

**Los hechos geográficos como etimología del paisaje urbano:
una contribución al (re) diseño de Arrábida (Porto, Portugal)**
Geographical forms as etymology of the urban landscape:
a contribution to the (re)design of Arrábida (Porto, Portugal)

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Abstract

La lectura corriente de las diferentes formas del paisaje de Arrábida idealizadas por el siglo XX las considera divergentes, en la medida en que no reconoce sus similitudes.

La lectura formulada bajo la óptica de la transformación del paisaje de Arrábida en el “larga duración” propone que, además de la apariencia de las formas, una perspectiva común une los diversos paisajes idealizados para el lugar durante ese siglo.

Estos paisajes son parte de una tradición de diseño que remonta al menos al siglo XIV y tiene sus razones más profundas en la geografía.

Las formas geográficas alimentan la creatividad arquitectónica que proyecta Arrábida del siglo XIV al XX; ellas son el legado de una larga sucesión de diseñadores para la modernidad.

La cuestión esencial del futuro del paisaje de Arrábida es un cierto sentido de orden geográfico que el arquitecto hereda y reformula para representar la quintaesencia de su contemporaneidad.

The current reading of the different landscapes idealised for Arrábida by the twentieth century, regard them divergent, insofar it does not recognise their similarities.

The reading formulated from the perspective of the transformation of the Arrábida’s landscape in the “long term” proposes that, beyond the appearance of the forms, a common perspective unites the various landscapes idealised for the place during that century.

These landscapes are part of a design tradition that dates back at least to the 14th century and has its deepest reasons in geography.

Geographical forms nourish the architectural creativity that designs Arrábida from the 14th to the 20th century; these forms are the heritage of a long succession of designers to modernity.

The essential question of the future of the Arrábida landscape is a certain sense of geographical order that the architect inherits and reformulates to represent the quintessence of his contemporaneity.

Keywords

Territorio, Paisaje, Geografía, Tradición, Diseño Urbano

Territory, Landscape, Geography, Tradition, Urban Design

Topic

1. Paisaje urbano y cultura arquitectónica

“El examen de la experiencia histórica nos demuestra que la ciudad [paisaje urbano] nunca se ha construido de espaldas a la naturaleza sino en abierto diálogo con ella. El lago, la colina, la península, el valle, la llanura, el río y la bahía son elementos arquetípicos de la geografía que a menudo se convierten en ingredientes primordiales de la ciudad. Si hay algo permanente en la ciudad [paisaje urbano], más allá de cualquier vicisitud o transformación, es la presencia de lugares que, aun siendo plenamente urbanos, manifiestan un fuerte vínculo con la geografía, a pesar de que ese vínculo pueda pasar por etapas de oscurecimiento o de olvido”¹.

This is, for instance, the case of Arrábida, in the city of Porto (Portugal)².

Throughout the three decades between the 1940s and the 1970s, two problems fell upon Porto: the construction of a new gate of the city and the construction of a new crossing of the Douro River, integrated into the national road network, both related to Arrábida.

Translating a vehement desire for transformation and contemporaneity, in that short period of time, the Municipality sequentially commissions five projects for the consolidation of the urban landscape of Arrábida in accordance with its new purpose, to four of the most pertinent architects/urban planners working in the city – professionals of different nationality and working experience, committed to varied architectural/urban conceptual references.

An analysis of these projects focused on its conceptual approaches (architectural and urban), emphasizes their individual character, suggesting that each project proposes, for Arrábida, an always radically new urban landscape with a tendency to utopia, especially in a city still characterised by a traditional urban fabric.



Figura 1: Giovanni Muzio (and Urbanization Office of Porto City Council), *Plano Regulador da Zona da Ponte da Arrábida e do Campo Alegre*, 1940-1943 (Archivio Muzio, Milan).

¹ “The examination of historical experience shows that the city [urban landscape] was never built with its back turned to nature, but always keeping an open dialogue with it. The lake, the hill, the peninsula, the valley, the plain, the river and the bay are archetypal elements of geography that often become the main ingredients for building the city. If there is anything permanent in the city [urban landscape], beyond any vicissitude or transformation, it is the presence of places that, although fully urban, have a strong connection to geography, although this bond may go through moments of obscurity or forgetfulness”. Carlos Martí Arís, *La cimbra y el arvo* (Barcelona: Fundación Caja de Arquitectos, 2005), p.56.

² Recalling Carlos Martí Arís (1948-2020), this communication stems from the intersection of the knowledge built on Arrábida, in the doctoral thesis Sílvia Ramos, “Campo Alegre Cidade: da sua longa metaformose” (PhD diss., Faculdade de Arquitetura da Universidade do Porto, 2017), with the text of the architect/author of which we adapted the title “Los hechos geográficos como etimología de la forma urbana”, published in the book referenced in the previous footnote.

At first, between 1940 and 1943, the Milanese architect, Giovanni Muzio (1893-1982) proposed the transformation of Arrábida into a residential expansion area with a civic centre at the exit of the new bridge, in a design that mirrors a practice rooted in a classic understanding of city building, touched by the signs of modern urbanism, referencing the urban principles that characterise the Modern Movement, namely those registered in the "Athens Charter", as he had experienced, for example, in the proposal "Forma Urbis Pisanum", for Pisa (1929) (fig.1).

In a second instant, between 1949 and 1950, Fernando Távora (1923-2005) projected a neighbourhood unit of six thousand inhabitants and a pedestrian civic centre for Arrábida, for collective life, in a proposal that recalls Le Corbusier, namely in the project for Saint Diè (1945), Josep Lluís Sert and Paul Wiener, for instance in the projects for Chimbote (1948), Medellín (1948) and Cali (1950), and that resonates with the "The Heart of the City" (1951) and "A New Monumentality" discussions (1943) (fig.2).

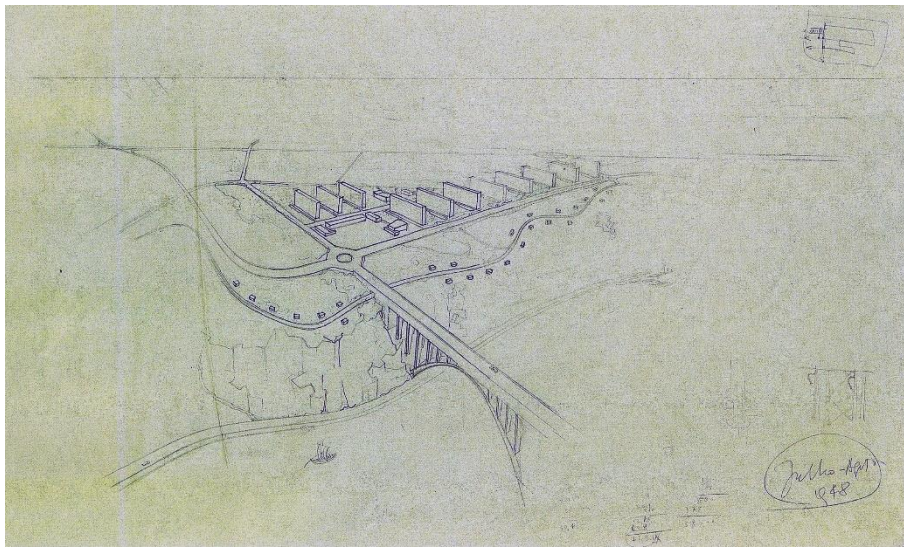


Figura 2: Fernando Távora (at Urbanization Office of Porto City Council), *Plano da Zona Residencial do Campo Alegre*, 1949-1950 (Fundação Instituto Marques da Silva, Porto).

In a third moment, between 1950 and 1955, Januário Godinho (1910-1990) designed Arrábida as Porto's South Park, a "co-ordinated park", integrating a modern highway node, public buildings and housing. This proposal recalls passages from the "County of London Plan" (1943), by Henry Forshaw and Sir Patrick Abercrombie, and images of the most recent North American highway nodes, such as those of Detroit and Ohio (fig.3).



Figura 3: Januário Godinho, *Plano Parcial de Urbanização do Campo Alegre – Futura Entrada da Cidade pela Ponte da Arrábida*, 1950-1955 (Arquivo Histórico Municipal, Porto).

In a fourth moment, between 1956 and 1966, the French architect and town planner Robert Auzelle (1913-1983) bet on exponentiating the urbanity of the Arrábida landscape, in a design that refers to the imaginary of “new towns” such as Cumbernauld (about 1967), by proposing a set of buildings of large dimensions and massive construction, articulated by pedestrian paths elevated to different levels, marked by a radio tower, such as the ones in Hannover (1958-59), Rotterdam (1958-60) and Brasília (1957) (fig.4).



Figura 4: Robert Auzelle and Urbanization Office of Porto City Council, *Plano Parcial do Campo Alegre*, 1956-1966 (Arquivo Histórico Municipal, Porto).

In a fifth and final moment, between 1968 and 1974, Fernando Távora returned to Arrábida to design it as a “Directional Centre” that initially takes the form of a “single building”, similar to that of Ludovico Quaroni for the Directional Centre of Turin (1962) and then of a “macrobuilding” referring to the concepts of “megastructure” and “groundscraper” and recalling, for instance, Candilis-Josic-Woods' projects for the University of Bochum (1963) and the Vallée de Belleville Winter Resort (1962) (fig.5).

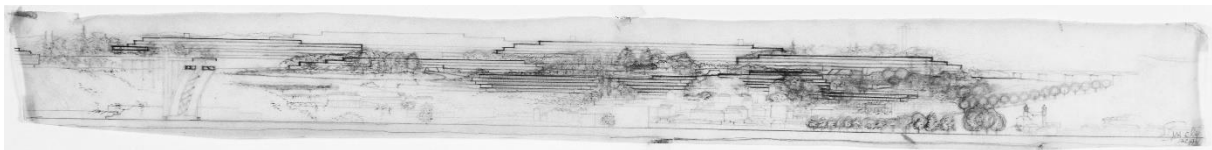


Figura 5: Fernando Távora and Urbanization Office of Porto City Council, *Plano de Urbanização da Zona do Campo Alegre e Estudo de Pormenor do Setor da Arrábida*, 1968-1974 (private collection).

The landscape these five projects intend to transform is identical, with regard to the matrix characteristics and the general laws that guide the urbanisation. This is revealed namely by the aerial photographs and the topographic models of Arrábida integrated the various working processes (fig.6 and fig.7).



Figura 6: (unknown author), Photo of Arrábida from a distant point of view, part of Robert Auzelle's project, before 1956 (Fonds Robert Auzelle, Paris).

Figure 7: (unknown author), Topographical model of Arrábida, part of the Giovanni Muzio's project, 1941 (Archivio Muzio, Milan).

When analysing those photographs from an urban and architectural point of view, they show Arrábida without any relevant qualities. It is characterised by an urban and architectural fabric common to many other places of expansion in the city, identified by the hybridism and complexity that arise naturally from its composition by the overlap of urban and architectural forms of different times and histories. There are expressive traces of its circumstance of rural place (a place of fields and farms of agricultural production), place of amenity and pleasure (a place of Benedictine retreat, recreation farms and palatial houses) and of residential suburb that the industrial and commercial dimensions intersect (place of settled housing, for sale or rent, workers' housing in "ilhas", "vilas" and neighbourhoods and factory, workshops and warehouses). As the projects find occasional built expressions, the possible signs of the modern city that was desired to characterise the Port of tomorrow are added.

By contrast, when adopting a point of view focused on the relative position of Arrábida and its geographical circumstance, those photographs and models reveal a place of extraordinary uniqueness.

Regarding the position and taking the river area of Porto as reference, Arrábida in addition to integrating the set of tall, steep and rocky cliffs that characterise its landscape, is one of the extreme cliffs within this group that, along with the one that surrounds it, conforms the strait in the course of the Douro that allows, simultaneously, to close it at the low level end and transpose it at the high level end.

As far as the geographical circumstance of Arrábida is concerned, its surface is, in addition to vastly varied in topographical terms, very fertile in geological terms, as the points of intense and varied vegetation captured in those photographs suggest.

The surface of Arrábida integrates three precise main geographical forms: the plateau, highlighted at about 70m above sea level, with the best sun exposure, the maximum breadth of river and sea views and the healthiest air; the hillside, particularly inclined below 50m, which multiplies in a series of hills and valleys and is shaped, punctually, in terraces (characteristic of Douro's riverside); the escarpment, a very large rock mass, which emerges in view at the far west of Arrábida and is more pronounced over the river. The soil of all these surfaces is granitic, which gives it the quality of strong permeability to water and the ability to conserve it in relatively shallow aquifers, making it especially suitable for productive and recreational plantations.

By crossing the pre-existing landscape of Arrábida with the landscape that each of the five projects proposes³, regardless of the conceptual and formal party they choose, there are two opposite findings, transversal to all of them.

³ The intersection of these readings is based on an exhaustive redesign process (informed, namely, by: T.M de Jong and D. J. M. Van Der Voordt, *Ways to study and research: urban, architectural and technical design* (Delft: Delft University

Regarding the urban/architectural fabric, it is determined that the relationship between pre-existing landscape and proposed landscape is disruptive. The five projects are reactive responses to the inherited urban/architectural situation, namely to the problems it poses to modern life, in particular in Arrábida, to those associated to road traffic (in speed), to green and open spaces (for recreation and rest accessible to the whole population) and to the concepts of “monument” and “monumentality”.

On the contrary, regarding the geographical circumstance, it is determined that the relationship between pre-existing landscape and proposed landscape is one of continuity. In the understanding of the projects, the geographical phenomena constitute the matrix characters of Arrábida, without being malleable or subject to annulment, under penalty of dilution of its identity. Thus, urban/architectural forms are proposed to reveal, continue and frame the main geographical forms that make up Arrábida, while the projects find differentiating characteristics of the type, form and category of construction in them, which challenge the design⁴.

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The plateau and the hillside

In the five projects for Arrábida, the design of the circulation network and the design of the housing buildings are the result of the structuring influence of the two main geographical forms in which the place can be decomposed: the plateau and the hillside.

The projects share two premises concerning the design of the circulation network. The first is the design of the fundamental circulation network reinterpreting the imaginary lines that limit the surfaces of different geographical quality that make up Arrábida. The second is the characterisation of the secondary circulation network according to the specific land relief of the surface on which it is designed.

The fundamental communications network comprises the layout of a set of roads that structure the plateau at the mouth of the Arrábida bridge (allowing its extension to the north and its connection to the source, to the city centre); the layout of a road that structures the circulation on the hillside. Regardless of the degree of geometric rigidity, compactness and how much the proposals are adopted to the terrain, all projects design the first set of roads simultaneously inspired by and in counterpoint with the morphology of the territory. Broadly speaking, the several routes are designed to mimic the perimeter of the plateau and to reinforce its distinction from the hillside, with a rigid geometry that often requires large and complex engineering work for its implementation. Structuring the movement on the hillside, from the foreground, every project chooses to design a levelled path which runs across all of Arrábida’s front facing the Douro, following the movement of the level curves, between the steeper surface and the less steep surface of the hillside. It is a route with a playful dimension that takes advantage of the views over the river valley and the sea, called, with no exception, Panoramic Way.

The secondary communication network is characterised differently when it is designed on the hillside and on the plateau. Invariably, the projects associate a system of linear arteries that intersect orthogonally, except for occasional, exceptional arteries to the plateau. As opposed, the projects always associate curved street systems to the hillside, which combine with the Panoramic Way.

Regarding the design of the housing buildings, invariably, to each of the main forms of land relief that make up Arrábida, the five projects correspond building densities and specific housing buildings’ typologies. Every project agrees with the principle of associating a high building density

Press, 2005). Design as an autonomous and exact discipline in its unique synthesis is the most efficient instrument, not only for the management of the large amount of complex data of different time and nature, often from archival sources, but also for the design of original synthesis readings on the urban transformation of Arrábida in its “long time”, capable of informing its project in the present/future. Nota a pie de página (Garamond 10, justificado).

⁴ The testing of the construction of a similar reading is, for instance, in: Xavier Monteys, *La gran máquina: la ciudad en Le Corbusier* (Barcelona: Serbal, 1996).

to the plateau and characterising the hillside by the low building density. They solve the construction of high density, on the plateau, with buildings of multi-family housing, in height – "blocks", "*unités d'habitation de grandeur conforme*", towers, "single-build" – and the construction of low density of the hillside in buildings of single-family housing, composed of a reduced number of floors, in the middle of gardens, isolated or associated in small sets, possibly on land terraces, dispersed along the Panoramic Way. The construction on the plateau is considered to be intended to the upper class of the population, as it is understood as luxury; the construction on the hillside is considered to be intended to the middle/lower class, as it is associated to the idea of neighbourhood. It is interesting to note that the same principles of composition are valid when, in cases such as Januário Godinho's project and Robert Auzelle's project, the Arrábida hillside is understood to be decomposed into two parts, considering a smoother slope surface and another steeper slope surface. In this case, the projects reserve the intermediate area between the multifamily plateau and the very steep single-family slope for low-density and relatively low-height multifamily housing.

The hills and the valleys

In the five projects for Arrábida, the selection of places for the implementation of recreational and sporting equipment, which every project considers, is the result of the structuring influence of the small hills and valleys in which its slope multiplies.

Invariably, the projects understand that the set of hills and valleys that punctuate the hillside, sometimes characterised by a lofty situation and overlooking the river with sea views, valued by particularly valuable afforestation, sometimes by a close relationship with small watercourses that flow to the Douro, are exceptional portions of the territory of Arrábida that is justified to expropriate, not for housing, but to integrate into the public domain and build for the best cultural and sporting enjoyment and enrichment of the city.

In this sense, Monte do Bicalho, a natural viewpoint and native vegetation stronghold, was destined, by Giovanni Muzio, to be a public garden and, by Fernando Távora and Robert Auzelle, to be the place for setting up panoramic equipment, most probably a restaurant.

In turn, in the park that he initially designs, Januário Godinho projects the Monte do Bicalho, the valley of Ribeira do Gólgota and Monte Gólgota together, for setting up a panoramic restaurant, as Távora and Auzelle do, a swimming pool and an outdoor amphitheatre, respectively. Subsequently, Januário Godinho sets up, in this last hill, a municipal recreation and sports centre, composed of swimming pool, tennis court, restaurant and "dancing".

The escarpment

Invariably, the five projects for Arrábida inspired by its escarpment, understand that the unique geographical mark it constitutes and the relative position it enjoys in the waterway space of Porto and in the course of the national road network under construction, demand from Architecture a crowning that, in a broad sense, implies building on the elevated and prominent place it provides and, in a metaphorical sense, means building a landscape capable of reinforcing the solemnity and grandeur of the escarpment in it.

With no exception, the five projects bet on building Arrábida as the new land gate of the city. All of them propose, to crown its high, an urban landscape that contrasts with the image that traditionally represents Porto – consolidated, in the eighteenth century, to integrate, among others, the Cathedral, the Clérigos Tower, the Monastery of São Bento da Vitória and the Monastery of Serra do Pilar, on the opposite riverside of the river. The new image of Porto is undoubtedly modern/contemporary, an expression of a new city, of progress and avant-garde, which is achieved by crossing the Douro through the new Arrábida bridge.

In the several projects, the synthesis image of this crowning is designed taking the building and/or afforestation as main compositional elements, to take advantage of the fertile soil of Arrábida.

Giovanni Muzio proposes a sequence of compact vertical masses crowning the escarpment. These masses see their expression augmented by Fernando Távora, who designs them to be reminiscent of a landscape of towers or skyscrapers, symbol of modern urbanity that he believed should characterise the new Port to be built on the forehead of the Arrábida bridge. As an alternative to Fernando Távora's stone finish, the Arrábida by Januário Godinho is crowned by a large urban park, whose afforestation seamlessly shows the architectural elements of various order, including the modern road node and a set of towers framing it. Robert Auzelle finishes Arrábida again with the edifications as a fundamental compositional element. He proposes the construction of a relatively high horizontal mass which tends to be compact on the Arrábida plateau. This horizontal mass “fits” the hillside in Fernando Távora's latest proposal. At this moment, the crowning of Arrábida is realised in a composition of horizontal plans and vertical support walls of reduced height that spreads over the territory, integrating its different geographical forms, namely the hills and valleys that punctuate its hillside, and the wooded assemblies of particular quality that disperse over it. Thus characterised, this proposal, without introducing particular dissonances to the pre-existing landscape of Arrábida, proposes a topographic urban landscape to finish the escarpment and to build the new gate of the city of Porto, in a precise reinterpretation of its geography.

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This reading leads to the hypothesis of recognising a common perspective among the five projects for Arrábida, which goes beyond the title, nationality, degree of professional experience and conceptual and formal convictions of its authors. This common perspective points to the existence of a same idea for the landscape of Arrábida between the 30s and 70s of the twentieth century; something that by always being present, through those architects/town planners, allowed the persistence of a common point of view on “what this landscape can and should be”. From this common perspective, the construction of the Arrábida landscape based on the recognition and continuation by reinterpretation of its geography, as a set of matrix characters of the place on which its identity depends, is a fundamental part.

However, more interesting than recognising a common perspective to unite those five projects developed for Arrábida, is to hypothesise a tradition of building the landscape of Arrábida transversal to the “long term” of its transformation and within which not only those four architects/town planners work on, but also all the builders of the place that, until then.

The “long term” reveals that if there is something permanent in the landscape of Arrábida, which is at its origin and accompanies its various stages of transformation, regardless of any vicissitude, it is its strong link to geography. The geological qualities and geographical forms that structure the urban landscapes proposed for Arrábida by the five projects of the twentieth century are also the basis of the landscape they know as pre-existing. Soils of different geological quality, surfaces of different slope and ridge and thalweg lines, are at the basis of the design of the regulatory system of its rural register – they serve as a reference to the delimitation of agricultural parcels, the layout of the network of main and secondary paths and the design of the road on which this whole system is founded. The most pronounced features of the hillside, viewpoints from which one discovers the landscape of the river valley's contrasting values, are points for setting up places of amenity and pleasure, for the rest and recreation of its inhabitants, as the Benedictine retreat of S. Bento da Vitória and the housing buildings of some of the most important recreation farms. The escarpment is a framework for the construction of the river gate of Porto, a unique place in the Douro landscape, associated to the exit from and entrance to the city from the sea. Its foothills are part of a “barrier” in the 14th century, and the steepest part of its hillside includes a small sanctuary composed of the chapel of Nossa Senhora da Boa Viagem and its “*via crucis*”. Associated, these elements refer to the moment of entry and exit in the waterway space of Porto, not only offering protection, but also recalling the city on the eminence of the ocean and affirming its importance on the maritime front.

At present, this design tradition allows architecture to illuminate the roots and invariants of the Arrábida landscape and ensures the possibility of continuing it, regardless of the conceptual and formal references to be chosen. Now, in the possibility that the twentieth century is testing of continuing to design Arrábida from its geography, lies on one of the hypotheses for the contemporary Urban Project that is interested in designing the territory not by establishing a new mesh or network that overlaps with the pre-existing reality, without seeking any of its particularities, but by the survival, progression and consolidation of the pre-existing landscape. The design of the Arrábida landscape within this tradition seems to be the only domain where architects interested in its survival and progression can, today and in the future, work on – designing the urban landscape of Arrábida from its decipherment, the identification of its fragments and its explanation to, from the case by case of this particular, creatively carry out its reconstruction.