

## The Portuguese Urban Heritage Overseas

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### **Abstract**

*Up till the 1970s, Portuguese colonial urbanism was considered a synonym of disorder or lack of intention, labeled as a draft of urbanization. Researchers understood that this lack had created picturesque spaces with a refined aesthetic quality, though not particularly interesting for urban studies due to the low order feature shown in the supposed non-existence of a global planning action: local properties and geomorphic aspects would have been the framework conducting the settlement process. The Portuguese way of establishing towns was considered, inaccurately, as without planning, disregarded when faced with other experiences. Despite the rigid layout, however clearly regulated, the Spanish urban design in the New World was preferred over the Lusitanian example: a naïve artifact whether in America, Asia or Africa. Taking into account towns in Brazil, whose origins are laid in this Portuguese urban matrix, this paper focuses on the investigation of the urban settlement form and space, aiming at exploring the question of the intentional, highlighting a Portuguese planning approach based not on regulated plans, but on a clear adaptation of the town foundation site to the local geographical patterns and defense/protection items. The Lusitanian urban morphology was explored from this intentionality variable and as resulting from a precise socio-cultural process of occupying the territory, considering the distinction between organic and regulated growth. The study was conducted by the analysis of the society and space relation by means of the space syntax theory, featuring aspects such as the establishment of urban networks and hierarchies in Brazilian towns since the first arrival of Portuguese settlers in 1500: topics such as historical periods of conquest and defense, site placement, urban permeability and grid layout were investigated. The Portuguese urban heritage overseas brought about by savoir faire opposed to the Spanish was also explored, in a diachronic perspective, despite the similar Iberian root. From the findings, an issue was raised: the nature of a flexible model for urban settlements. Besides that, it was emphasized that the urban foundation process in the investigated sites, and the later development in a proper morphology with peculiar features, was a heritage from a specific urban: (1) savoir faire built by the Portuguese and (2) maintenance or continuity of patterns.*

## **1. Premises**

### **1.1. Form and space interpreted**

The interpretation of urban spaces diachronically allows interpretation because some forms and space (Medeiros 2006) have reacted better to particular purposes: chess-like grids, “organic”

patterns, radial structures, patchwork systems, etc. It is a fact that in the continuous process of production of space, societies have learned to assimilate the principles and to progressively adapt them to the future constitution of their urban structure. Whether the assimilation was or not a coherent process of the understanding of forms from the past, the contemporary interpretation may provide some of the answers.

Understanding the town as a socially utilized space implies thinking that the form-generating social process is not reducible to the investigation of the urban phenomenon in its isolated context. The inclusion of a sociological line is recommended (Holanda 2006), one which regards urbanization as organization and development of space – including previous and future articulations – based on labor power, population characteristics and, especially, on the forms resulting from one or other human gathering. The idea of the emergence of towns involves, therefore, a wide spectrum of activation factors, a generator of human settlements of peculiar characteristics, functions and forms, whose interpretation reveals a series of social logic aspects therein integrated.

## 1.2. An issue in interpreting Portuguese towns in Brazil

Brasília is a major world example of the intentional production of a town thought as a whole. It is the result of the advances of Lusitanian colonizers heading into inland South America and, mainly, of twentieth century wishes in redefining the post-independence national political center. It is part of the redistribution of the urban network and the wish to occupy the vast and then little explored regions of the Brazilian Plains.

We use Brasília due to it being a classic example. It is, however, the same intention in producing new spaces representing modernity, as is done in the creation of some Brazilian state capitals: Teresina (1852, emerged from Oeiras), Aracaju (1855, from São Cristóvão), Belo Horizonte (1897, transferred from Ouro Preto) and Goiânia (1937, arisen from Goiás Velho).



**Figure 1**

*Axial maps of downtown areas in Aracaju (left), Teresina (center) and Goiânia (right). Credit of axial maps: Adriana Nogueira (Aracaju), Leila Alarcón (Goiânia) and Valério Medeiros (Teresina).*

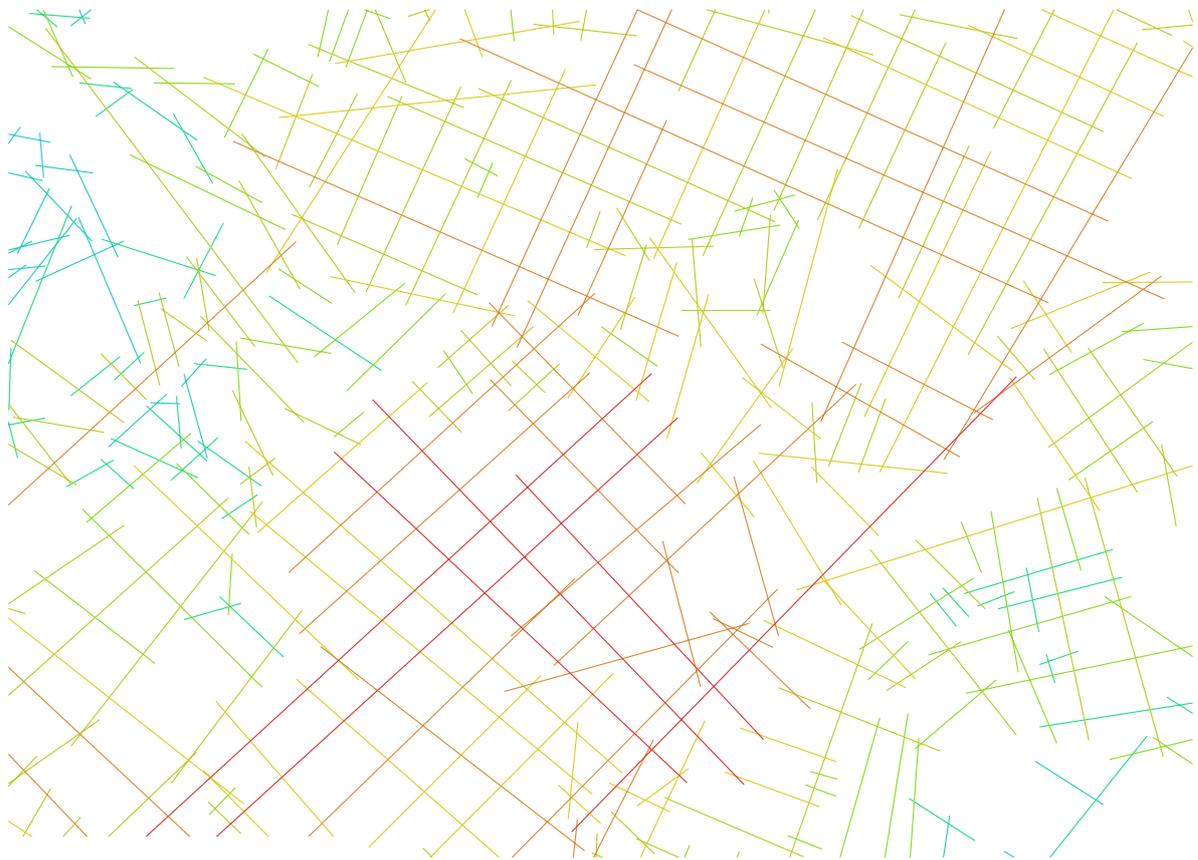
These are new towns (Figure 1) meeting explicit demands to reorient growth axes and to shape centralities of symbolic, expressive or economic appeal, distinct to the previous ones. Symbolically, the vision of the modern, new, planned and intentional in new towns was desired, against what was understood as old, occasional and spontaneous: adjectives which came into use to describe all Brazilian towns of colonial origin.

Precedent towns were interpreted as outdated. Mindlin (1999), on Brazilian pre-independence urban nuclei (before 1822), states that the towns have grown in a quite disorderly manner around churches, generally situated in more elevated spots. Streets and alleys were sinuous and irregular, evoking faraway Moorish influence.

The aforesaid “disorder” became a synonym of lack of purpose, and towns built the Portuguese way were regarded as if they were “drafts of urbanization” (Mindlin 1999, 23), a product of successive chance, with no clear organization, and lacking a form and space that denoted the wish to actively occupy the territory.

Researchers understood that the clear lack of intention had created picturesque spaces of refined aesthetical quality, but of little interest for urban studies given the lack of attitude in terms of occupation through regulated design. The Portuguese way of building towns and of structuring urban networks was interpreted, inaccurately, as lacking planning, pretermitted in relation to other experiences, their coevals.

The clearly planned right-angledness of Spanish urban networks in the New World was preferred (Figure 2) over the formal diversity of Lusitanian experiences, naïve products of chance, whether in America or Africa.



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**Figure 2**

*Axial map of the old quarter of Quito, Ecuador.*

This study, therefore, bears on the discussion of the urban morphology pertaining to towns of Portuguese origin implanted in Brazil, with the aim of investigating configurational characteristics which delegated specific accessibility effects to coeval settlements. It seeks to observe, in agreement with the historiographic apparatus, the reasons for the appearance, the adoption and the development of identified patterns, as well as to discuss possible implications in accordance with one or other form and space.

## **2. Conceptual Apparatus and Procedures**

The configurational approach is hereby adopted, which considers the investigation of a certain reality from an integrated and relational view. It consists in the study of the urban configuration not as a cluster of objects and form and spaces distributed throughout the town, but as a set of articulating elements, what enables findings on a series of ponderations on urban settlements.

The emphasis, denominated relational, is fruit of the structuralist reasoning, derivative of research in the area of linguistics and textual interpretation, sustained in discussions on the systemic or holistic reasoning. It is grounded in the idea, derived from biology and developed in the first half of the twentieth century, of the need for maintaining the complex set of structures and relations of a given element or organism, establishing a line of thought known as systemic. According to the systemic view, the essential properties of an organism are properties of the whole, which owns none of its parts. They arise from the interactions and relations between the parts (Capra 2003, 40).

To Foucault (1971, 24-38) these relations and structures, in most cases, remain as invisible aspects and, for that reason, are little explored. However, the relational study reveals relations which had remained obscure up till then, and had not been immediately transcribed or legible. But what it reveals is not a secret, a unit of occult sense, neither a general and unique form; it is a regulated system of differences and dispersions.

In spatial interpretation, tools which allow space analysis with a relational focus and which are complementary to the descriptive views must be emphasized in the investigation of forms.

In view of that, the interpretation of the historical discourse in this article is subsidized by a series of urban analyses developed in the form of axial maps. The tool is a product of the Theory of the Social Logic of Space (Hillier and Hanson 1984, Hillier 1996) and is especially recommended for urban studies, and it allows observing road networks in its most distinct designs and frameworks, in accordance with movement and accessibility patterns.

## **3. Discussion**

### **3.1. Portuguese urban morphology**

The Portuguese overseas expansion produced an urban network which was disseminated throughout several continents between the late 15th century and the early 17th century: the need for new products for an emerging and ever-thriving market, besides the wish for the break of hub monopolies such as Venice and Genoa contributed to the movement arisen in Portugal in the 15th century, set out from the conquest of the city of Ceuta in 1413 in present-day Morocco, what culminated into the Age of Navigation and the expansion of European frontiers.

The discoveries brought a vision of wealth and the possibility of conquest to the European ideal. The demand for new products, spices, jewels, and goods in general motivated the implementation of support networks in the newly-conquered areas: it was important to establish trading posts and, subsequently, to found towns in order to guarantee the ownership of overseas possessions by settling populations and repelling European invaders, after all, the idea of a world divided between Portugal and Spain by the Bull Inter Caetera (1493) and the Treaty of Tordesillas (1494) did not please the other emerging nations in Europe.

In fact, the Iberian countries barely experienced the medieval period to the full as did France and England: sequential southbound advances against the Moors persisted practically throughout all of the Late Middle Ages. The urban decline did not happen then: the towns meant advanced bastions of protection and defense and, contrary to corresponding to near-independent units such as feuds in their political structures from other parts of Europe, they were components in an urban network founded on the spirit of territory retrieval. Besides that, the reconquest had motivated the spirit of venture over foreign and pagan territories.

Portugal, as the first European nation to consolidate the National State, launched to sea and gave start to dynamics of cultural intersection and the incorporation of external features which consolidated towns and defined the founding of settlements throughout the vast territories visited. There was, however, an evident process of digestion and imposition, transforming the landscape into exotic places.

Towns were set up and the urban network the Portuguese created took place progressively, and in a simultaneous character, in absolutely distinct parts of the world. The grounding was specific form and space criteria of association to the territory, considering the diverse geography of varied regions of the world.

Portuguese towns presented quite precise morphological characteristics (Teixeira 2000) which distinguish them from urban experiences in other cultures. The form and space resulted from diverse factors, to wit:

- 1) Diverse spatial influences and conceptions present in Portuguese urban culture (Roman and Arabic heritages, as in Coimbra and Évora);
- 2) The choice of topologically strategic locations for the arrangement of the initial nuclei of towns (military and defense matters);
- 3) Narrow articulations in the grid of the towns with the local terrain, a defining element in roads and plazas, orienting town growth and consolidation (Figure 3);



**Figure 3**

*Present day views of old quarters in Portugal: Évora (top left), Óbidos (top right), Coimbra (bottom right) and Lisbon (bottom left).*

- 4) Flexibility of the urban network arrangement, allowing acquaintanceship of erudite and vernacular grids. It meant that spaces conceived as a whole by means of a regulated plan were able to couple with urban parts of organic growth;
- 5) The process of planning and consolidation of a Portuguese town, ever projected on the site and with the site, that is, whether the town develops gradually or whether it develops from a predefined plan, its design is only concretized in the confrontation with the natural physical structure of the territory (Teixeira, 2000).

It is a fact that urban settlements presenting little control by a central power tend to be a product, therefore, of diverse private and particular interests which decide, punctually and through time, the axes of expansion and consolidation of the urban nucleus (vernacular grid). It is the remission to intentions which do not project the town as an urban whole, but as parts that grow in accordance to those criteria. The result, ultimately, is an urban space of apparent little order, where global planning is little evident or hardly identified.

On the other hand, towns which are a product of a central and guiding power usually present previous planning which establishes the design of the urban development in its entirety, clearly defining the inter parts articulations, and the design of the towns tends to be an offshoot of regular geometric compositions and sets (erudite grid). The attachment to urbanistic rules is evident, and the urban design is greatly geometric. Geometry values rationality and the outlining power of the conceived space, directed to principles of formality imprinted in the urban space.

Towns of Portuguese origin are, thus, on the threshold between these two approaches, usually encompassing both characteristics by integrating an extremely flexible structuration between the vernacular and erudite components. The comparison seems like a product of the Portuguese way of being that, for example, must have probably been, out of all others, the Europeans which most miscegenated deliberately with the native peoples of discovered or conquered lands. Parallel attitudes of a same *savoir faire*, of which Brazilian towns are a product.

### **3.2. The confrontation of models and the transposition to Brazil**

The construction of Brazilian towns is grounded directly in the Portuguese mode of territorial domination and in the way the urban network was gradually set up into newly conquered lands in America. Colonial villages and townships allude to the ideal of narrow winding roads going down hills, in the duality of high and low towns and dwellings arranged in no rectilinear alignment.

However, one of the aspects which have often been discussed in academic circles refers to the thinking which involves the myth of the unplanned Portuguese colonial town. Towns such as Natal, Olinda, Salvador and Rio de Janeiro are examples of this lack of clear intention, despite the site model of implantation, set in elevated places by river or sea shores, putting up defense.

In the last decades, studies have sought to demonstrate and correct the old view which compared Portuguese and Spanish towns in the American continent, affirming the intense process of Spanish urban organization as opposed to Lusitanian towns, the latter supposedly spontaneous and with no apparent organization (Cf. Mello 1999). It is said that the Portuguese towns were eloquent in their spontaneity which implied the idea of a living organism in which each part functioned according to the fulfillment of certain needs, resulting into a dynamic form, though disorganized.

That is what Delson (1997, 1) discusses, indicating that according to usually accepted opinions, Brazilian towns were a product of spontaneous motivations instead of obeying precise regulations from the metropolises. The product would be some kind of "draft of urbanization" (Mindlin 1999).

If this reasoning implicates the understanding of Portugal as of not presenting urbanistic tradition – but as a town model impregnated in the strength of the medieval ideal, with tortuous and fortified citadels indicating a strong Moorish influence, then it must be clarified that the medieval Lusitanian planning has existed since the 13th century and it presented a vigorous regulating character. There has been planning and arrangement in Portuguese towns since the 13th century, a situation which remained unflinching well into the age of discoveries, in the successive stages of Portuguese occupation in the Atlantic Islands, in Africa, Asia, and Brazil.

What is at hand, *de facto*, is data on a nation which outlined its first incursions into South America and had an urban tradition linked to the planning of regulatory and orthogonal grids pertaining to the founded nuclei following the Reconquista period, starting on the 13th century.

Posterior to that, into the 18th century, the adoption of regular grids is gradually consolidating as much in rising towns as in undertaken urban restructuring, especially with the progressive

qualification of military engineers, who took to town planning and to building projection. The colony in Brazil gradually interiorizes into Spanish territory and new settlements start to emerge, whether linked to mining or to farming (Cf. Pirenópolis, Cidade de Goiás, Vila Bela da Santíssima, Cuiabá, etc.). In this process of expansion withdrawing from the coast, regulatory and geometrized grids are adopted in greater frequency.

In that context, Teixeira (2000) states that the apparent disorder of Portuguese towns was effectively guided by principles that, though not coded into an explicit set of rules, were part of a rich urban tradition which envisaged the structure of the territory as a component of the urban design.

Apart from the risk of environmental determinism, the interaction between the urban design component and the terrain persisted for many years being interpreted as a characteristic of little order, what alluded to the occasionality and spontaneity of the site where Portuguese towns were implanted in America. An urb which adapted to the site was seen as a town which, not being planned in geometrized grids, was molded and expanded in accordance to the surroundings.

#### **4. Structure and Configuration: Conclusions**

The founding of Brazilian towns and their ulterior conformation in a form and space of particular characteristics are a heritage of: (1) a Portuguese urban know-how established in Lusitanian America and (2) a specific process of settlement growth and expansion starting in the 19th century and, mainly, in the 20th century, with the advent of industrialization and increasing country-to-town migration.

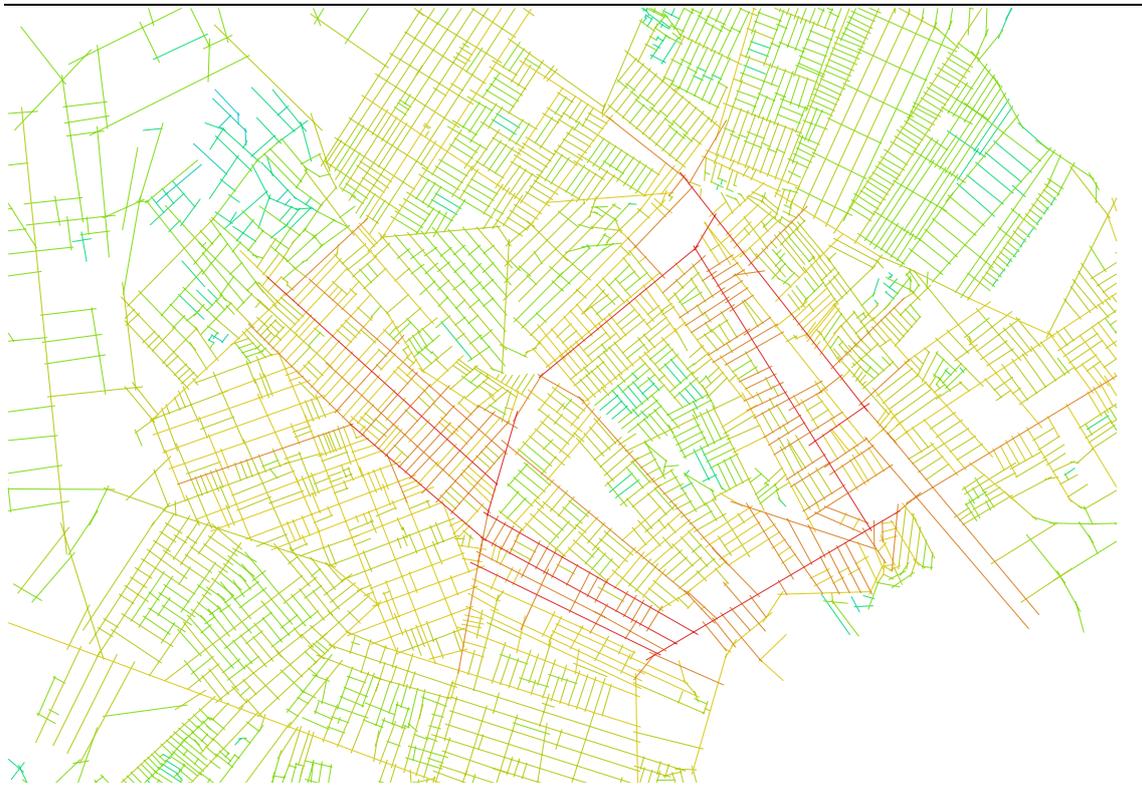
The course of history indicates that the initial features of the towns implanted in Brazil were associated to urban nuclei formation guidelines referring to strategy and defense matters. The resulting form and space diachronically report to Arabic towns, to medieval urban formations and to early gregarious nuclei arisen in the Neolithic Revolution.

The first centuries of urbanization in Brazil are characterized by the formation of an urban web which progressively laid basis for the expansion of frontiers in the Portuguese colony and later on, the transformation of these early nuclei into towns which today correspond to great urban centers or state capitals.

Contrary to weakly fundamented common belief, the towns implanted in Brazil were indeed the result of intention and planning, though guided by a rather diverse understanding from that of the Spanish, who occupied a considerable portion of the other Latin-American territories. The Portuguese preferred elevated sites which guaranteed protection and defense, in a perfect accommodation of the town atop the terrain. The Spanish, on the other hand, were partial to plain surfaces which enabled building chess-like grids with minimum deformation.

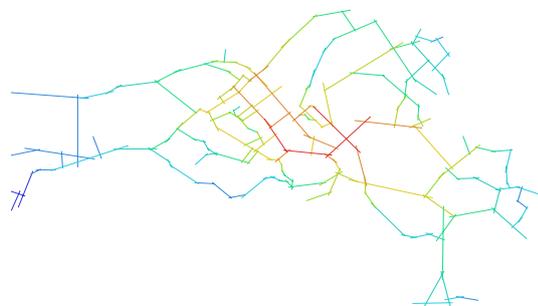
In Brazil today, we experiment urban forms and spaces which are a direct effect from the convergence and acquaintance with types of fabric in settlements, which lead to specific conditions of accessibility, permeability and integration in townspeople settings. Commenting on discontinued urban sprawls – derivative of dynamic geomorphic features – or settlements composed of grid compositions, primarily, is not an expression of positive or negative acceptance. Towns atop hills are not better than those on plains, or irregular grids are not more pleasant than those in orthogonal grids. Nor vice-versa.

The problem is not in the form and space of one or other characteristic, but in the integration of various kinds of fabrics in one town and how that inter part organization is given (Figure 4). The major question which arises is that which assesses the modes of articulation between the fabrics – be they checkerboards or patterns of extreme organicism – and whether it is not in this point where the reason for the formation of more segregated or isolated urban places is found, what would make the urban entity not a continuous whole but a set of weakly interlinked parts. The deleterious consequences associated with spatial segregation, poverty, violence, circulation difficulties, etc., are notorious.

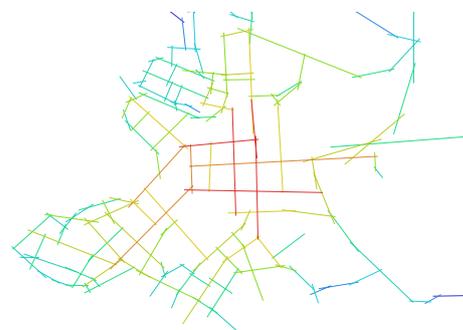


**Figure 4**

*The pattern of a discontinued grid in Natal (Zona Norte region). Credit of the axial map: MUsA Research Group (UFRN).*



Tiradentes



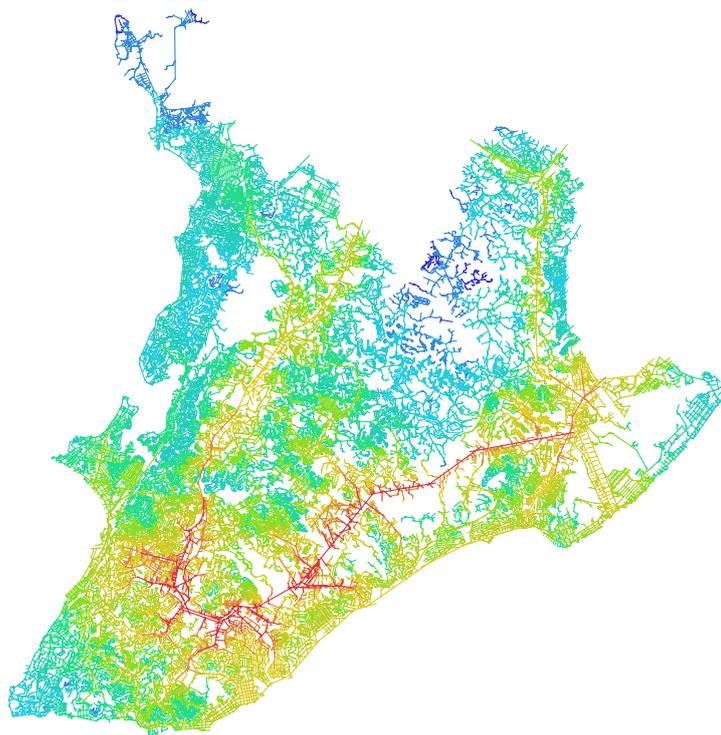
Alcântara

**Figure 5**

*Old colonial Brazilian towns: Tiradentes and Alcântara (general views and axial maps).*

Let us think of the previous arguments: irregular growth spaces that present a diversified urban network tend to be assessed as positive in the sense of their aesthetic qualities. But what if, for instance, this irregularity increased to the point where it reached the entire urban scale in great urban centers with a population of over, say, 300.000 inhabitants?

If we assess relatively small old sites or any town of colonial features remaining in Brazil – which are many, such as Alcântara, Cachoeira, Mucugê, Rio de Contas, Pirenópolis, Tiradentes, etc. – the irregularity would mean more pleasant and interestingly articulated spaces, invoking to appropriations of the natural environment by means of precise techniques such as those which compose the Portuguese colonial urban know-how (Figure 5). If, however, we consider great towns or capitals, the irregularity may become a characteristic which excludes urban vitality, aggravating sectorization problems, segregation and spatial exclusion. Let us think of the urban sprawl pertaining to Salvador, third greatest town in Brazil (reaching, presently, almost 3.000,000 inhabitants), and its vigorously labyrinthic characteristics (Figure 6).



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**Figure 6**  
*Salvador axial map.*

Let us now appreciate the regular checkerboards and the precise or slightly deformed orthogonal plans: the subjacent discourse is that which has them primarily as a facilitator of implantation and, mainly, the capacity it has of generating spaces with greater flow and circulation. If we examine urban spaces entirely planned in that manner, as a great grid which is continuously aggregated, or whose road network progressively derives from a regulated pattern, albeit with variations, we are able to get an illustration positive properties, as well as those purposes of rapid colonization and effectuation of the peopling, with examples such as the towns of Porto Velho (Figure 7), respectively.

However, if we visualize great settlements where there is a clear regulated fabric, despite there not being an adequate inter parte articulation, we will backslide into the labyrinth issue, and the apparent advantages of an open fabric – and its fluidity and ease of circulation – dilutes into a lack of integration resulting from poorly connected spaces. That is the situation in Uberlândia or even in many towns throughout Brazil (Figure 4) conformed by an inhabitation policy which, beginning at the 1960s, promoted the establishment of several spaced housing developments, creating independent fabrics now integrated with the town in one way or another.



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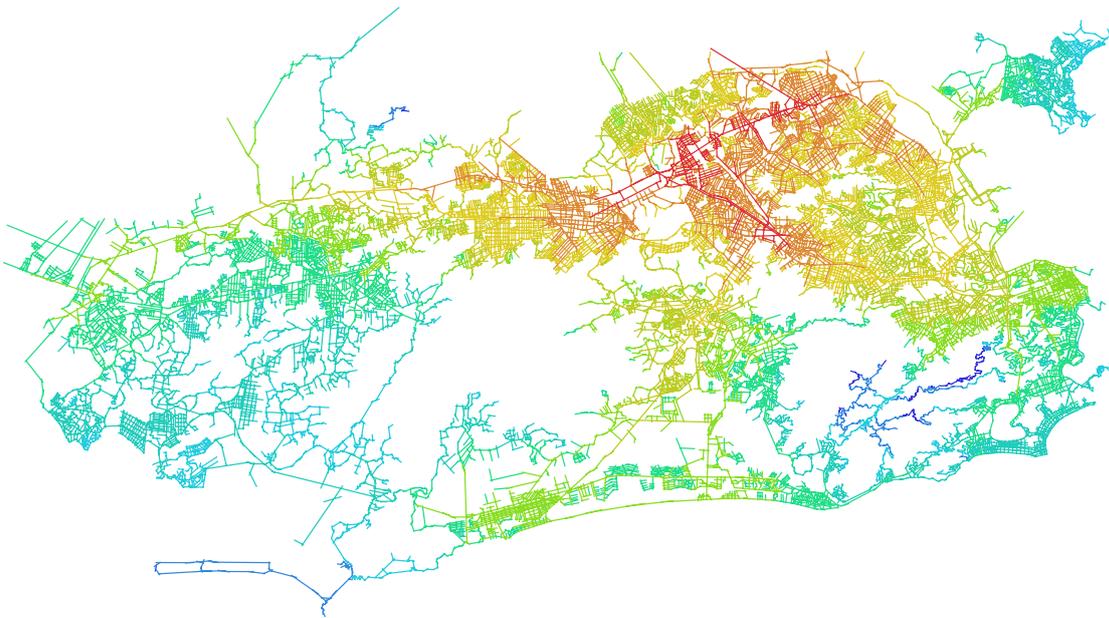
**Figure 7**

*Porto Velho axial map.*

Throughout the 20th century, towns in Brazil have grown at an overwhelming pace: towns like Natal, which during World War II had fewer than 40.000 inhabitants, today encompasses over 1.000.000 people in the metropolitan region. São Paulo, an incipient town to urban parameters up till the mid 19th century, has currently become a world megalopolis whose population is of around 20.000.000 inhabitants. Not to mention Brasília, a planned city, with a current number of inhabitants reaching 2.500.000 for the whole of the Federal District.

Towns in Brazil have grown at a fleeting pace, catalyzed by late industrialization and by progressive country-to-town migration. The arrival of individuals aspiring betterment in cities dates back to the 19th century with the end of slavery and the return of impoverished soldiers from the Paraguayan War. Rio de Janeiro, lacking space for the excluded, despite the freedom offered and the laurels of a supposed victory, had nothing else in store besides hill slopes and steep escarpments: shantytowns emerged, progressively integrating an identity which has become common in great cities in Brazil. The confrontation between exuberance and wealth and exclusion and poverty was established. In the present day, the old capital comprises places such as Favela da Rocinha, whose population, of around 400.000, is superior to several capitals in Brazil. Furthermore, the real city grows behind the bulk of Tijuca, despite the fact that sellable Rio is that by the sea (Figure 8): the segregation effected by geography broadens greatly through the urban design.

São Paulo is of a similar conformation: segregation is given by the dimension of what herein is referred to as a city up against a sprawl that ascends hills and continuously adapts to the terrain. For a small town, that feature would generate precious views and a peculiar picturesque character. However, in the scale in which it occurs here, the form and space is a product which better resembles a labyrinth than anything else. The same happens in Salvador: atop hills does the Bahian capital settle, and the product is a varied urban design, however extremely burdensome for circulation: the wide open avenues in the valleys end up having more of a local importance rather than global, properly said, although the city depends on them. The Tietê and Pinheiros waterfront expressways, in the capital of São Paulo, reveal the same.



**Figure 8**

*Rio de Janeiro axial map.*

Lastly, it may be verified from the analyses developed that the form and space characteristics, in their regularity or irregularity, are not, primarily, positive or negative. A form and space prone to being organic is not better than one resembling Spanish grids. The analysis will depend on the necessary coherence for the articulation of the places. It is on that point where we come across a protuberating problem in urban studies: the scale issue.

Furthermore, the conducted research has proved how the use of a configurational approach, by means of the Theory of the Social Logic of Space, allows an specific sociological way of reading the space, clarifying important features related to urban morphology, as the close connection between form and space. The comparison among axial maps reveals also how distinguished urban structures result in a robust variety of accessibility patters, which can be associated with a proper urban *savoir faire*, like the Portuguese one, and later developments. Besides that, it was verified that the quantification and hierarchization of the urban grid discussed for Brazilian cities' axial maps, according to the theoretical, methodological and technical premises, can contribute to documental and cartographical gaps, offering an useful strategy for a better comprehension of the urban phenomena.

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