinterpretation theorized by architect William E. Drummond during the years 1913–22, and then commonly attributed to Clarence A. Perry (as published in 1929). During the 1940s, the Neighbourhood Unit, had a new application in The Greater London Plan (Abercrombie, 1944) and was also developed by Le Corbusier within the framework of European Rationalism. In particular, during the 1930s, as a part of that process of passage carried out by the protagonists of the *Congrès Internationaux d'Architecture Moderne* (CIAM) from the house-centered theme to a more comprehensive perspective on the city, the interpretation of the neighbourhood unit was an essential step. It was adopted as an element in CIAM's own theory, and played a part in the change of perspective from the analysis of individual functions to their interrelationship in the urban development design. Cf. Guido Morbelli, *Un'introduzione all'Urbanistica*, Milano, Franco Angeli, 2005, 179. See also Donald Leslie Johnson, "Origin of the Neighbourhood Unit", *Planning Perspectives*, Vol. 17, No. 3, London, Routledge, 2002.
- 18 Ana Tostões, "La città degli anni cinquanta", *Rassegna*, No. 59, Bologna, CIPIA, 1994, 63–71.
- 19 Ofício nº 3456 from *Director dos Serviços Centrais de Agosto de 1947*, Lisbon Municipal Archive, João Guilherme Faria da Costa personal archive, proc. nº1657, f. 54. PT/AMLSB/CMLSB/GRHU/01/08310.
- 20 *Mouraria* is the ancient Muslim quarter of Lisbon which was created by the first Portuguese King Afonso Henriques on the north-western slope of the castle of *São Jorge*.
- 21 Lisbon has 4 radial urban axes which converge in the *Baixa*, the heart of the city centre: the axis along the eastern bank of the river *Tejo*, the axis *Palma Street – Almirante Reis – Aeroporto Street*, the axis along the *Liberdade Avenue* (the boulevard built in the 19th Century which constitutes the main access to the *Baixa*), and the axis along the western bank of the river *Tejo*.
- 22 Ana Tostões, "Precursores do urbanismo e da arquitectura moderna", *Lisboa 1758. O Plano da Baixa Hoje*, Lisboa, CML, 2008, 208–216.
- 23 Lisbon Municipal Archive, *Anais do Município de Lisboa de 1962*, Lisboa, Câmara Municipal de Lisboa, 1963, 174.
- 24 *Idem*, 1.
- 25 In 1954, with the purpose of allowing a better support for the urban development works that were being carried out in Lisbon, the City Council created a new technical department, the *Gabinete de Estudos de Urbanização* (GEU) which consisted of a group of specialized technicians, aimed specifically at the revision of the Urban Plan for the City of Lisbon, the final revision of the Plan for Remodelling *Baixa* for its approval and execution, and the undertaking of new urban studies and plans for new urban areas. Resolution of Álvaro Salvação Barreto, the Major of Lisbon, 13/01/1954. Lisbon Municipal Archive, *Anais do Município de Lisboa de 1946*, Lisboa, Câmara Municipal de Lisboa, 1947, 147.

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Carlos Ramos, Radium Pavilion, Portuguese Institute of Oncology, Lisbon, Portugal, 1933, terrace. © Arquivo Nacional de Fotografia.

An Intangible Heritage in Use. Portuguese Institute of Oncology

BY DANIELA ARNAUT

The Portuguese Institute of Oncology (IPO) built in modern Lisbon, between 1927 and 1948, and added to until 1996, is the result of the Francisco Gentil effort to study and treat cancer. It is part of the Portuguese modern healthcare network and a reference concerning social, urban and architecture innovations, where the architects Cristino da Silva (1896–1936), Carlos Ramos (1897–1969), Raul Lino (1879–1974), Ernest Koop (1890–1962), Walter Diestel (1904–) and Raul Rodrigues de Lima (1909–1980) took part. By highlighting its cultural value this essay aims to stress the importance of achieving public and institutional awareness, in dealing with its everyday intensive use and transformation, towards a sustainable future.

IPO in Modern Lisbon: Cancer, the 1911's generation and architectural expression

The “generation of 1911” was a brilliant generation of Portuguese doctors that emerged at the beginning of the 20th century, responsible for the reform of the teaching of Medicine, with the creation of the Faculties of Medicine in Lisbon and Oporto in 1911, and simultaneously committed to the investigation of pathologies such as cancer. Francisco Gentil, one of the doctors, undertook the challenge of establishing a research treatment and oncological disease center.

The Government created the Portuguese Institute for Cancer Study in 1923¹, functioning in its first phase within the Faculty of Medicine in Lisbon (*Santa Marta Hospital*). Adapting pre-existing spaces did not suit the Gentil team, consequently, the evolution of science will be the alibi for the modernist expression. In 1927, the site was bought in a strategic location in the western growth area of the city, and in 1929 the first patient was admitted.

The Portuguese Institute of Oncology (IPO) would become one of the best Cancer Institutes of Europe, and the Radium Pavilion was the first European construction with effective protection against radiation.

The modernist architectural expression of the Radium Pavilion, expressed in Portugal between the last years of First Republic Regime and the end of the 1930s, had an ephemeral existence due to the “perverted relation between power and architects”². The 1930s were the Golden Decade of Public Works in Portugal led by Duarte Pacheco, ending with a “monumental accent as exposed in the program of Regime Public Works approaching a new historicist and regionalist vocabulary, staked on classical roots close to the Nazi and Fascist models of the time”³, which can be seen in the Hospital Block of IPO designed by Walter Diestel (1904–).

The process: authors and buildings

The IPO is located in *Palhavã*, a housing area mainly built at the beginning of the 20th century that has been transformed and renewed. The trapezoidal, slightly sloping, site is delimited by a railway on the northern and west sides, a very busy road on the northeast side linking to the city center, and next to one of the busiest traffic squares in the city, *Espanha Square*. The site's main access is from the southwest, from *Professor Lima Bastos Street*, a local road where the concave shape of the surrounding buildings announces its entrance.

Today it's composed of 10 pavilions built from 1927 to 1996, but its first construction was a single pavilion and its design process comprised several phases and authors Luís Cristino da Silva (1896–1976), Carlos Ramos (1897–1969) Raul Lino (1879–1974) together with Ernst Kopp (1890–1962), Walter Diestel with the engineer Tavares Cardoso and Raul Rodrigues de Lima (1909–1980), each one contributing for an urban master plan that changed with time.

Cristino da Silva.

The first dispensary for cancer in Portugal:
pavilion A (1927) and pavilion B (1930)

In 1927, Cristino da Silva, part of a modern generation referred to in modern architecture historiography as the generation of 1927⁴, was the most “virtuous and creative, [architect] in the right sense of beaux arts values”⁵. He designed the cinema *Capitólio* (1925–1936), “the first building that explored significantly the potential of the new technology [concrete] designing a mundane program intended for a socialization space connected with the world: a cinema that emphasized the rise of the seventh art as the art of the, also new, century”⁶.

Cristino was the first author of the IPO, and to whom Francisco Gentil gave a picture of an Italian sanatorium in order to “guide the buildings’ necessary organization for the Cancer Institute program”⁷. Of Cristino’s project, and due to financial constraints, only the small Pavilions A and B were built. Nevertheless together they gave form to the first Portuguese Institute for the study of Cancer in Portugal.

Placed near the southwest boundary of the site, and parallel to *Professor Lima Bastos* Street in a symmetrical composition, Pavilion A, to the left of the entrance, was the first dispensary for cancer in Portugal. It was built in 90 days, and opened to the public in December 1927. Its use was later changed to zoological and botanical research. Pavilion B to the right of the entrance, opened in 1930, was where the first medical consultations were given and the administration offices were organized. From what we know, the overall proposal of Cristino was composed of a symmetrical composition of monumental volumes where the main entrance was celebrated by a round inner square with sculptures. This proposal was never built. As we can see in the plan (Figure 02) pavilions A and B are not colored as maybe they were seen as temporary buildings, designed through a functional and pragmatic expression, as minor volumes in the monumental composition. Is also possible to observe the design of the exterior landscaped areas and tree alignments, and what could be, maybe, a trapezoidal building proposal on the western corner of the site.

Carlos Ramos.

From “one of the largest 20th century architectural complexes in Lisbon” [c.1930?], to the first European construction with effective protection against radiation: Radium Pavilion, 1933

In November of 1927, Carlos Ramos was invited to develop a new project for IPO. He accepted it and developed a new proposal that, if built, “could have been one of the largest 20th century architectural complexes in Lisbon”⁸ (Figure 04).

He officially accepted the invitation in January of 1928, and was nominated by a Government Law in April of 1928, together with Marck Anahory Athias (1875–1946)⁹, to undertake a study tour to understand the main cancer centers in Europe in order to bring to Portugal all the therapeutic, architectural and construction information and details to answer the requirements for a cancer treatment institution.

The study tour took place between February and April of 1929 and was of primary importance, not only for the further development of the project, but also for the thinking and future projects by the architect. During the tour he acquired the first editions of *Architecture* (1929) from André Lurçat (1894–1970), and *Vers une Architecture* (1923) from Le Corbusier (1887–1965). They visited cancer centers in France, Switzerland, Germany, Denmark, the Netherlands, Belgium and Spain, and from the Report¹⁰ is possible to observe the main references and models brought back to Portugal. Besides the study concerning the capacities of the cancer institutes and radium treatment specifications, the report includes plans of the sites and buildings, and photographs where it is possible

to perceive the roots and models for the master plan and for the Radium Pavilion designed by Carlos Ramos.

The hospitals in Denmark are underlined “as beyond all expectations regarding comfort, construction finishes, simplicity and practical use”¹¹, and as a reference on hospital construction and also on the quality of the overall design. It can be testified from the lecture by Carlos Ramos as vice-president of UIA, in Copenhagen in 1960, where “he refers to the overall design harmony of the hospitals, laboratories and workshops ‘from the giants that arrested the buildings to the earth, to the tiny parts that fix all types from windows to doors’”¹².

The Curie Foundation (1920), in Paris, is highlighted for “the exterior architectural simplicity of any pavilion, which constitutes in a modern way the secret of all and any construction of this nature”¹³. The Cancer Institute of the Faculty of Medicine is referred to as an example for “the separation between buildings for hygienic purpose”¹⁴. In Lyon, the Faculty of Medicine East / Rockefeller Domain, designed by Paul Bellemain (1886–1953), is pointed out as being a “sharply modern expression ... whose construction is based on standardization principles”¹⁵, and the Grange-Blanche/Edouard Herriot Hospital (1913–1933) is mentioned as a work from “one of the greatest names of contemporary France, Tony Garnier [1869–1948]”¹⁶. Both are clear models for the first project developed by Carlos Ramos considering the volumetric proportion and the design of the façades.

Presented in 1930¹⁷ by Francisco Gentil, this project is referred to as an “admirable study” that the “ones that know hygiene principles and hospital construction can appreciate the magnificent architectural work”¹⁸. Gentil states, as an introduction, that all the buildings are connected by galleries, that can be underground or not, and which are all linked at the basement level of the central entrance. This reflects his desire also expressed through the Italian sanatorium given to Cristino da Silva, where all the buildings were linked. He gives a long and thorough description presenting plans and elevations, clarifying the capacity of each building and concludes by declaring his desire to build it. As in Cristino da Silva’s proposal, it is also developed through a symmetrical composition aligned with the entrance, but augmented by several pavilions spread over the site. The pavilions are linked by galleries, and no internal roads are designed, except for the one connecting to the main entrance, and the direct entrance to the director and administration building. Also, no exterior landscaped areas were designed. Considered to be too expensive to be built, and too demanding to manage, this plan was never built¹⁹.

As stated by Francisco Gentil “in 1931, the disease caused to people working with radiation therapy, by the emanations of working with it, necessitated the urgent construction of the Radium Pavilion”²⁰. Consequently, the Radium Pavilion was built, and a new plan for the entire site was designed.

In the new plan, by Carlos Ramos (Figure 06), we can see the Radium Pavilion colored as Pavilions A and B (see the hatching applied on the drawing). In April 1934, he signed a contract to design the new IPO²¹. This new plan again made reference to what the architect had seen in Europe, propos-

- 01 Cristino da Silva, Carlos Ramos, Raul Lino, Ernst Kopp, Walter Diestel and Tavares Cardoso, Portuguese Institute of Oncology, Lisbon, Portugal, 1927–1948. Urban view on the built buildings. Cristino da Silva: Pavilions A (1927) and B (1930); Carlos Ramos: Radium Pavilion (1933); Walter Diestel and Tavares Cardoso: Nurses Technical School (1944) and Hospital Block (1948). © Art Library of Calouste Gulbenkian Foundation, *Estúdio Horácio Novais*, 1930–1980 [CFT164_057592].



ing once more a symmetrical composition, and a symmetrical single central building composed of several volumes: a larger one near the entrance, and a longitudinal one along the road and the railway on the north of the site, with a secondary entrance. Yet again this proposal was never realised as it was considered to be “full of inconveniences”²².

Nevertheless between May of 1931 and December of 1933 the Radium Pavilion, designed by Carlos Ramos, was built and was the first European construction with effective protection against radiation. Designed according to the *Second International Congress of Radiology* that took place in Stockholm in July 1928, this innovative construction was composed of walls and slabs consisting of several layers of different materials in order to assure radiation reduction. New construction techniques, such as concrete, fulfilled the construction requirements.

The Radium Pavilion is a single rectangular prism of three floors, and a modern solarium terrace, where the “functional imperative overlaps the artistic one, establishing it as the reference work of national modernism directly affiliated with radical international principles”²³. Program and functional demands, together with new construction technologies generated a clean and austere volume. Symmetry was the defining compositional hierarchy that was established through the taller volume containing the stairs, which was placed on the central axis of the volume. The volume’s walls are defined by a smooth surface where the openings were carefully defined by the structural grid and functional needs, “the plan is defined based on a rigorous 2.5m x 2.5m grid, generator of all the design: from the definition of the openings, to the structural system articulated on the definition of one, two, or three modules. This project rule, that was integrated in the construction, can be seen as the rigorous and formal compositional key to this building when compared with other contemporary ones”²⁴. As stated by

Keil do Amaral (1910–1975), “Carlos Ramos was the purest of the first modernists, because he was ‘mainly worried with the design of the plan, and the sections and façades were simply the result of the plan’”²⁵. This can be seen in the stairs’ exterior volume where the openings follow the stair levels generating an asymmetric composition.

Raul Lino and Ernst Kopp.
Guidance from Berlin, 1935–1938

In January of 1935 Carlos Ramos was dismissed²⁶, and Raul Lino²⁷ was invited²⁸ to develop a new proposal considering four main areas: a hospital block, a Nurses’ Technical School, a medical appointment building and investigation area. Ernst Kopp, from Berlin was also invited to participate in the project²⁹, working on Lino’s design making comments in the period between 1935 and 1938³⁰. It was never built and Gentil stated “Later [...] another architect did a plan that was unachievable within the City Hall urbanization settled for today”³¹. The plan considered the already built volumes, and symmetry remained the compositional rule. However, there were two clear differences from the previous proposals in that the area of the central axis of symmetry was empty, and the main central hospital block was placed near the north boundary of the site. As with Cristino, this team also designed the exterior areas, and identified the existing and proposed trees, defined local access points and the roads within the site that linked all the buildings (Figure 03).

From what we know, the proposed monumental volumes followed the symmetry rule, enhancing the entrance by a covered volume of stairs and a balcony at the 4th floor. On the 5th floor was a balcony along the façade, and finally a modern terrace on top. The openings seem to follow function and structure was defined according to the plan.

Walter Diestel and Tavares Cardoso.
German leadership, 1938–1948

The final plan was designed, in 1938, by the architect Walter Diestel and the engineer Tavares Cardoso “in harmony with the new site area and the street definition of the City Hall”³² (Figure 07). It was developed with several similarities of the previous plans: from Raul Lino and Ernst Kopp the building project for the Nurses’ Technical School was kept, and from the Carlos Ramos second plan was the location of the nurses’ school and the central location of the hospital block with a secondary entrance on the north boundary of the site. Besides that, a chapel and a sanitorium building were added, and the access points to the Radium Pavilion and to the Nurses’ Technical School were placed differently. The sanitorium building opened in 1943, not as designed in the initial plan, but was similar to pavilions A and B. It has already been demolished. The Nurses’ School opened in 1944 but not in a symmetrical position, but instead it was placed perpendicular to the Hospital block that opened in 1948. In fact, the built Hospital block is not that different from the one drawn by Lino and Kopp, but is lower, shorter, and deeper as well as being connected on its north façade to the exterior. The verticality of the main volume, which was parallel to Professor Lima Bastos Street, comprised 7 floors and a terrace, is shortened by the use of stone as the exterior finish of the ground and first floors. Two underground passages, clean and dirty, connected the Hospital block and the Radium Pavilion.

In 1951, Gentil paid tribute to Salazar and the Government for all the support in building one of the best Cancer Institutes in Europe³³.

Additions and transformations
from 1957 to ...

Several additions have been made over time, such as pavilions for workshops (1957), for cobalt-therapy (1958), and the one for medicine today transformed into a medical wing building designed in 1971, by Raul Rodrigues de Lima. In 1992, again several new pavilions were added: the mortuary, the molecular pathology pavilion, new workshops, and a new administrative pavilion. The Radium Pavilion terrace space was incorporated into the building and, in 1996, the radiotherapy emergency center was constructed.

Due to technological innovation, or other needs, the spaces are continually being changed and transformed. This means that the building is still being used and needed, but the questions that arise are: how are those transformations done within the identity of the building? How can we contribute to a responsible and sustainable change? Who can we involve in that process?

Possibilities for the future. An intangible heritage in use

As Carlos Ramos stated, in 1929, “If there are buildings that need a permanent renewal of their installations, and a complete reshuffle of their departments, hospitals are undoubt-

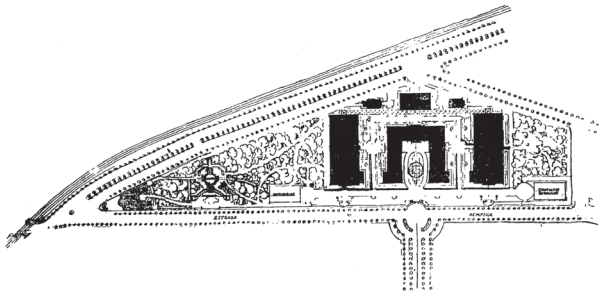
edly, the ones where that necessity comes first”³⁴. Following that understanding, it is vital to comprehend change and transformation, and to promote public awareness³⁵ regarding the use of 20th century heritage.

Modern healthcare buildings in Portugal aren’t yet profoundly studied, most of them are still in use or were reused for other functions, and it is imperative to document and understand their cultural value in order to recognize their identity and authenticity, but also to be flexible and conscious in order to integrate permanent innovation. The historical tangible significance of IPO is primarily known through the widespread importance of the Radium Pavilion, based on the Modern Movement principles of “technical experimentation based on the possibilities of new building materials. [...] formal investigation [...], referenced to the machine metaphor and a somewhat abstract aesthetic. [...] a strong ideological component and policy supported in the belief that architecture could function as a social condenser”³⁶. Nevertheless, the intangible heritage is likewise essential to be known to achieve a broad sense of belonging: by the recognition of the importance of Francisco Gentil as the dreamer and the very first author of the IPO; the impact of the travel done by Marck Athias and Carlos Ramos and its significance for the IPO’s pioneering cancer treatments, and for the architect recognizing it as fundamental for his education; by the relevance the non-realized master plans and building projects that translate ideas and the exchange between Portugal and Germany; and by the significance of the expression of political representation that changed over time in the buildings. This was recognized by the classification of the Radium Pavilion as a “Building of Public Interest”, and by the establishment of a “Protection Zone”³⁷. On one hand, the Government played its role in its primary mission “to protect and value the cultural heritage as a primary instrument for achieving human dignity, and its fundamental rights, in the service of cultural democratization, and in the support of independence and national identity”³⁸. On the other hand this classification can be a “straitjacket”, since it adds another layer of invasive legislation and regulations, where “the relationship between technical standards and the opposing requirements intended to protect architectural values, evolves episodically and on the basis of negotiation”³⁹.

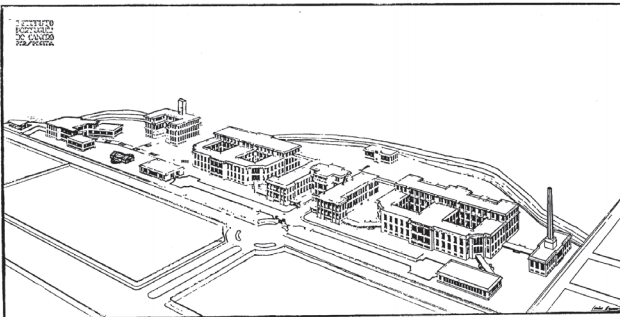
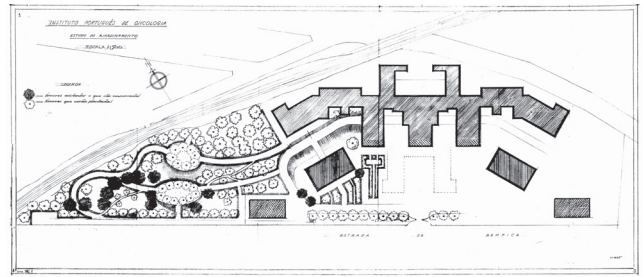
The challenge is to find a way to the “consciousness of heritage as a development factor. [...] the opposite of freezing future construction by the preservation of fragments of the past [...]”⁴⁰. As Alexandre Alves Costa states on the work of Fernando Távora “the introduction of new functions or even new environmental needs and comfort, withdraws the ‘eternal’ object from abstract neutrality and puts contemporaneity as a paralleled and mandatory issue.” The sediments exist, are present, are readable and constitute the scenery that defines and qualifies the space where we live our contemporaneity, and even our future, as the beginning, the end, and the pause crystalized in a timeless synthesis”⁴¹.

The historical intangible and tangible significance leading, or not, to classification, establishes the issues of memory and tradition as an informal safety measure of the “collective and accumulated existential wisdom of countless genera-

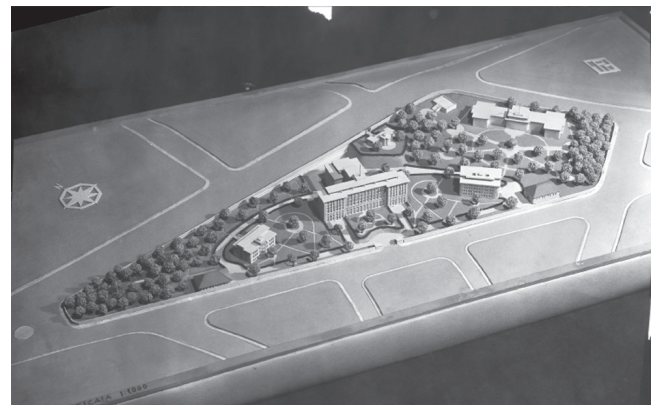
02 Cristino da Silva, Portuguese Institute of Oncology, Lisbon, Portugal, 1927. Plan. © Portuguese Institute of Oncology Archive, GENTIL, Francisco, "O passado, o presente e o futuro", in *Separata do Boletim do Instituto Português de Oncologia*, Lisbon, Portuguese Institute of Oncology, 1938, 4.



03 Raul Lino and Ernst Kopp, Portuguese Institute of Oncology, Lisbon, Portugal, 1935-1938. Plan. © Art Library of Calouste Gulbenkian Foundation. [RLDA 376_2]



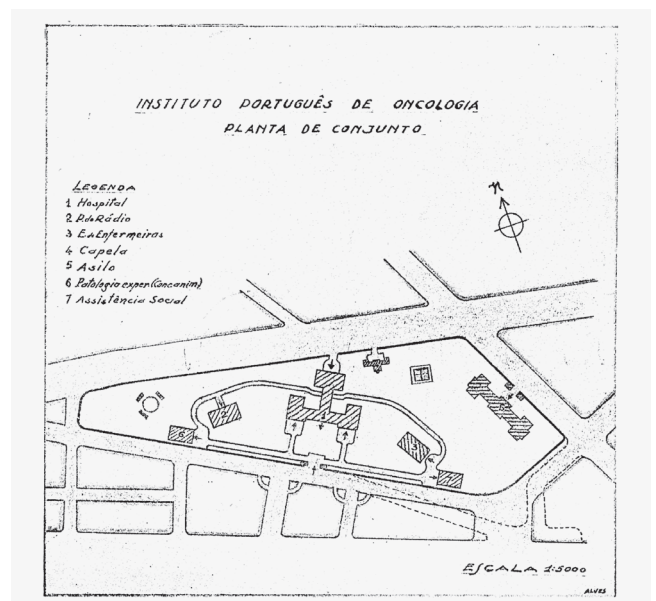
04 Carlos Ramos, Portuguese Institute of Oncology, Lisbon, Portugal, [c.1930?]. Plan. © Portuguese Institute of Oncology Archive, GENTIL, Francisco, "O passado, o presente e o futuro", in *Separata do Boletim do Instituto Português de Oncologia*, Lisbon, Portuguese Institute of Oncology, 1938, 7.



05 Walter Diestel and Tavares Cardoso proposal. Portuguese Institute of Oncology, Lisbon, Portugal, 1938. Model. © Art Library of Calouste Gulbenkian Foundation. [CFT003_100290]



06 Carlos Ramos, Portuguese Institute of Oncology, Lisbon, Portugal, 1934. Plan. © Portuguese Institute of Oncology Archive, GENTIL, Francisco, "O passado, o presente e o futuro", in *Separata do Boletim do Instituto Português de Oncologia*, Lisbon, Portuguese Institute of Oncology, 1938, 8.



07 Walter Diestel and Tavares Cardoso, Portuguese Institute of Oncology, Lisbon, Portugal, 1938. Plan. © Portuguese Institute of Oncology Archive, GENTIL, Francisco, "O passado, o presente e o futuro", in *Separata do Boletim do Instituto Português de Oncologia*, Lisbon, Portuguese Institute of Oncology, 1938, 10.

08 Carlos Ramos, Radium Pavilion, Portuguese Institute of Oncology, Lisbon, Portugal, 1933. Southeast façade. © Art Library of Calouste Gulbenkian Foundation [CFT003_125240].



09 Carlos Ramos, Radium Pavilion, Portuguese Institute of Oncology, Lisbon, Portugal, 1933, Northwest façade. © Art Library of Calouste Gulbenkian Foundation [CFT003_63485].



tions. It also gives a reliable direction to the new and maintains the comprehensibility and meaning for the new”⁴². Can the modern IPO built in modern Lisbon be “meaningful for the new”?

Still in use, its economic viability is assured, its cultural value is known, however, it could be disseminated more widely in order to generate, on one hand a sense of belonging and public awareness and, on the other hand, institutional consciousness and involvement, “as a space for participation, responsibility and historical awareness, re-conceptualizing their role and representation in the contemporary city”⁴³.

Portuguese modern healthcare heritage could be a modern ground of dealing with these questions, since, on one hand it is still not a fully understood heritage and, on the other hand, is still in intensive use.

What is our role?⁴⁴ Could we encourage citizen’s proximity towards healthcare buildings generating public healthy behaviors? Could we simultaneously promote a sustainable future being the actors of strategic and integrated urban and architecture actions, embracing transformations and leading the modern IPO to contemporaneity? Is this a territory of intervention with potential to be “irrigated” within the contemporary city⁴⁵?

Notes

All the transcriptions are free translations from the specified references.

- 1 Decreto-Lei nº9333, 29th December 1923.
- 2 Ana Tostões, *Arquitetura Moderna e a Obra Global a Partir de 1900*, in Dalila Rodrigues (coord.) *Colecção Arte Portuguesa. Da pré-história ao século XX*, Porto, Fubu Editores SA, 2009, 25.
- 3 *Idem*, 43.
- 4 Ana Tostões, *A Idade Maior. Cultura e Tecnologia na Arquitetura Moderna Portuguesa*, Porto, FAUP Publicações, 2015.
- 5 *Idem*, 151.
- 6 *Ibidem*, 56.
- 7 Francisco Gentil, “O passado, o presente e o futuro”, in *Separata do Boletim do Instituto Português de Oncologia*, Lisbon, Portuguese Institute of Oncology, 1938, 12.
- 8 Ana Assis Pacheco, “Pavilhão do Rádio, Instituto Português de Oncologia”,

in Ana Tostões, Annette Becker, Wilfried Wang, *Portugal: Arquitectura do Século XX*, München – New York / Frankfurt am Main / Lisboa, Prestel / Deutsches Architektur-Museum / Portugal Frankfurt 97-Centro Cultural de Belém, 1998, 170.

- 9 Mark Athias (1875-1946) was a doctor and researcher in biomedical sciences, pioneer in the development of histology and biochemistry in Portugal. He was a founding member of the Portuguese Society of Natural Sciences (1907), of which he was a Board member in 1916. The aims of the Society were scientific investigation, teaching and contribution to industry. In 1920 he established the Portuguese Society of Biology and, together with Abel Salazar and Augusto Celestino de Castro, promoted the Portuguese Histology School, and instituted the *Archives Portugaises des Sciences Biologiques*. From 1923 he was a member of the Board of the Portuguese Institute of Oncology, and also the director of the Histology Laboratory.
- 10 Carlos Ramos, Marck Athias, “Os meios de luta contra o cancro em alguns países europeus” – *Relatório de Viagem – Fevereiro-Abril de 1929*, in *Separata do Boletim do Instituto Português de Oncologia*, Lisbon, Portuguese Institute of Oncology, 1930.
- 11 *Idem*, 111.
- 12 Bárbara Coutinho, *Carlos Ramos (1897-1969): Obra, pensamento e acção. A procura do compromisso entre o Modernismo e a Tradição*, Master Thesis in Contemporary History on Universidade Nova – Faculty of Social and Human Sciences, Lisbon, 2001, Vol. I, 48.
- 13 Carlos Ramos, Marck Athias, *op. cit.*, 90.
- 14 Bárbara Coutinho, *op. cit.*, 48.
- 15 *Idem*, 98.
- 16 *Ibidem*, 99.
- 17 Francisco Gentil, Marck Athias (ed.), *Arquivo de Patologia*, Lisbon, Instituto Português Para o Estudo do Cancro, 1930, Vol. II.
- 18 *Idem*, 33.
- 19 Francisco Gentil, *op. cit.*, 12.
- 20 *Idem*, 13.
- 21 Bárbara Coutinho, *op. cit.*, 51.
- 22 Francisco Gentil, *op. cit.*, 13.
- 23 Ana Tostões, *op. cit.*, 177.
- 24 *Idem*, 180.
- 25 *Ibidem*, 180.
- 26 *Ibidem*, 181.
- 27 “[...] studied in his youth in England, going later to Hannover, where he studied architecture and worked until 1897 with Albrecht Haupt, an architect that knew the Renaissance architecture in Portugal. His German training made him one of the few architects of his generation unaffected by the beaux-arts models from Paris, bringing with him a set of cultural concerns, far from the historical-progressive formalism. [...] his vision of Portuguese architecture is marked by a nationalistic romanticism and by a cultural and constructive realism, contributing

10 Carlos Ramos, Radium Pavilion, Portuguese Institute of Oncology, Lisbon, Portugal, 1933, interior. © Art Library of Calouste Gulbenkian Foundation [CFT003_62553].



11 Carlos Ramos, Radium Pavilion, Portuguese Institute of Oncology, Lisbon, Portugal, 1933, laboratory. © Art Library of Calouste Gulbenkian Foundation [CFT003_3550].



- from 1920 to start a kind of campaign for a definition of the “Portuguese house”. [...] a man of great culture who was, throughout his life, a staunch opponent of modern architecture and its values [...]”, Ana Tostões, Annette Becker, Wilfried Wang, *op cit.*
- 28 Raul Lino, “Instituto Português de Oncologia. Projectos de obras elaborados de 1935-1938. Descrição,” Art Library of Calouste Gulbenkian Foundation, [RL 376.3].
- 29 *Idem*, [RL 376.3]. Ernst Kopp was invited, in 1935, by the Executive Commission of the Portuguese Institute of Oncology, to follow the project developed by Raul Lino. He was a German architect from Berlin, designer of the Martin Luther Hospital (1929-1933) in Wilmersdorf, Berlin, where he proposed the centralization of the traditional hospital in one single building. He designed and built a German Hospital in 1931/32 in Rio de Janeiro, and in Alexandria, Egypt, a copy of the Martin Luther Hospital. He planned the University Hospital in Teheran in 1936. In <http://www.pgd-healthcare.com/en/modern-hospital-architecture-first-realized-mlk-1931>
- 30 *Idem*, [RL 376.0 - RL 376.11].
- 31 Francisco Gentil, *op. cit.*, 13.
- 32 *Idem*, 14.
- 33 Francisco Gentil, “A Obra da Luta contra o Cancro e o Instituto Português de Oncologia”, Lisbon - Palhavã, 1951, 9, Art Library of Calouste Gulbenkian Foundation [AAT 3286]
- 34 Carlos Ramos, Marck Athias, *op. cit.*, 99.
- 35 Hubert-Jan Henket, “Reuse, Transformation and Restoration”, *docomomo Journal*, 52, Lisbon, *docomomo International*, 2015/01, 12.
- 36 Ana Tostões, *op. cit.*, 20.
- 37 The Radium Pavilion was established as a “Building of Public Interest” by the Portaria nº 389/2013, Artº. 1, where it is recognized as an item of national cultural value. For any intervention the Decreto-Lei nº 140/2009 defines a list of procedures. The “Protection Zone”, defined in Artº. 2 aims to maintain the views that allow the buildings to be perceived and to maintain the functional relationships between them.
- 38 Decreto-Lei nº 309/2009, 23 de Outubro.
- 39 Roberta Grignolo, “Quali “diritti” per il patrimonio architettonico del XX secolo? / What “Rights” for the 20th Century Architectural Heritage?” in Roberta Grignolo (ed.), *Diritto e Salvaguardia dell’architettura del XX Secolo / Law and Conservation of 20th Century Architecture*, Mendrisio, Mendrisio Academy Press-Silvana Editoriale, 2014, 43.
- 40 Ana Vaz Milheiro, João Afonso, Alexandre Alves Costa, *Candidatura ao Prémio Jean Tschumi – Prize Nominee – UIA 2005*, Lisbon, *Ordem dos Arquitectos / Conselho Directivo Nacional / Caleidoscópio*, 2005, 87.
- 41 *Idem*, 80–81.
- 42 Juhani Pallasmaa, “Newness, Tradition and Identity – Existential Meaning in Architecture”, *Proceedings of the 12th International docomomo Conference*, Espoo, Finland, 2012, 25.

- 43 Lily Jencks, Jessica Reynolds, *Sick City Rehab. Toxicity and Health in the 12th Century City*, Intermediate 13, Architectural Association, 2014–2015.
- 44 *The Future for Health – everyone has a role to play*, Calouste Gulbenkian Foundation, 2014.
- 45 Rem Koolhaas, “What Ever Happened to Urbanism?”, in Rem Koolhaas, S,M,L,XL, OMA, (with Bruce Mau), The Monicelli Press, New York, 1995, 959 – 971.

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Porfírio Pardal Monteiro, *Diário de Notícias Building*, Lisbon, Portugal, 1936. © Mário Novais, PMA archive.

Porfírio Pardal Monteiro and the Global Design

BY JOÃO PARDAL MONTEIRO

The search for the concept and the practise of a “total project” or “global project” in architecture, in the sense of the project that integrates various artistic and technical disciplines and which reflects itself as a coherent and constructed whole, are the guiding principles to explore the relationship of architecture with works of art and with other diversified technical fields, in reference to the “total work of art” concept.

The architectural concept that Porfírio Pardal Monteiro (1897–1957) will come to defend, revolves around the integration of the various fields of engineering and the integration of the plastic arts, assuming that architecture ceases to exist without the interaction of those two domains. A third domain can be added to these two, which is that of industrial (or product) and furniture design.

The search for the concept and the practise of overall design or overall design in architecture, in the sense of design incorporating various artistic disciplines and techniques, and which is reflected in a coherent building, is a long story, featuring Porfírio Pardal Monteiro (1897–1957), which dates back to 1919, at the beginning of his career. An architect of the modernist generation, Pardal Monteiro was among the most active between the 1920s and 1940s, not limiting his actions to the design and execution of construction projects, but also teaching and searching for the principles for understanding, rationalizing concepts and for ways of thinking about architecture.

For the architect, design is a global study of the object to be built, including the entirety of its integrated construction and artistic components. So, Pardal Monteiro explored the relationship between architecture and works of art, furniture and the various technical engineering specialties, using as reference the concept of an overall construction. When we look across Pardal Monteiro’s work within the political and social context, we find that, although he has a reference guideline in the way of thinking about architecture, which always accompanies him, he has made design choices and explored fairly different paths and languages over the years.

However, when we organize his works by type, we are driven by interpretation. In educational and cultural projects, we find as design principles the classical spirit and a certain desire for monumentality, together with an idea of functionalism. At the other end of this spectrum, the building designs linked to the automotive or the manufacturing sector are an expression of great rationality, in the concept underlying the type of use, which leads us to think about the concept of the workshop as machine, which is highly modern.

Pardal Monteiro tried and applied different languages, depending on the type of intervention concerned including, of course, designs of a clear monumental tendency which were highly convenient for the prevailing ideology. The

concept of architecture that Pardal Monteiro came to advocate revolves around the integration of the various branches of engineering specialties, and the integration of the arts, even assuming it cannot “exist” without a strong interconnection with these two areas. To these two fields of knowledge we can add a third, that of object design and furniture.

Born in 1897 in Pêro-Pinheiro, Sintra, into a family involved in the marble and stonework industry, Porfírio Pardal Monteiro received informal training in the field of construction and in its scope. From a very early stage, he was able to come into close contact with construction materials, techniques and processes, and to benefit from the interaction with the architects that made use, very often, of his father’s company’s services. Later, in an academic context, at the School of Fine Arts, he had the opportunity to interact with the masters of the generation who had seen the turn of the century, namely with Ventura Terra (1866–1919) and José Luís Monteiro (1848–1942).

At the end of the 19th century, Portuguese architecture was highly influenced by a revivalism and an eclecticism of romantic inspiration. During this period, many of the buildings emerging in the avenues of Lisbon showed a major investment in façade design, which valued the classical component, the *beaux-arts*.

His early works are quite varied, the palace in *Alto de Santo Amaro*, and simultaneously the *Caixa Geral de Depósitos* [Portuguese state-owned bank] branches and Lisbon’s Adventist temple, all strongly influenced by the more classical language of the *beaux-arts*. In 1920, he designed the Rau building, a residential building on *República Avenue* and it was with this construction project, tenuously more polished than his previous ones, that he won his first *Valmor Award*, the highest accolade for Lisbon architecture.

In 1923, Porfírio, commissioned by the *Caixa Geral de Depósitos*, undertook his first trip abroad to study banking facilities and bank equipment. Pardal Monteiro travelled

quite considerably, for personal enjoyment, and due to his professional consciousness, where each new construction project justified a trip to see the best of what was around, to technically evaluate and criticize the solutions, often traveling out of pure curiosity and the constant need to be up-to-date. In 1923, in Italy he dove into the universe of classical culture, visiting the cities of Florence, Rome, Naples, Pompeii, Pisa and Geneva¹.

In 1924, still influenced by the classics, he designed, among other projects, the Project for Lisbon's Olympic Stadium, which was never built. In 1925, he visited the *Exposition des Arts Decoratifs et Industriels Modernes* in Paris — an absolutely decisive event, which imposed a new direction on his architectural line. At the exhibition he found, in tandem with Mallet-Stevens' *Art Déco*, the modernists, Le Corbusier with the *Esprit Nouveau* pavilion and Konstantin Melnikov's Russian pavilion, all of them with a new, completely polished image.

He continued to make frequent trips, and established personal relationships with Auguste Perret (1874-1954) in Paris, where in 1930 the magazine *L'Architecture d'Aujourd'hui* (AA) was launched, which brought together the architects of the new generation and for which Pardal Monteiro became Portugal's correspondent. His friendship with Pierre Vago (1910-2002), chief editor of AA since its inception, as well as founder in 1932 of *Réunions Internationales d'Architectes* (International Meetings of Architects – RIA), the current International Union of Architects (UIA), was an important link to Europe and to the internationalization of the architect². Also during this time, he established a friendship with Alfred Agache (1875-1959), with whom Duarte Pacheco (1900-1943) established contact through Porfirio.³ When this city planner travelled to Portugal, his workplace was in the Porfirio's studio⁴, on official missions, for the awarding of scholarships or participation in congresses, he made countless trips to European cities between 1923 and 1948. We highlight Porfirio Pardal Monteiro's trip to London where, in September 1946, with Vago, Sir Patrick Abercrombie (1879-1957), E. Goldfinger and Perret, what is to this day still the most important organization for architects worldwide — the International Union of Architects (UIA), was created at the Royal Institute of British Architects. In 1953, he was tasked with the responsibility of organizing the *Congress of the International Union of Architects in Lisbon*. In 1939-45, during the Nazi occupation, to avoid censorship or closure of *L'Architecture d'Aujourd'hui* (AA) the magazine was based in Portugal, in Porfirio's atelier.

From 1927 onward, Pardal Monteiro met Engineer Duarte Pacheco and began his extensive career in public works, with the projects for the *Instituto Superior Técnico* (IST, 1929), and Statistics Portugal Building (INE, 1931), among others. From 1933, Salazar launched his "Economic Reconstitution Plan", and Duarte Pacheco, in the role of Minister of Public Works and Communications, was at the centre of the complete reorganization of the territory and its public equipment, resulting in great public exposure for this architect.

When we are presented with a cross-section of Pardal Monteiro's work, we note that while there is a reference line and an architectural way of thinking that always accom-

panied him, he makes design options and explores different paths and languages throughout the years. The image of the IST, for example, is completely different from that of *Ford Lusitana's* pavilion (1929) or the Ritz Hotel (1956). A Vitruvian rationality dictates a composition around a central axis and a dominant symmetry, this is present both at the IST and INE, and in the University City. In all these cases we find an avenue of great visual effect. The final design of Lisbon's University City, concluded in the post-war period, is subjected to an update to its architectural language, causing it to move away from the IST, and to move aesthetically closer to the National Library (1961), which was created during this time period as if it were part of the same set of buildings. In this same classical spirit, marked by a desire for monumentality, together with an idea of functionalism, the main building of the National Laboratory of Civil Engineering (1949) was designed, a structure linked to science and research. But, the harbour stations at *Rocha do Conde de Óbidos* (1934) and *Alcântara*, adopted a more cosmopolitan, less overwhelming scale and a more humanist character. Here we are presented with buildings that are intended for the purposes of commercial and tourist activities. In religious architecture — the design for the Olivais seminary and the Church of Our Lady of Fatima (1938) — Pardal Monteiro opted for solutions with an architectural language that came about as a result of the IST and the INE: buildings consisting of a main volume with two sections of interrupted symmetry. The hotels are always subject to a composition that focuses on functionality and modernity. Porfirio sought specialists in the technical areas of ventilation, air-conditioning and acoustics among others, in order to solve the technical problems in an innovative way. It all clearly translates into a pure modernist aesthetic, supported by a building structurally based on nothing but reinforced concrete.

Like other architects of his generation, on his study trips abroad, where he came into contact with the most diverse influences⁵, Porfirio Pardal Monteiro was committed to investing in an innovative image, and increasingly became an advocate for the importance of functionality in architectural options. This interest and commitment that Pardal Monteiro gave to functionality and the technical quality of the architecture resulted in special attention being given to the specialties of several engineering branches, and he increasingly incorporated these in his projects, taking into account their needs and specificities right from the inception of the architectural object. Finally, the designs for industrial buildings are created in a perfectly rationalist manner, with the entire distribution determining the program and allowing monumentality, patent in other buildings by the architect, to be transformed into highly modern monumentality in the language of the building as machine intended for these functions.

Around this time, and given that the Portuguese artistic milieu was not very large, architects and artists articulated themselves episodically at common activities, such as the *Salon des Indépendants*, in 1930. This initiative, which was carried out at the National Society of Fine Arts, brought together various artists from all areas, from painters and sculptors to photographers and designers, and also

01 Porfírio Pardal Monteiro, *Instituto Superior Técnico* central pavilion, Lisbon, Portugal, 1929. © Mário Novais, PMA archive.

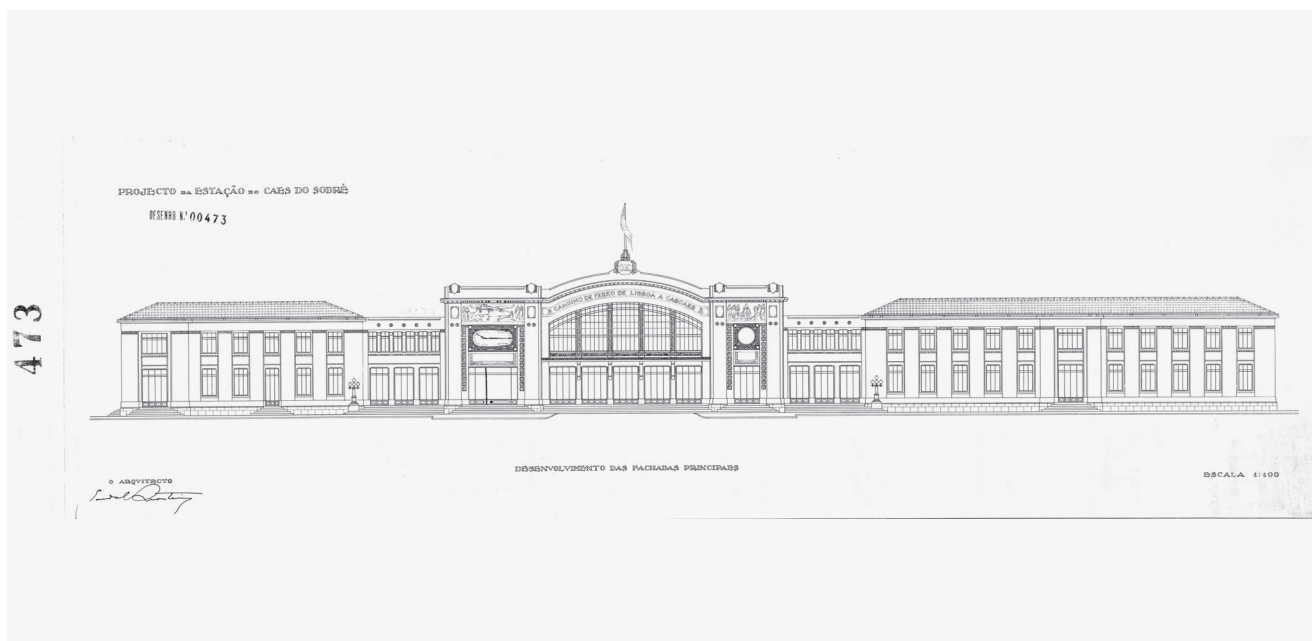


02 Porfírio Pardal Monteiro, Felix Ribeiro Lopes building, Lisbon, Portugal, 1929. © Mário Novais, PMA archive.



03 Porfírio Pardal Monteiro, *Alcântara* maritime station, Lisbon, Portugal, 1945-1948. © Arquivo Nacional de Fotografia.

04 Porfírio Pardal Monteiro, *Cais do Sodré* station, Lisbon, Portugal, 1926, façades. © CP archive.



05 Porfírio Pardal Monteiro, *Sociedade Ford Lusitana*, Lisbon, Portugal, 1929. © Mário Novais, PMA archive.



06 Porfírio Pardal Monteiro, Ritz Hotel, Lisbon, Portugal, 1956. © SIPA archive.



07 Porfírio Pardal Monteiro, *Instituto Superior Técnico* central pavilion, Lisbon, Portugal, 1929. © Mário Novais, PMA archive.



08 Porfírio Pardal Monteiro, Statistics Portugal building (INE), Lisbon, Portugal, 1931, directorate office. © Mário Novais, PMA archive.



architects who presented their work there. The exhibition was an outstanding event at the time, as an affirmation of modernity in Portugal⁵, and was a good demonstration of the affinities and interconnections between the artists who saw themselves reflected in this aesthetic currents. However, Pardal Monteiro would go on to forge professional connections and joint work practises, far beyond personal relationships and the mere exchange of opinions. His relationship with Almada Negreiros (1893-1970) would become the most important and best expression of a way of working that took into account the intervention of the artist from the beginning of the process. It is around these two areas – the incorporation of the specialties of some engineering branches, and the inclusion of the fine arts – that Porfírio Pardal Monteiro went on to defend his architectural design, stating at different times that it cannot go without a strong interconnection with these two fields. To these two fields we can add a third, that of object design and furniture.

This concept of architecture was, as can be understood from his words, very connected with a modern approach, since it was in modern times that the number and complexity of technical features increased exponentially. But this complexity makes the architect's role much more demanding, where he is no longer the person responsible for the outer surface, and becomes, in his own word, the author of an "overall conception":

Only in Portugal have we linked Architecture to the idea of the facade, the skin, the outer surface of the built part. This is a mistake that many people make in our country, almost always due to ignorance and sometimes because of convenience.

Architectural work is the complete conception of the problem, it is the set, the imagined construction, designed, in short, from a whole just as in a partition, a musical composition, it adheres to an idea, one of harmony, susceptible of attaining a result that will provoke emotion. And it is this emotional result achieved at the expense of the power of imagination that makes architecture first among the fine arts⁶.

This concern with functionality and technical quality is present from the beginning of his professional career. His interest for new materials and construction techniques that the 1920s and 1930s placed at the disposal of architecture, and his fascination with the possibilities for attaining levels of comfort and efficiency for the buildings, which matched the modernity of the century, led him to foster a relationship based on respect and cooperation, which was naturally driven by his position as a lecturer at the IST. At the same time, his way of thinking about art in architecture prompted him to develop a way of working with artists based on a collaboration rationale in which the architect allowed and valued their autonomy as creators. The works of art produced based on this model inhabit architecture as its natural abode.

The personal relationship that he established with artists, including with his employees, is not a cause but rather a corollary, an inevitable result, of this model of deep professional understanding. His understanding of architecture is closely linked to his relationship with fine artists, and it is not conceived without the furniture design forming an integral part thereof. In fact, this concept is very close to the one developed by modernist architects, his contemporaries. All the furniture that he designs is related to the architecture and in some cases with lines that are more radically modernist.

In 1957, at the height of his life, he passed away and it was his team of young architects who concluded his extensive work in progress, University City, the National Library and the Tivoli and Ritz hotels in Lisbon notable among them. A constantly growing body of work, drastically interrupted, during an important phase of aesthetic maturation.

Notes

- 1 Ana Tostões, *Pardal Monteiro. Fotobiografias Século XX*, Lisboa, Círculo de Leitores, 2009, 73.
- 2 *Idem.*, 74.
- 3 Ana Assis Pacheco, *Porfírio Pardal Monteiro/1897-1957. A Obra do Arquitecto*, Lisboa, [s.n.], 1998, 75.
- 4 João Vieira Caldas, *Porfírio Pardal Monteiro – Arquitecto*, Lisboa, Associação dos Arquitectos Portugueses, 1997, 64.
- 5 Madalena Matos, Tânia Ramos, "Lúcio Costa, Raul Lino e Carlos Ramos. Convergências e Divergências de Percursos", *Artitextos*, Lisboa, Centro Editorial da Faculdade de Arquitectura, n. 4, 2007, 87.
- 6 Porfírio Pardal Monteiro, *Discurso proferido por ocasião da sessão de homenagem* [Typed document from the PMA Estate], 1938, 13.

João Pardal Monteiro

(b. 1954, Portugal). Architect (1979), Master in conservation and restoration of buildings and monuments (1983), Lisbon School of Fine Arts, PhD (2012). He worked with Daciano Costa and at Pardal Monteiro Architects. He currently chairs the Faculty of Architecture of the University of Lisbon.



Cassiano Branco, building in the São Mamede Street, Lisbon, Portugal, 1937. © Arquivo Nacional de Imagem

Cassiano Branco. Modern Visions of an “Inconvenient” Architect

BY PAULO TORMENTA PINTO

Cassiano Branco (1897-1970) belonged to the pioneer generation of modern Portuguese architects, who worked during the years of the dictatorship. During the 1930s, Cassiano produced an anti-conservative and eloquent architecture, contrasting with the guidelines of the regime. The discomfort about his personality came also from his ideological opposition to the government. Among his peers he has been considered “an exception to the rule”, working, mainly for private investors, on programs for rental housing, movie theaters and tourism facilities, which were built along the boulevards of Lisbon or in the natural and intact regional areas of Portugal.

Introduction

On 25th April 1974 there was the revolution that deposed the *Estado Novo* dictatorship regime in Portugal¹. Following this political and social event, the magazine *L'Architecture d'Aujourd'hui* published in 1976 a thematic issue, dedicated almost completely to the country, whose heading was “Portugal an II”². That issue was the opportunity to present a prominent group of architects in an international context that included Siza Vieira (b. 1932), Teotónio Pereira (1922-2016) and Gonçalo Byrne (b. 1941), among others, who were mainly involved in social-housing programs.

The historian José-Augusto França (b. 1922) opened the issue of the French magazine with a text about the “pure and inflexible” period of the “fascist regime”. França identified a new generation of architects who emerged together with the regime on the 1930s. Cristino da Silva (1896-1976), Pardal Monteiro (1897-1957), Cottinelli Telmo (1897-1948) and Cassiano Branco (1897-1970), were some of the pioneers of a modernity that replaced the “neo romantic” revival style of the early 20th century. Despite the conceptual ambiguity between modernity and tradition debated in the sphere of the regime (mainly from the early 1940s), those protagonists launched the basis for a new language on architecture, which was assumed later in the 1st Congress of Portuguese Architects’ Association, held in Lisbon in 1948.

From those protagonists mentioned above, Cassiano Branco received special attention in the following article written by Fernando Gomes da Silva, who qualified him as an “exception to the rule”. The text, fully documented with pictures provided by the architect’s family archive, was placed in the magazine as a mediation point between the traumatic period decrypted by França, and the presentation of the new generation of architects committed to the challenges set by the revolution. Cassiano had died 6 years before this publication, at the age of 72, being introduced as an “inconvenient” (*gênant*) architect, not only because of

his political position against the regime³, but also because of his anti-conservative architecture.

Namely in the 1930s, Cassiano Branco’s architecture explored shapes and situations extracted from the artistic avant-garde universe. Cubic volumes, circular balconies and bow windows are the composition fundamentals of several buildings designed by Cassiano especially for private investors coming from the new *bourgeoisie* created by the *Estado Novo*. Those fundamentals were used to develop programs for rental housing, movie theatres and hotels, which were built along the *boulevards* of Lisbon in the late 19th century.

Cassiano Branco integrated ideas and novelties in his projects drawn from artistic fields, following the principals of a shared education between artists and architects in the Fine Arts School of Lisbon. The avant-garde debate was intensified particularly during the WWI, when Portugal lived an effervescent cultural moment. It was relevant in that period the presence of artists, such as the Delaunay couple, who found at the western limit of Europe, a possibility for their research about *simultanéité*. Cassiano Branco would explore some of these concepts manipulating his architecture as a tool to explore these modern aesthetics namely in building elements, and in the sinuous surfaces of his façades.

Cassiano Branco and the architects of his generation were exposed to new materials and technologies, particularly concrete and its derivatives, as well as the components produced by the strong Portuguese ceramics industry⁴, which had a huge impact, changing building methods and demanding a new attitude from architects⁵.

Cassiano Branco’s architecture reflected all those changes and ambiguities brought by the *Estado Novo* regime.

Liberdade Avenue as the main stage for Cassiano’s modernity

Cassiano Viriato Branco was born in 1897 in Lisbon, in a house close to *Liberdade Avenue*⁶. This axis was the most

important *boulevard* opened 15 years before his birth in accordance to Ressano Garcia's (1847–1911) plan. Cassiano could observe and feel all the implementation process of this positivist desire, which would later become the main stage for expressing his own visions of modernity.

A photo by Domingos Alvão (1872–1946), taken in 1937, from the balcony of the famous Victoria Hotel, designed by Cassiano Branco, depicted this overlapping. Alvão presented the long *boulevard* almost intact, with its palm trees, flower-beds and ornamented sidewalks, while the round balcony of the hotel intersected the left side of the composition, framing the image. This balcony coated in rosy marble and bright stainless steel elements, was proposed by Domingos Alvão as a tribune from which to observe the city and its changes.

Victoria Hotel was projected between 1934 and 1935. The building, featured as an asymmetric composition with horizontal cantilevers finished at the extremes by round balconies, such as the one in the photo taken by Alvão. Those circular shapes embodied the spirit of Delaunay's *simultanéité*, reacting to the intensity of sunlight as a cadence of orphic circles.

The first project designed by Cassiano Branco on *Liberdade* Avenue dated from 1928, two years after finishing his degree in architecture. At that time Cassiano developed a 2-floor concrete building garage program (now demolished) to store and sell automobiles. Two striated pilasters emerged in its façade extremes evoking flaming torches, while above the entrance door; a glass composition filtered the light, creating an Art Deco atmosphere in the interior. The *Paris International Exposition of Modern Industrial and Decorative Arts*, which Cassiano Branco visited in 1925, was a fundamental reference followed by him mainly in the 1930s.

The same materials and architectonic vocabulary were used in the terrace kiosk of the Palladio Coffee (also demolished), built in 1933. A centralized concrete structure, based on one main column, supported an intermediated floor over the bar, and from that point was possible to have a reserved and panoramic view of *Liberdade* Avenue. On the top, a modern neon sign advertised the drink brand “Martini Vermouth”, under a comic image of a pig.

The atmosphere produced by urban lights and advertisements was a novelty at that time. Theatres and cinemas contributed to this new environment with their announcements and crowds, since *Liberdade* Avenue was the most important spot in the capital. Cassiano Branco had the opportunity to work on those new urban programs, being involved since 1930 in the renovation of the eclectic Eden Theatre. Cassiano Branco's challenge was increasing the audience capacity, transforming the former hall into a movie-theatre with the capacity for showing the new movies with sound. The last proposal made by Cassiano for the Eden Theatre consisted of 5 vertical bow windows on the façade above the ground floor, while at the top 2 steel framed boxes of light, similar to lanterns, were deployed, punctuating the building height. The new hall was inaugurated in 1937, although without Cassiano Branco's responsibility, since his contract with the building owner, *Companhia União Fabril*,

had been terminated, and it was the architect Carlos Dias who finished the project.

Remaining from Cassiano Branco's design is the main architectural structure, and the entrance lobby below the projection room, where several stairs conducted people to different sectors of the cinema. This particular lobby with restricted dimensions was designed as a kind of a movie set, composed by overlapped stairs, creating a dynamic and delirious atmosphere, which worked as a preparation for the cinema experience.

Dwelling buildings for the new bourgeoisie

The cinema apogee in Lisbon was during the 1930s, matched with an economic and political stability achieved by the regime through a tight control of public finances that allowed it to overcome the negative impact of the 1929 American depression⁷. For Cassiano Branco this was the opportunity to design several rental buildings for private investors, filling and consolidating available plots all over Lisbon.

Cassiano worked with common typologies, leaving his mark mainly in façades, which were designed by him as a kind of scenario to be understood in movement, just as in the cinema experience. As mentioned before, the new possibilities of concrete were determinant for his architectonic exploitation. Cassiano's façades used to be designed in a systematic game between the plan of vertical structure, tangent to the deployment perimeter of buildings, and the plan of cantilevered volumes that advanced on the first one.

The project for 3 *Almeida Brandão* Street in Lisbon, designed in 1932, corresponds to one of the first programs for multi-family buildings done by Cassiano Branco. This was a 4-storey building with 2 dwellings on each level. The internal organization followed the common typologies of that period, featuring a central axis that housed the stair, storage rooms and bedrooms for employees and kitchen; living or office rooms were related to the main façade; facing the side façade, a row of bedrooms was placed together with the bathroom. Finishing this sequence, the dining room was placed in articulation with the kitchen. The symmetry of the main façade followed the Art Deco research done by Cassiano, being the composition depicted by horizontal strips underlined by masonry string courses. At the centre of the elevation, rotated cubic volumes integrated oblique windows, while at the last level, a composition of plans is projected to the sky.

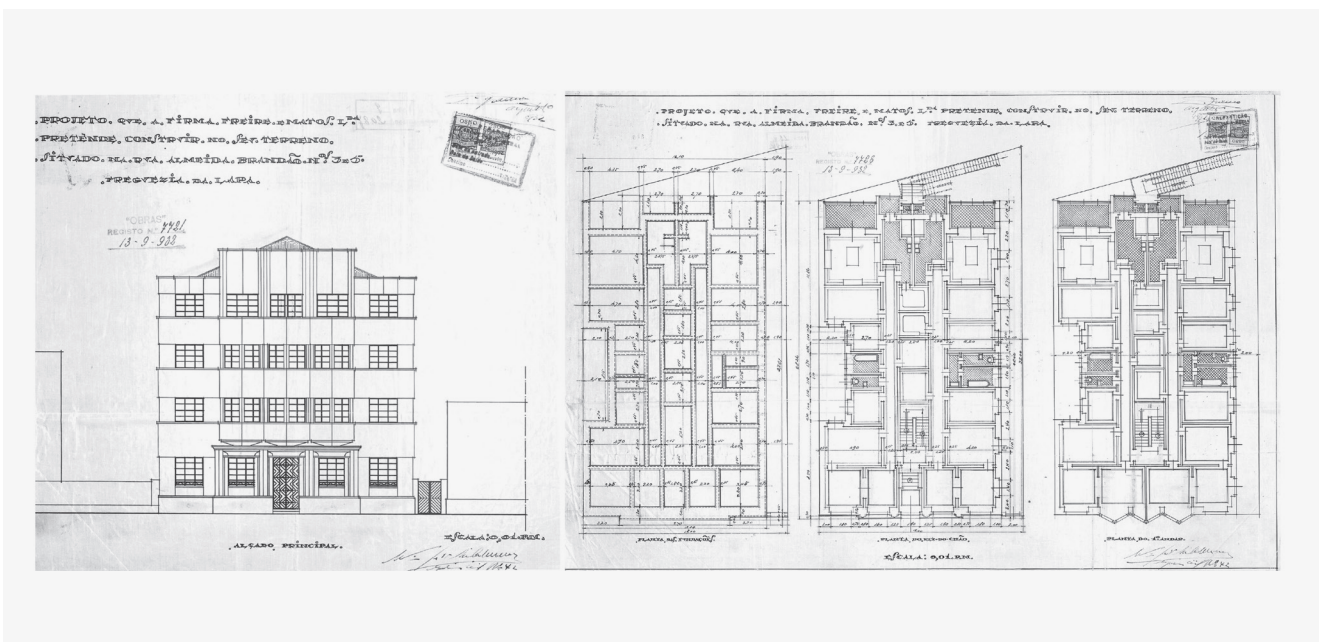
Cassiano's projects of rental housing buildings would increase in the middle of the 1930s, after the implementation of the Concrete Code (1935). This was a period of huge production with great investment in residential programs. Cassiano Branco designed several buildings over these years, some of which were certified for approval to the municipality by the civil engineers with whom he used to work. Cassiano's interventions in 46 *Álvares Cabral* Avenue and 7 *Nova de São Mamede* Street are examples of this intense activity, shared with those engineers⁸.

In 1937 Cassiano Branco designed his masterpiece in terms of residential buildings at 27 *Defensores de Chaves* Avenue. This building also followed the right/left symmet-

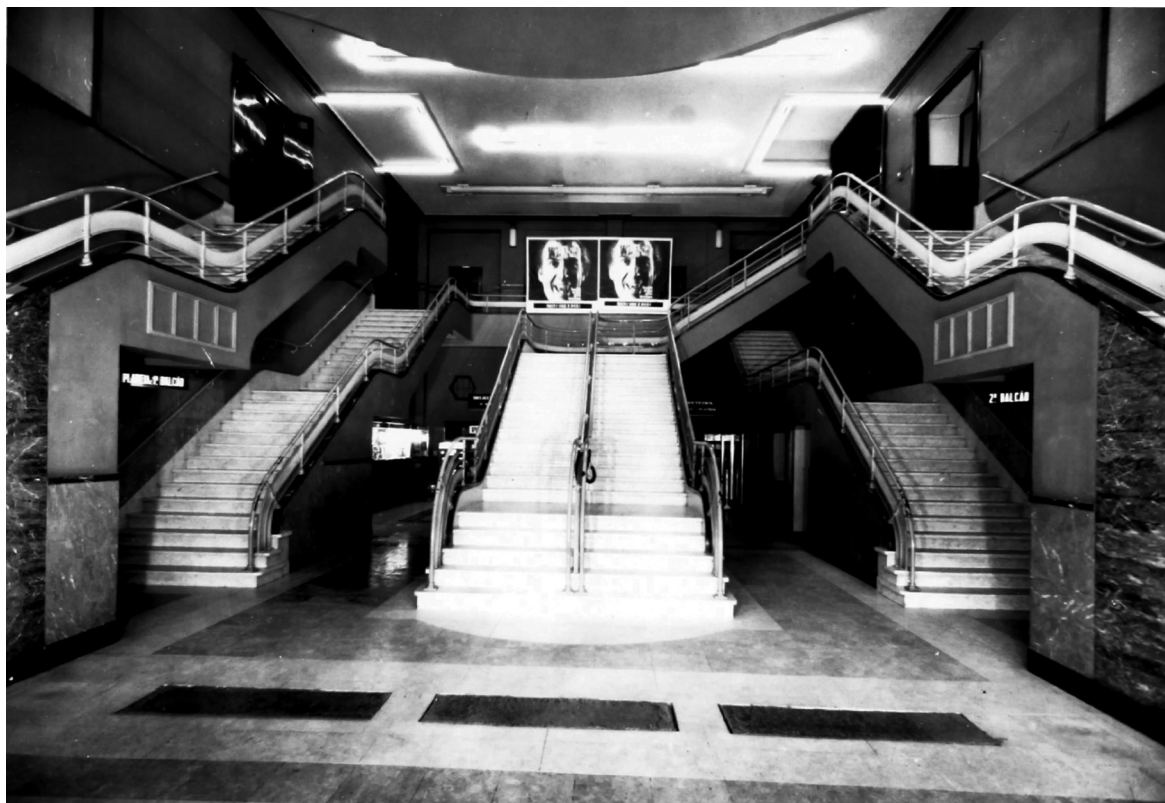
01 Cassiano Branco, *Victoria Hotel on Liberdade Avenue*, Lisbon, Portugal, 1939.
© Domingos Alvão, 1939, Alvão Photography Found, *Centro Português de Fotografia* DGLAB/SEC-PT/CPF/ALV/006172.



02 Cassiano Branco, *Victoria Hotel on Liberdade Avenue*, Lisbon, Portugal, 1939.
© Domingos Alvão, 1939, Alvão Photography Found, *Centro Português de Fotografia* DGLAB/SEC-PT/CPF/ALV/005064.



03 Cassiano Branco, building on *Almeida Brandão Street*, Lisbon, Portugal, 1932, elevation and plans. © AML/Building 978/Proc.2087/DAG/PG/1932.



ric typology and was a synthesis of his projects done in the 1930s displaying an undulating Art Déco façade. The composition's symmetry was reinforced by a striated plan, which intersected the sequence of organic cantilevered volumes that featured on the elevation.

Cassiano's dwelling buildings were addressed to a new urban society that was, at the time, concentrated in Lisbon. The dimension of the dwellings and their facilities, such as bathroom, kitchen and ventilation, contrasted with the general living conditions of ordinary people. Cassiano Branco acting at the beginning of the period understood the demands of this new social milieu that had emerged during the *Estado Novo* regime.

Tourism and the conciliation challenge between tradition and modernity

A healthy conscience of urbanism allied with policies providing the natural marvels and the epic history of the country, created the perfect scenario for introducing tourism as a fundamental subject in that period. A special sensibility for recreation programs was depicted at the base of Cassiano's work. The urban proposal in 1930 for *Costa da Caparica* in the south of Lisbon followed this principle, foreseeing a huge change along that stretch of Atlantic coast. New hotels, casinos, cinemas, theatres and sport facilities would be provided for the new bourgeoisie, which would use this broad city to exhibit a new way of life contrasting with the reality of that place, which at the time remained as a small village of fishermen with precarious conditions.

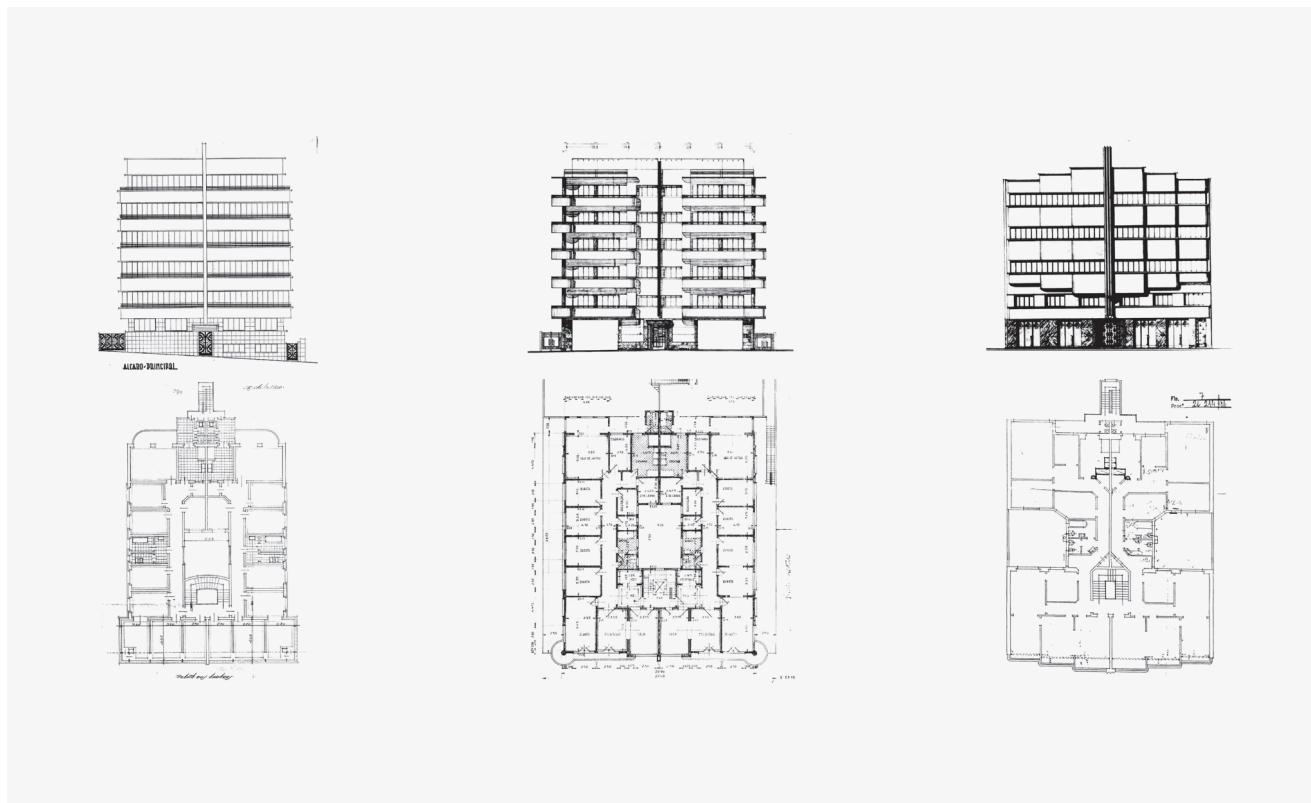
The development of tourism would be a strategy of the

regime that would promote a set of policies to improve both historical built heritage, as well as a healthier quality of life, a fundamental issue to build a "new state"⁹. Cassiano Branco understood the importance of the tourism sector, proposing ideas and projects for areas with potential growth.

The Thermal Grand Hotel of Luso was Cassiano's first experience in terms of regional hotels, designed in 1938. This project was also the opportunity he had to work with Bissaya Barreto (1886-1974), a philanthropist doctor, administrator of the Luso Water Company. The medicinal properties of water in that region of the *Beira Litoral* (in the centre-west of the country), was the main argument for building a facility with good conditions to host people on health vacations, providing, at the same time, the possibility of enjoying the natural environment of that place. The building was planned as an L, framing the huge swimming pool that joined the water from the Luso spring. Nevertheless the hotel's traditional image was considered a "building with modern lines featuring a refined elegance combined with ornate sobriety".¹⁰

Bissaya Barreto's conservative beliefs would demand from Cassiano Branco a complex exercise for combining tradition and modernity. Those convictions would be promoted with more visibility during the centenary commemorations of the Portuguese nation, which had been prepared to take place in 1940¹¹. The centenary program foresaw initiatives in several historic cities, the *Portuguese World Exhibition* to be held in Lisbon, being the most relevant. Cassiano Branco worked for the *Exhibition* designing the surrounding areas of the Colonial Garden. Despite his participation in the main

- 05 Cassiano Branco, building on *Álvares Cabral* Street, Lisbon, Portugal, 1933, elevation and plan signed by Teixeira Rego. © AML/Building 50194/Proc.6436/DAG/PG/1936; *Idem.*, building on *Nova São Mamede* Street, Lisbon, elevation and plan signed by Jacinto Betencourt. © AML/Building 51011/Proc.868/ SEC/PG/1937; *Ibidem.*, building on *Defensores de Chaves* Avenue, 1937, elevation and plan. © Cassiano Branco's Assets PT/AMLSB/CB/05/34, and AML Building 51324/Proc.26214/DAG/PG/1996.



event in the capital, his attention would be much more devoted to the challenge launched by Bissaya Barreto for designing a thematic park for children in Coimbra.

Barreto imagined a pedagogical place where monuments and traditional Portuguese houses from north to south, including one from the colonies, could be deployed at a scale adjusted for children. *Portugal for the Little Ones* would be the name of the enclosure, which included three sections, each one built in different stages, gathering the architect and the philanthropist doctor for a long period of 28 years¹².

Barreto would involve and support Cassiano's wide research into the fundamentals of Portuguese architecture; this influence would be determinant on the architect's path. The reports done by Cassiano Branco as a base for the Coimbra Park reproductions, gave him knowledge about the heritage identity of the country, contributing to a changing thought process about a possible way that Portuguese architecture could take.

The first section of the Park, named *Village Nest*, was concluded in 1940, and integrated a taxonomic panoramic of typical Portuguese houses. The *Ethnographic and Colonial sector* was the second section, finished in 1951, and included pavilions from the former Portuguese Colonies¹³, Brazil and the islands of Madeira and Azores also took part in this section, together with a complex pavilion dedicated to Coimbra featuring a reproduction of the main architectonic references of the city¹⁴, all of which were gathered together in the same building. The *Metropolitan section*, finished in 1961, represented the last phase of the Park that was built, and included pavilions dedicated to Portugal's regions. As

Cassiano had already explored in the Coimbra Pavilion, all the buildings, which comprised the *Metropolitan* area, were designed as a *collage* of reproduced fragments of each region's monuments. In this context, the park would be for Cassiano Branco a kind of a laboratory for disposing and manipulating all the collected elements, rehearsing improbable conciliations among them all.

This process was seen as a base from where it would be possible to rebuild a kind of continuity between the past and the future which, according to common sense, would be interrupted by modernity. Cassiano's research passed from the scientific process of collecting and reproducing at an appropriate scale, to a kind of taxonomy inversion, which originated new, uncanny architectonic entities.

Porto Coliseum and the international approach

Cassiano Branco was also involved in Porto Coliseum project, at the time of the Centenary Commemorations. This concert hall, planned for *Passos Manuel* Street, corresponds to a mature project, reflecting his sensibility about international culture¹⁵.

Special attention was paid to the Amsterdam City Theatre, designed by the Dutch Architect Jan Wils (1891-1972), who has been also involved in the long process the Coliseum in 1938¹⁶.

The Porto Coliseum was deployed on a site within the interior of a block upon the former *Passos Manuel* garden, where music and theatre performances used to be carried outdoors. Cassiano Branco proposed a wide, round shape to host the concert hall, which would be deployed in the centre of the block's core.

06 Cassiano Branco, *Rios d'Oliveira Garage*, Lisbon, Portugal, 1928.
© 1933, Calouste Gulbenkian Foundation CFT003.010288 ic.



07 Cassiano Branco, Kiosk in *Liberdade Avenue*, Lisbon, Portugal. © Cassiano Branco's Assets PT/AMLSB/CB/04/06/02.



08 Cassiano Branco, *Costa da Caparica* Plan, Almada, Portugal, 1930. © Cassiano Branco's Assets, Municipal Archive of Lisbon/ PT/AMLSB/CB/09/02/08.

Cassiano's façade for the Porto Coliseum was designed by following the Passos Manuel alignment, which had resulted from the division between two different programmatic morphologies. One of them was a blank wall with the Porto coat-of-arms and a vertical plan announcing the presence of the building, corresponding to the concert hall; the other corresponded to a commercial building with horizontal ripped windows that complement the set. This functional separation was the strength of Cassiano's proposal, distinguishing it from Wils' Amsterdam project, which foresaw a glass building occupying the entire street frontage.

During the building process, Cassiano's contract was terminated. This disagreement prevented him from completing the façade with the neon lights he had proposed. Despite this event, the Coliseum maintained the essence of the design which is visible in the sequence of spaces that were designed to channel crowds to different seating sectors in the concert hall.

As in Lisbon's Eden Theatre, the Porto Coliseum was also designed to involve people in a dynamic experience that started in the porch of the main entrance, which enlarged Passos Manuel Street, creating an external foyer for ticket sales and continued into different halls and curved corridors before reaching the round shape of the concert hall. In a certain sense, this main hall translated into a spatial dimension, the orphic concepts used by Cassiano in the balconies and ironwork of his buildings.

Cassiano Branco, the "inconvenient" architect

Although the arguments launched by Gomes da Silva in *L'Architecture d'Aujourd'hui* considering Cassiano Branco's "inconvenience", the historical expression of his architecture after the 1930s should be also considered as an "inconvenient" issue. Cassiano's unbridled talent and his sense of modernity was absorbed by a growing demand about national identity.

After the 1930s, Cassiano's architecture was depicted by an architectonic conflict perceived in the late decade. How to combine the research about tradition with modernity propelled him into a dilemma, figuring out a kind of an impossible solution to overcome this demand.

Despite all those issues, Cassiano Branco marked, with his cosmopolitan visions, the beginning of modernity in Portugal, during the traumatic period of the dictatorship.

Notes

- 1 The military dictatorship was implemented in Portugal in the sequence of *coup d'état* of 28th September 1926. The *Estado Novo* (New State) Constitution would be promulgated in 1933.
- 2 AAVV. *L'Architecture d'Aujourd'hui* – "Dossier Portugal an II", May/June 1976.
- 3 Cassiano Branco would be involved twice with opposition presidential candidates. In 1949, he supported Norton de Matos (1867-1955). His involvement with Presidential elections would lead to his detention by PIDE (International Police for Estate Defense) in 1958, at which time he was supporting Humberto Delgado's (1906-1965) candidature.
- 4 The main ceramic industrial products were: bricks, roofing shingles, mosaic pavement, tiles; stoneware pipes for sewage, sanitary porcelain, among others.
- 5 Structural compression was overcome by the introduction of cantilevered slabs, allowing torn veins and volume variations. Also the integration of industrial components required a rigorous metrical

- planning, contributing to increased architectural rationality.
- 6 Cassiano Branco was born in Telhal, Street n. 51, 2nd floor.
- 7 This was accomplished by among other measures, the interest rate reduction which provided easy access to credit, and public investment mainly through a huge campaign of public works. Cf., José Luís Cardoso, "Ecos da Grande Depressão em Portugal: relatos, diagnósticos e soluções", *Análise Social*, n. 203, Lisbon, 2012, assessed on May 2016, http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S0003-25732012000200006#1.
- 8 Bandeira Vaz and Teixeira Rego signed technical responsibility in the case of 46 Álvares Cabral Avenue; Jacinto Bettencourt signed for Nova de São Mamede Street. Both were designed between 1936 and 1937.
- 9 The first *Tourism National Congress* took place in 1936 in the Geography Society of Lisbon, being an important initiative to debate the potentialities and gaps that existed in Portugal on this matter. *Costa da Caparica* was addressed by Manuel d'Agro Ferreira referring to the demand on the beaches made by lots of people coming from the capital, spending long periods there without good conditions.
- 10 Cf. *Grande Hotel das Termas do Luso*, brochure published at the time when the hotel opened, by the Water of Luso Company, in 1940.
- 11 In the centenary commemorations of the Portuguese nation it was intended to celebrate the 800th anniversary of the National Foundation and 300th of the restoration of its independence.
- 12 The first phase, named Village Nest for the Little Ones, was concluded in 1940; the second one corresponding to the Ethnographic and Colonial section, was completed in 1951; the Metropolitan section finished in 1961 was the last phase of the park.
- 13 The colonies represented were Angola, Mozambique, Guinea, São Tomé and Cape Verde.
- 14 The Coimbra pavilion integrated architectonic fragments of the Santa Cruz church, the old Cathedral, the Episcopal palace and the University turret, among others.
- 15 Cassiano Branco had been working on this project since 1937, besides his contract with Garantia Insurance Company signed two years later, in 1939.
- 16 Cassiano Branco's interest by Dutch architecture was also visible in the magazine clips he used to collect about Willem Dudok (1884-1974), namely the *Collège Hollandais* building in the *Cité Universitaire* of Paris, and the Hilversum morphologies, constituted research fundaments. Also clips in Cassiano's papers referenced the English Odeon cinemas in Crewe, York, Yeovil and Dudley, built between 1935 and 1939.

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Alberto Pessoa, Hernâni Gandra and João Abel Manta, Infante Santo Avenue, mixed use tower, Lisbon, Portugal, 1953, computer generated image. © Tiago Farinha with António Damásio (ad3d.biz).

City Architecture. The Example of *Infante Santo* Avenue (1945–1955)

BY TIAGO FARINHA

Infante Santo was idealized as a modern way of living in a modern avenue, within the existing city. This comprehensive project of city architecture, coordinated by the architect Alberto Pessoa (1919–1985) and built during the 1950s, embodies a site-specific attitude of cultural and urban continuity. During its planning and construction, this major urban project was first exhibited in Lisbon, in 1951, and then in Rome, 1955, London, 1956, Washington, 1958, Brussels, 1958, and also published in the French magazine *L'Architecture d'Aujourd'hui*, in 1960. Today, the absence of a strategy for approaching *Infante Santo* as a whole is compromising its adaptation for the future.

From 1945 until the end of 1950s, the architect Alberto Pessoa (1919–1985)¹ was commissioned by the City Council, at the time chaired by Lieutenant-Colonel Salvação Barreto, to coordinate the urban project of *Infante Santo* Avenue, initially named *Tenente Valadim*. This new axis of the city, between *Basilica da Estrela* and the new city harbor along *24 de Julho* Avenue, was idealized as a modern avenue, drawn “in traditional urban fabric”, combining the “modern orthodox ideology” and the “peculiar geography” of Lisbon².

Urbanism

In the mid 1940s the word *urbanism* “sounds like an announcement of the new times”, yet “few people understand its real meaning”³. After concluding the course of Architecture at the Fine Arts School of Lisbon (EBAL) in 1943, the architect Alberto Pessoa attended the first course of Urbanism held at EBAL in 1945, under the influence of Professor Étienne de Gröer⁴. Later on, Alberto Pessoa became professor of Urbanism, 1951–1955, and Architecture, 1955–1960 at EBAL.

By focusing on a “conscientious study” of urbanism and housing, under the principles expressed in the Athens Charter⁵, and “in close contact with national realities”, Alberto Pessoa shared the overall spirit of the 1st *National Congress of Architecture*, held in Lisbon in 1948, where the construction of “functional and economic” housing units integrated into “rational plans of urbanization” was advocated, ensuring “wide open spaces”, and taking advantage of “technical knowledge and modern tools” towards a better quality of construction⁶.

After concluding the courses of architecture and urbanism, Alberto Pessoa worked for the Lisbon City Council, 1945–1947 and, in that period, developed the masterplan and the projects of public space and urban infrastructure of *Tenente Valadim* Avenue (Figure 02), the construction of which lasted until 1950. Already working as an independent architect, in 1949 Alberto Pessoa was commissioned

by the City Council to develop the preliminary study of the buildings in the central area of the avenue, a study that combined low-rise buildings with a public inner garden on the west side of the avenue and a modern set of 4 housing units with 8 floors, supported on *pilotis*, perpendicular to the avenue, on the east side of it. The first project of the housing units, including a market plaza and shops, was completed in 1950, setting out the main criteria underlying the design of this avenue, particularly its adaptation to the topography, the “link between architecture and nature”, the design of “accommodation on two levels” and the “simplification of access systems”, advocating a “more rational, comfortable and efficient” way of urban life⁷.

The preliminary studies of *Tenente Valadim* Avenue, meanwhile called *Infante Santo* Avenue, were revised and detailed between 1953 and 1955 by the architects Alberto Pessoa, Hernâni Gandra (1914–1988), and João Abel Manta (1925–). The new urban study included the architectural project of the different building types anticipated for this central area of the avenue, mainly combining a civic and shopping plaza, nine low-rise housing buildings, a mixed use tower, and five housing units⁸.

This “plastic harmony of volumes” was adjusted to the constraints of the site. On the west side of the avenue the site had very irregular depths, and the construction was developed parallel to the avenue, framing the rear of the existing buildings on the upper level, punctuated by a prominent volume facing a small civic plaza. On the east side of the avenue the site had almost uniform depth, although with a steep slope. The construction was organized in 5 housing units, perpendicular to the avenue, supported on *pilotis*, over a platform that was adapted to the topography and integrated retail and office spaces (Figure 03). The garden extended continuously along the platform, over the housing units, allowing the “unification of the green spaces” above the avenue⁹.

The precise idea of architecture, public space, and urban landscape is clearly manifested in the asymmetric profile drawn for the avenue, developed in collaboration with the landscape architect Gonalo Ribeiro Telles (1922–). The west sidewalk, 13 m wide, includes a large planted bed protecting the low-rise housing buildings from the traffic noise. Whereas the east sidewalk, 7 m wide, planned to be free from any urban obstacle — including lighting, that would be integrated in the buildings — faces directly the traffic of the avenue, playing as an urban kinetic device, with shop windows and modern urban art murals framing the stairs that connect to the quiet garden above.

This sense of “urbanistic update” is due to the will of a new generation of professionals working with the City Council, committed to the idea of a qualified urban environment in a city under active expansion¹⁰.

Housing Unit

The group of 5 housing units (Figure 04), perpendicular to the avenue, was designed between 1950 and 1954, based on a system of circulation galleries serving “accommodations on two levels” (Figure 05, 06). This interpretation of a “current solution in detached houses” is a compromise for the bourgeois and modern “custom and lifestyle of Lisbon’s middle class”. The result is a comfortable and rational independence of service circulation and a “complete isolation of day and night areas”¹¹.

The main access to six apartments on each floor is solved with three private elevators serving groups of two apartments. This system is completed with a central core that includes a service lift and stairs, linked with “the kitchen access service galleries”. The roof terrace of each housing unit includes a concierge’s residence, a communal laundry area, and also a sheltered space for “recreation and leisure”. The height difference between the level of the avenue and the level of the garden platform is designed with an alignment of shops and support walls covered with tile panels, framing the stairs that connect the different levels of public space¹².

The “metaphor of the housing machine” is determinant in the “conception of access and distribution systems”, in the “articulation of service areas”, in the “coordination of the structural system”, and in the “idea of type” which can be “codified” and repeated¹³.

Mixed Use Tower

The low-rise housing buildings along the west side of *Infante Santo* Avenue were planned to be punctuated by a mixed use tower, 18 floors high. This tower was never built, and the architects ended up designing a lower housing unit, but the reconstitution of a computer generated image allows us to perceive the urban and architectonic conception of the tower (Figure 01). The 3 first floors were dedicated to shops, restaurants and offices. From the 3rd to 7th floor the tower had two grand apartments per floor, and in the upper floors there were 2 duplex apartments facing south, with a clear view over the river, and 2 smaller single room apartments facing east and west. This modern tower was planned to be part of a dynamic civic center, designed as a

cluster of 2 plazas next to each other (Figure 07), on both sides of the avenue, foreseeing an intense urban mixture of public space, housing, offices and shopping areas, as well as the new facilities of the Parish Council, including a health center and a police station.

Hotel and Restaurant

The study of the intersection between *Infante Santo* Avenue and *24 de Julho* Avenue was also included in the first projects of public space and urban infrastructure developed by Alberto Pessoa while working for the City Council, 1945-1947. Thereafter, in 1950 the architect was commissioned to detail this intersection having proposed an architectural system where buildings incorporate a public space on different levels, including an “office block” with shops on its lower levels, along an “outdoor gallery” that potentiate the “commercial life” of the building and guarantee the public access between the upper and lower levels of the existent streets, now connected¹⁴.

The “office block” was not built but the changes to the project led to the construction of *Infante Santo* Hotel, 1955–1957 (Figure 08). The Hotel is located at the end of a “main artery” of the city, near the new harbor, with “good orientation”, and “wide views” of the river. In the 6 upper floors there are the 27 hotel rooms and the 2 lower floors host a “public restaurant”, also for the use of hotel guests, a shopping area, with access from the “public gallery”, and the spaces for hotel services. The “aesthetic appearance of the building” arises from the “careful solution of the problems”, the “construction system”, and the materials adopted,¹⁵ solving both the urban image and the public space of a dynamic location in the city.

Construction Technology

In 1953 Alberto Pessoa published a study on the “Modulation of Construction”, developed in the National Civil Engineering Laboratory (LNEC), based on the international adoption of a 10 cm module that works as “coordinator of dimensions”, minimizing waste and enabling “a disciplined freedom in the technique and art of construction”¹⁶. This study confirmed the “conscience” of “economy and rationality” that dominated the practise of architecture in the 1950s, particularly the “standardization effort” related to multi-unit housing¹⁷.

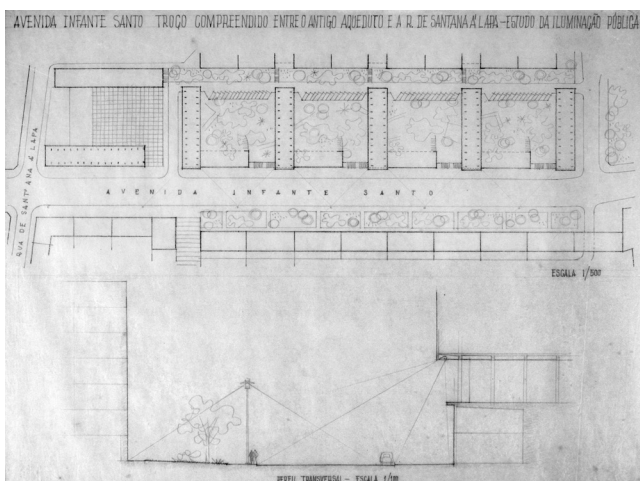
In the same year Lisbon hosted the 3rd Congress of the *International Union of Architects*, UIA, chaired by Sir Patrick Abercrombie, which involved about 550 architects, engineers and students from 35 countries around the world. The discussion was centered on the role of the architect, the engineer, the urbanist, and the collaboration between them, the theme of housing habitat and the theme of industrialization and modular nature of construction.

Between 1953 and 1955, the architects Alberto Pessoa, Hernâni Gandra, and João Abel Manta, together with the engineers Jordão Vieira Dias and António Alves de Sousa, detailed the projects of the 12 different building types in the central area of *Infante Santo* Avenue, fully subjected to a module of 10 cm, in plans, sections and elevations, according to



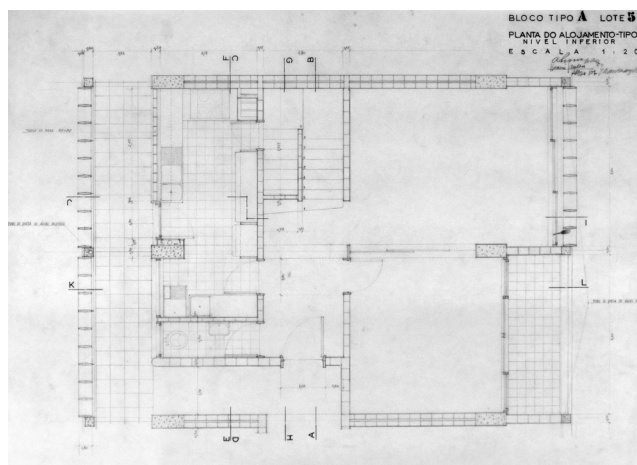
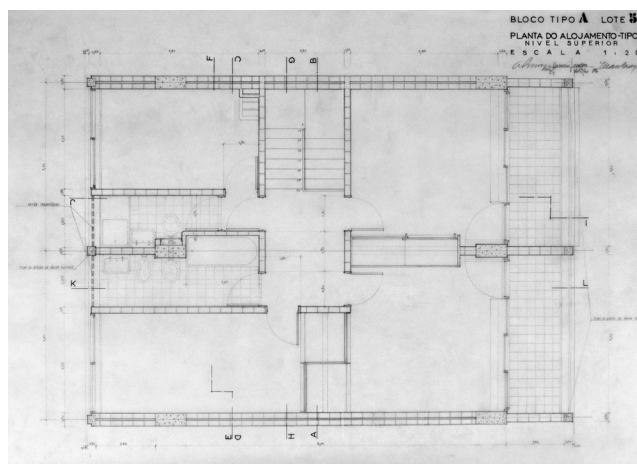
02 Alberto Pessoa, *Tenente Valadim Avenue*, masterplan, Lisbon, Portugal, 1945-1947. © Lisbon Municipal Archive, UROB_PU_10_162_01, folio 14+6.

03 Alberto Pessoa, Hernâni Gandra, and João Abel Manta, *Infante Santo Avenue*, urban study, Lisbon, Portugal, 1953. © Alberto Pessoa Archive, lx49_IMG_4991, Tiago Farinha, 2013.



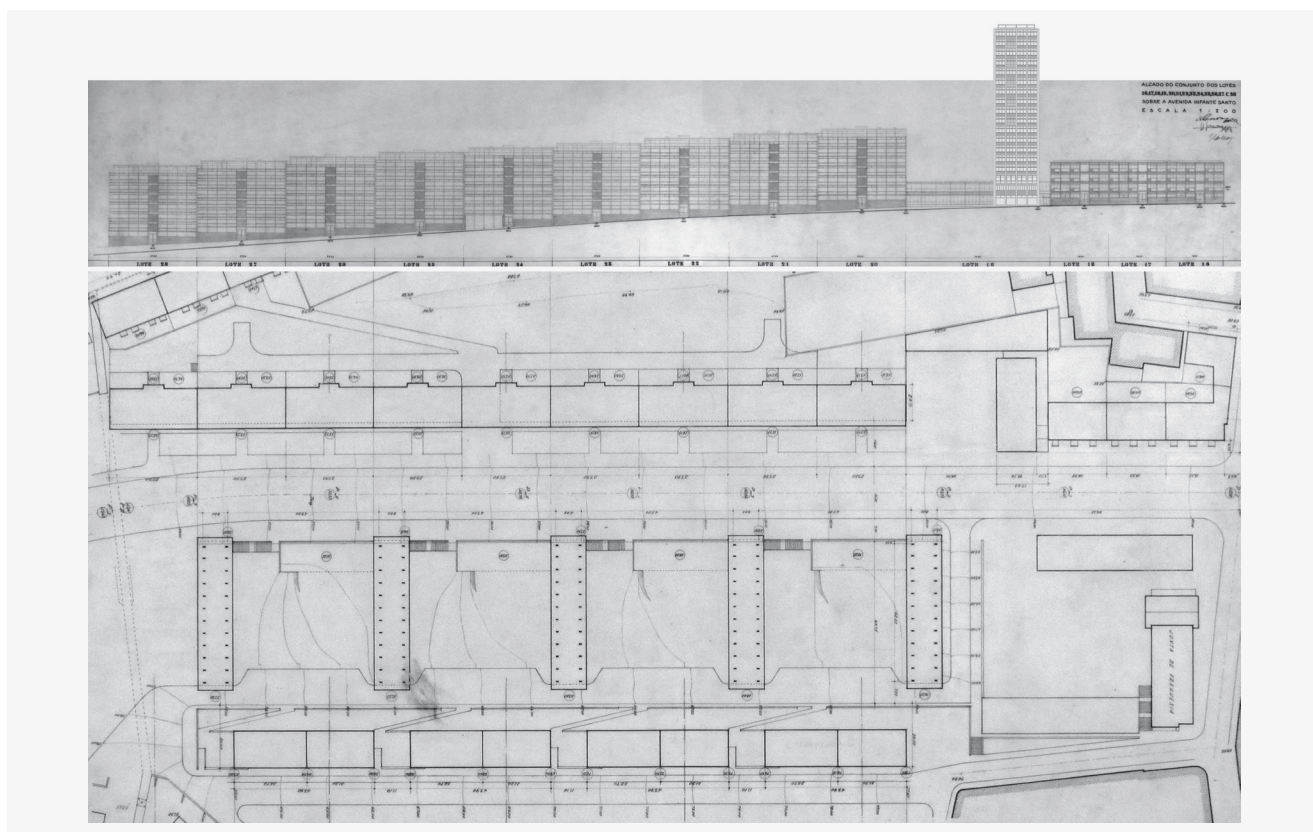
04 Alberto Pessoa, Hernâni Gandra, and João Abel Manta, *Infante Santo Avenue*, housing units, Lisbon, Portugal, 1949-1954. © Lisbon Municipal Archive, PT_AMLSB_MMJ_000091, Manuel Mendes de Jesus, 1957.

05 Alberto Pessoa, Hernâni Gandra, and João Abel Manta, *Infante Santo Avenue*, housing units, modular apartment, upper level, Lisbon, Portugal, 1953-1954. © Alberto Pessoa Archive, lx50_IMG_5070_5074, Tiago Farinha, 2013.



06 Alberto Pessoa, Hernâni Gandra, and João Abel Manta, *Infante Santo Avenue*, housing units, modular apartment, entrance level, Lisbon, Portugal, 1953-1954. © Alberto Pessoa Archive, lx50_IMG_5070_5074, Tiago Farinha, 2013.

- 07** Alberto Pessoa, Hernâni Gandra, and João Abel Manta, *Infante Santo* Avenue, urban study, Lisbon, Portugal, 1953–1954, original drawings and digital collage with the mixed use tower facade. © Alberto Pessoa Archive, Lx52_IMG_6196-6198 + Lx50_IMG_5133, Tiago Farinha, 2013 (original digitalization), 2016 (digital collage).



- 08** Alberto Pessoa, *Infante Santo* Avenue, hotel and restaurant, Lisbon, Portugal, 1955. © Lisbon Municipal Archive, PT_AMLSB_SER_I03737, Armando Seródio, 1965.



- 09** Alberto Pessoa, Hernâni Gandra, and João Abel Manta, *Infante Santo* Avenue, Lisbon, Portugal, 1945–1955. © Lisbon Municipal Archive, PT_AMLSB_AIB_S01975, Artur Inácio Bastos, 1970.

the “Modulation of Construction” study that Alberto Pessoa had just published. This preoccupation with construction technology was based on what Mies van der Rohe would call “The Art of Structure”¹⁸, something of a rational and objective coincidence between form, construction and language.

City Architecture

The modern conception of *Infante Santo*’s urban setting, its permeability between public and private space, was molded in a period when the disciplines of urban design and landscape architecture were consolidating. Urban designers were experimenting “compact urban housing, pedestrian-based neighborhood unit organization, greenway systems, and enclosed pedestrian civic plazas”¹⁹, while landscape architects were comprehending the wide green open spaces left by the Athens Charter since the 1930s.

In the meantime, the attitude of a site-specific realism was the outcome of a rational process that Alberto Pessoa, Hernâni Gandra, and João Abel Manta envisioned as “more as an architecture of city than properly buildings”²⁰. The detail of the *Infante Santo* urban plan as an architectural project resulted in a modern proposal for living in a modern avenue, within the existing city (Figure 09). An atmosphere of urban comfort, neighborhood feeling and street life is supported by a continuous system of public and communal spaces, running from the sidewalk of the avenue to the main garden along the housing units, into the circulation gallery and the accessible roof top of the buildings.

Notes

This essay follows the PhD investigation that the author is now concluding at Técnico — University of Lisbon, comprising a monographic study about the work of architect Alberto Pessoa (1919–1985) advised by Professor Ana Tostões, with a scholarship from *Fundação para a Ciência e a Tecnologia*, FCT-SFRH/BD/87384/2012.

- 1 Alberto Pessoa played an important role as an architect, urbanist, and professor, disseminating the architecture of the Modern Movement in Portugal. Graduating in 1943 at the Fine Arts School of Lisbon (EBAL), during the 1950s he integrated the direction of the National Syndicate of Architects, was director of the modern magazine *Arquitectura*, and was professor of urbanism and architecture at EBAL. In 1959, along with Pedro Cid and Ruy Athougua, Alberto Pessoa won the competition for the Calouste Gulbenkian Headquarters and Museum in Lisbon. In 1962 he commenced working as a city planning consultant in *Figueira da Foz*, together with the landscape architect Gonalo Ribeiro Telles.
- 2 Ana Tostões, *A Idade Maior: Cultura e Tecnologia na Arquitetura Moderna Portuguesa*, Porto, FAUP Publicações, 2015, 360.
- 3 Étienne de Gröer, “Introdução ao Urbanismo”, *Boletim da Direcção Geral dos Serviços de Urbanização*, Vol. I, 1945–1946, Lisboa, DGSU, 1946, 17–86.
- 4 Étienne de Gröer (1882–1974), professor at the *Institute of Urbanism* in Paris, was also studding the Masterplan of Lisbon, concluded in 1948.
- 5 The Athens Charter is the urban manifesto resulting from the 4th *International Congress of Modern Architecture* (CIAM) in 1933, published by Le Corbusier in 1943, and worldwide influent after WWII.
- 6 Report of the 1st *National Congress of Architecture*, Lisbon, SNA, 1948.
- 7 Lisbon Municipal Archive, UROB-PU/10/164. *Tenente Valadim Avenue*, central area, project description, March 1949 and December 1950, Alberto Pessoa.
- 8 Lisbon Municipal Archive, ADMG-N/02/04017.
- 9 Manuel Tainha, “*Avenida Infante Santo. Troo entre a Rua de Santana à Lapa e o antigo Aqueaduto*”, *Binário*, 2, Lisboa, A. Palmares, Maio 1958, 10–23.
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- 11 Lisbon Municipal Archive, UROB-PU/10/164. *Tenente Valadim Avenue*,

central area, project description, March 1949 and December 1950, Alberto Pessoa.

- 12 Lisbon Municipal Archive, obra 35059, 26910, 26413, 26439, 26415, *Infante Santo Avenue* 64, 66, 68, 70 e 72, type A, project description, January 1954. Alberto Pessoa Archive, Lx50.
- 13 Ana Tostões, *op. cit.*, 361.
- 14 Cândido Palma de Melo; Francisco da Conceição Silva, “*Bloco de Escritórios*”, *Arquitectura*, 36, Novembro 1950, Lisboa, ICAT, 12–14.
- 15 Lisbon Municipal Archive, obra 28729, *Infante Santo Hotel*, project description, January 1955. Alberto Pessoa Archive, Lx01.
- 16 Alberto Pessoa, *Modulação das Construções: exemplos de aplicação*, Lisboa, LNEC, 1953, 3.
- 17 Ana Tostões, *op. cit.*, 306.
- 18 Werner Blaser, *Mies van der Rohe: The Art of Structure*, New York, Whitney Library of Design, 1994 (original contents arranged by Werner Blaser and Mies van der Rohe in 1964).
- 19 Eric Mumford, *Defining Urban Design: CIAM architects and the formation of a discipline, 1937–69*, New Haven and London, Yale University Press, 2009, 197.
- 20 Interview with the architect João Abel Manta, May 2011.

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Ruy Jervis d'Albuquerque and Sebastião Formosinho Sanches, *Escalas Formosinho Sanches*, Lisbon, Portugal, 1949-1958. © Arquivo Municipal de Lisboa.

Ruy Jervis d'Athouguia. A Modern Architect in the Garden-city

BY RICARDO CARVALHO

In the 1950s, when the social, aesthetic and technological assumptions of the Modern Movement seemed to be consolidated, there was hesitation in Portugal. Two possibilities were open to what could be viewed as post-war understanding of modernity. Some architects focused on the possible confrontation between the heritage of tradition and avant-garde proposals, in tune with the international movement. Others assimilated the universal appeal of the Modern Movement and aimed to operate within those contexts, facing the shortage of technological tools and of scarce theoretical production. Ruy Jervis d'Athouguia (1917–2006), an important Portuguese architect, belonged to the latter.

The project for Calouste Gulbenkian Foundation (1959–1969) in Lisbon, which Ruy Jervis d'Athouguia designed with Pedro Cid (1925–1983) and Alberto Pessoa (1919–1985), is the work that best portrays the desire to belong to a universal legacy, a modern work in line with the international context. This project was constructed at a time when the concept of modernity was not fully established. The Calouste Gulbenkian Foundation was designed in opposition to the “cultural turn”, which focused on vernacular architecture and on the land — an approach based on surveys, geography and anthropology.

However, the Calouste Gulbenkian Foundation aimed to transform the city through architecture and landscape architecture using an old quarry. Architecture and landscape became one and a new place was born in the city whose space assumptions were a novelty. Part of the program is underneath the park and is invisible, where vegetation, museum, administration and the large auditorium are placed. The auditorium has a direct link to a lake. This is an architectural work of reference in view of its design, program and resources which slowly has found its place in European architecture and which has a parallel structure in the Louisiana Museum, in Humlebæk, Denmark.

The time this project took to be designed and be built, together with its relevance and impact, may help to justify the relative obscurity of other projects by the same architect. There were several precision-designed works produced both in terms of housing and of equipment. Although in the past decade, several Portuguese architects and researchers have made this work known (Ana Tostões, Ricardo Carvalho and Joana Vilhena, Eduardo Souto de Moura and Graça Correia, among others), there is still much to be done. The work of Ruy Jervis d'Athouguia is one which deserves dissemination due to its accuracy, precision, spatial research and ability to use form as a means of expression.

Let us go back to 1945 Lisbon. This is the year that the urbanization plan for the area later known as the *Alvalade* Neighborhood was established (*Plano de Urbanização da Zona Sul da Avenida Alfredo Malheiro*). The plan was designed in Lisbon City Hall by architect João Guilherme Faria da Costa (1906–1971), who had studied in Paris under Alfred Donat Agache (1875–1959) and Étienne de Gröer (1882–?) and would become crucial for post-war architecture in Portugal.

The area of the future neighborhood was 93 ha, it would house 45,000 people and was to include sports centers, open spaces and industrial areas. The design followed the French model of the Garden-City and introduced the concept of the Neighbourhood Unit, defined by American author Clarence Perry (1872–1944), into Portugal. 8 cells were designed in an open block quarter strategy. Access included footways, lanes and a traffic route to the parkway.

Ruy Jervis d'Athouguia and Sebastião Formosinho Sanches (1922–2004) designed a housing project in one of those cells, cell number 8, next to the railway. *Estacas* Neighborhood (1949–1958) was the first neighborhood project to reject the open quarter logic proposed by Faria da Costa. The project included 4 blocks of buildings on pilotis. Under the blocks there was a garden. In the periphery of the plan the architects opted to relate the buildings to the ground and thus emphasize the limits to their intervention. However, they created exterior covered spaces indicated by the use of pilotis.

The interior of the flats also created the feeling of continuity between interior and exterior space by means of balconies on both sides of the buildings which could produce shade on the inside. The concept of the duplex apartment was introduced on the upper floors. Eastern and western light was thus controlled, as was typical in modernist Brazilian architecture. The garden in the *Estacas* Neighbourhood was one of the first proposals of modern public space in the city.



The design and construction of *Estacas Neighbourhood* coincided with early debates in Portugal on the radiant city by Le Corbusier, and the dissemination of the Athens Charter. The Charter was translated into Portuguese in 1944 by architects Nuno Teotónio Pereira (1922–2016) and Costa Martins. This text fostered public debate in Portugal on habitat, on urban living and collective housing on new and different assumptions. Several meetings took place and books were published on this matter, which evidenced the importance of the Charter leading up to the first architecture conference in Portugal in 1948.

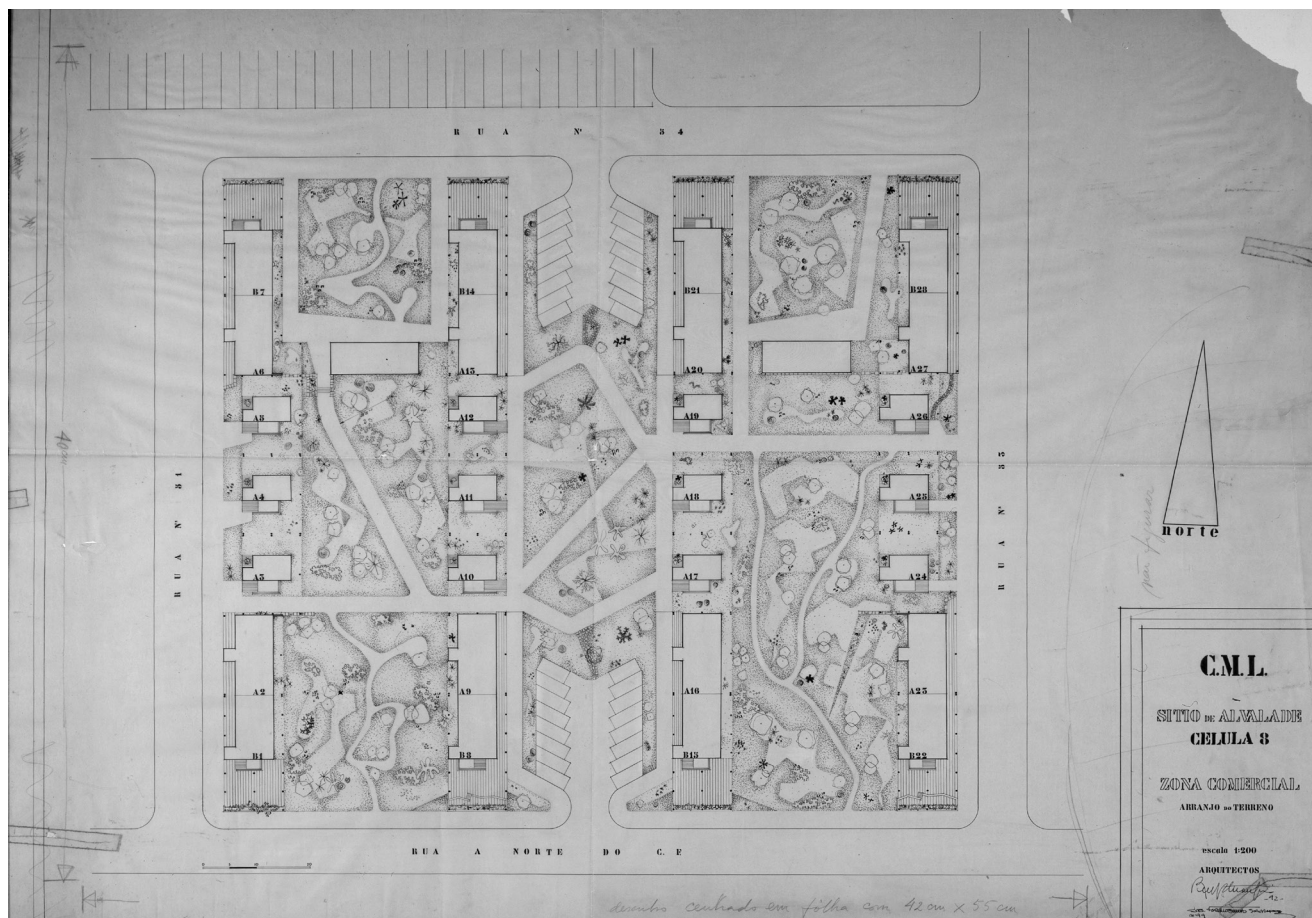
This *Estacas Neighbourhood* project is the best example of the era and bridges the gap with modern Brazilian architecture, whose importance for modern Portuguese architecture was to vary with time. The project was included the Portuguese representation at the *International Architecture Exhibition at II Biennale of the S. Paulo Modern Art Museum* in 1954.

The plan for the *Alvalade Neighborhood* previewed that, at the center of each cell, a primary or middle school would be built, as per the Clarence Perry model. A community center was also planned for the intersection of two of the

main arteries, which, in the 1970s, were converted into shopping and office centers under projects by architects Fernando Silva (1914–1983) and Ruy Jervis d'Athouguia. Yet, the main legacy by Ruy Jervis d'Athouguia in the *Alvalade Neighborhood*, besides the *Estacas Neighbourhood*, are the schools he built in the 1940s and 1960s.

The school was a special research item in architecture. As a program and a theme, it entails establishing a humanized, optimistic, legacy enhancing the environment. The school implies the construction of a potential common good and that is the primary meaning of architecture. To build a school offered the opportunity to consider construction scales (adult/child, building/city), types, materials and processes. The school was at the core of the most engaged research in architecture in terms of the creation of space. This includes the 1930s “opens air schools” as iconic modern buildings. The opportunity was fully grasped by several generations of architects.

Important examples are the primary school *Asilo Sant'Elia* (1936–1937) in Como, by Giuseppe Terragni (1904–1943), the *Munkegaard school* (1948–1957) in Gentofte, Denmark, by



Arne Jacobsen (1902–1971), and Amsterdam Kindergarten (1955–1960), by Aldo van Eyck (1918–1999). The first example is relevant due to the scale variations and the emphasis given to the exterior; the second, for its room-yard relations; and the third for its urban feel — a city within the city. All these will resonate in the projects by Ruy Jervis d'Athouguia.

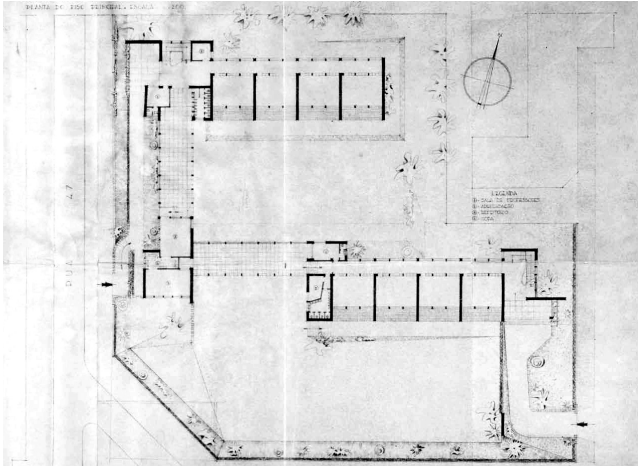
The schools designed by Ruy Jervis d'Athouguia were crucial for the Portuguese modern idea of the school. The architect's projects were influenced by Alfred Roth's (1903–1998) *Das Neue Schulhaus*, published in 1950, especially in terms of thinking outside the paradigm of building-prototype. His work responded to more than the issue of number of students and of place. Public and private dimensions are intertwined, which is probably why some projects adopted both introspective types, such as the patio, and public types, such as the square or the lane. Introspection is visible in the classroom and the square, the public dimension in the outer schoolyard, thus making the city and building part of city heritage. The three schools Athouguia built were structured around a roofed playground, balcony, patio, yard or lane.

Ruy Jervis d'Athouguia designed his first school for cell 7 (1949–1953). Therefore, the school in the *S. Miguel* Neighbourhood represents the first consequence of the architect's rethinking of the school: a 2-story building structured around roofed playgrounds; the school using topography to create the playground and vertical access; classrooms face south, protected from the sun by means of shades and have access to a balcony; and permeability, an experience already conducted in *Bairro das Estacas*, is here also included by means of the balconies.

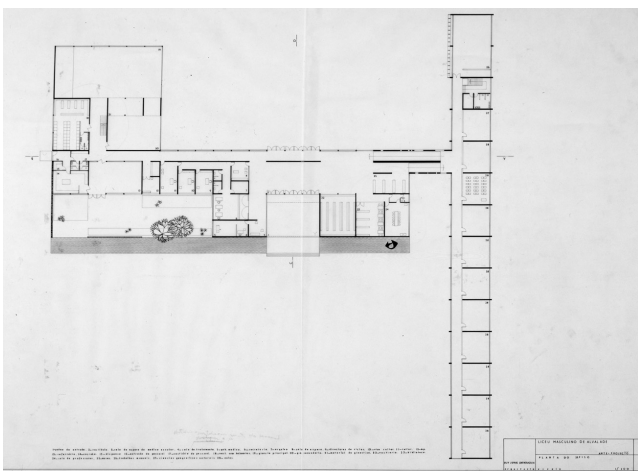
Ruy Jervis d'Athouguia's, *Teixeira de Pascoaes* School, Lisbon, 1956–1961, is completely different in terms of its basic concepts. His first school focused on continuity, whereas this one focuses on unity and introspection. This project is very similar, in terms of typology, to that of the *Munkegaard* school by Arne Jacobsen.

The school is structured around a common yard and canteen, which acts as a joint. From there, the school is divided into the boys' and girls' wings. Each wing has its own classrooms and each classroom a patio. Each patio has a tree and eye contact with the open playground by means

03 Ruy Jervis d'Athouguia, School in *S. Miguel* Neighborhood, Lisbon, Portugal, 1949–1953. © Ruy Jervis d'Athouguia archive.



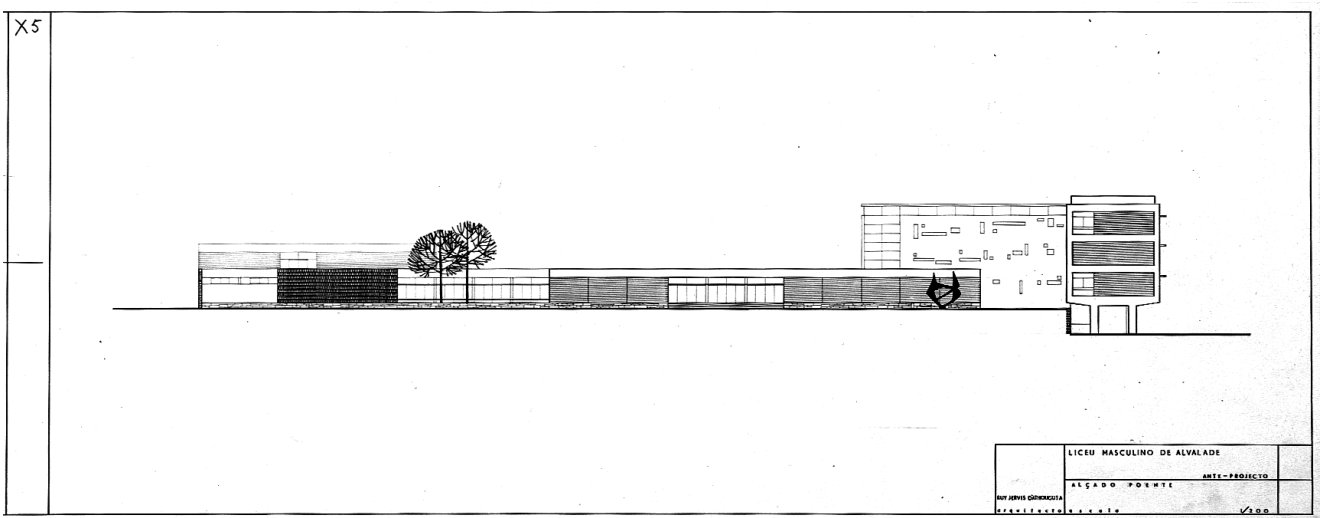
04 Ruy Jervis d'Athouguia, School in *S. Miguel* Neighborhood, Lisbon, Portugal, 1949–1953. © Ana Tostões archive.



05 Ruy Jervis d'Athouguia, *Padre António Vieira* high school, Lisbon, Portugal, 1959–1964. © Ruy Jervis d'Athouguia archive.



06 Ruy Jervis d'Athouguia, *Padre António Vieira* high school, Lisbon, Portugal, 1959–1964. © Ruy Jervis d'Athouguia archive.



07 Ruy Jervis d'Athouguia, *Padre António Vieira* high school, Lisbon, Portugal, 1959–1964. © Ruy Jervis d'Athouguia archive.

08 Ruy Jervis d'Athouguia, *Teixeira de Pascoaes School*, Lisbon, Portugal, 1956–1961. © Ruy Jervis d'Athouguia archive.



09 Ruy Jervis d'Athouguia, *Teixeira de Pascoaes School*, Lisbon, Portugal, 1956–1961. © Ruy Jervis d'Athouguia archive.



of a *brise-soleil*. From the outside, the school is a repetition of volumes which do not reveal their purpose. Horizontal movement is achieved through long corridors leading to the introspective space of each classroom.

For cell 6, Ruy Jervis d'Athouguia designed a high school, *Padre Antônio Vieira Highschool* (1959–1964). The structure of the high school is that of two volumes, a horizontal and a vertical one, which intersect in a yard. Classrooms are in one, community spaces in the other. Scale has a different impact here, an urban impact and the project focuses on the specificities of school spaces. We are taken from public space to the inside of the school through an avenue defined by means of the pilotis of the classrooms.

Inside, the vertical movement is expressed by means of a concrete ramp, which is dimly lit, and which allows one to have access to the different floors. The materials used are very different in this school, when compared to the others. They are eventually a preview of the solution used in the Calouste Gulbenkian Foundation. Brick and concrete are used, revealing the construction system, which was not a typical option of this architect.

His house designs evidence a different approach to the garden-neighborhood. He designed several houses in Cascais, near Lisbon, where he lived. There, he could experiment with permeability and the relationship with the landscape that are typical of his public buildings.

The *Sande e Castro House* is extreme in terms of spatial possibility — pavement, roof and wall. This house is built on an urban area inside a pine forest and evidences no hierarchical relation with its environment. This project defines its references in different planes of stone masonry that extend beyond the roof slab. The walls are both on the exterior and the interior and the living spaces defy the inside-outside relationship.

This project is in line with those by avant-garde architects, such as Marcel Breuer (1902–1981) and Mies van der

Rohe (1886–1969). In this house, Ruy Jervis d'Athouguia experiments with informality of domestic space and space elusiveness as had very rarely been attempted in Portugal until the 1950s.

We may conclude that the work by Ruy Jervis d'Athouguia is defined by his research on design, the option for long paths (ramps, corridor, lane), horizontal spatial flow (space over compression), exposure of concrete construction elements, or elements that filter natural light. His buildings were unique results in a peripheral cultural environment struggling to stand on its own in modern architecture. Ruy Jervis d'Athouguia proved that was possible.

Ricardo Carvalho

(b. 1974, Lisbon, Portugal). PhD in architecture (2012), *Instituto Superior Técnico* – University of Lisbon. Ricardo Carvalho is an architect, a professor and a curator. In 1999 he founded the architecture office *Ricardo Carvalho + Joana Vilhena Arquitectos*. His office has been responsible for both public and private design work and has been shown in international exhibitions, having been nominated for the Mies van der Rohe 2015 Award. Since 2013, he has been Head and Professor of the Architecture Department at *Autónoma University of Lisbon*. He taught at the international Master program *Achitektur Studium Generale* at Brandenburg University BTU Cottbus, Germany (2009–2013). He was Visiting Professor at University of Navarra, Spain, (2013) and at Carleton University, Canada (2016). He published the book *A Cidade Social* (The Social City) in 2016.



Alberto Pessoa, Pedro Cid, Ruy Jevis d'Athuguita, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969, Installation of glass windows in the main auditorium. © FCG Archive, 1968.

Brutalism and Nature. The Gulbenkian Foundation Buildings (1959–1969)

BY ANA TOSTÕES

The Calouste Gulbenkian Foundation headquarters and museum complex (1959–1969) headed a fundamental role in building science in Portugal, as it contributed to the accomplishment of a Modern Movement design committed with a high level of construction quality, showing that there was more beyond Modern Movement formalism. Inaugurated in 1969, it was designed to create a pleasant environment, providing prospects from inside at various angles to the grove of trees and the surrounding land. As a mega-structure designed under a multi-disciplinary design and construction team it achieved a high level of technical excellence and comfort, whilst beautifully linking the building and garden.

Located in central Lisbon, within a park with an area of 7.5 ha, occupying an area of 25.000 m², it was designed by the architects Alberto Pessoa (1919–1985), Pedro Cid (1925–1983) and Ruy Jervis d'Athouguia (1917–2006) with the collaboration of the landscape designers Ribeiro Barreto (1924–2013) and Gonçalo Ribeiro Telles (1922–). The construction gathered an international interdisciplinary team of specialists. The most up-to-date techniques were adopted, including reinforced and pre-stressed concrete in its construction. Some figures illustrate the volume of these buildings: 150,000 m³ of excavation, 45,000 m³ of concrete, 3,200 t of steel, 100 km of power cables, 50,000 m of air conditioning pipes and 3,500 kW of installed electrical capacity.

The architectural design expresses the structure. The aim of having a dominant horizontal line that guaranteed the image of a low building hugging the land and the wish to emphasize the long slabs of concrete that constituted the visible image of the built complex called for a very creative structural concept.

The impact that the complex has had and the way in which it has manifested the effectiveness of its qualities, such as formal sobriety and restraint, have confirmed the close relationship between the conception process and the construction site. With its garden it has created the very image of the prestige and innovation of the Foundation itself.

Introduction

The headquarters and museum of the Calouste Gulbenkian Foundation, together with the garden, contributed to the definition of the Foundation's own image of modernity, innovation and prestige. The architecture was instrumental in forming the Foundation's image and in revolutionizing Portugal's cultural panorama thus altering the meaning of monumentality¹ which made the Foundation unique at an international level. For the first time in Portugal, the project brought together an important group of technicians, specialists and consultants. Thanks to the generous legacy of Calouste Sarkis Gulbenkian (1869–1955), the Foundation's financial capacity allowed for a project of unprecedented magnitude.

Indeed, the “amplitude and complexity of the project [...], if not the importance of the Foundation itself, mobilised work methods that were not very common in Portugal”², concretised in a work that was noteworthy at all levels — the result of the cohesion and good understanding amongst the team, and most certainly of the personal commitment of the Chairman of the Foundation's Board of Trustees, José

de Azevedo Perdigão (1896–1993), who played a decisive role in the diverse phases of the undertaking. The sequence in which the building project was carried out reveals Perdigão's commitment to a high standard that would guarantee the perfect fulfilment of the objective: “do more, do better and do differently”³. The process was exemplary, from the choice of the site to the setting up of the Projects and Works Service (SPO), from the fine tuning of the design to the composition of the teams of consultants, from the choice of the competition (1959–1960) winner, to the conclusion of the building process.

The aim of this paper is to present the research concerning the construction process, considering the relationship between architecture, structure and infrastructure. By describing the building process, it argues that the complexity and multidisciplinary nature of the project embodies a mature modernity confirming the outstanding construction process which leads to its recognition as a national monument in 2011⁴.

Methods and program, team composition and organisation

The adopted methodology ensured a diversity of skills among the architects chosen through the competition, the national and international consultants and the technical specialists. Francisco Keil do Amaral (1910–1975) and Carlos Ramos (1897–1969) were the Portuguese architects chosen by the Foundation to work alongside with Franco Albini (1905–1977)⁵ and Sir Leslie Martin (1908–2000) from England⁶, thus forming the group of permanent consultants. Georges Henry Rivière (1897–1985)⁷ and William Allen (1914–1998)⁸ were coordinated by Luis Guimarães Lobato (1915–2008), engineer and head of the SPO, which was formed by the architects Sommer Ribeiro and Sotto Mayor.

The consultants and the SPO team unanimously suggested the selection of the solution presented by Alberto Pessoa (1919–1985), Pedro Cid (1925–1983) and Ruy Jervis d'Athouguia (1917–2006) in the competition. In the jury's opinion, it was the best study of the three submitted:

It complies with the conditions established in the program and, in general terms, its design efficiently meets the demands of the departments to be installed in the Foundation's Headquarters and Museum building. We are convinced that the study on the basis of this functional starting point, which has already produced a subtle solution with imagination, can now be taken even further.⁹

The transition from project to construction work became a long and complex investigative process, involving the team of national and international experts, all concentrating on issues of structure and construction. The project for licensing was completed by July of 1961 and reaffirmed the notion of manipulation of nature, since “in the framework of the architectural solution, the landscaping was of great importance in adding value”¹⁰. The fact that 86.6% of the site area remained free allowed the vegetation to serve as a framework for the building. Construction took place according to a study that took into account some of the pre-existing features of the landscape, such as the location of the more valuable trees, but also made it possible to effect transformations in the morphology of the site. It is in this sense that an unyielding horizontality, when it came to the distribution of the constructed volumes, was appropriate because “it allowed a reading of the buildings, in all directions, as a continuation of green spaces”¹¹. The inner spaces also seemed to be organized according to their relation with the outdoor spaces, thus “providing a comprehensive overview of the park”¹². A further consequence of this approach is that it also promoted the treatment of the lower volumes as a succession of landscaped platforms integrating with the park. Thus, the construction was manipulated as a mega-structure made of garden and inert concrete bodies, which adhered to the terrain subtly through recessing foundations. The furthering of the program allowed the integration of the built-up mass into the surrounding park following a deliberate economy of means and stripped-down formal expression, which led to the most economical proposal, the one involving the least amount of building of only 13% of the Park's area¹³.

The very simple solution basically linked two bodies in a T-shaped disposition, with the addition of the independent volume of the auditorium: on the northern side was the solid and extended horizontal volume (125 m by 25 m) of the headquarters building which ran parallel to, and overlooking Berna Avenue, and was prolonged by the lower body of the temporary exhibitions gallery; and perpendicular to this, on the eastern side, the body of the museum which measured approximately 90 m by 60 m.

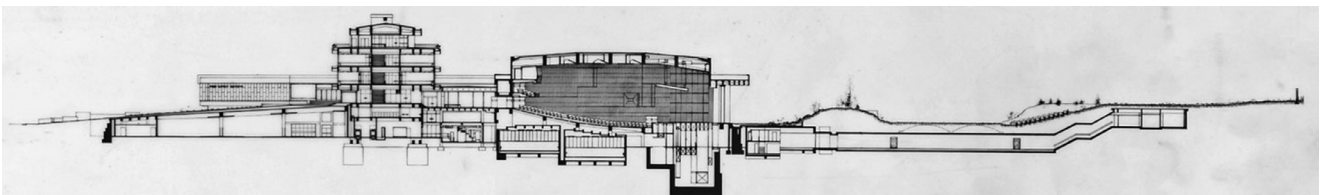
The Headquarters: served and serving spaces, the window frame prototype

In terms of its exterior, the headquarters building is that which most asserts itself in the complex of the three bodies. Treated as the dominant volume, it emerges as the first image of the Foundation. The decision of using exposed concrete as finishing implied that the high quality of the concrete had to be guaranteed through daily tests to its chemical composition conducted by the National Laboratory for Civil Engineering (LNEC). It was important that the architectural design was in line with the structure, making it more expressive. The aim of having a dominant horizontal line that would guarantee the image of a low building hugging the land and the wish to emphasize the long slabs of concrete that constituted the visible image of the headquarters building called for a very creative structural concept that was brilliantly dimensioned by the engineer Sena da Fonseca. Indeed, the structure of the headquarters block was particularly complex and difficult to design, both because of the large spans to be covered and the high loads they were to bear. The problems were augmented by the fact that the architectural design stipulated a thickness of 80 cm for the concrete slab flooring separating the floors.

In addition to this, the thin slab layer also had to incorporate all the service pipes and ducts: from the air conditioning to the electrical installations and from the security to the communication networks. The solution that came up was a grid system of crossed beams, the calculations for which were only possible, in a short period of time, by resolving systems of 32 equations with 32 unknowns, using the computer purchased by the Foundation in 1960, the first in Portugal. This grid corresponded to the hierarchy of spaces into which each floor of the headquarters building is divided up. It resulted in a ceiling design now based on squares, which were used in the interior for the distribution spaces (halls, staircases and elevators), now based on rectangles, which were adapted to the office access corridors disposed along the four façades.

This structural solution had the added advantage of distinguishing the hierarchically most important served spaces from the serving spaces reserved for less significant functions. It allowed for an organization on plan with an internal core reserved exclusively for the serving spaces. These were the circulation and archive spaces, bathrooms, elevators and staircases, which, as they did not require natural lighting or contact with the exterior, were bunched together in this central “core”.

01 Alberto Pessoa, Pedro Cid, Ruy Jervis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969, aerial view. © FCG Archive, 1969.



02 Alberto Pessoa, Pedro Cid, Ruy Jervis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969, longitudinal cross-section. © FCG Archive.

03 Alberto Pessoa, Pedro Cid, Ruy Jervis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969, headquarters concrete pillars. © FCG Archive, 1965.



04 Alberto Pessoa, Pedro Cid, Ruy Jervis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969, parking construction. © FCG Archive, 1964.



05 Alberto Pessoa, Pedro Cid, Ruy Jervis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959–1969, auditorium construction. © FCG Archive, 1966.



06 Alberto Pessoa, Pedro Cid, Ruy Jervis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959–1969, prototype of Crittall frames. © FCG Archive, 1966.



In order to accentuate the three layers constituting the profile of the building, a kind of long window runs the whole length of it between the concrete slab floors. The aim of making this plane disappear is intentional, through the elongated surface of bronze glass, the subtle specification of the frames and by advancing the plane of the concrete slab, giving rise to a magnificent shade-producing effect. The window frames were considered an important issue to be dealt with. For that a prototype was produced in order to evaluate the refinement of the materials chosen for the window frames. In fact, Sir Leslie Martin devoted considerable time to the question of the glass panes and window frames, underlining the important role of these materials in the image of the buildings. Defending the award of the window contract to the *Crittall* Company, Leslie Martin affirmed that, “as the building’s structure is made of exposed concrete, the use of bronze frames introduces a high-quality material that will provide worthy and effective contrasts. One should note that the frames and glass are not simply inserted into the openings in the façade, as was the traditional process”¹⁴.

The Museum, the lighting question

From the initial studies, in which large glass panels were inserted and an exhibition space on two floors was planned, in the course of the construction process several transformations occurred: the museum space was concentrated on one floor, the library was transferred to the lower floor; the definitive study of the natural and artificial lighting led to the elimination of the zenith lighting planned and the large windows become narrow openings.

The report drawn up by the museologist Garry Thompson advocating the use of soft and artificial lighting, contributed to the widespread popularity of the “bunker museum” built in reinforced concrete without windows¹⁵.

A very clear geometric matrix structured the 60 m by 90 m rectangle, dividing it lengthwise into three sectors, which

were divided perpendicularly by five other dividing lines. The structure developed and interpreted this strict geometry, as well as inscribing the museum’s two interior courtyards in the centre of the composition. Based on the distribution of long, pre-stressed beams spanning the length (90 m) of the museum, this matrix structure articulates, as in the headquarters building, a hierarchization of the spaces into served and serving spaces. Making use of the 1 m intervals between the pairs of beams, the serving spaces house, in the levels below the museum’s principal floor, the service stairwells, bathrooms, archives and other complementary functions.

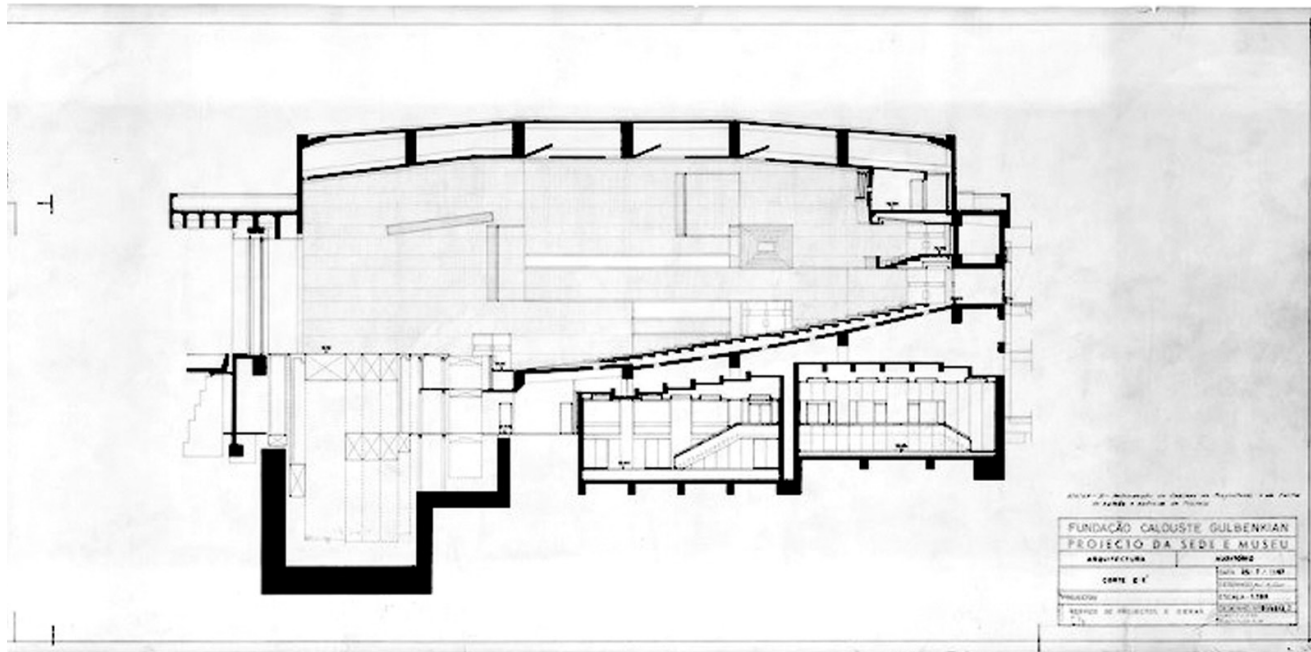
The openings in the façade were organized in harmony with the structure’s modular definition. The windows emerged precisely in the intervals between the pairs of beams framed by the beams that complete the plat band. The structural solution also gave rise to the design of the ceilings and their lighting, because it called for coordination with the design of the electrical, air conditioning and security networks integrated into one coherent whole.

The acoustics demands of the Auditorium

In the auditorium it was necessary to create an innovative space that guaranteed excellent acoustics at the same time. Located to the south of the headquarters and temporary exhibitions wings, it is the most internal element in the complex, implanted in the heart of the park.

The establishment of a visual relationship with the exterior by placing a large window at the back of the stage, so as to provide interaction with the garden and the pond, and alterations to the design decided from 1962 onwards to house the corps de ballet rehearsal rooms underneath the auditorium required thorough studies by William Allen and the engineer Cavaleira e Silva from the LNEC¹⁶.

The auditorium’s compact volume was determined by its direct relationship with the science of acoustics, which governed the whole design. The auditorium’s curve, a logarithmic



mic spiral, which forms its base, was studied in great detail, with drawings and models¹⁷. The evolution of the drawings reveals how the low, horizontal body was transformed when, in order to guarantee effective acoustics, the ceiling height was raised by 5 m, thus significantly altering the form of a “turtle shell”, which was suggested by Keil do Amaral as a compromise between the need to raise the height and the desire to guarantee the greatest possible horizontality.

At any rate, the need to create an “inverted” web meant that excavation work for five floors below the stage level had to be carried out, giving rise to an enormous basement level from which emerge, by means of silent elevating platforms, the five stages. The decision to use an inverted “web” on the stage, consisting of a system of elevating platforms, combined with the revolving walls and the canopy suspended above the stage characterizes a conception essentially designed for musical performances but also one that was sufficiently versatile for conferences, cinema, ballet, and modern theatre performances. This work was diligently monitored by Hall Stage, a British company specializing worldwide in this field.

Due to the dimensions and volume of the auditorium, a complex structural solution was required, which was designed on the basis of a series of portal frames in reinforced concrete¹⁸. The concrete portal frames were necessary to span the distance of 27 m because, in addition to supporting the roof, they also had to support the concrete slab floor of the services level above, to which the bronze sheeting that formed the hall’s ceiling was fixed. The stage area also took on additional complexity¹⁹. The canopy, that formed the adjustable 250 m² acoustics panel, weighing more than 50 t, had to be suspended from the uppermost beam. In addition to this, the last portal frame also had to serve to support the suspended large window across the rear of the hall. This double glass wall behind the stage provides a

natural scenario overlooking the pond to the south and a direct relationship between the hall’s interior and the park and open-air amphitheatre beyond. The contract for the work was awarded to the German company *Glasbau* which, in addition to supplying the enormous glass panels, also installed them. This project has been recorded as a highlight of the construction work. The placing of the stage on a level with the pond, separated only by the glass wall, symbolizes the close, almost physical, relationship between the interior and the exterior that was a constant aim in the project.

Space as a continuum

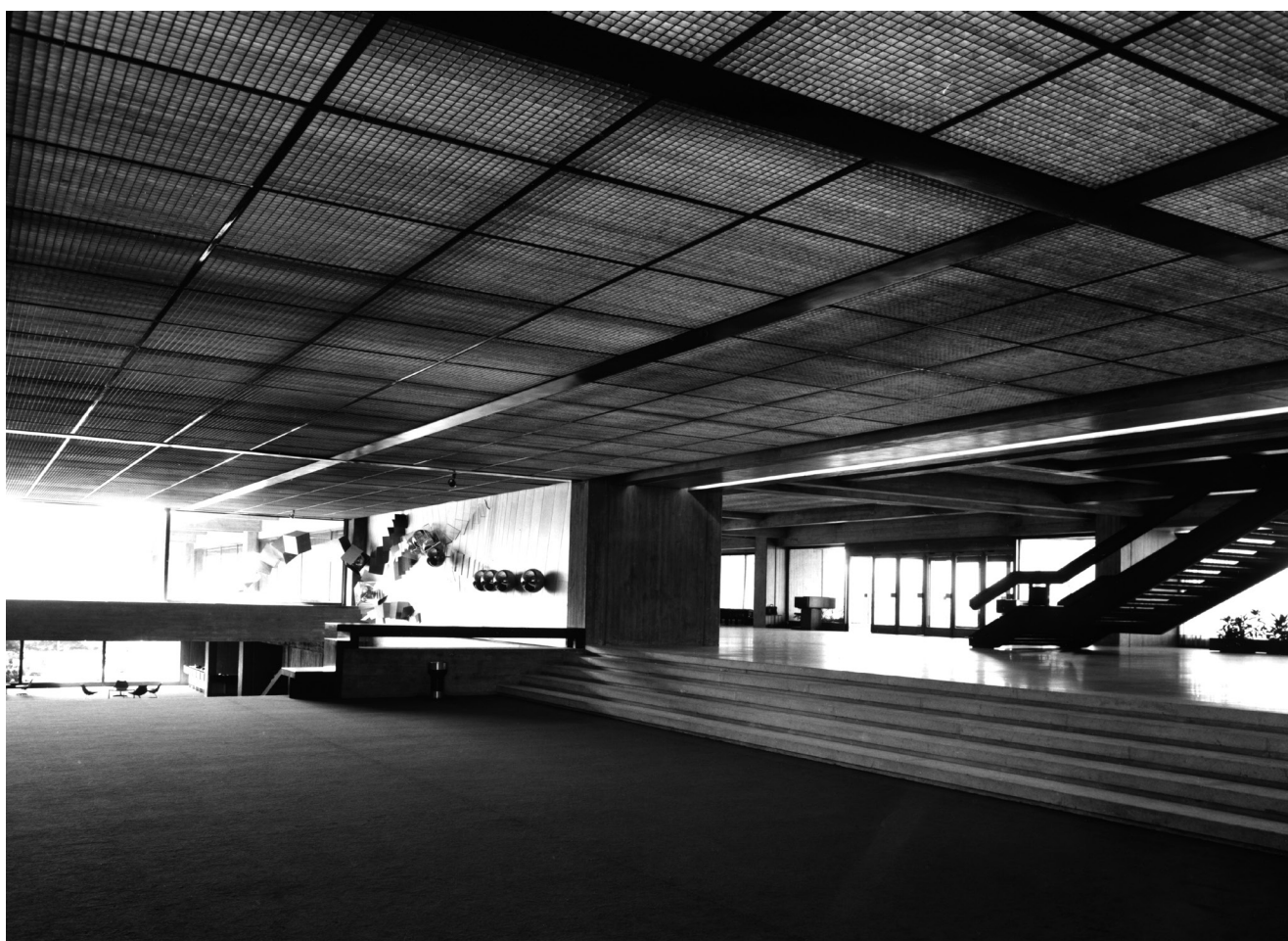
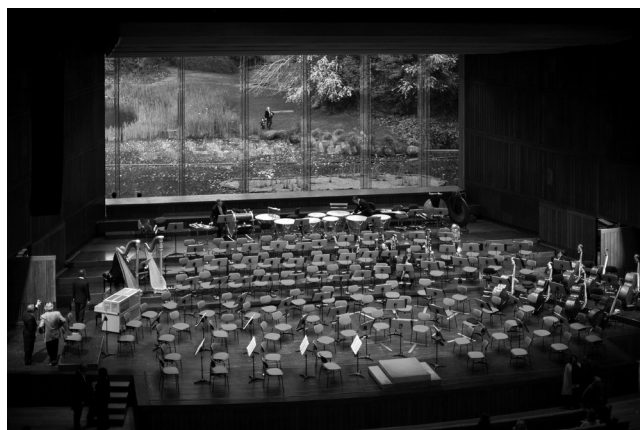
The Calouste Gulbenkian Foundation is representative of the maturity of modern Portuguese architecture, achieving a condition of contemporaneity through the high quality of the construction work at all levels. The most up-to-date methods were used, namely in the execution of the pre-stressed and, in some cases prefabricated, reinforced concrete and in the design of the electrical and air conditioning equipment and all the sophisticated technical service networks. The construction work began with large-scale earthworks, opening up the land at the northern end for the construction of the underground car park. It was an enormous construction project that was carried out on-site at the same time as the design was still being perfected, consolidated and calculated. The building complex is distributed over several floors, some of them underground, with a total area of some 64,000 m². Of this area, only somewhat more than one third, approximately 25,000 m², occupies the area of the park. These figures give one an idea of the complexity of the project and the earthworks carried out for the construction.

The structures were defined in agreement with the large dimensions of the main spans. Thus, the dominant horizontal disposition and the suspension-like implantation of the building are revealed by the larger dimensions of the struc-

08 Alberto Pessoa, Pedro Cid, Ruy Jevis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969. © FCG Archive, 1969.



09 Alberto Pessoa, Pedro Cid, Ruy Jevis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969, main auditorium. Renovation by Teresa Nunes da Ponte, 2014. © Márcia Lessa, 2014.



10 Alberto Pessoa, Pedro Cid, Ruy Jevis d'Athouguia, Calouste Gulbenkian Foundation, Lisbon, Portugal, 1959-1969, hall of the Headquarters and Grand Auditorium. © FCG Archive, 1969.

tural spans used, with a length of 13.5 m in the headquarters building and reaching 17 m in the museum wing. The pillars, the section of which is 2.5 m (length) by 50 cm (width), are adapted to this metrical scanning, which is mathematically organised in modules. The construction firmly asserted the principle of “served” and “serving” spaces, defined on the basis of the structural rule: in the Museum body, the secondary serving functions are located in the interstitial space between the double beams; in the headquarters building, a kind of internal “core” houses the support services, bathrooms and archive spaces.

The “profiles” of the beams are registered expressively on the exterior and finished off with long, horizontal “belts” which assert the rawness of the simply exposed concrete, comprehended with the same refinedness of the coverings in granite, the window frames and the bronze roof sheeting.

The simplicity revealed in the choice and use of the materials seems to pervade the intimate dialogue between interior and exterior. The qualities of this building complex — sobriety and character, discretion and assertion — announce the revision of the path of Modern Movement architecture in placing building science above superfluous formalism, and in enlighten the team work values rather than the primacy of the architect in the leading role.

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Notes

- 1 See Ana Tostões (2015), “Towards a New Monumentality: the Creation of a Cultural Landscape”, *Arhitektúra & urbanizmus Journal*, XLIX, No. 3–4, Bratislava, Slovak Academy of Sciences, 240–257.

- 2 Cf. “The authors testimony”, in *Arquitectura*, No. 111, 1969.
- 3 José de Azeredo Perdigão, *Chairman's Report, 20 July 1955–31 December 1959*, Lisboa, Calouste Gulbenkian Foundation, 1961.
- 4 Dec-Lei nº18/2010, 28th December 2010.
- 5 Who had been responsible for the creation and renovation of some of the more recent museums in Italy.
- 6 Professor of Architecture at Cambridge, a former London County Council architect, co-designer of the Royal Festival Hall, and who was then currently working on the extension of the Oxford University Library with funding from the Foundation.
- 7 The innovative museologist of the day, who was also Director-General of UNESCO-ICOM (International Council of Museums).
- 8 An architect from the Building Research Centre in London, specializing in architectural technique, with particular expertise in the area of building physics.
- 9 AAVV, “Assessment Report on the Three Preliminary Design Studies for the Construction of the Calouste Gulbenkian Foundation Head Offices and Museum”, 1 (cf. Annexed Document, vol. 2, 188–207).
- 10 Alberto Pessoa, Pedro Cid, Ruy Jevis d'Athouguia, *Descriptive Note, case 40276/961, July 15, 1961; Descriptive Memoir, proc. 40276/961, 15 July 1961*.
- 11 FCG, *Relatório de Apreciação dos três estudos de ante-projecto da construção da sede e Museu da Fundação Calouste Gulbenkian*, Lisboa, Arquivo Fundação Calouste Gulbenkian, 1960.
- 12 *Idem*.
- 13 The area set aside for construction of the winning project was 36 536 m², as opposed to the 50 314 m² of the team project by Arménio Losa, Formozinho Sanchez and Pádua Santos, or the 63 677 m² proposed in Analdo Araújo, Frederico George and Manuel Laginha's project. They corresponded, respectively to 13%, 20% and 30% occupation of the area of the garden. Cf. *Relatório de Apreciação dos três estudos de ante-projecto da construção da sede e Museu da Fundação Calouste Gulbenkian*, Lisboa, March 1960.
- 14 Leslie Martin, *Report to Sr. Luís de Guimarães Lobato*, Lisboa, Calouste Gulbenkian Foundation archive, 1965.
- 15 One example is the Whitney Museum of American Art (1963–1966) in New York, by Marcel Breuer.
- 16 William Allen, *Acoustics in the Orchestra and Choir Rehearsal Rooms, 4 September 1969*, Lisboa, Calouste Gulbenkian Foundation archive, 1969.
- 17 William Allen, *Correspondence between William Allen and Guimarães Lobato, 4 January 1963*, Lisboa, Calouste Gulbenkian Foundation archive, 1963.
- 18 Carlos de Barros Vidal, *Meeting on Acoustics in the Grand Auditorium (attended by William Allen, Cavaleiro e Silva, Camacho Simões, Mr. Cabrera, Luís de Guimarães Lobato, Alberto Pessoa, Ruy Athouguia, Pedro Cid and Carlos Vidal), 26 July 1965*, Lisboa, Calouste Gulbenkian Foundation archive.
- 19 William Allen, *Acoustics in the Orchestra and Choir Rehearsal Rooms, 4 September 1969*, Lisboa, Calouste Gulbenkian Foundation archive, 1969.

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Aerial view of Cluster I, Lisbon, Portugal. © José Luís de Brito, 1995.

Revisiting Chelas. In Search of the Promised Urbanness

BY TERESA V. HEITOR

Chelas is situated in the east of Lisbon and corresponds to the third and final phase of a large-scale planning operation that began in the late 1950s, covering an area of roughly 737 hectares, equivalent to 1/10 of the city's total area. The Master Plan for *Chelas*, approved in 1964, was marked by the revision of the principles of modern planning and represents a landmark in town planning in Portugal. The protracted nature of the plan's implementation and the failure to complete all of its programs seriously compromised the success of the presented proposal.

This article proposes a reading of the ideological context that influenced its conception and design, as well as of the factors that conditioned its urbanisation process.

Introduction

Until the 1960s, the 510 ha that comprise the territory of Chelas remained isolated and practically immune to planning pressures, constituting a genuine anachronism, which can only be explained by its difficult conditions of accessibility and the existence of other priority axes in the city's development.

The studies for its urban development were begun in 1960 by a technical team¹ from the *Gabinete Técnico da Habitação* / (Housing Technical Office) (GTH) under the responsibility of Lisbon City Council. This team was composed of town planners, architects and other built environment professionals. Its activity benefited from the accumulated experience of the earlier phases of this planning operation – *Olivaís Norte* (phase 1) and *Olivaís Sul* (phase 2) – where the classical premises of “modern planning” had been applied, expressed in the form of the hierarchical cellular structure of neighbourhood units, which had become the paradigm of the programs for the construction of new postwar cities². Together with their technical competence, they also shared an informed reformist approach to public urban development policies, seeking greater social justice, which was something unprecedented within the framework of town planning in Portugal.

At the time when this operation began, the predominant discourse was marked by a criticism of the doctrine and standardising view of modern planning arising from the most recent *International Congresses of Modern Architecture* (CIAM), namely “the separation of land uses, the accommodation of the automobile in the form of high-speed highways, the rejection of the street and street life, (and) the treatment of buildings as isolated objects in space rather than as part of the larger interconnected urban fabric”. At stake was the search for an urban language that could promote the juxtaposition of a variety of different uses and could recover the sense of urbanness, regarded as “the key,

defined as representing a way of life in which the concept of the town as a meeting place plays an important part” (Johnson and Johnson, 1977). It was not a question of breaking away from the functional principles of housing, work, recreation and circulation, from the Athens Charter, but rather amplifying them and adapting them to new situations with more elaborate proposals.

Encouraged by the debate that was in progress at that time, the planners involved in this operation were led to question the effectiveness of the model adopted in *Olivaís Norte* and *Olivaís Sul*, based on the neighbourhood units principle, with low densities, an abundance of open space and a segregation of uses (functional zoning). Housing was developed around a primary school and other local facilities, allowing people to live within a short walk of key facilities.

In *Olivaís Norte*³, we see a reflection of the solutions adopted in the first wave of new towns — Mark I new towns — built in a ring around London, in which the naturalistic tendency of the “garden city” gave way to the concept of the “city in the park”, which was more dispersed and had a lower density⁴. The proposal involved the construction of isolated clusters of buildings, based on the typologies of strips and towers. The networks of green spaces are used to separate car traffic from the residential areas and provide access to green spaces throughout the area including formal and informal parks. In *Olivaís Sul*, we see a densification of the residential areas through the use of new and more compact clusters of buildings. The proposal for building a civic centre detached from the neighbourhood units, with the aim of providing a meeting point for residents, was already a sign of the international debate taking place at that time, in contrast to the solution of small pedestrianised commercial areas with covered shopping malls within the neighbourhood units, which had been used in *Olivaís Norte*.

The adopted strategies had made it possible to ensure an effective link between the housing units and their immediate

- 01** Étienne de Gröer, Master Plan of Lisbon, Lisbon, Portugal, the new expansion areas of *Olivaís* and *Chelas* © GEO – *Gabinete de Estudos Olisiponenses*, DP 1272 CMLEO. See the detailed plans in the figures 05 and 06.

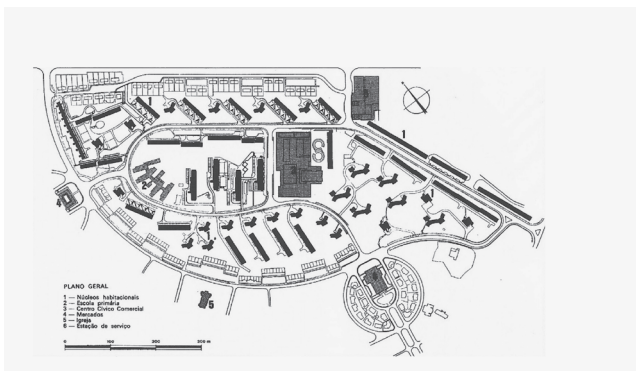
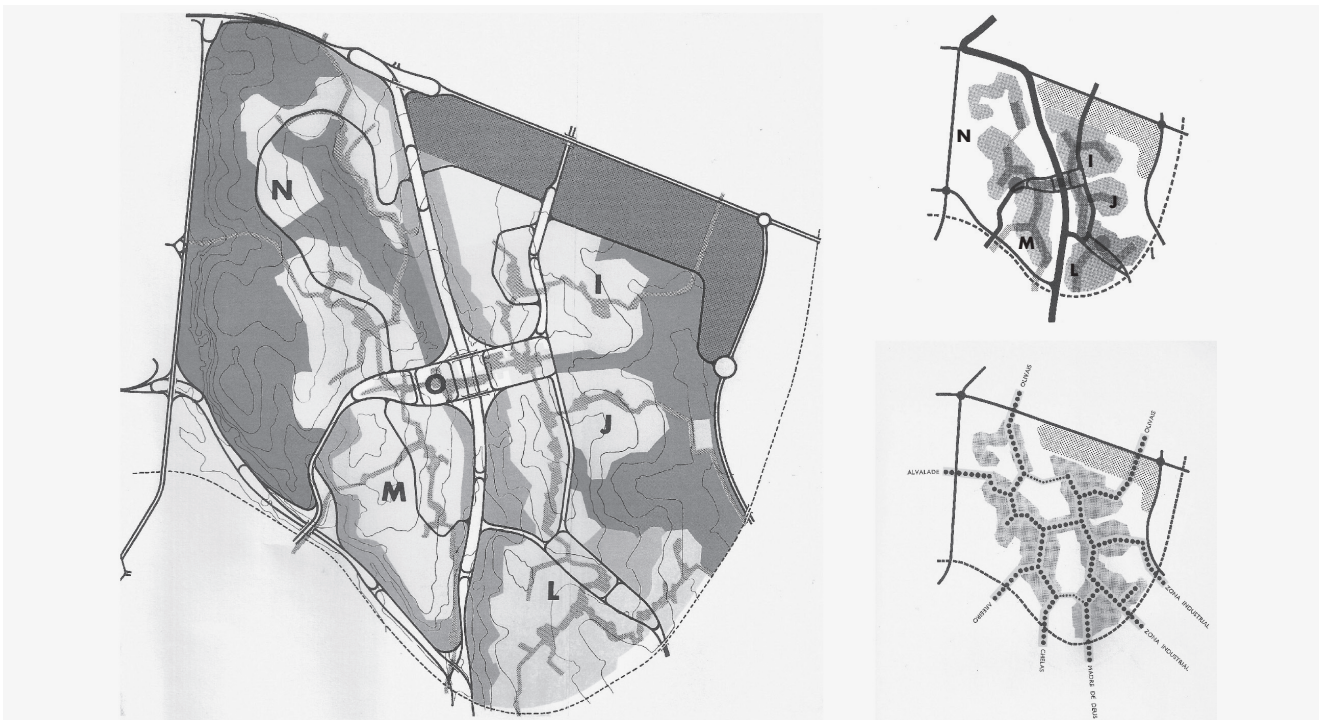


- 02** The *Chelas* master plan, Lisbon, Portugal, the main road network diagram and the connections with the outside. © 1964, CML-GTH.



- 03** Aerial view of *Chelas* from southwest, Lisbon, Portugal, The photo shows the area of Alvalade under development. © 1948, Historical Archives of the Portuguese Air Force, FAP 7184.

- 04** The *Chelas* comprehensive master plan, Lisbon, Portugal, shows the two parallel axes, developed from a central core and then branched into secondary axes that formed the structure for five residential sectors. © 1964, CML-GTH.



- 05** Étienne de Gröer, Master Plan of Lisbon, Lisbon, Portugal, the new expansion areas of *Olivais* and *Chelas* © GEO - *Gabinete de Estudos Olissiponenses*, DP 1272 CMLEO – Olivais Norte.

services and equipment. But the fact that no solution had been found for the relationship between the residential function and other productive equipment meant that *Olivais* was condemned to the status of a dormitory area.

The experiments that were being made at that time in the development of new towns in various European countries represented an additional motivation for Portuguese planners. The specialist international literature was already promoting new approaches and contributing to the dissemination of innovative experiences.

The model used in the expansion of the main Swedish cities, known as the ABC city (the acronym for *Arbete – Bos-tad – Centrum*, “Labour – Housing – Centre”), had become a central reference for the reflections being made on this subject. “The main idea was to replicate the variety and livability of traditional city life in newly created large-scale suburban areas. These new high-density areas of 25,000



- 06** Étienne de Gröer, Master Plan of Lisbon, Lisbon, Portugal, the new expansion areas of *Olivais* and *Chelas* © GEO - *Gabinete de Estudos Olissiponenses*, DP 1272 CMLEO – Olivais Sul.

to 30,000 residents were distributed in several neighbourhoods. The center of each one of them was located on the metropolitan transport network.”⁵ Vällingby, in the suburbs of Stockholm, had successfully managed to reverse its dormitory status, and attempts were being made to adapt this exemplary experiment to the national reality⁶.

The revision of the model adopted in the construction of the Mark I new towns in the United Kingdom had been introduced for the first time in Cumbernauld (1956-61), in the north-east of Glasgow, and was similarly arousing great interest. The strategies adopted for the densification of the residential areas, arising from the abandonment of the concept of the neighbourhood unit in favour of a “compact and nucleated model” and the inclusion of a large central multifunctional area embodying the concept of a megastructural edifice, “placed Cumbernauld at the forefront of architectural innovation”⁷.

In parallel to the Urban Master Plan introduced by the London City Council for the construction of Hook, yet another new satellite town close to London (1959–61), great expectations were raised among Portuguese planners and their attentions were directed towards the strategies adopted. As Gold (2015) says:

From the Modern Movement came notions of urban form and building design. Hook would have embraced a commitment to greater clustering to provide what would have been effectively a walking-scale city arranged on linear principles, in which urban development would be arranged in strips around centrally-placed, high-speed route-ways. In addition, it offered the prospect of a central showpiece. A multilevel town centre intended to serve as a genuine focus for the gathering community, featuring shops and amenities placed on a pedestrian deck with cars and servicing beneath⁸.

Although this new city was not built, the book *The planning of a New Town design based on a study for a New Town of 100,000 at Hook, Hampshire*, published in 1961, was soon converted into a manual.

News were arriving from France of the proposal being developed at that time for Toulouse-le-Mirail (1961–71) by the collective Team 10 of Georges Candilis (1913–1995), Alexis Josic (1921–) and Shadrach Woods (1923–1973). The creation of a megastructure composed of an area with a large concentration of activities and a high density of housing was seen as an attempt to restore the importance of the street, attributing to it a fundamental role in the life of the community.

Specialist Portuguese periodicals, such as *Arquitectura* and *Binário*, published articles about the new paradigms being followed in the construction of new towns or in the expansion of existing ones, showing evidence of various experiments that were in progress and were considered exemplary, justifying their pertinence and exhibiting signs of their actual completion. Robin Hood Gardens (Smithsons, 1962–72), Golden Lane (Smithsons, 1952), Park Hill, Hyde Park in Sheffield (I. Smith and J. Lynn, 1959–61), and Salerno (F. Gorio, 1961) were just some of the experiences that were disseminated and became a source of inspiration.

The Master Plan for *Chelas* was approved in 1964. The cellular model that had prevailed in *Olivais* was abandoned in favour of a model that was more linear and clustered in its form. Implicit in this new model was the vision of a more compact, multifunctional and socially diversified city with urban environments that were more attractive and vibrant, capable of promoting a closer community with a greater sense of neighbourliness.

In keeping with what was being proposed and tested in other cities, the planners entrusted with the task of drawing up the plan for *Chelas* based their thinking on the concept of a central area. The urban layout took the form of two parallel axes, described as ‘linear strips of urban activity’, which developed from a central core and then branched into secondary axes that formed the structure for five residential sectors⁹ implanted at higher levels and which would each be afforded a different treatment so that they would

be easily recognisable. As the focus of intense and diversified activity, the ‘central core’ stood out from the rest in formal and symbolic terms. Just as in the case of Hook, the plan was accompanied by maps that showed “the design and layout of a clustered area with a strongly demarcated centre located in a valley”¹⁰.

In terms of mobility, the plan reflected the growing importance given to motor vehicle transport, which became a central parameter of urban planning. It assumed that the best way of overcoming barriers to pedestrian circulation was by establishing a functionally organised road system based on a hierarchy of flows and pedestrian-vehicle segregation.

After approval of the master plan, work began on the partial plans for the residential clusters. Replicated in these was the concept of linear principles in a tree-type solution in which the main axis ran across the whole site, bringing together housing, shops and services and being highlighted in formal terms. Grouped around this axis were a series of predominantly housing sub-clusters. In its urban layout, an attempt was made to interpret and recreate traditional elements of the urban form, namely the street-canal, the square and the interior spaces of the blocks.

The Implementation of the Plan

The solution that was adopted proved to be very controversial and it was often opposed by local residents. Today, *Chelas* has clearly established itself as a series of morphologically distinct parts, each with its own spatial idiosyncrasy, interconnected yet, at the same time, separated from one another and from the outside by the road network.

However, the failure of the vision of a formalised city in *Chelas* cannot be attributed solely to the reforming zeal and naivety of the architects and town planners involved, who were committed to creating a new type of town which would provide for future needs.

It is essential to bear in mind not only the specific characteristics of the place, but also the political and economic context in which this exercise in town planning took place, and which continually delayed its implementation and led to the failure to fulfil all the programs.

On the one hand, the topographical characteristics of the area conditioned the implementation of the plan from the very outset. The impossibility of building in continuity compromised the unity of the urban fabric, led to the rigid demarcation of the residential clusters and highlighted the discontinuity in relation to the surrounding areas, removing its potential as a walking-scale city.

On the other hand, the economic problems that the country was passing through, aggravated by the fact that earlier interventions were still in progress (*Olivais Norte* and *Olivais Sul*) ended up delaying the start of the *Chelas* intervention and drastically altered the development strategy. The integrated global operation that had been planned was interrupted and fragmented in its development, giving rise to a phased intervention that began in 1967.

The changes in public housing policies beginning in 1974 with the establishment of the democratic regime gave priority to the large-scale construction of social housing in order



to rehouse the population living in slums. By making social diversification impossible, this gave rise to a social fabric consisting of a single class of the poorer population strata.

The building of the main road network and the connections with the outside, as well as the construction of the central nucleus kept on being delayed until the late 1990s. The building of the urban infrastructure and the road system accompanied the development of the residential clusters, with priority being given to the creation of local distribution networks. The preference given to the building of housing in detriment to other components that were complementary to the residential function cancelled out the desired functional diversity.

The first housing clusters — I, J and N2 — began to be built in the 1970s. In this case, the concept of linear principles was maintained, with work continuing into the 1980s. In clusters I (1972) and J (1980) — particular attention was given to the definition of a compact and formally coherent urban whole in order to enhance its formal legibility. Private outdoor spaces were eliminated and the connection of the public outdoor space to the private indoor space frequently meant resorting to transitional collective spaces.

In cluster I, the buildings have curved forms, adapting to the topography of the terrain. Particularly expressive are the elements of vertical and horizontal circulation. In cluster J, a continuous building structure was adopted, involving the use of continuous connecting elements superimposed on the structure of outdoor spaces. In cluster N2 (1975), contrary to what had happened previously, large clusters of buildings stand out along the main axis, conceived as autonomous units defining their own outdoor spaces which have no correspondence in the whole to which they belong. The reduced coherence of the layout resulting from the discontinuity between its constituent parts disturbs the legibility of the urban environment and interferes negatively in the organisation of activities and uses.

In the remaining clusters L, N1 and M, which began to be built in the late 1980s and 1990s, the concept of linear principles disappeared and residential monofunctionality became more evident. Instead a grid system was adopted, defining blocks that were open at the top. The buildings, belonging to the strip and block type, are arranged in parallel to the axes, in order to formally define the perimeter of the blocks and to recover the street as a space-canal.

08 Aerial view of Cluster N2, Lisbon, Portugal. © José Luís de Brito, 1995.



09 View from one of the main axes of the road system network, Lisbon, Portugal. © Saul de Carvalho, 2005.



10 Map of the area of Chelas, Lisbon, Portugal. © CML, 2016.

The solution adopted for the central core resulted from the revision of the initial plan in the early 1990s, which included a redefinition of the traffic circulation system and access to the surrounding areas. The construction of a megastructure in keeping with the model of a 'multilevel town centre' was abandoned, but the aim of creating a new centrality in the city was maintained: a busy centre which would also act as the neighbourhood shopping area. A podium structure was developed for the concentration of shops, which simultaneously supported 4 tower blocks with mixed uses. This structure stands out as an autonomous element linked to the main road network, without, however, being capable of generating pedestrian activity and directing their movement to the residential nuclei or imposing itself as an element that integrates the residential clusters as had initially been planned.

Studies developed and published while the plan was being drawn up had already identified some of the problems that might (and did) arise with its implementation and put forward measures of a functional and social nature with the aim of guarding against these problems actually happening. Aware of the financial difficulties accompanying the operation that threatened to render it unviable, the authors of these studies suggested that *Chelas* could only be integrated into the city if there was reciprocity in terms of functional and social relations. Accordingly, they highlighted the questions relating to the "social metrics" of the population to be housed there, to the creation of job offers in the neighbourhood, as well as to the conditions that would make it possible to link *Chelas* to its surrounding areas and facilitate the population's mobility both within and outside the neighbourhood". Now, almost 5 decades later, we can see how pertinent those comments were.

Conclusion

Chelas was envisaged, programmed and built according to a humanistic view of social justice and public commitment, associated with the idea of intervening in the city on behalf of collective interests. It was the response that was given in keeping with the ethical posture that characterised the Modern Movement, and, in particular, in keeping with the voices and concerns raised at the most recent CIAM in defence of the quality of urban life, the need to promote a more "intense" urban experience, the desire to foster the sense of urbanness and collective life and to create more socially responsible environments.

Attempting to show that the plan's aims were achieved may be open to question, but the ideas underlying it continue to be pertinent ones in contemporary discourse. There is, however, no doubt that the vitality that this urban territory has shown, and the adjustments and completions that have been implemented with the participation of the local inhabitants, have helped to bring it closer to its original (humanistic) concept.

Notes

- 1 The team was coordinated by the architect José Rafael Botelho and comprised the architects Francisco da Silva Dias, João Rei Machado, Alfredo Silva Gomes, Luís Vassalo Rosa and Carlos Worm, and the engineers José Simões Coelho and Gonçalo Malheiro de Araújo.

- 2 Gibberd, F., "The master design; landscape; housing; the town centres" in Evans, H., *New Towns, The British Experience*, London, Charles Knight & Co. Ltd, 1972, 92.
- 3 Olivais Norte (40 ha; 2,500 homes; 10,000 inhabitants) and Olivais Sul (187 ha; 8,000 homes; 38,250 inhabitants).
- 4 Benevolo, L., Melograni, C., Longo, T.G., *La Progettazione della Città Moderna Versão consultada: Projectar a Cidade Moderna*, Coleção Dimensões, Lisboa, Editorial Presença, 1980 [1977], 100.
- 5 J. J. Guerin, "Vällingby", *Architecture and Building*, 33, 1958, 444-464.
- 6 The ABC concept gave way to the decentralization of the historical Stockholm city center with the creation of a number of decentralized satellite towns connected to the core city with a newly planned metro network. (Archer, 1969). Vällingby was the first prototype ABC city inaugurated in 1954. Vällingby received a number of visits by the team from the GTH. Duarte, C.S. (1965) and Goulart de Medeiros (1965) describe the study trips undertaken.
- 7 Reyner Banham, *Megastructure: Urban Futures of the Recent Past*, London, Thames and Hudson, 1976.
- 8 John R. Gold, "Hook: revisiting the New Town that might have been", introduction to London County Council, *The Planning of a New Town*, (originally published in 1961), Studies in International Planning History Series, London, Routledge, 2015, vii-xxviii.
- 9 The residential areas were destined for the construction of 11,500 homes, divided into five categories for a total of roughly 55,300 inhabitants (average density of 160 inhabitants/hectare).
- 10 John R. Gold, *op. cit.*
- 11 A. Ribeiro Machado, "Alguns Tópicos sobre o problema das Expropriações", *Gabinete Técnico da Habitação* 1, No. 2, Set-Out, Câmara Municipal de Lisboa, 1964, 58-62.

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Housing and Contemporaneity: Recent Renovations in Lisbon's *Baixa Pombalina*

BY CATARINA WALL GAGO

The Plan of 1758 for the reconstruction of Lisbon's *Baixa Pombalina* followed principles of unparalleled efficiency and regularity. The grid of rectangular urban blocks with pre-designed street façades had a lasting impact on urban identity. Today, the original features of the blocks of flats allow renovation strategies that address changes in domestic life and present-day comfort demands: making use of alcoves and the enfilade to address intimacy; turning kitchens into social areas; using multiple entrances for flat division; introducing lifts according to staircase design. Recent renovations show how the flats' original features contribute to unconventional flexible layouts adapted to contemporary living.

In the words of José-Augusto França, Lisbon “is the last of the old European cities and the first of the modern cities”¹. The destruction due to the 1755 earthquake was followed, three years later, by an innovative integrated plan for the rebuilding of the downtown area (Figure 01). Lisbon's *Baixa Pombalina* — so-called after its main instigator State secretary for the Kingdom, Sebastião José de Carvalho e Melo, the Marquis of Pombal — is a coherent ensemble comprising a grid of repeated units of rectangular blocks with a narrow lightwell, each with several blocks of flats.

The regularity of the *Baixa Pombalina*'s urban plan and of its façades were long criticized as monotonous². Likewise, its floor plans were described as lacking corridors, room specification and alcoves or rooms with direct light³. The moder-

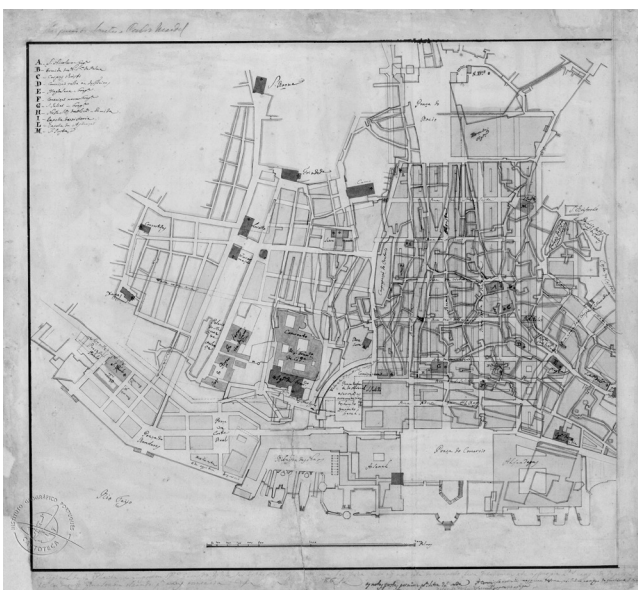
nity of the rebuilding plan started being recognized in the 1930s, as described by Ana Tostões in the in-depth article “Precursors of modern architecture and town planning”, published in the exhibition catalog *Lisbon: The Baixa Plan Today*. According to the author, it was the very regularity of the *Baixa* that was praised by the architect Carlos Ramos in the 1930s and, mainly, by Porfírio Pardal Monteiro in the following decade⁴.

The seminal work by José-Augusto França⁵, *Une Ville des Lumières*, in the 1960s, brought to light the innovative qualities of the 1758 Plan and of its building blocks. Since then, several authors⁶ have examined their urban and domestic features. More recently, the *Baixa Pombalina* was featured in the *Monumentos* thematic journal⁷ and in the aforementioned exhibition catalog, which focused on plan modernity and avant-garde character. Maria Helena Barreiros⁸ latest articles are, as far as could be established, the most recent up-to-date work describing the domestic spaces.

The blocks of flats: original features

The large-scale enterprise of the *Baixa Pombalina* enabled the testing and stabilizing of the blocks of flats. There were usually two or, otherwise, one flat per floor, generally replicated between floors. Even though flat layout was mostly left to the constructors' designs, there were various stable features⁹, due to the regular rhythm of the street façades, to the anti-seismic wooden cage building system — the *gaiola*¹⁰ —, and to common distribution principles of the time.

Reception rooms intended for public display faced the street, generally in enfilade, that is, a sequence of two or more of intercommunicating rooms, giving “the necessary status to social appearances”¹¹ of reception rooms. Emphasis was placed on their separation from the kitchen, usually placed next to the lightwell. Access separation between reception and service areas was most often done through a distributing passage from the entrance. Otherwise, the



01 Eugénio dos Santos and Carlos Mardel (attributed), drawing of the evolution of the Baixa Plan, Lisbon, Portugal, 1756/1758. © *Direção-Geral do Território* (www.dgterritorio.pt).

- 02** Pedro Reis, *Calçada do Correio Velho* 3, 1st floor, Lisbon, Portugal, 2006. Changes introduced by the renovation project, new walls in black, removed walls in grey. © Pedro Reis, drawing adapted by Catarina Wall Gago. (BR - bedroom | DR - dining room | K - kitchen | LIB - library | LR - living room | OFF - office | ST - storage)



- 03** Pedro Reis, *Calçada do Correio Velho* 3, 1st floor, Lisbon, Portugal, 2006. Kitchen and dining room after renovation. © Fernando Guerra | FG+SG.



distribution within the flat usually took place directly between rooms. A single or double layer of interior rooms parallel to the façade — generally termed alcoves — completed the set. Alcoves were small inner rooms, often described as sleeping chambers, which usually gave onto the larger rooms giving onto the street or back façade. These rooms would indirectly provide them with light and air.

According to Barreiros¹², apart from the kitchen, room function was predominantly flexible in the flat plans, becoming more specific throughout time. As we shall see in examples of recent renovations, it is the very functional and distributive flexibility of the flats that allows for interventions that are also adaptable to the residents' needs throughout time.

Contemporary renovations

Renovation of historical housing is necessary to avoid the loss of cultural values, to address changes in family life and comfort demands, and to ensure building safety. When renovating, it is both a challenge and an opportunity to find design solutions that make use of original layout features to address present-day housing programs.

There are recurring issues that renovation projects frequently need to address. One of them is the addition of new domestic functions, such as the placement of one or more bathrooms, as well as the privacy of bathrooms and bedrooms. Nowadays, the almost systematic location of bedrooms in rooms with windows next to the building façades often calls for room function reorganization. Moreover, the reduction or elimination of household staff, related to the new role of the kitchen in the house's social life, have led architects to rethink the previously hidden service spaces in relation to the rest of the house. An additional issue is the creation of more housing units, often brought about for economic reasons and by the demand for more diversified housing in the city center. Nowadays, upper floor flats are valued for their views and privacy from the bustling street,

in opposition to the original situation, in which they were generally the most disadvantaged. A strategy that is often put in place is the promotion of greater accessibility to all floors through the introduction of elevators. This changes the buildings' vertical variation of social standing at the time of building by allowing access equality to all floors.

Being alone, being with others: alcoves and the enfilade

One of the most significant transformations in flat layout from the late 18th century to the early 20th century was an increase in room specification and in mediating spaces giving access to a room without passing directly through another¹³. Privacy is the leading motivation for these changes. In recent renovations, we identified two main strategies to address privacy issues while making use of the existing enfilades and alcoves: using the alcoves to place bathrooms or storage spaces (dressing rooms, pantries, libraries etc.); using the enfilade as a progression from more social to more private areas, placing the bedrooms at the beginning or at the end of the circulation.

Calçada do Correio Velho 3

This one flat per floor building is located in a block built on the eastern edge of the *Baixa Pombalina*. It was one of the properties owned by the future Marquis of Pombal in the period immediately following the earthquake¹⁴.

The recent renovations of the first floor by architect Pedro Reis (Figure 02), and of the second floor by architect João Felino (Figure 04), illustrate how localized interventions can have a significant impact on circulation and privacy, addressing both the residents' present-day comfort needs and the preservation of the house's identifying historical features. The existing enfilade was used to establish a progression from the most public to more private spaces. In the inner rooms, the interventions placed

- 04** João Felino, *Calçada do Correio Velho* 3, 2nd floor, Lisbon, Portugal, 2006. Changes introduced by the renovation project, new walls in black, removed walls in grey. © João Felino, drawing adapted by Catarina Wall Gago. (BR - bedroom | DR - dining room | K - kitchen | LIB - library | LR - living room | OFF - office | ST - storage)



additional functions — such as bathrooms and storage — and introduced alternative circulation to access more private areas. On the first floor, one bedroom was located near the entrance, and two bedrooms were placed at the end of the enfilade circulation. The couple's bedroom is paired with a closet room, and located at the more private end of the circulation; the children's bedroom is between the latter and the library. The placing of an extra dividing wall in one of the alcove spaces allowed for an alternative access to the bathrooms and bedrooms. The residents praise the house's versatility, which will allow for small changes when it proves necessary. One of those changes could be to use the dual access to the middle room to turn it into two separate bedrooms when the children are older and need more privacy.

On the second floor, the re-partition of mediating spaces was planned differently. The inner central space was divided by a long cupboard that forms a 3-part corridor with multiple degrees of privacy. The first part serves mainly the social area, connecting the front living rooms to the kitchen; the second is a backstage dressing room for the master bedroom (Figure 05); the third is a shared access to the family bathroom for both rooms.

Rua de São Mamede 31

The renovation of this one flat per floor building by architects Appleton & Domingos (Figure 06) illustrates the partial reorganization of the distribution of a flat placed in the center of a block. The changes are concentrated in the house's central area, where alcoves were originally located, introducing additional mediating spaces giving access to bathrooms and bedrooms.

Originally, the flat had a sequence of three intercommunicating rooms giving onto the street façade, probably dedicated to social functions. One of these rooms had an independent entrance from the staircase landing, where

- 05** João Felino, *Calçada do Correio Velho* 3, 2nd floor, Lisbon, Portugal, 2006. Main bedroom, dressing room, entrance and passage after renovation. © Enric Vives-Rubio, 2009.



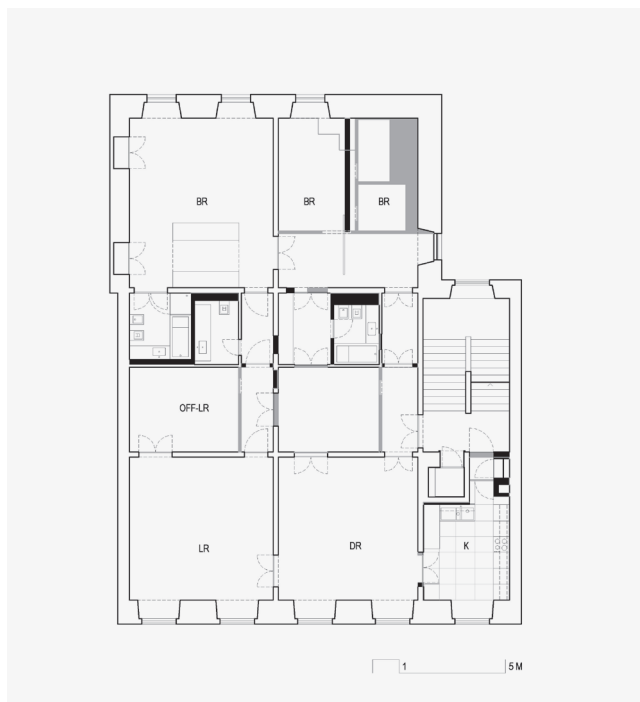
guests could have been received. Another entrance gave onto a passageway distributing the rooms on the street side and on the courtyard side, where the kitchen was located. In the center, there were two lines of alcoves giving onto the main rooms. The entrance passageway and another passageway between the street and the courtyard side rooms provided a secondary access to the alcoves.

A key aspect of the recent renovation was the reorganization of part of the alcoves and passages in the center of the flats. The aim was to introduce new functions — bathrooms and storage spaces — and additional mediating spaces providing more privacy to bedrooms and bathrooms. The flat layout is now structured around the entrance hall (Figure 07), which became an antechamber to the rest of the house. It gives access both to the social room enfilade on the street side, and to the three passages serving the more private areas. The alcoves were used to place the bathrooms. An additional passage from the hall was introduced so that the three bedrooms and bathrooms could each be accessed independently through a mediating space. These passageways were essential to keep the room proportions and the enfilade distribution next to the courtyard, thus avoiding the introduction of longer corridors that would fit in less with the house's original character. The dual access allows for a greater flexibility: the bedrooms can be closed off or intercommunicating, and the two smaller bedrooms can be used separately or as one.

Much more than a kitchen: new domestic sociability in service areas

The kitchen is one of the few spaces whose function can usually be assertively determined due to the presence of the original chimney. Service spaces in *Baixa Pombalina* flats were kept within distance of the reception areas and of the public eye — the street. As such, the kitchen gave almost invariably onto the back façade¹⁵.

06 Appleton & Domingos arquitectos, *Rua de São Mamede* 31, 1st floor, Lisbon, Portugal, 2009. Changes introduced by the renovation project, new walls in black, removed walls in grey. © Appleton & Domingos arquitectos, drawing adapted by Catarina Wall Gago. (BR – bedroom | DR – dining room | K – kitchen | LIB – library | LR – living room | OFF – office | ST – storage)



One of the topics that is frequently addressed in renovations is bringing the kitchen closer to the social areas. The fact that it can now be part of or accessible through the dining or living room attests to less embarrassment and to the greater participation of activities that take place in the kitchen, such as food preparation, in social life. They also attest to the reduction of permanent household staff.

According to each house's original features, three strategies were used in renovations: using the original kitchen as a main social area; moving the living room closer to the kitchen; bringing the kitchen closer to the living-room on the street façade.

In the example on *Calçada do Correio Velho*, the kitchen was large enough to house a dining or living area, thus becoming the house's main social space (Figure 03), directly accessible from the staircase through the original service entrance. The distinction between the original main entrance and the service entrance is thus altered to fit in with the houses' new living arrangements.

In other examples where the kitchen was not as large, this reasoning was sometimes taken one step further. In the flats on *Rua de São Mamede* 31 (Figure 06), the kitchen was moved to the previous reception room next to the street façade. Moreover, it now makes use of the reopening of the separate entrance from the staircase. This allowed the bedrooms to be placed on the quieter courtyard side, making the kitchen a part of the social area on the busier street side.

***Rua de São Mamede* 15**

This one flat per floor building is located in a block on the eastern limit of the *Baixa Pombalina* as it joins the pre-existing neighborhoods uphill. A map referring to 1807¹⁶ already

07 Appleton & Domingos arquitectos, *Rua de São Mamede* 31, Lisbon, Portugal, 2009. Entrance hall. © Catarina Wall Gago.



distinguishes between the block and its south-facing gardens. This feature – quite unlike the ones in the center of the *Baixa* – is particularly to its advantage. Not only does the ground floor flat have a terraced garden but the flats above have balconies and receive substantial natural light (Figure 09).

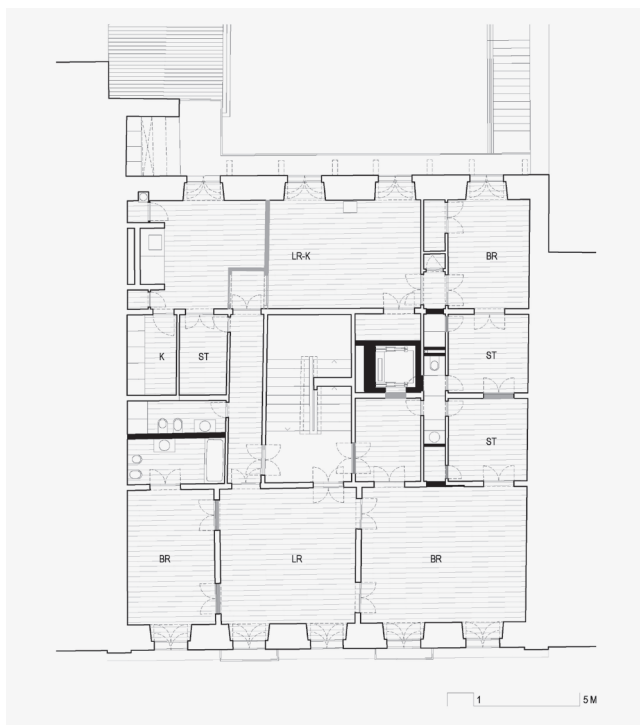
The renovation of the third floor by architect Alberto de Souza Oliveira¹⁷ in collaboration with João Botelho (Figure 08) addresses the kitchen's new role in domestic sociability in a particularly significant way. In spite of this being a large flat occupying the entire floor, its original layout followed most of the main features of the time. The flat had multiple entrances from the same staircase landing: one led to a distributing passage, another to the three rooms next to the street façade connected in enfilade. The kitchen was originally placed next to the courtyard, as were two other rooms. In between, there were two parallel lines of alcoves.

This building had the specificity of having the kitchen on the south side. One of the main transformations was to place the living and dining room areas on this side next to the kitchen, thus placing two bedrooms and a more private living area towards the street. In order to constitute this food preparation-eating-living area a non-structural dividing wall was removed. The inner rooms next to the kitchen serve as pantry and dishwashing area (Figure 08).

A smaller place to live: from multiple entrances to flat division

The blocks of flats in the *Baixa Pombalina* usually had one or two flats per floor¹⁸. Nevertheless, it was sometimes possible for there to be fewer larger flats on the lower, nobler floors, which were divided into more flats above¹⁹.

08 Souza Oliveira Arquitectura & Urbanismo, in collaboration with João Botelho, *Rua de São Mamede* 15, 3rd floor, Lisbon, Portugal, 2006. Changes introduced by the renovation project, new walls in black, removed walls in grey. © Alberto de Souza Oliveira, drawing adapted by Catarina Wall Gago.



The fact that this division could be done by closing a few openings while using a very similar layout attests to the buildings' flexibility.

The importance of separating service areas from the reception spaces often resulted in the presence of multiple entrances, especially in larger flats, which presumably housed wealthier residents with a more numerous staff. Consequently, many flats had two entrances (occasionally three), one closer to the service rooms, and another usually giving access to the social area of the house. One of the strategies used to divide upper floor flats was to take advantage of the multiple entrances to constitute different flat entrances.

Nowadays, whether it is to maximize an investment or to provide a more varied offer in terms of flat size or price, some renovation projects divide existing flats into smaller ones. In recent projects, we identified two strategies that employ existing features to establish new divisions: using multiple entrances to the flats as new flat entrances; transforming the interior passages into common distribution spaces. These strategies minimize the impact of flat division on the staircase landing by keeping the original accesses and entrance doors intact while using them in a different way.

***Rua dos Fanqueiros* 73–85**

This block of flats dating from 1784²⁰ is located in one of the repeated rectangular blocks that form the urban units in the heart of the *Baixa Pombalina* (Figure 11). The renovation of the building by architect José Adrião (Figure 10) is an example attesting to the use of multiple entrances and corridors as new distributing spaces.

09 Souza Oliveira Arquitectura & Urbanismo, in collaboration with João Botelho, *Rua de São Mamede* 15, 3rd floor, Lisbon, Portugal, 2006. Back Façade with balconies. © Alberto de Souza Oliveira.



Even though the flats were quite transformed throughout the 20th century, most of the original layout was identifiable: one line of bigger interconnecting rooms parallel to the street façades, the kitchens towards the back façade, and a few alcoves and passageways in between. According to the earliest archive plans²¹ for transformation purposes, the first floor originally housed one flat with three entrances, while the upper floors were divided in two just by closing a passage between rooms. One of these upper floor flats had one entrance; the other had two from the same landing.

The intervention divided the floors into three separate flats. One of the flats uses one of the original entrances; the other original entrance gives access to a previously existing passageway. This space distributes the two remaining flats. Even though they are smaller, the new flats also address issues examined in the previous examples. Some of the bathrooms were placed in inner rooms. The kitchens were brought next to the street façade. Moreover, they attest to the surpassing of a prerogative at the time of building, that is, that access to the kitchen be possible without being visible from the reception areas. On the contrary, in these flats the kitchens are only accessible through the living rooms (Figure 10).

Going up? How staircase design influences the introduction of elevators

Until the greater use of the elevator, top floor flats were less valued due to access difficulty, paired with a greater exposure to the elements and lower ceiling heights. In Lisbon, this distinction sometimes implied a greater number of flats per floor on the highest floors. During the 20th century, the increasing introduction of the elevator changed the vertical

- 10 José Adrião Arquitecto, Rua dos Fanqueiros 73-85, 1st floor, Lisbon, Portugal, 2010. Changes introduced by the renovation project, new walls in black, removed walls in grey. © José Adrião Arquitecto, drawing adapted by Catarina Wall Gago. (BR – bedroom | DR – dining room | K – kitchen | LIB – library | LR – living room | OFF – office | ST – storage)



- 11 José Adrião Arquitecto, Rua dos Fanqueiros 73-85, Lisbon, Portugal, the block and the *Baixa Pombalina*. © Fernando Guerra | FG+SG.



hierarchy of floors, leading to a greater valuation of the upper floors, which had better lighting²².

As we can observe in the numerous survey plans included in Jorge Mascarenhas's¹⁸ PhD thesis, the staircase was usually located within a central axis when it served two flats per floor, which was more economical and allowed for greater structural stability. When there was one flat per floor, it was placed against a party wall. Staircases were most often located either against the back façade, where they could receive light through a window, or in the center of the building, where natural light came from a skylight and stairwell. It was less frequent that staircases be placed next to the street façade, since they would take up space destined for the largest, most privileged rooms²³. A less frequent staircase design was the presence of an extra flight at the back of stairs. This situation was significant since it allowed for a separate access to reception rooms, next to the street façade, and to the kitchen, next to the lightwell.

In renovation projects, the original staircase features are fundamental to the location of an elevator. This is especially true when there are several flats per floor, since the staircase landing is often the only common space at the same level as the flats. In these cases, the introduction of an elevator is often confronted with the possible replacement of a flat entrance with the elevator. This is naturally easier in the examples where at least one of the flats had more than one entrance, or when an additional entrance can be introduced, as in the renovation of the building on *Rua dos Fanqueiros*.

Some staircase features can facilitate the introduction of elevators. If the stairwell is large enough, an elevator can be placed inside it with minimal modifications to the staircase. This was, in fact, a common location for the elevators originally located in early 20th century houses. This type of intervention rarely suits buildings in the *Baixa Pombalina* due to little available room. Nevertheless, in the examples with an additional flight of stairs for separate service access, there

was also usually a small compartment next to the stairs on all floors. This feature allows for the introduction of an elevator without changing the flats' layout or the staircase design. Architects Pedro Reis and João Felino plan for the future introduction of an elevator in this compartment on *Calçada do Correio Velho* (Figures 02, 04) whenever this proves necessary. As shown in the example on *Rua de São Mamede 15* (Figure 08), another possibility is to use an inner room next to the landing as a common hallway for the elevator, as long as the circulation within the flats can be assured.

Final remarks

Coherent planned urban ensembles such as the *Baixa Pombalina* are closely related to the definition of types of housing and to the stabilization or development of house building systems. The integrated Plan of 1758 outlined block dimension, alignments, pre-designed façade modularity, and promoted a standardization of building materials and techniques which influenced the buildings' inner proportions and layout.

The strength of a renovation project lies in the in-depth knowledge of an existing reality in order to act upon it. We identified renovation strategies that made use of the houses' original features to address changes in domestic life and current comfort demands, in order to inform future interventions responding to both aspects.

The types of observed renovation strategies each respond to different objectives related to current domestic life: intimacy, sociability, flat dimension, and a facilitated access to the floors. As examined in recent renovation projects, the features of the floor plans in the *Baixa Pombalina* can be enriching to contemporary living. The original flat layouts allow for flexible uses, sometimes by varying room function and by taking advantage of the original distribution systems, other times through the introduction of localized changes, most often in the houses' central areas. Unlike the

criticism that was once addressed regarding this type of layout, its flexibility can be a main strength today. Far from the destruction this patrimony has experienced, renovating by using the original layout and building features as guidelines means, in this sense, to find a middle ground by making use of existing elements to respond to objectives that are sometimes different from the ones for which they were originally designed.

The combination of the existing and new features produces unconventional original layouts that contribute significantly to contemporary housing production.

Notes

This article presents part of the author's broader research concerning the contemporary renovation of late 18th and 19th century housing in the cities of Lisbon and Oporto, in Portugal, and Geneva, in Switzerland. Some sections of the text pertain to the author's PhD thesis.

- 1 "Esta é a última das antigas cidades da Europa e a primeira das cidades modernas," in José-Augusto França, *Lisboa Pombalina e o Iluminismo*, Lisboa, Livraria Bertrand, 1983 [1962], 305. Translation by the author.
- 2 Cyrillo Volkmar Machado and A *Construção Moderna* (1911: n° 1), cited in Ana Tostões, "Precursors of Modern Architecture and Town Planning", in Ana Tostões and Walter Rossa (Coord.), *Lisboa 1758: The Baixa Plan Today*, Lisboa, Câmara Municipal, 2008, 170, 186.
- 3 J. B. F. Carrère, *Voyage en Portugal et Particulièrement à Lisbonne*, Paris, Chez Deterville libraire, 1798, 32–33.
- 4 Ana Tostões, *op. cit.*, 170.
- 5 José-Augusto França published extensively on the development of Lisbon and of the Baixa Pombalina. See also *A Arte em Portugal no século XIX*, Lisboa, Livraria Bertrand, 1981 [1967], and the recently republished *Estudo das Zonas ou Unidades Urbanas de Carácter Histórico-Artístico em Lisboa*, Lisboa, Câmara Municipal, 2012 [1967].
- 6 See for instance: Jorge Mascarenhas, *A Study of the Design and Construction of Buildings in the Pombaline quarter of Lisbon*, University of Glamorgan, PhD thesis, 1996; Maria Helena Ribeiro dos Santos, *A Baixa Pombalina, Passado e Futuro*, Lisboa, Livros Horizonte, 2005 [1996]; Vítor Manuel Lopes dos Santos, *O Sistema Construtivo Pombalino em Lisboa em Edifícios Urbanos Agrupados de Habitação Colectiva*, Faculdade de Arquitectura, Universidade de Lisboa, PhD thesis, 1994.
- 7 Vasco Martins Costa (Ed.), *Revista Monumentos: A Baixa Pombalina*, Lisboa, Direcção-Geral dos Edifícios e Monumentos Nacionais, 2004.
- 8 Maria Helena Barreiros, "Unidades de habitação antes da letra: da radicalidade do projecto pombalino", in *Habitar, Pensar, Investigar, Fazer*, Lisboa, Universidade Autónoma, 2013, 111–126; "Habitar a 'Real Praça do Comércio'. Casas Pombalinas do Eixo Alfândega/Arsenal", in Miguel Faria (Coord.), *Do Terreiro do Paço à Praça do Comércio: História de um Espaço Urbano*, Lisboa, Imprensa Nacional Casa da Moeda, 2012, 137–157; "Casas em Cima de Casas: Apontamentos sobre o Espaço Doméstico da Baixa Pombalina", in Vasco Martins Costa (Ed.), *op. cit.*, 88–97.
- 9 The description of the most common layout features is based on the statistical analysis carried out in: Catarina Wall Gago, *Habitação na Baixa Pombalina: Análise de Tipos e Estudo de Intervenções*, Instituto Superior Técnico, Universidade de Lisboa, Masters dissertation, 2007.
- 10 The *gaiola* (literally "cage") was a building system in which the wooden floor beams worked together with interior structural walls made of crisscrossed wooden elements filled with masonry. This type of structure had the objective of increasing earthquake resistance. For further details, see: Stephen Tobriner, "A gaiola pombalina: O Sistema de construção anti-sísmico mais avançado do século XVIII", in Vasco Martins Costa (Ed.), *op. cit.*, 160–167; Mário Lopes, Rita Bento and Rafaela Cardoso, "Segurança estrutural da Baixa Pombalina", in Vasco Martins Costa (Ed.), *op. cit.*, 176–181.
- 11 Gilles Barbey, *L'habitation Captive: Essai sur la Spatialité du Logement de Masse*, Saint Saphorin, Georgi, 1980, 72.
- 12 Maria Helena Barreiros, *op. cit.*, 2013, 120.
- 13 Monique Eleb, "Dispositifs et moeurs: du privé à l'intime", in Monique Eleb

- and Anne Debarre (Coord.), *La Maison. Espaces et Intimités*, Paris, École d'Architecture Paris-Villemin, 1985, 219.
- 14 Attesting to that are the original plans and elevations dating from between 1759 and 1769, which constitute rare elements preserved up to this day. See Maria Helena Barreiros, *op. cit.*, 2004.
- 15 The kitchen's position remained quite stable throughout the 19th and early 20th century, as examined in Joana Cunha Leal, *Arquitectura Privada, Política e Factos Urbanos em Lisboa: da Cidade Pombalina à Cidade Liberal*, Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa, PhD thesis, 2005.
- 16 Duarte Jozé Fava, *Carta Topographica de Lisboa*, Lisboa, Caza do Risco, 1831 [1807].
- 17 The renovation was carried out by several architects: Aires Mateus As-sociados (ground floor), Pedro Espírito Santo (first floor), João Botelho (second floor), Alberto de Souza Oliveira with João Botelho (third floor) and architect Horta (fourth floor).
- 18 According to the examination of the first floor plans pertaining to the metric surveys by Jorge Mascarenhas, *op. cit.*, annexes.
- 19 Maria Helena Barreiros, *op. cit.*, 2012, 149.
- 20 According to a historical study conducted by José Sarmiento de Matos and Jorge Ferreira Paulo for the next door building: *Estudo Histórico e Patrimonial: Prédio de Rendimento Sito na Esquina das Rua dos Douradores, 2–14, e Rua da Conceição, 28–34*, Lisboa [consulted through architects Appleton & Domingos].
- 21 *Arquivo Municipal de Lisboa – Obra 1590; Processo 3556/DAG/PG/1907*.
- 22 Monique Eleb and Anne Debarre, *L'invention de l'habitation moderne: Paris, 1880–1914*, Hazan and Archives d'architecture Moderne, 1995, 404–405.
- 23 Jorge Mascarenhas, *op. cit.*, 1996, 174.

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On August 2016, Ana Tostões interviewed the architect Manuel Salgado, councillor of the Municipality of Lisbon since 2007, in order to discuss the main policies undertaken and his ideas on urban planning in its connection to mobility infrastructures, public space and the continuous reconstruction of park and green areas, in Lisbon.

Manuel Salgado was born in 1944, Lisbon, and studied architecture at the Lisbon School of Fine Art (1968). From 1971 to 1982, he was the technical responsible for the architectural office CIPRO and in 1984 he became manager of the architectural office *Risco*. From 2002 to 2008, he was architecture professor, at *Instituto Superior Técnico*.

He has participated in conferences worldwide and widely published, on urban planning, and has designed major urban projects and buildings in Portugal: the *Belém* Cultural Centre (with Vittorio Gregotti), the Lisbon Theatre and Film School, the Polytechnic Institute of Setúbal, the Expo'98 public areas, the FC Porto *Dragão* Stadium, the Lisbon Luz Hospital, etc.

His architectural and public space projects received several awards: the Valmor Award (1980, 1998), the International Award Architecture in Stone (1993), the AICA Award (1998); the portuguese National Design Award (1999) and the Brick in Architecture Award (2003).

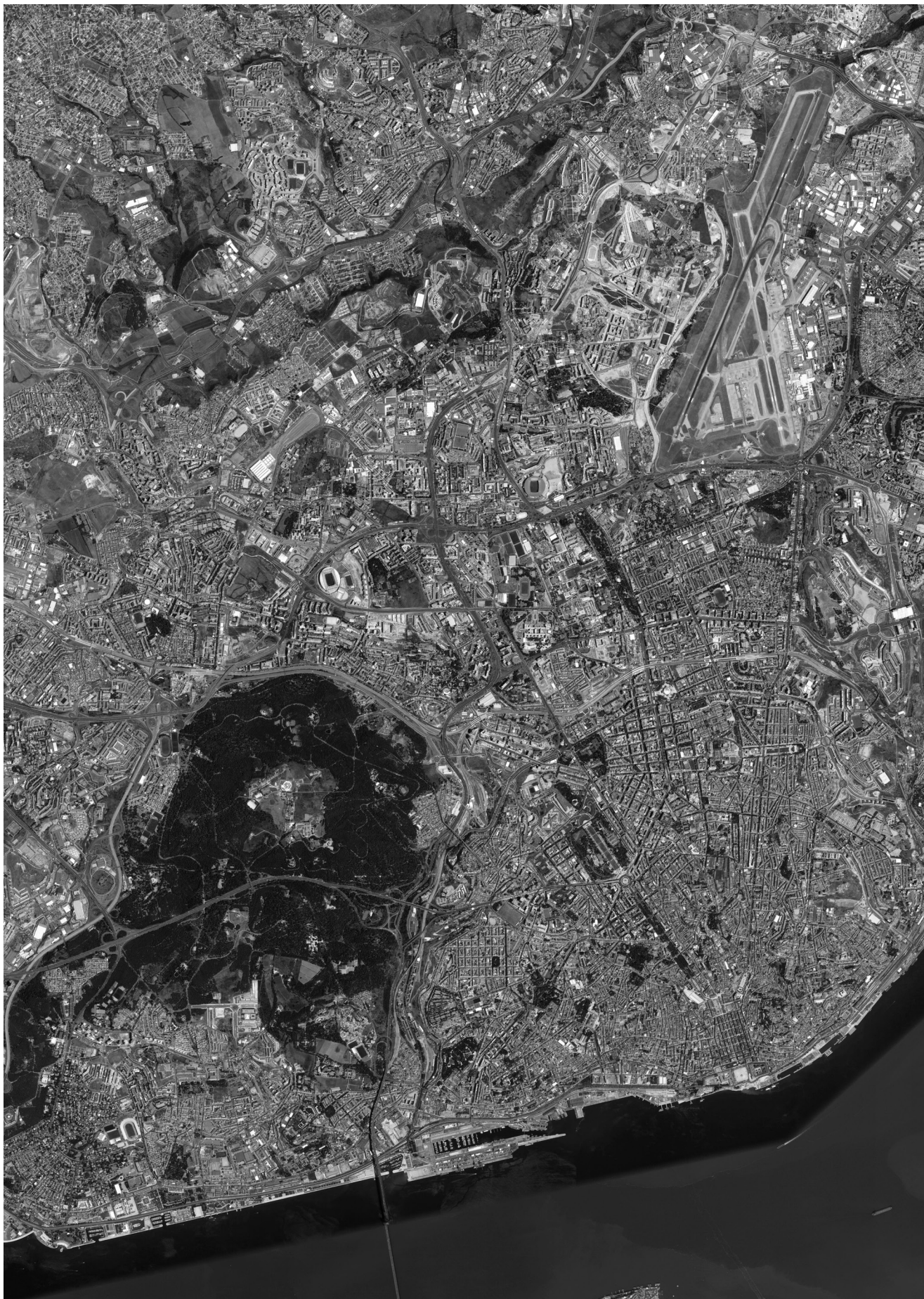
Within the Municipality of Lisbon, he took the position of councillor of the Urbanism and Strategic Planning Department in 2007, which accumulates, from 2009 to 2013, with the Municipality Vice-Presidency.

Currently, as councillor, heads the Department of Planning, Urbanism, Urban Rehabilitation, Public Space and Construction of the Municipality of Lisbon.

ANA TOSTÕES There are many cities that were transformed in the 19th century, but Lisbon was fundamentally transformed in the 20th century. Those developments now begin to make sense; both the Pombaline plans for the *binterland*, and Ressano Garcia's plan, but mainly the master plan of 1938-48, by defining radial roads, road systems and an essential series of facilities. It is an idea of the city from the beginning of the *Estado Novo*, which became established, even without the bridge that was only inaugurated in 1966. It is interesting for us to look at a city whose vocation, until the 20th century, was the riverfront, and that continues to be defined by two very symbolic points: *Belém*, transformed from the 1940s, and still in transformation as a cultural facility; and the successful operation that was Expo 1998, which marked the eastern side as a reconverted industrial city, in conjunction with the *Vasco da Gama* bridge and the North-South rail link, developed in the 21st century. How do you see this city in the metropolitan context, with all its weaknesses and potential?

MANUEL SALGADO I totally agree that the city grid that we have is the grid from Gröer's plan. It was the great revolution carried out in Lisbon in the 20th century, from the 1940s onwards, not only as the regularization of the entire *Tejo* riverfront — with a substantial port occupancy, given that it was the imperial capital and its relationship with the colonies — but also with the building of the airport and the river airport, with the *Monsanto* Park and its re-forestation as a great area reserved for forest space within the city, with the consolidation of the Planalto, with the whole zone of *Alvalade*, as the pivotal point that the *Instituto Superior Técnico* established between the *Almirante Reis* Avenue development and the northern zone, with the City university itself, *Olivais*, *Chelas* and the *Segunda Circular* Road as a termina-

tion of the city, in a certain way, anticipating what will now become the extension of the city to the North. In my opinion, the thing that was never clearly defined in this whole scheme was the rail network. The pre-existing network was maintained as before, with the Northern line terminating at *Santa Apolónia*, the Cascais line completely consolidated with strong barriers in the relation between the city and the river (as happens even now in the monumental zone of *Bélem*), and the *Sintra* line, which leads to *Rossio* via a tunnel. The ring road had already been designed, but there was always great hesitancy with regard to the location of the central Lisbon station. There was an idea of placing it to the north of *Telheiras* — there were various schemes — but it was always a very unconsolidated idea. On the other hand, from the point of view of the city's and the region's road structure, CRIL and CREL had been defined since the mid 20th century. This grid remained the same until, in the 21st century, we had *Expo 98*, an initiative promoted by the Public Administration through a public company, planned and developed together. Another initiative, resulting from a public-private partnership right at the beginning of the 1980s, was the *Alta de Lisboa*, which was planned in full and whose current design is from 1995/96, arising from the Master Plan of 1994. Then we had an extremely large area between *Benfica* and the *Alta de Lisboa* which had grown anarchically and organically, based on lot subdivisions, without a clearly defined structure, with the exception of the *Telheiras* neighborhood that, nonetheless, had a first section that was well planned by Pedro Vieira de Almeida and later a second part of lesser quality. Having said this, I would say that the municipal area had been exhausted by the end of the 20th century. Today we have occasional interventions, of regeneration of areas that are obsolete and the infilling



01 Aerial view of Lisbon. © Google Earth, 2006.

of voids. We do not have many more areas left in which to intervene in the city in any other way.

AT But there is still Chelas-Marvila, the last great municipally-led development in which it is not good to live. I discussed the subject in some detail with Gonçalo Byrne, with regard to the plan that he tried to undertake there with Manuel Vicente and Victor Figueiredo, but which proved to be impossible. Only he and Reis Cabrita opted to do city design through a plaza building, but the place ended up having a very dispersed Silva Dias plan that was half Candilis.

MS I think that even before Silva Dias himself, José Rafael Botelho took the option to free up the valleys, occupying the higher areas by using a tentacle-like structure that in practise, gave that area an extremely low density: it is the zone with the lowest density in Lisbon. On the other hand, the built areas have a significant density. Personally, I thought that the density should be increased, but we kept the option of not building in the valleys. I remember discussing the issue with Joan Busquets, who thought that we should increase the density of the Marvila zone. The *Liberdade* Avenue was a green valley and the whole thing was built on. Today, if the criteria had been the same as was adopted 20 years ago with regard to *Marvila*, the Avenue would have been kept clear like an arm that almost reached down to the river and a public walkway would have been retained. They were choices that were made at a certain time, with advantages and disadvantages.

AT But returning to the question of the location of the major railway station...

MS At one time, the zone of *Entrecampos* was identified as the location for the Lisbon central station. I argued for the idea because it was the geometric center of the city, and the point where all the railway lines actually converged. However, major infrastructure projects, although they can greatly change the city, are always complicated because they involve extremely high investment. The idea was abandoned when the idea began to be discussed of establishing a central station in the *Expo* area at the time it was being formed, as it was considered to be the place which provided the best conditions to take a TGV (high speed rail) station. As nowadays, even at an international level, the TGV concept has started to be questioned, I would not rule out the possibility that the central station could still be in *Entrecampos*. It seems to me that today, much more than building major infrastructure, or major and substantial interventions, we need to intervene in what already exists – that is the great challenge that faces us at the moment and which the last few years have shown is possible. The whole rehabilitation intervention that has been undertaken in the center has been driven by a process that has been somewhat facilitated by the decisions taken by the Municipal Authorities (in terms of the urban rehabilitation area, the incentives, the expediting of applications, the fast-tracking of licensing and so forth). But it was also particularly driven by external fac-

tors such as the transformation that has occurred in every European city in the last five years with the growth in short-stay tourism prompted by low-cost airlines and accommodation (Airbnb and the whole system of local accommodation). All this has made it much easier to go and spend the weekend in Paris instead of spending the weekend in Porto, and for people in Paris to come to Lisbon instead of Bordeaux and so forth, increasing mobility between cities enormously. This phenomenon, by creating investment, is having the effect of accelerating urban rehabilitation and the occupation of spaces that have been vacant. In this there is a process of transformation that is multifaceted, composed of various factors — some of them contradictory — but which we have begun to follow and monitor, in an effort to correct imbalances. I think that, more and more, this is what will happen in a city like Lisbon, which has used up its land: we don't have space for grand expansion projects, we have areas where we can have projects that can function like levers to regenerate wider areas, such as the cases of the *Manutenção Militar* and the monumental zone of *Belém*, which need substantial improvement interventions. We have to accelerate the strategy of concentrating less on the city center in order to move up to the *planalto* [the higher ground]. For example, what we are trying to do in the central axis is precisely the creation of this very attractive route that currently goes as far as *Elias Garcia*, but is intended to extend through *Campo Grande* up to the *Alta de Lisboa* and will achieve the objectives that came from the plan of 1992.

AT This extension of the city's center of built heritage and culture into other areas, and therefore into other chronologies, is important for showing that there are also architectural and urban groupings with quality comparable to the old and traditional ones. I am referring, for example, to *Alvalade* and the axis formed by the National Library, by the *Casa da Moeda* and the immense works by Pardal Monteiro. It is not a city of architecture, it is a city in which the urban grouping is so strong that it ends up supplanting the small part.

MS There is something to which few people give due attention, but in the Master Plan the entire city is classified as an historic area. We can't restrict ourselves to the historic center, because it is the entire territory. Areas like *Almirante Reis*, the *Colónias* neighbourhood, the *Azul* neighbourhood, the *Lopes* neighbourhood, the *Alto do Restelo*, the *Olivais*, and even *Marvila* and *Chelas* — with the famous Pink Panther, notwithstanding how it actually comes to be used — have fantastic pieces of public space of great quality that should be valued as the built heritage that they are. In Lisbon, the logic must be that of intervening in the existing city. Siza's lesson with respect to the *Chiado* should now be replicated throughout the city. The great challenge being set is that of the small, practically surgical, intervention, whether at the level of buildings, groupings, or the location of certain facilities that then function as magnets for the urban life around them. This is the great choice.

The other is transport — the paradigm of mobility in the city of Lisbon must be changed. The freezing of rents since the time of the last world war, associated with the demographic polarization in Lisbon, in Porto and the Atlantic coast, led, even before the revolution of 25 April 1974, to a situation in which the poor were left in shanty towns: and worse than the shanty towns were the historic districts. When I was a student, *Alfama* was a pathological case with 2,000 inhabitants per hectare, when it was argued that new developments should have 270 inhabitants per hectare. In contrast, the middle classes left in unauthorized buildings. The first great escape was to the unauthorized buildings which were self-built, the *AVOS* (jointly owned properties) etc. With the revolution something very interesting happened, in which Nuno Portas, with great insight into housing policy, proposed a series of exemplary policies: the *SAAL* (Local Ambulatory Support Service). These were fundamentally the renovation of the shanty towns in situ, in collaboration with the inhabitants, the housing cooperatives, with the Municipal Authorities providing the land. The contracts for these housing developments resulting from partnerships between the State and Industry to build housing, with rents that were affordable for the population. Also in 1975–76, financing started to be provided for people to buy their own houses, as this was a slow process, which implied public backing or assistance. From the 1980s on, rents were frozen in the city, and increasingly more remote and cheaper housing was being offered in the outskirts, with a cost-quality relationship that clearly favored leaving Lisbon. Lisbon went from 800,000 inhabitants to 500,000, which is dramatic. We lost a third of the population in 30 years because people moved away. Worse still, despite there having been investment in public transport — the metro and the railways were improved — a formidable road network was also built, that favored the use of personal transport. In Lisbon, for every three cars in circulation, two come from outside, which gives rise to the problem of congestion in every sense – from pollution, energy usage, air quality, noise etc. We have to reverse this situation. In the last 10 years there has been a modal shift from public to private transport and public transport has lost millions of passengers, when the opposite should be occurring, mainly due to the crisis and transport policy. The great changes that have to be made are to increase the number of inhabitants in Lisbon, balancing the home-work relationship within the city itself, to significantly improve the performance of public transport and to begin to develop soft means of transport in articulation with public transport. To alter mobility in Lisbon, we have to make pavements safer and more comfortable, for people to walk, also taking into account the improvement of public health, overcome the difficulty of the city's changes in level through the use of mechanical means that complement the safer and more comfortable walking routes, increase and intensify the cycle network to make the use of bicycles safer and more attractive, and greatly improve public transport, with a new operating logic that is essential.

AT I have a final question related to this concern with rationalizing and balancing travel, making it more sustainable

for the individual and for the city, and given the very specific topography of the city of Lisbon always linked to small green spaces and connected by the metal tracks from the end of the 19th century: will this city of hills still be so resilient?

MS This is a very important aspect. Among the great challenges — to have more residents, more work, to still maintain the identity of the city, and have more efficient and sustainable mobility — there is another vital challenge, which is to reconstruct Lisbon's landscape. It is still easy to reconstruct this landscape, specifically in the eastern part of the city, releasing valley floors that are poorly occupied, getting rid of plans that propose higher densities, to enable continuous spaces to be created that articulate the whole city. I recall that Michael Bloomberg had a project that was to have a green space 10 minutes from every home in New York. We could easily achieve this in Lisbon, not through an isolated green space, but through a continuous and walkable green space.

AT Is this Manuel Salgado's big choice as a politician and councilor?

MS This is my big choice: to make a densely planted public space, as permeable as possible, and stimulate the continuous reconstruction of park and green areas that can be established in this city. For example, it is possible to link *Monsanto* to the *Chelas* valley via the *Segunda Circular* Road. There are various possible interventions that could be made, using the same mid-20th century grid, but with an autonomous character, intensifying the resilience that the city always had, but that must always be permanently strengthened.

Gonçalo Byrne interviewed by Ana Tostões

On July 2016, Ana Tostões interviewed the architect Gonçalo Byrne who has been deeply reflecting, writing and interviewing in the city through projects of reference, in order to broadly understand the evolution of the city, with an emphasis on the modernity of the 1758 Baixa Pombalina Plan, and its contemporary and future potential, grounded in its roots.

Gonçalo Byrne was born in 1941, Alcobaça, studied architecture at the Lisbon School of Fine Art (1968) and is Doctor Honoris Causa (2005) from the Technical University of Lisbon and the University of Alghero.

He has been professor in several universities such as the University of Navarra, the University of Alghero, the *Accademia di Architettura di Mendrisio*, the *Katholieke Universiteit Leuven*, the *École Polytechnique Federale de Lausanne*, the *Università IUAV di Venezia*, the Harvard University, the *Politecnico di Milano* and the University of Coimbra.

He is the principal of *Gonçalo Byrne Arquitectos*, in Lisbon, with an extensive work both in terms of scale, program and context, including urban planning and building design, urban renewal and project management such as the renewal of the Bank of Portugal headquarters (with João Pedro Falcão de Campos), the renewal of the Thalia Theatre in Lisbon (with Barbas Lopes Arquitectos), the renewal of the *Machado de Castro* National Museum in Coimbra, the renewal of the Trancoso Castel and the renewal of the *Santa Maria* Abbey surroundings in Alcobaça.

He has received the AICA Award (1988), the Valmor Award (2000), the Gold Medal from the France's *Académie d'architecture Française* (2000) and the Piranesi Prix de Rome (2014).

ANA TOSTÕES Bearing in mind what was planned after 1938 by the then President of the Municipal Council of Lisbon, Duarte Pacheco, in particular the Gröer's plan, please tell me about your vision from how did this city get to where it is today.

GONÇALO BYRNE In fact, between 1938 until now, a great deal has happened. Above all in the last 30 years there has been a tremendous acceleration in the transformation of Lisbon that, in my opinion, means it does not make much sense to talk about the municipal area of Lisbon in isolation. Starting in the 1960s and 70s, there was a clear metropolitanization of the city, which began to be completely transformed from the outside in. From 1938 on, the city of Duarte Pacheco and the *Estado Novo* became a Lisbon conceived and constructed as if there was a "Marquis". It was not a replacement city because, in fact, the city of the Marquis of Pombal was a new city set on a ruin that had ceased to exist.

AT Could we say that it is a modern city constructed on an existing city?

GB A modern city constructed on an existing city, but with very interesting features in relation to the existing city. One of the most interesting aspects of Pombal's new city is that it was a city inserted in a fabric which had lost its continuity, but which curiously maintains it on the east side, throughout the areas of *Alfama* and *Castelo*, and picks it up again in the *Bairro Alto* on the west side. Although it is a city with modern lines, it is very interesting how carefully the spaces connecting it with the existing were treated. Beyond that I would say that it is a Pombaline city of expansion, in other words, built on largely undeveloped land.

AT You were one of the first architects to write with a critical, historical perspective on the Pombaline city; I remember the article published in *Lotus* in 1983...

GB It was an article that, from a historical point of view, is entirely indebted to José-Augusto França, who remains the great discoverer of the modern city of Lisbon after Pombal. There was a closer appreciation by the architect, trying to understand how the processes of transformation were established.

AT For us, the young architects in the 1980s, your closer study of the plan called our attention to the process and the understanding of the system that was virtually a competition between 6 different projects being discussed to reach the best solution. This work of yours was very important, for the fact that it highlighted the project's process and for reinforcing the *Baixa's* sense of modernity and innovation.

GB Precisely. The question was to understand how they managed to create a dynamic with extremely simple instruments from a design point of view: a layout, the typical façades and their detailed design, and the section of a single city block. This revealed two things: on the one hand, a very interesting vision of the Enlightenment, which was that of conceiving the city beginning with public space — the city as representation, as scenery for the citizens' shared space, embodying all the imagery of the time (particularly in the *Comércio* square, a plaza representing absolute power, a typical *place royale*); and on the other hand, the fact that there was practically no trace of what went on behind the façades. Notwithstanding all the engineering machinery, which dealt with questions of earthquake resistance, fire resistance and



01 Baixa, Lisbon, Portugal. © Filipe Jorge, Aerial image bank Argumentum, October 2013.

fireproofing, something else fundamental was revealed: Lisbon's resilience. Whenever there is a disaster, it rises again from the disaster, and learns from it. This happened with the 1755 earthquake [and with the reconstruction project for the *Chiado* by Álvaro Siza after the fire of 1988. However, despite their great pragmatism – we're talking about architects who were essentially military engineers – the discussion of the language of the *Baixa*, which was considered a continuation of the *Chão* style, became less appreciated and valued in the 19th century and the beginning of the 20th century; it was considered austere. But I actually think that it is incredibly modern, because it was a response to an emergency program. I wish post-WWII reconstruction had had the same quality — the pragmatism it had, I'm thinking of the *grand ensembles* —, but the Pombaline vision of reconstruction was far greater... I don't know if it was just intuitive, but, for example, the question of the control of public space and its capacity for repetition was a strategy that was transported wholesale to *Vila Real de Santo António*, which is another extremely interesting example from that time. Why do I say that it is very interesting and modern beyond all the technological part of infrastructure, and earthquake and fire resistance? Because it created a remarkably enduring kind of interface between the public and private, permitting great flexibility of use in the private sphere, which is positive until the moment it begins to be misused. It is well worth looking at the *Baixa* from the top of the *Santa Justa* Elevator to understand where this flexibility was misused; for example, in the blatantly speculative building of additional floors, because they could not be seen from the street: add one more floor, two more floors, and the regularity of the grid, when observed at an angle from below, cannot be seen, but nonetheless, it is still there. This misuse was partially responsible for the great fire of 1988, the firewalls had become ineffective because they had been breached, the fireproof partitions between buildings no longer existed because they had been absorbed by the floors added above, etc.

What happened after the period of great modernity of the Pombaline enlightenment was, above all, that of Lisbon becoming an industrial port. A Lisbon in which the artisans gave way to medium and large industries that no longer created a continuous city: the *Alcântara* valley, the *Chelas* valley and the northeast expansion, began with the railway. The model of the city began to transform itself with industrialization, above all with the imposition of the railway lines (the lines of *Carregado*, of *Estoril*, and soon after, the *Sintra* line). It was the infrastructure of industrialization that began to disperse the city.

The history of the radial roads is relatively recent. The first radial roads were Pombaline: the *Estrada Militar* and the *Maria Pia*, which leads to *Campo de Ourique*, and today corresponds to the *Segunda Circular* road. The post-Pombaline expansion was very radial; it was the *Restauradores*, the *Liberdade* Avenue, and the *Avenidas Novas*. The post-Pombaline logic is far more that of radial axes than of rings.

AT We are talking of the great axes that extend from the center...

GB Exactly: *Liberdade* Avenue, the *Parque Eduardo VII*, the *República* Avenue, the opening of the *Almirante Reis*, which

is taken up again in Duarte Pacheco's planning. The plan for *Alto do Lumiar* by Eduardo Leira, which envisages a major artery that leaves the *Segunda Circular* and continues around the airport, is a macro-plan for contemporary expansion...

AT ...which will be the size of *Alvalade*, in the sense that *Alvalade* was absorbed by the city

GB Precisely. When Eduardo Leira, who appeared in Lisbon after Nuno Portas, explained the plan, he explained it based on the logic of radial axes. He said, and it's true, that starting from the public promenade, Lisbon expanded along the rays that reached the *binterland*. The great problem of growth was the impenetrable medieval fabric that was replaced by the porous grid of the Marquis of Pombal, and I think that took incredible vision. Everything arriving by sea had an emblematic plaza, the customs houses, the arsenal and the port, and what arrived by land had the market square that is the *Restauradores*. For the first time, there was complete porosity between one and the other. Up until then the city had grown within its walls, compactly, and when it burst out of its walls, it favored the riverfront, first alongside the *Jerónimos* and afterwards towards *Xabregas*, since it was the royally founded monasteries that led the way. Two interesting phenomena from the start of the 18th century were: the monasteries and farms of the aristocracy and upper bourgeoisie with their healthy air, given that whenever a plague struck the medieval city, everyone died. This particularly happened in the *Baixa*, the old Roman port, mainstay of the *Tejo*, into which two tributaries ran down, which subsequently became silted up. People began to construct over the marshes, on top of the mud and sand: the pre-Pombaline medieval *Baixa* was practically uninhabitable — just imagine the unhealthy conditions whenever there was a small rise in the level of the *Tejo*. The drain in a medieval house was the window, and there are reports of 4 and 5 storey buildings. I came across a book in a museum shop in Cambridge — *The Global City: On the Streets of Renaissance Lisbon* — based on the discovery of the famous painting of the *Rua Nova dos Mercadores*, which is 2.5m long and is cut in half. Discovered by chance by an antique dealer in England, it is now part of an English collection. The book says that, in the 16th century, Lisbon was the capital of the European Renaissance.

AT It is very interesting to think of Lisbon as the capital of the European Renaissance, as in the mid-seventeen-hundreds it was also the capital of modernity — this city that was between Saint Petersburg and Washington at the time.

GB Like other examples in Europe. Namely one that appears to be a carbon copy: Trieste. Empress Theresa's plan of Trieste was an expansion plan, and therefore has little in common with the plan for the *Baixa*, which was a plan of reinstatement. However, it has a topography and a relationship between the old castle hill and the Adriatic, and city blocks with dimensions very similar to those of Lisbon, and was also developed perpendicular to the river.

AT Manuel da Maia mentions Turin in his dissertation.

GB This also has a *Comércio* Square, smaller than that of Lisbon and somewhat lateral, but so similar to the one in Lisbon. The difference is that the city blocks, which in Lisbon are for general housing — buildings that are rented and therefore very fragmented — in Trieste, as it involved the Austrian court and the aristocracy were there, each block is a gigantic palace with incredible interior courtyards.

AT As happened in the *Bairro Alto* but on a smaller scale.

GB In my opinion this is one of the most interesting things in the case of Lisbon — how was this done with only a small investment.

AT And how do you view the Lisbon riverfront, flanked on the one side by what resulted from the 1940 exhibition in *Belém*, and on the other by *Expo 98*, an operation that was a great success?

GB A tremendous success. Despite having many aspects that one could criticize, the operation of 1998 created a gigantic centrality at the northeast corner. A critical centrality, because of the problems that continue to exist... one of Lisbon's major current problems is the fact that there is still no administrative body for Greater Lisbon: the problems of continuity for the compact city and the historic city, should be managed at a metropolitan city level.

AT Returning to *Expo 98*... there was a very interesting response in Lisbon to the question of *grands ensembles*, if we are talking about the great modern neighborhoods such as *Alvalade*, *Olivais Norte*, *Olivais Sul*, *Expo* and even *Telheiras*, which are expropriated areas... *Chelas* is an area that could be included in this group but is still incomplete.

GB And it will be hard to consolidate... or will take a long time. But this is related to the choice made in Silva Dias' plan. It was a plan that the 7 designers of the N2 zone strongly contested, but the fact is that they were unable to generate a credible alternative, besides which, it was only possible within N2. It is composed of 5 tough neighborhoods, with a park in the middle that was never created because there was no money.

AT And so we return to the question of public space. It was an Anglo-Saxon approximation to public space, but could not be properly sustained afterwards for lack of means.

GB Precisely. With this type of central node that was a re-interpretation of 3 generations of the English New Town, and Nuno Portas still fought to put housing there.

AT Your project for the N2 zone was very interesting precisely because it created public space, it created a plaza. The plan consisted of 7 individual architectural projects and yours was a project for public space.

GB Clearly. And afterwards, it was transported to *Vale das Figueiras*. But to finish on the thinking behind the *Expo*, I believe that what occurred in the *Expo* were expansions of continuity, marked by a largely residential continuity, with some business, but little infrastructure, few facilities and little public space. In the expansions of Faria da Costa, the public space is appropriate: the street and the square, and it works very well. But the *Expo* has something that is disproportionate to the rest of the city of Lisbon, which is the fact that it is built around the largest transport interface in the whole of Portugal. Mobility is central to the modern city, in other words interconnectivity and commuting. It is not just Calatrava's station that actually works well in that context, it is all the components that are concentrated there. It has close to 4,000 parking places, it has all the trains, and maybe, one day it will have the high speed train connected to the Iberian network. It has the airport 5 minutes away (for now), it has an urban, intercity and international lorry terminal, and it has the metro. You can't do better than this. And it is done very well. The quality of the public space is incredible. Where else in the country is there anything like this? In Porto there is that intervention for the City Park, which is interesting, mainly the waterfront by Solà Morales and by Souto Moura, but here it was all done in the shadow of an event... in my opinion it is the most successful case of post-expo that I know. It would be interesting to create an echo of that on the western riverfront. The Belém nucleus, with the greatest concentration of museums and the renovated riverfront zone, has some potential, but it does not have the mobility and that tremendous generator. In addition to all this is a major shopping centre, which is the actual passageway from this development to all the surrounding areas, a balanced multi-use program offering a very strong tertiary sector, housing with 100% occupancy, hospital facilities, schools, museums...

AT And the Portugal Pavilion, now part of the University of Lisbon... I would like to go back to almost the beginning and ask you how you view Siza's reconstruction of the *Chiado* and your participation in this process with the large *Império* block.

GB The *Império* block arose from the strategy introduced by Siza — even if it was not obligatory to follow it, as it was outside the fire perimeter — which was to rehabilitate the interior of the blocks, opening them up to the public, and carry out a mixed development program, with business, offices and housing. It is a strategy that I doubt is being used in the rehabilitations that are currently being done around there: the idea of mixing uses seems to have died out and it is fundamental to maintain permanent life in the city. The Pomalene city and the historical center lost the magnitude of its centrality. The first movement was the departure of housing and the exclusivity of offices — mono-functionalism — starting in the 1950s. The *Baixa* was no longer busy after 7pm. It was still busy in *Parque Mayer*, and in the *Portas do Santo António* because there were a few cinemas, some theaters and one or two hotels. When the offices felt vacant, desertification set in. First mono-functionalism, and then desertification. I remem-

ber the quantity of articles I read by those nostalgic for Eça de Queirós, calling for a return of the life from Eça's times, which was obviously impossible because we are talking about the 19th century, but it is possible to bring back the business, some facilities, lots of housing and quite a few offices. This mix has disappeared and it is vital.

The operation to revitalize the *Baixa* was also fortunate to coincide with a moment of lucidity by the Lisbon metro, which had always developed its strategy separately from the strategy of the city, they had never been linked, only now the coordination of transport is in the political agenda. It was not just the extension to *Cais do Sodré* and *Santa Apolónia*, but all the escalators that connected the *Baixa* to the *Alta*, responding to an issue that had been very important at the end of the 19th century and was fundamental to give continuity to the city. People want housing in the historic center, but then no one wants to create parking: it's tricky. I am convinced that it is necessary to domesticate the car in historic centers, but if you want housing you have to provide some parking and improve public transport. On this basis, one of the most important ways of getting around in Lisbon, with its topography, is what is termed mechanical elevation, which may be a lift, an escalator, or a funicular railway, as we see in João Pedro Falcão de Campos' intervention on the Castle route.

AT One of the recent projects undertaken by you and by João Pedro Falcão de Campos incorporates a proposal for the Bank of Portugal to leave its headquarters on *Almirante Reis* and commit to a central location in the *Baixa*, through an exemplary rehabilitation project that would reconstitute the block for the first time.

GB The Bank of Portugal had an atypical block in the *Baixa* with a church at the end of the block. To my knowledge, there are two or three other blocks like this in the *Baixa*. Normally, the churches in the *Baixa* stand at the head of their block.

AT There is the *Mártires* in the *Chiado* and the Church of *São Julião*. At the moment, what do we have in these blocks in terms of functions?

GB We have the headquarters of the Bank, which is tertiary sector, a Museum, which is a cultural facility, and we have a multi-functional church space that hosts events with an admirable frequency of activity.

AT We have been talking about the city of Lisbon and not about architecture. What does this reveal about the city?

GB I have a rather unorthodox reading of architecture. I think that the architectural object is over-emphasized and that the city should be seen as a great building, obviously in continual transformation. Architecture is a form of knowledge, with the capacity to intervene, create, and transform what may be called the containers of life, considered in the broadest sense, from the house, the building, the facility, to the space of the city. It still remains a phenomenon from the conceptual, mental, and interdisciplinary point of view

and, above all, an interface with life, profoundly linked to life. I believe the architect as an agent of transformation, is someone who is alert to whatever is needed — and therefore the *ex-novo* of construction — because there is, for example, a shortage of housing or amenities, or to the correction of serious problems that spread like diseases within the city itself, to use the term that Solà Morales used to talk of the urban disemboweling — which is taboo nowadays — commonly used when the city itself has problems of poor health. And one of these is the hygiene question, which today we see as a terrible monster, but which is a fundamental issue in the creation of modern cities. In this respect, the Marquis of Pombal was lucky to have an earthquake... if there had not been an earthquake, I don't know how we would have had a healthy *Baixa* without carrying out a project like MOSE in Venice, that is to say, by creating an enormous barrier to prevent the *Tejo* from continually flooding the *Baixa*. There are many cases of cities that end up failing, because abandonment is a common reaction, or the alternative of massive investments of great artificiality. Architecture is a form of knowledge and action linked to the way that people live; and despite there being cities that are shrinking, people live in cities, and the trend of urban growth continues to be overwhelming. 4 or 5 years ago, half the population lived in cities and it is forecast that in 2050 it will be 2/3 of the population. Like all the other forms of knowledge, architecture may fall into the error of thinking that it is alone in the world, but this will not lead anywhere either, particularly in the city which is humanity's creation and is the product of sharing *par excellence*. The blending of knowledge, including that of history, is fundamental — and the architect fortunately knows a little of everything. I believe that the central role that history has come to have is very positive. There was already the history of art, but the history of architecture was only introduced in Portuguese fine arts faculties in the 1950s, for example. Before, there was just art history, in which the styles were vaguely referred to.

AT But not an active, critical history, as an instrument for the future?

GB No, it was overwhelmingly the history of what you are talking about, and I spend my life quoting it, "of time as evolution". There is no other time except this.

AT With this talk of the architect who is aware of society, of the future, who understands "architecture" — and now it is I who am quoting you — "as a container of life", I believe that Nuno Teotónio Pereira was one of the first architects to understand this, with his immensely important work here in Lisbon, with an attitude that went well beyond architecture...

GB Clearly. Rafael Moneo theorized about this. There is an article from the 1980s about a restoration of the Mosque in Córdoba, in which he says that buildings and cities have their own life. A building begins to lose its own life when it stops being used. If this cycle is not reversed, the city will end up as an archaeological site and the building as a ruin.

José-Augusto França interviewed by Ana Tostões

On April 2016, Ana Tostões interviewed Professor José-Augusto França, the Portuguese modern art researcher of reference on the contemporary era, in order to discuss the key modern structure that made the shift towards a Modern Lisbon.

José-Augusto França (b. 1922, Tomar) is historian, sociologist and critic of art. He has a graduation in Historical and Philosophical Sciences (1944, Faculty of Letters, University of Lisbon), a PhD in History (1962, Paris-Sorbonne University, *Une Ville des Lumières: la Lisbonne de Pombal*), a diploma on Sociology of the Art (1963, *L'Art et la Société Portugaise au XX^e siècle*) and a PhD in Letters (1969, Paris-Sorbonne University, *Le Romantisme au Portugal*).

He is professor emeritus of the Nova University of Lisbon, where he created the first Art History masters of the country (1976). He was Director of the Portuguese Cultural Center of the Calouste Gulbenkian Foundation in Paris (1983), President of the National Academy of Fine Arts (1985) and member of the UNESCO *Comité du Patrimoine Mondial*.

He is a reference author in the field of visual and cultural arts in Portugal, being the first one identifying and presenting modern architecture in Portugal in his *Arte em Portugal no Século XX* (1974). Among his works stand out studies on art in Portugal in the 19th and 20th centuries, as several volumes of essays on historical, sociological and aesthetic reflection on contemporary art issues.

He has received the Medal of Honor of the City of Lisbon (1992), the Grand Officer (1991) and the Grand Cross (2006) of the Infante D. Henrique Order and the Grand Cross of the Order of Public Instruction (1992).



01 Porfírio Pardal Monteiro, *Instituto Superior Técnico*, Lisbon, Portugal, 1927-1937. © Arquivo Nacional de Fotografia, 1937.

ANA TOSTÕES Please tell us why you have been defending the importance of *Instituto Superior Técnico* (IST) within the modern urban development of Lisbon.

JOSÉ-AUGUSTO FRANÇA By placing IST on the site of the Arco do Cego (the 17th century entrance to Lisbon and, in 14th century times, to *Alvalade*, prior to the *Circunvalação* defined in 1850), to the east of the *República* Avenue (and flanked by what were still the *Avenidas Novas* of Ressano Garcia's technical urbanization), the new installations of IST, which he began to direct at the end of the 1st Republic (he upheld in his youth, but came to actively and pragmatically support the financial and dictatorial policy of Oliveira Salazar), Professor Engineer Duarte Pacheco created a stimulating hub for the city, which then (and only then) entered

the 20th century with its new aesthetics, new techniques and new forms of communication.

If, on the other side of town, the west side, from *Rego* to *Campolide*, Lisbon had to wait for success (which Duarte Pacheco would also provide), here the city was booming and purposeful, with the subsequent urbanization of the 16th century site of *Areeiro* and the controlled monumentality of the *Alameda* that was generated in the IST.

So I respond, in parentheses within parenthesis, covering the map of the modern city that we have come to have - and arrive chronologically in the 1930's of the IST, an idea and calculation of Duarte Pacheco, and an architectural body that only Pardal Monteiro could then define. This work will be regarded as determinant.

João Luís Carrilho da Graça interviewed by Ana Tostões

On July 2016, Ana Tostões interviewed João Luís Carrilho da Graça, one of the main Portuguese contemporary architects, in order to discuss the riverside projects that he has been developing for the future of Lisbon.

João Luís Carrilho da Graça was born in 1952, Portalegre, and studied architecture at the Lisbon School of Fine Art (1977).

He was assistant lecturer at the Lisbon School of Fine Art (1977-1992), full professor at the Universidade Autónoma de Lisboa (2001-2010) and the University of Évora (2005-2013). He coordinated the departments of Architecture in both institutions until 2010, and was responsible for the creation of the PhD in Architecture at the latter institution, which he also directed (2011-2013). He was professor at the University of Navarra (2005, 2007, 2010, 2014) and at the College of Architecture, Art, and Planning of Cornell University, New York (2015). Since 2014, he has been full professor at the School of Architecture, University of Lisbon.

He is the principle of the architectural office João Luís Carrilho da Graça Arquitectos with an extensive work built.

He was nominated and selected for the Mies van der Rohe European Prize in Architecture (1990, 1992, 1994, 1996, 2009, 2011, 2013, 2015) and received several awards, such as the AICA (1992), the Secil (1994), the FAD (1999), the Valmor (1998), the Pessoa (2008), the Order of Merit of the Portuguese Republic (1999), the Chevalier des Arts et des Lettres from the French Republic (2010) and the Medal of the Académie d'Architecture of France (2012).

In 2013, he received an Honorary Doctorate degree from the School of Architecture of the University of Lisbon and in 2015 the Royal Institute of British Architects International Fellowship.

ANA TOSTÕES How do you view the city of Lisbon, which, since the 1930s, developed in a modern and initially dictatorial framework, transforming itself into a twentieth century capital? You have a very unique view of the immense metropolitan area of the city, evident in the exhibition in the Cultural Centre of *Belém* a few months ago; it was surprising to see an architect focus on such a geographic and site-specific exploration, in contrast to the usual option of talking about your own work.

JOÃO LUÍS CARRILHO DA GRAÇA It is not that I haven't talked about my projects, because I always regard them as a kind of node in a territory, in a landscape, intensifying a series of territorial situations that were already recognizable before. But you spoke of two fundamental aspects. One is greater Lisbon: I think the most stimulating thing right now is being able to look at Lisbon, not just as the wonderful city we know, historically built on this geographical space, but as the heart of a region that has developed tremendously and which is not often thought about. The biggest challenge is to understand how Lisbon can be transformed into a city with the scale of the metropolitan area, based on its very clear boundaries from a territorial point of view (the *Alcântara* valley, the *Trancão* River, and the Loures floodplain). This entire geographical area can and should be thought about, starting with the intensification of its most interesting and intense points, contributing so that all this might make sense in the future.

AT Do you consider that this geographical and poetic vision...

JLCG ...landscape, territorial, historical...

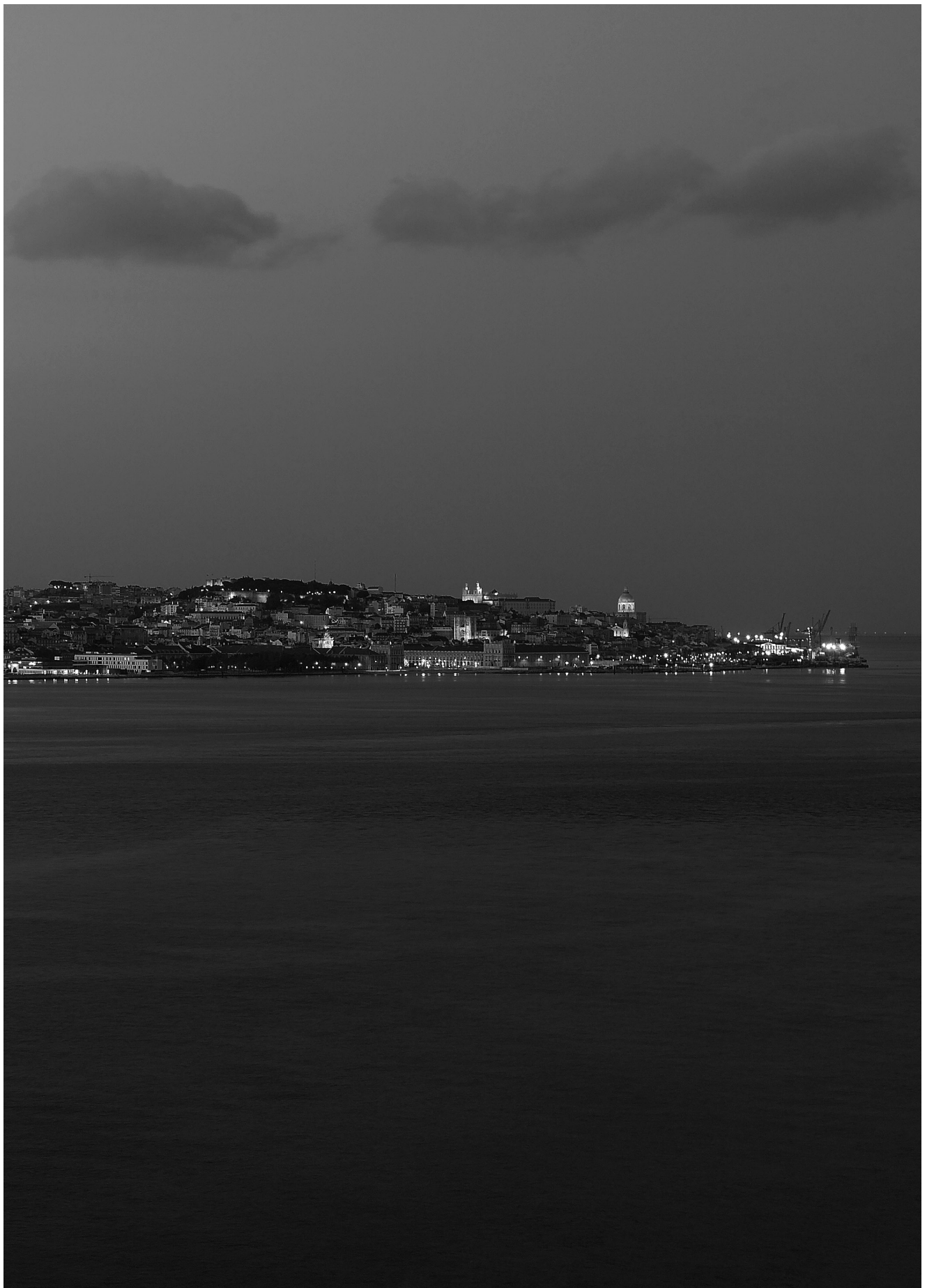
AT can be combined, in a sustainable manner, with the infrastructure that is lacking?

JLCG Yes, of course. But what I find most interesting at the moment is the relatively rare possibility that should have happened years ago, to have on one side the *geringonça* (the current left-wing coalition in Portugal), and on the other, a Municipal Council with a strong desire to see the city as a whole and to transform it. This is a unique moment and it is fundamental that it be allowed to happen.

AT I believe it is a rare moment, but our history has had similar moments: during the 1950s, for example, there was a qualitative leap and major development in Lisbon. The construction of the *Infante Santo* Avenue— with buildings by Alberto Pessoa and João Abel Manta —, *Alvalade* with better or worse architecture, but with good urban design, the large social housing estates, *Olivais*, etc. It was a very important moment for the city.

JLCG Sure, but the transformation that the city has undergone in recent times is almost the opposite of this and has been a challenge. 7 or 8 years ago, when I competed for the *Boavista* plan, the *24 de Julho* Avenue was for me, from the perspective of the plan, a horror story made of pollution and noise, it was something from which we had to be protected and which we had to turn our backs on. No one imagined that the area could be habitable. In the space of a few short years, with the decrease in traffic, the conditions have changed drastically.

AT You're an architect who has worked on highly strategic places in the city, less easy places perhaps. I am referring to the School of Communication, the Lisbon School of Music, and the German School. You are perhaps the architect who has done the most work alongside one of the city's disruptive structures, the *Segunda Circular* Road. But you have also worked on the



01 Lisbon. © João Silveira Ramos, 2008.

historic centre and on Lisbon's most wonderful infrastructure, the riverfront. How do you see these projects?

JLCG I always looked at intervention sites as spaces with potential, with strengths that were more or less recognizable and understandable, which, from a territorial, landscape and historic perspective, means that the sites end up being similar to each other. It almost always involves re-establishing the relationship with the topography and the surroundings, re-qualifying places in urban terms and on behalf of the city, and working simultaneously for the highest possible quality of building construction at every scale.

AT Your work is based heavily on manipulation of the topography. I am thinking of *Belém*, the Cruise Ship Terminal, later connected to the *Campo das Cebolas*... Your way of working on, not the object itself, but rather its relationship with the land, as if it were a mega-structure, is very interesting. It reminds me of the approach that was taken at the Gulbenkian, through the integrated creation of building and garden.

JLCG The built topography of the city is baroque and extremely complex. The ridgelines and water courses, for example, that mark and structure any territory, immediately create a kind of distorted grid. In Lisbon, when an architect tries to adapt to this complexity, the project designs, no matter how basic they want them to be (simple symmetries, basic geometries), turn out to be very complex in the construction and recreation of the city at each of its stages and points. That's what makes the city so spectacular; if we look at each case, there is always a desire to do very simple things, but the topography does not allow it and we have to adapt.

AT Do you view your approach to place and this desire to work with the landscape as a process in continuity with the Modern Movement?

JLCG Not necessarily. The precepts of the Modern Movement are admirable from a philosophical and abstract point of view, but later there were many things that failed, to a certain extent, and which we had to re-think. Despite having initially taken the position of continuing the Modern Movement, with all that we have subsequently constructed and understood, I discovered points of contact with other times in history, in the transformation of any urban or architectural space. We can think of the cases of André Le Nôtre in Paris or Schinkel in Berlin... there are innumerable examples whose fundamental aspect is that they build in the name of the city and in a territory, naturally taking history into account; that is what I always attempt to embody in all that I do and think.

AT Do you believe that this is recognized by the people who use the city and its spaces?

JLCG I don't know. I remember that when I was competing for the Cruise Ship Terminal, on the one hand, I wanted the dock walls to be present and for the building to be as small as possible while meeting the brief, but mainly I wanted the park to be a city park, used not just by the cruise ships in high season, but when there are no cruise ships, by everyone. Even the building itself, if it is not being used intensively, could be used for other purposes. I believe that everything you build, even if it is private, has to be part of public space. In designing a house, I design it even if it is only in the visual field of the public space. The urban and civic dimension of or activity is fundamental; there has to be a social effort and a correspondence between that which society thinks, or at least a dialectic and a dialogue with society.

AT Lisbon is a special city because in the end it is more marked by very strong public spaces than by extraordinary architecture, as often happens in other cities.

JLCG Yes. The *Miradouro of São Pedro de Alcântara*, for example, is an incredible place in so many ways: the relationship with the valley and the views, the kind of cinematic traveling that we experience whenever we pass through there: the presence of the people, the stone, the water, the magic light reflected in the water (because of the enormous scale of the estuary): it is almost a synthesis of the city of Lisbon.

AT What project would you like to do now in Lisbon?

JLCG It seems essential to me not just to look at the city, but at the metropolitan area. Lisbon is at a point in time at which, if there are intelligent decisions regarding the way to make it evolve, it could progress extraordinarily. I would like to think about the *Tejo* estuary as a central space in this metropolitan area. The potential of the estuary is enormous and I do not know if we are managing to make even minimal use of it in terms of river transport, enjoyment of the body of water, of the relationships with the marvelous spaces that have been forgotten. I believe that this enormous potential can be perfected in ways that do not involve much construction, but rather through the way they are used.

14th International **docomomo** Conference “Adaptive Reuse. The Modern Movement Towards the Future”

Lisbon, Portugal, 2016

The 14th International **docomomo** Conference (14 IDC) was hosted by **docomomo** International, taking place in Lisbon, Portugal, at the Calouste Gulbenkian Foundation, between 6 and 9 September 2016.

The theme was “Adaptive Reuse. The Modern Movement towards the Future”.

The 14 IDC combined 7 keynote lectures, 29 paper sessions, 6 round-tables, an international workshop (1-5 September) and tours in Lisbon (5-6 September) and Porto (10-12 September).

In order to foster a transnational and interdisciplinary approach, the call for sessions, was organised around 8 subthemes: landscapes, cities, public spaces, complexes, buildings, construction & technology, interior design & furniture, theory.

The call for sessions received 76 excellent proposals, from which 29 sessions were selected to structure the 3-day conference, through 5 simultaneous sessions. The call for papers received 516 proposals, from which were selected 125 abstracts for presentation. The Proceedings, combining 125 papers and 29 session introductions, were distributed to all the participants in the first day.

Ghana, Iraq and Kosovo were accepted as new **docomomo** Working Parties and the **docomomo** International Specialist Committee on Interior Design was established.

Maija Kairamo won the **docomomo** Award 2016, for decades of commitment, hard work and intelligence in the defense and affirmation of **docomomo**.

The 15th International **docomomo** Conference will take place in Ljubljana, hosted by **docomomo** Slovenia, under the theme “Metamorphosis”.

The headquarters of **docomomo** International will remain in Lisbon, based at Técnico — University of Lisbon, in the biennium 2017–2018, chaired by Ana Tostões and secretariat by Zara Ferreira.

All national Working Parties are invited to send proposals for hosting the future headquarters of **docomomo** International for the 2019–2024 period as soon as possible, in order to ensure the continued operation of **docomomo** as an effective international organization.

01 Ana Tostões, the Chair, and Zara Ferreira, the Secretary General, closing the Conference.
© **docomomo** International, Márcia Lessa, 2016.



02 Conference opening day. © **docomomo** International, Leandro Arez, 2016.



03 Hubert-Jan Henket, the honorary president, presenting the recorded interview he made to Rem Koolhaas exclusively for the Conference. © docomomo International, Márcia Lessa, 2016.

The conference was made into an unforgettable experience (...). As far as I am concerned this conference fits into my top 4.

Hubert-Jan Henket, The Netherlands

You did a Great Job!! Everything was perfect. Thank you for all those moments!

Sonia Marques, Brazil

Thanks to your effort the conference was a really great success. Incredible what you achieved to manage, at least this grandiose book with all the conference papers. Also the Gulbenkain Foundation with its special atmosphere and spatial possibilities was a great pleasure – and of course Lissabon itself is a fantastic place! We also like to thank you very much for your willingness to continue the chairmanship of docomomo International for two more years. It was also very nice to hear that you got the support of the city of Lissabon to be able to maintain the international secretariat in Lissabon until 2018.

Franz Jaschke, Germany



04 Roundtable Docomomo's 25th+1 Anniversary, Time for Adaptive Re-thinking? © docomomo International, Leandro Arez, 2016.

In addition to the thematic choice, the form of participation was excellent in allowing a greater range and connection with research developed in all the continents, it was excellent. I'm sure that the coordination by this team for another two years will bring even greater accomplishments.

Ana Amora, Brazil

I am on my flight back to Amsterdam looking back on very intensive and interesting days in Lisbon. Thank you so much for this so well-organized conference and for the opportunity to host the session on Intangible heritage and re-design. We had a vivid and fruitful debate on the topic – to be continued in the future...

Sara Stroux, The Netherlands

It was not only well organised, but the venue was great and the proceedings volume was an enormous work that delivered the best Docomomo proceedings I've seen so far.

Petros Phokaides, Cyprus

The organisation of the Conference was meticulous and the venue superb – I offer congratulations to you and all your colleagues for such a splendid and successful event which will be “a bard act to follow”! I am still working through the stupendous tome of collected papers with the greatest of interest and catching up with the various sessions I was unable to attend personally. It represents an enormous investment of intellectual capital.

John Allan, UK

El alto nivel académico de las conferencias y el selecto grupo de colegas asistentes, nos dieron una importante visión del patrimonio del siglo XX en el mundo. Además, vuestro diligente staff de jóvenes estudiantes, facilitaron en todo momento, el normal desarrollo de las actividades en el Calouste Gulbenkian Foundation. Cabe destacar el oportuno y variado catering en breaks y almuerzos programados. Por último, habiendo participado de los tour junto a los profesionales João Belo Rodeia y Bárbara Coutinho, logré valorar la riquísima herencia del movimiento moderno en vuestra bella Lisboa.

Leonel Sandoval Huth, Chile

Obrigada pelo trabalho fantástico que tem desenvolvido na Docomomo! A si, e a toda a equipa, os meus parabéns!

Margarida Quintã, Portugal



05 Council Meeting. © docomomo International, Leandro Arez, 2016.



06 Morning keynote lectures, auditorium 2.
© **docomomo** International, Leandro Aze, 2016.

Just to say a huge thank you for the conference in Lisbon. I know everyone from Australia really enjoyed it too. It was really terrific, and I especially valued some of the keynote contemporary practitioners, who were so refreshing in their work with adaptive reuse. They will make great exemplars in my teaching.

Hanna Lewi, Australia

07 Maija Kairamo receiving the **docomomo** Award 2016. © **docomomo** International, Leandro Aze, 2016.



I would like to thank you and your team very much for the organisation of a splendid and inspiring event! Besides the intellectual content I was particularly touched by the sympathy and loyalty which was expressed in two sessions where invited colleagues from Turkey were not able to attend but their paper was read by the session chair.

Eva Eylers, Germany

The grand event (...) came off in splendid form. You and your group are to be congratulated.

Marc Dubois, Belgium

Many thanks to the organization and your personal commitment to make the event a success. The conference was intense and impressive. Amazing to receive the proceedings. We thoroughly enjoyed the Gulbenkian premises of course, such a beautiful space. And heart-warming to see so many old friends, and encountering new ones.

Dirk van den Heuvel, The Netherlands



09 Closing party, Alcântara maritime station.
© **docomomo** International, Leandro Aze, 2016.



08 Tour to Calouste Gulbenkian Foundation. © **docomomo** International, Leandro Aze, 2016.

It was my first participation in the Docomomo conference and to me it was an honour and pleasure to be at this event. (...) I could learn a lot from all the morning and afternoon lectures (the choice of lecturers and topics was absolutely fantastic) as well as from the presentations at the panel sessions. (...) Last but not the least - the venue of the conference i.e. the Gulbenkian Foundation is great and your tour gave a chance to see more of that!

Maciej Motak, Poland

El congreso ha sido extraordinario, tanto los contenidos como la organización, y somos muy conscientes del gran esfuerzo que hay detrás.

Carmen Medina, Spain

It was a great pleasure to be with all of you those days in Lisbon. The organization was perfect, kind and efficient, and it was really a lot of fun.

Ruth Verde Zein, Brazil



10 Keynote lecture by Gonçalo Byrne.
© **docomomo** International, Leandro Aze, 2016.

Quero congratular-te e à tua belíssima e eficiente equipa alargada, o louvável, estimável e bem sucedido trabalho de produção, coordenação e organização da XIV conferência do docomomo internacional e demais ações acopladas. As sessões em que participei foram todas de grande interesse e apreciei muito o rigor técnico e específico com que todas as equipas/mesas geriram os trabalhos.

Rui Leão, Macao



11 Morning keynote lectures, auditorium 2. © docomomo International, Leandro Arez, 2016.

We would like to thank you and congratulate you for organizing a fabulous intellectual and social event in Lisbon. We enjoyed stimulating papers and discussions, and of course your great hospitality and lovely city.

Yael Allweil & Inbal Gietler, Israel

My heartiest congratulations for the wonderful conference. (...) A lot of discussion / discourses were on and the energy was indeed positive and invigorating.

Sangeeta Bagga, India

Creo, y es una opinión que he escuchado de muchas personas, que estuvo en un muy buen nivel de discusión, bien organizada y sobre todo, en un lugar fantástico.

Andrés Téllez Tavera, Chile

**GRACIAS!!!
GRACIAS!!!
El congreso fue un éxito, lo que ha sido fantástico.**

Louise Noelle, Mexico

13 © docomomo International, Ana Beatriz, 2016.



14 Ana Tostões, the Chair, opening the Conference. © docomomo International, Márcia Lessa, 2016.

It was a great topic with an opportunity to link theory and practice, a gorgeous venue, a vibrant and exciting list of themes, interesting keynotes and smooth organization.

Susan McDonald, USA

15 Main auditorium. © docomomo International, Márcia Lessa, 2016.



12 Group photo, closing session, main auditorium. © docomomo International, Márcia Lessa, 2016.

International docomomo Workshop “The Adaptive Reuse of the Lisbon Riverside Area: the MMC Case Study” Lisbon, Portugal, 2016

Within the theme of the 14th International **docomomo** Conference, the International **docomomo** Workshop took place in Portugal, Lisbon, between 1 and 5 September 2016, under the theme “The Adaptive Reuse of the Lisbon Riverside Area: the MMC Case Study”.

This edition, developed in collaboration with the Municipality of Lisbon (CML), at Técnico — University of Lisbon, established as a goal to make a significant contribution to the future development of the old *Manutenção Militar* Complex [Military Maintenance (MMC)], focusing on the south area currently known as the future *Beato* Creative Hub.

Looking at MMC as a future new centrality able to regenerate the oriental riverside strip, and by clarifying the MMC identity within contemporary Lisbon urban context, the aim of the workshop was to diagnose key issues and opportunities in order to conceive strategies of symbiosis between past values, current conditions and future possibilities, presenting it to the stakeholders and to the general public. By this, **docomomo** called public attention to the fact that sustainability can be reached through architectural heritage conservation, based on its documentation and knowledge. With an emphasis on reuse and respect for the past, through intelligent re-development and community awareness, the workshop intended to be one of the first steps for the sustainable future of the MMC.

The MMC was an industrial facility that produced food, uniforms and other goods for the Portuguese Army. The first bakery was accommodated in a former Convent — *Convento das Grilas* — by the end of the 19th century. During the 20th century, due to the needs during the WWI and, in particular, during the *Ultramar War* (Portuguese Colonial War) in the 1960s, the complex was expanded.

Whilst the Portuguese Army reached 200,000 men in the 1960s, it is now reduced to 20,000 active soldiers. This has led to a reduction of the investment in the factories to the point that they were found to be obsolete and that it would be more advantageous to outsource the supply of military food. Grad-

ually the factories closed and *Manutenção Militar* was finally replaced by a public enterprise *MM-Gestão Partilhada* in 2015. On June 2016, the Municipality of Lisbon signed a protocol with the Portuguese Army in order to manage for 50 years the South area of the old MMC. This area will be the stage of the *Beato* Creative Hub where national and international startups, companies, business incubators, associations, among other entities will be placed according to a masterplan. The expectations are to locate 3 thousand people working and living in this area, replacing the old industrial areas by the 21st century industries of knowledge, creativity and innovation. The Web Summit, taking place in Lisbon between 7 and 10 of November 2016, will contribute to achieve the Municipality of Lisbon's aim of bringing the 21st century industries to the old MMC.

The workshop consisted of 11 teams formed by international PhD and Master's degree students, working with two experi-

enced tutors, teachers and architects from different nationalities and backgrounds, developing analytical skills and working methods¹. The workshop provided a forum where students, researchers and practitioners from different backgrounds discussed, during 5 days, diverse aspects of the reuse of vacant Modern Movement buildings.

Several activities were arranged to wider the debate such as site visits, visionary documentaries² such as *After the Factory* (dir. Philip Lauri, 44', 2012 [US]), *Precise Poetry/Lina Bo Bardi's Architecture* (dir. Belinda Rukschcio, 55', 2014 [BR]) and *Haus Tugendhat* (dir. Dieter Reifarth, 112', 2013, [GE]) followed by collective discussions, and special lectures given by the tutors such as “sesc Pompeia” by Ruth Verde Zein, “Reuse of a factory: Concepts and Methods” by Graça Correia, and “Riverside Industrial Spaces” by Nuno Grande.



01 Manutenção Militar Complex (MMC), Lisbon, Portugal. © **docomomo** International, Leandro Arez, 2016.



02 Workshop group photo. © **docomomo** International, 2016.



04 Workshop presentations and debates, Técnico – University of Lisbon. © **docomomo** International, Leandro Arez, 2016.



05 Opening session of the Workshop at MMC. © **docomomo** International, Leandro Arez, 2016.



06 Workshop group site visit. © **docomomo** International, Leandro Arez, 2016.

The workshop was organized in two main phases: in the 1st phase an overall analysis of all of the *Manutenção Militar* Complex and surroundings, based on the available documentation and fieldwork survey, was undertaken in order to build a collective and multidisciplinary knowledge. This was achieved by the definition of 11 pre-identified themes distributed among the 11 groups: the development of the urban context; landscape systems; urban context characteristics; the borders/limits; the relation with the river; mobility; building typologies; main construction characteristics; the role of the covers; social and economic challenges within the neighbourhood and the city; and similar cases all around the world. This methodology produced a systematic information for the 2nd phase development of synthesis and a strategic masterplan proposal for the MMC South area focused on theoretical principles and intervention guidelines for future interventions. The proposals were required to respect the industrial heritage and to innovate in terms of new uses and functions.

The results included some common strategies came out among the groups, such as establishing masterplans along time and

addressing different strategies to each period, designing conversions meaningful to the neighbourhood, addressing mobility issues and establishing transport, functional and leisure connections with the city and the river, identifying landmarks within the MMC, recognizing key public spaces and green areas, and integrating the industrial heritage as part of the strategy of intervention.

docomomo believes that the *International docomomo Workshop* is a tool contributing to a strategy for the future development of Lisbon's urban fabric and, as Hubert-Jan Henket stated at the 5th roundtable "**docomomo's** 25th+1 Anniversary, Time for Adaptive Re-thinking?", during the 14th *International*

docomomo Conference, as one more "step to move outside ourselves".

docomomo is grateful to all the supporters, tutors, participants and volunteers for the commitment, rigor and professionalism while attending the *International docomomo Workshop*.

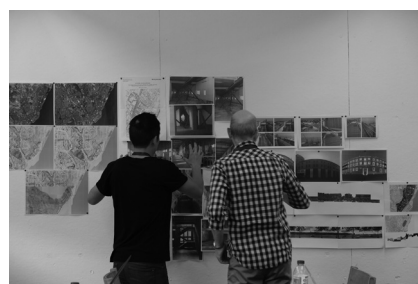
Daniela Arnaut
Workshop Executive Coordinator

Notes

More info: Official website
<http://www.docomomo2016.com/workshop>
CML movie report:
<https://vimeo.com/181969432>



07 Workshop group work, Técnico – University of Lisbon. © **docomomo** International, Rita Amado, 2016.

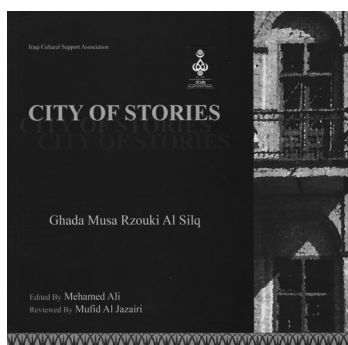


08 Workshop group work, Técnico – University of Lisbon. © **docomomo** International, Leandro Arez, 2016.

1 All the necessary documentation from urban development maps survey, to Lisbon Masterplan framework, AutoCAD drawings, table of areas and number of floors per building, archive and actual photographic survey, socio-economic characterization of the area, bibliography and a website list were provided in advance so the workshop could develop efficiently.

2 Generously enabled by the project *Do You Mean Architecture*.

BOOK REVIEWS



City of Stories

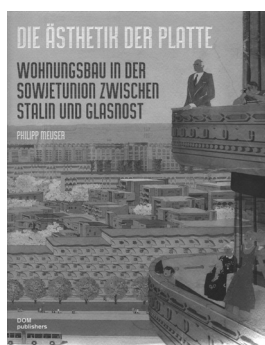
Author: Ghada Al Silq
 Editor: Mehamed Ali
 Publisher: Iraqi Cultural Support
 Association
 Language: English and Arabic
 Year: 2011

City of Stories gives the reader a unique insight in the heritage of Baghdad, capital of Iraq. It pinpoints the duality of city development: on the one hand, economic development takes place, on the other hand its heritage needs to be conserved. Ghada Al Silq focuses on the latter by bundling 40 examples of the unique heritage of Baghdad. The book provides the reader a proper historical and spatial context in order to explain each example briefly in more detail and is accompanied by a large number of photographs. Furthermore, it engages with recent adjustments and rehabilitation actions.

In the end in the author's own words: "we need to [...] ensure that visitors and locals alike can cherish the beauty of the built landscape."

Ghada Al Silq is in charge of the recently established **docomomo** Iraq, approved last September 2016.

Julie Conradi
 Collaborator of **docomomo** International



Die Ästhetik Der Platte: Wohnungsbau in Der Sowjetunion Zwischen Stalin und Glasnost

Editor: Philipp Meuser
 Publisher: DOM Publishers
 ISBN: 978-3-86922-399-5
 Language: German
 Year: 2015

Housing built in the USSR between 1955 and 1991 is a contradictory theme barely noticed in recent research. Concerns and claims of this currently most comprehensive research on housing in the Soviet Union is a fitting tribute to this largest construction in the history of 20th century modern architecture. In addition to positioning mass housing in the historical context of Soviet modernity, this study defines 10 building parameters for the identification of housing types and applies them to the example of 3 selected cities in the former Soviet Union: Moscow, Leningrad and Tashkent. *Die Ästhetik Der Platte* draws a new image of industrial housing construction in the USSR, which influenced not only the everyday life of more than 170 million Soviet citizens, but also the appearance of many cities from Kaliningrad to Vladivostok, up until this day.

Translated from the Publisher.



Mix. Mixité Typologique du Logement Collectif de Le Corbusier à Nos Jours

Authors: Bruno Marchand
 and Christophe Joud
 Publisher: PPUR. Presses Polytechniques
 et Universitaires Romandes
 ISBN: 978-2-88915-064-9
 Language: French
 Year: 2014

There was never so much the question of diversity and, as a corollary, individualism in the architecture of housing. The cult of the self and the affirmation of otherness are parameters that have become widespread in recent decades and have contributed significantly to the recent evolution of lifestyles. In an attempt to meet the new aspirations of the inhabitants, architects explore the diversity of housing typologies within the same building or a limited set of buildings. This phenomenon is a historic anchor in several Corbusian projects of the 1920s and 1930s, just published, that already have the beginnings of visible combinatorial methods, even today.

This theoretical book also aims to analyze contemporary production, through a non-exhaustive series of well-illustrated examples listed according to their different procedures: from generic processes to the theoretical and ideological reflections that legitimize the different approaches of the typological diversity.

Translated from the Publisher.



The Ortstockhaus in Braunwald: Rehabilitation and Renovation at 2016

Editor: OSH Braunwald GmbH
Author: Althammer Hochuli
Architekten
Language: German
Year: 2015

For over 85 years the Ortstockhaus in Braunwald, Switzerland, by the famous architect Hans Leuzinger, has been enjoyed the lovers of mountain landscapes. (...) Since 2 July 2015, the Ortstockhaus in Braunwaldalp has been under new ownership. The former owner has retired and sold the property, as well as their shares in OSH Braunwald GmbH, to the new owner. (...) Particular attention has been given to the preservation and revival of its architectural qualities as the Ortstockhaus is an example of 1930s mountain building. The successful synthesis of regional building traditions and relationship to the landscape with new construction methods makes the Berghaus an important witness of modernity in the canton of Glarus. (...) The Ortstockhaus in Braunwald is considered one of the most important witnesses of modernity in the canton of Glarus.

Translated from the publication.



Un Bâtiment, Combien de Vies? La Transformation comme Acte de Création

Direction: Francis Rambert with Martine
Colombet and Christine Carboni
Publisher: Silvana Editoriale
ISBN: 978-8836629749
Language: French
Year: 2014

And what if we ceased systematically demolishing for building? After the Reconstruction led by the urgency of the post-war and the posterior “renovation-bulldozer” of the 1960-1970s inspired by the ideology of the tabula rasa, it's time for the transformation of existent buildings and urbanized territories.

Facing the terrible reality of urban sprawl, a major consumer of natural areas, the city of the 21st century is seeking new and more compact models. Therefore, it is all a matter of reconquering, reappropriating, reusing and recycling. This urban renewal plunges us into the era of the superposition, the palimpsest, it opens up the field of reinterpretation, perhaps that of “reinvention”, so valued by Violet-le-Duc.

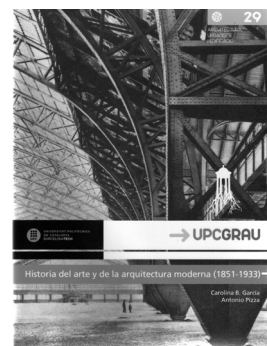
There is logic in transforming the built heritage, densification of the city comes from it and the reflection on sustainability leads to it. That is undoubtedly the new spatial, technical and programmatic experiment of the 21st century, in an economic equation necessary to be solved. “The sustainable is the transformable”, Christian de Portzamparc summarizes.

At a time of programmed obsolescence, the question of reprogramming arises with particular relevance. At first, attentions turn towards all those capable spaces from the industrial world (factories, gasometers, silos, warehouses...). However, within the diversity of today's patrimonial offerings, the challenge is way more complex and concerns, in fact, every type of construction: from the railway station to the prison, from the church to the covered market, from the water tower to the office tower, from the garage to the tunnel, from the viaduct to the dry dock... Both architecture and infrastructures are affected

by this profound mutation.

This book, which accompanies the exhibition produced by *Cité de l'Architecture & du Patrimoine* in Paris, presents 72 projects selected in Europe, overcoming the requirement of the retrofitting of obsolete buildings or their rehabilitation to affirm the idea of transformation as a full act of creation. It is organised in 8 thematic sections, each one being introduced by an architect's or a critic's text on the issue of transformation, and proposes a chronological perspective at a global scale, setting the milestones of a 50-years evolution in the debate about transformation versus destruction.

Translated from the Publisher.

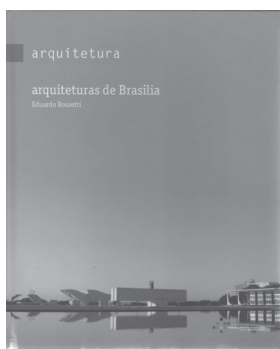


Historia del Arte y de la Arquitectura Moderna (1851-1933)

Authors: Carolina B. García, Antonio Pízzia
Publisher: Universitat Politècnica de Catalunya, Iniciativa Digital Politècnica
ISBN: 978-84-9880-492-8
Language: Spanish
Year: 2015

The history of art and architecture, considered a closed corpus of theme specialization, in our opinion, has no reason to be. Thus, this publication addresses the present educational program addressing the years of modernity, not only the art and architecture of its time, but also urbanism, literature, philosophy, the economy and aesthetics, from a markedly interpretative point-of-view. Its main object of analysis is the “big city”, in a phase of irreversible metropolitanization: in urban environments, such as London, Paris, Vienna, Berlin, Moscow, Chicago and New York, it highlights the rich relationships between the new and the old, in contexts where traces of the past coexist with an imagined future.

Translated from the Publisher.



Arquiteturas de Brasília

Author: Eduardo Rossetti
 Publisher: Instituto Terceiro Setor
 ISBN: 978-85-89834-19-3
 Language: Portuguese
 Year: 2012

The symbolic city of Brazilian modern architecture has its history told, in this publication, by the architect Eduardo Pierrotti Rossetti. The book is part of the collection *Arte em Brasília – cinco décadas de cultura*, which aims to fill the existing gap in the documentation of culture, art and sport in Brasília.

Translated from the Publisher.



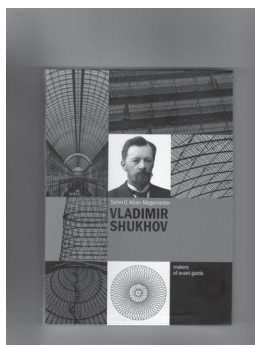
Building Environment and Interior Comfort in 20th-Century Architecture: Understanding Issues and Developing Conservation Strategies

Edited by Franz Graf, Giulia Marino
 Publisher: Presses Polytechniques et Universitaires Romandes
 ISBN: 978-2-88074-993-4
 Language: French and English
 Year: 2016

The notion of physiological comfort – meaning responses to temperature and humidity but also to lighting and acoustics – has been a driving force in architectural production throughout the 20th century. Whether con-

cealed, embedded, exposed, or “featured”, building environment services have played a dominant role in architectural design. This book puts the spotlight on those paradoxically “bulky” yet “invisible” networks that accommodate our physiological needs. Coming from different disciplinary backgrounds, the authors look back over both the cultural and the material issues that have shaped modern and contemporary architecture’s pursuit of comfort by design. In addition, a number of recent, iconic restoration and renovation projects are presented here by the designers themselves. Seeking to strike the right balance between conserving modern built heritage and responding to today’s energy-saving paradigms, they demonstrate how the concept of material well-being, in the sense of today’s “sustainable comfort”, remains high on the agenda. And always at the heart of these reflections are the building services installations themselves.

From the Publisher.

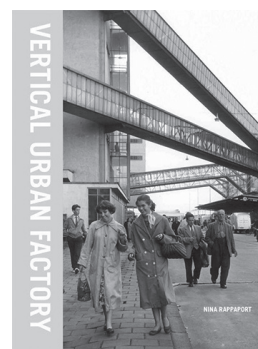


Vladimir Shukhov

Author: Selim O. Khan-Magomedov
 Publisher: Sergey Gordeev
 ISBN: 978-5-43300-001-8
 Language: English/Russian
 Year: 2011

The book describes the creative work of Vladimir Shukhov, outstanding Russian engineer, whose name became famous not only due to his renowned radio-tower in Moscow but also thanks to his numerous designs, structures and patents opening a new era in using hyperboloid structures in the construction industry. His works had a significant impact on form-generation in avant-garde architectural concepts.

From the Publisher.



Vertical Urban Factory

Author: Nina Rappaport
 Publisher: Actar Publishers
 ISBN: 978-1-940291-63-5
 Language: English
 Year: 2015

The 480-page hard-cover book focuses on the spaces of production in cities that are significant in their design and contribute to a vital urban environment. This book re-examines the modernist and contemporary factory and issues of labor in the city while provoking the future of urban manufacturing. It shows now that factories are cleaner and greener, smaller and taller, hybrid and flexible, they can be reintegrated into city life creating a new paradigm for a sustainable, mixed-use, and more self-sufficient industrial urbanism.

From the Publisher.

Organized in three sections (Modern, Contemporary and Future), *Vertical Urban Factory* provides a detailed history of design and factories and takes a sociological and economic approach by defining the role of industry in urbanism. Not only describes the book the past, it also sheds light on contemporary projects and even provides change-making sketches and proposals for the future.

The book is part of an independent project with the same name. Besides the publication, the project includes a traveling exhibition that aims to rethink factories as a sustainable factor in the city life.

Julie Conradi
 Collaborator of **docomomo** International