

Public Open Spaces in Sao Cristovao, Rio de Janeiro:

Social and Spatial Patterns

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Abstract

This paper investigates the relations between spatial configuration and social appropriation of public open spaces in Sao Cristovao, a district in the city of Rio de Janeiro. This space-society, form-function counterpoint presumes that spatial attributes can affect and be affected by concrete actions and interactions. Therefore, two categories structure the analysis: spatial patterns and social patterns.

Spatial patterns, identified at the spatial configuration of the settlement and its public open spaces, are investigated by graphonumerical analysis done according to the configuration analysis developed initially by Hillier and Hanson (1984). Social patterns are identified in the uses and appropriations. They refer both to the concrete sense of events, actions and interactions that take place at the public open spaces in the district and also to the subjective sense of experiences and images it causes on people. This analysis starts from references related to the spatialization of social practices (Jacobs, 1961; Whyte, 1980; Shields, 1991), and utilises behaviour observations and focused interviews.

In short, it is a study on the urban quality of places that emphasises the importance of the public open spaces as social life scenery.

Introduction

This research investigates the relations between spatial configuration and social appropriation of public open spaces in the district of Sao Cristovao. This space-society, form-function counterpoint presumes that spatial attributes can affect and be affected by concrete actions and interactions.

Two categories of analysis are established: spatial and social patterns. They enable the conjugation of quantitative and qualitative methods of investigation to analyse the system of public open spaces.

The spatial patterns are identified through the graphonumerical analysis developed in the Space Syntax Theory, initially by Hillier and Hanson (1984) and lately by other authors (like Holanda, 1997). Its quantitative methods enable inquiries about space performance, and about the effects of the design and evolving of built environments. It looks at society spatially, through attributes such as proximity, continuity, integration and contiguity of each element of the system.

The social patterns are identified in the uses and appropriations of the open spaces. They relate both to the concrete sense of events, actions and interactions and also to the subjective sense of experiences and images that take place at the spaces. Studies of the spatialization of

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social practices and the vitality of spaces approach these issues (such as Lynch, 1960; Jacobs, 1961; Whyte, 1980; and Shields, 1991). The methods of investigation used were focused interviews (Zeisel, 1981; Strauss, 1987) and behavioural observations (Whyte, 1980; Zeisel, 1981; Eyles and Smith, 1988; and Costa, 1993).

From the agoras to haussmanian boulevards, the open public spaces were the place of social life. However, during the 20th century, several transformations caused their decline as a major element of the "public sphere". As a response, several studies have emphasised the importance of public open spaces for the city. For this objective, this research investigates the urban quality of places. Its case study is a district with a diversity of features, briefly described below.

The District of Sao Cristovao

Sao Cristovao, in the city of Rio de Janeiro, has historical significance and well defined boundaries². During the 19th century, it was the residence of the imperial family and a railway passed through it. Then, it turned into an important industrial area, until the fifties. After that, it lost its economical role in the national and local context.

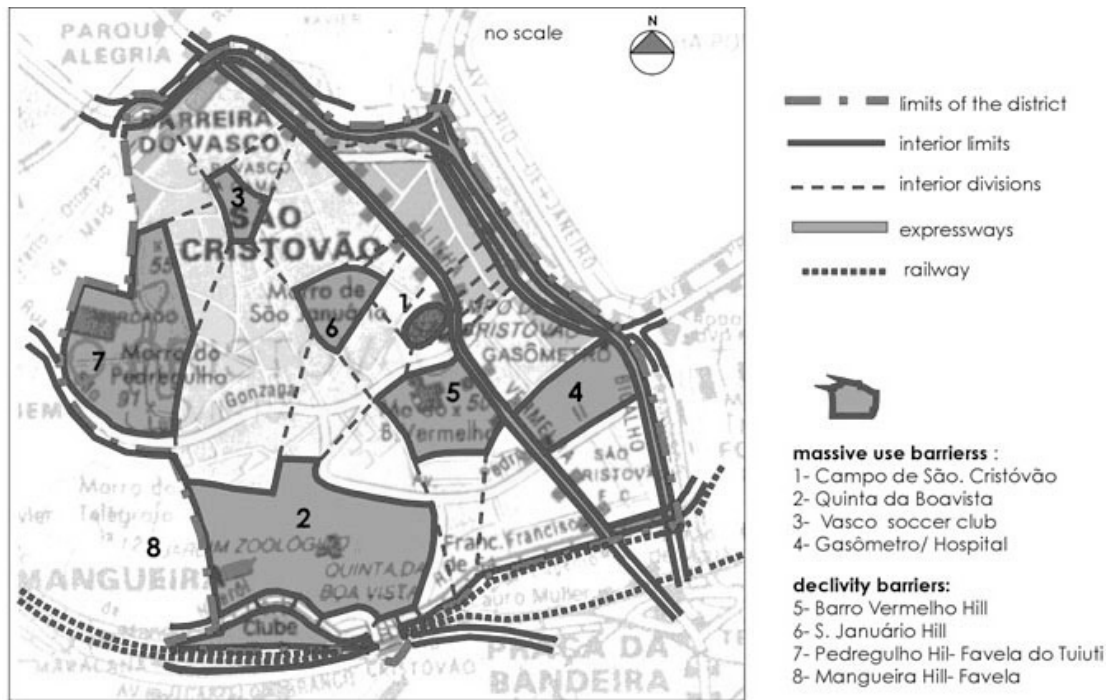
In its evolving, the district was separated from the sea by gradual landfills of its marshes and beaches. Sao Cristovao is diverse in land use, with residential houses, industrial hangars and also with "favelas" (slums) in the steeper hillsides. Due to its strategic localisation in the city, main accesses into central areas always passed through it. In the 20th, two elevated expressways caused a fragmentation in its urban tissue.

It has turned from a aristocratic place into a peripheral zone of the centre, whose major open spaces are: (a) The Quinta da Boavista, originally the residence of the emperor and its several gardens, turned into the National Museum and a fenced urban park. (b) The Campo de Sao Cristovao, a big and underused open space crossed by two storey viaducts and an abandoned building of an exposition pavilion. It was a common field used for fairs, exchanges, and military exercises, turned neo-classical square, now practically destroyed.

Spatial and Social Patterns

The analysis of spatial and social patterns of the district starts by its frontiers. A map of barriers and permeabilities is developed, representing features considered as barriers of the urban tissue, such as hills, transport axis, parks, favelas³ and big industrial areas. The map shows that the district has distinctive areas, and that most of its limits have strong physical barriers⁴ (fig.1). The inhabitants perceive this strong frontiers. But in the lighter ones, there are distinctions between the formal limits and recognised ones (Lynch, 1960). Social connotations interfere, when it relates to the favelas (inside or outside the district) and neighbour districts.

After this, the public open spaces⁵ of the district are seen through the configurational analysis. They are decomposed into "convex" spaces, i.e., those that straight lines in their interior do not cross their external limits (fig.2). Then, into "axial lines", i.e., the longest ones through convex spaces. The system is then analysed by one of its properties: the symmetry, which relates to the depth of the system. The degree of integration is calculated for each space in relation to the system of spaces in Sao Cristovao (fig.3). These areas of strong integration, which tend to concentrate major buildings and movement, correspond in Sao Cristovao to the central ones.



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Fig. 1 Syo
Cristóvão: map
of limits and
barriers

Then, a section of the major public open spaces is selected for a closer analysis of their spatial and social patterns. These major convex spaces are:

- (A) Three squares located in mainly residential areas.
- (B) A very small triangular plaza besides the Campo.
- (C) Two open spaces at opposite limits of the district.
- (D) the Campo de Sao Cristovao.

Most of these spaces studied are integrated ones (fig.4). Two of the squares of residential areas are crossed by integrated lines (25% more integrated), while another one is in a segregated area (actually close to the entrances of the district's favela). The (B), (C) and (D) spaces are in the integration nucleus (the lines 12,5% more integrated in the system).

Detailing the spatial analysis, transitions (doorways, gates) to private areas are mapped in the section. The convex spaces⁶ which have no transitions are considered as "blind spaces" (Holanda, 1996). Due to the size and quantity of these transitions in relation to the space, this research introduced the category of "half blind" spaces ((fig. 5).

This section of public open spaces is also observed in loco. Some of their main physical features surveyed and some of their uses and meanings are summarised here:



Fig. 2 Syo
Cristóvão:
convex map

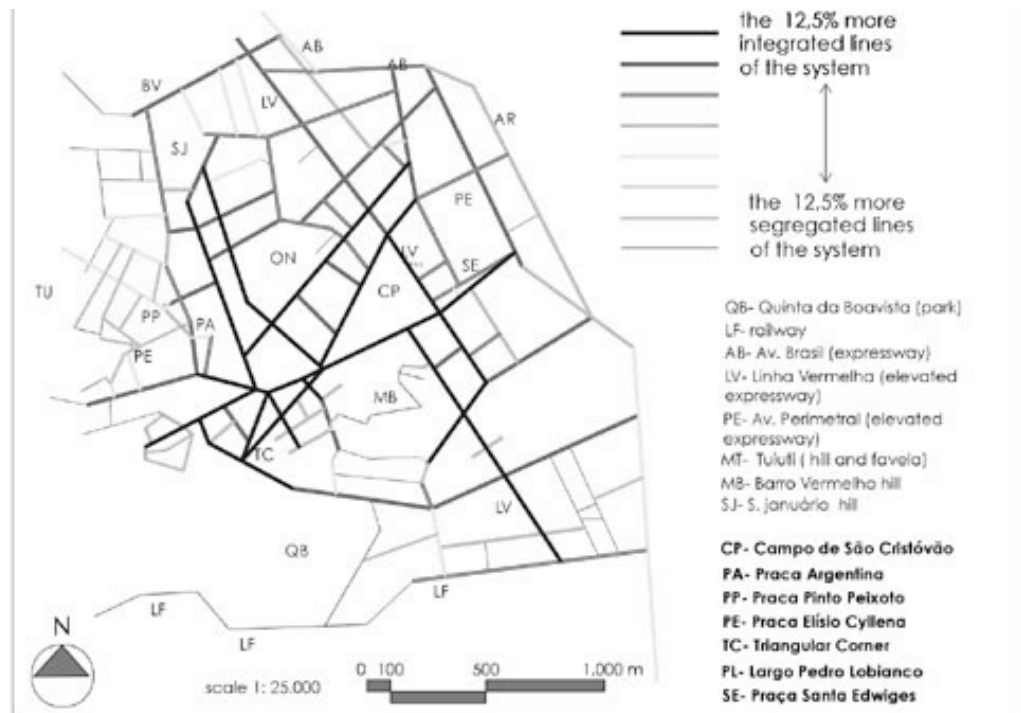


Fig. 3 Syc
Cristovyo:
integration map

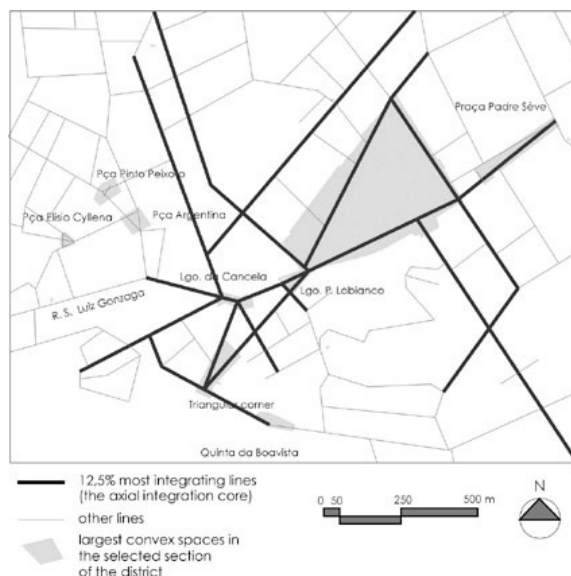
(A) One of the squares at residential areas, Praca Pinto Peixoto, is densely arborescent and equipped for different users (children and aged), with benches, toys, sports and table games. This provides an intense use (fig. 6). For opposite reasons, Praca Argentina is only a passageway with permanence of users only in its surroundings, close to the buildings. In Praca Elisio Cyllena, close to the favela, adaptations of use are remarkable features: a trailer; and tilts hanging under the tree crown, protecting from rain and sun and supporting lightning (fig. 7).

(B) The Largo Pedro Lobianco, close to the Campo, is at the end of two streets. One of them has narrow sidewalks taken by informal uses: street vendors and products of the formal stores (fig. 8). Though the confusion set by intense traffic of pedestrians and vehicles, the square has permanence of users, at its benches and game-tables.

(C) One of the areas at the edges is a triangular corner with surrounding open spaces, close to an entrance of the park. It has no urban furniture, but it is shaded by big trees. It serves to street vendors, as a resting area to trucks, taxis, vans and their drivers, and as a waiting area for favela vans (fig. 9). Its walls are used as public bathrooms, and close to it there are prostitution points.

At the other side of the district, Praca Santa Edwiges is an empty ground in front of a church. It is surrounded by hangars, and close to a viaduct at the edge of the district (fig. 10). Traffic of access to the city through it causes complaints of noise and pollution from the residents. The square has no permanent uses, though it is a passageway for pedestrians. Inhabitants of other areas of the district feel disoriented here and refer to it as "a desert", "sinister" and "insecure".

(D) Lastly, the Campo de Sao Cristovao, in the centre of the district and of the integration nucleus, is analysed. Detailing its spatial patterns, barriers to pedestrians are added in a map (Fig. 11).



These are physical, such as fences, pillars and access ramps of the viaducts and level differences, or visual ones, as the viaducts. So, in the users' scale, the Campo is mostly composed of blind spaces (fig. 12).

In the sidewalks close of the buildings around the Campo, the uses relate to the diverse land uses (institutional, commercial, residential). (fig.13). On weekdays, this is the most used area of the Campo, since most of the open spaces at the central areas of the Campo are underused. The exception is a closed square with an old bandstand, flowerbeds and a soccer field (fig.14).

In weekdays, the central areas, fragmented by the two-storey viaduct and its accesses, are used as informal parking areas, "public bathrooms", and by street people. There's intense traffic and these sidewalks have bad maintenance. So, some interviewed people prefer longer routes than crossing this considered unsafe areas.

On weekends, a popular fair of northeastern Brazil immigrants occupies these central areas⁷. It changes the whole scenery, with people coming for typical and cheap products, food and drink, and for dancing "forro"⁸. Translucent plastic tents, fixed in viaducts, trees and posts, create blue-lightened zones, and tables and chairs redesign the environment (figs. 15 to 18). The fair has pickpockets and drunken people, no bathrooms, and also it produces garbage in the area. But on other hand, underused spaces get crowded with people from all parts of the city. But, despite the problems it causes, the fair is recognised as part of the district.

People think the Campo needs a reform, and some miss the times when it was an open and cherished park. Many residents refer to the pavilion as a "white elephant", a metaphor of what its abandon represents (Fig.19).

Final Considerations

Some considerations are done from the conjugation of spatial and social patterns in the analysis.

First, the localisation of each public open space in the system has a special role in their use and appropriation. More precisely, there's a distribution of functions in the district, depending on the syntax of the spaces, i.e., how the parts (the open spaces) relate to the whole (urban tissue), and to each other.

In Sao Cristovao, there is an intense movement of pedestrians and vehicles at the more integrated areas. However, the integration is not directly related to the permanence of users observed in the selected section. Places of permanence can occur both in the more integrated spaces or segregated ones.

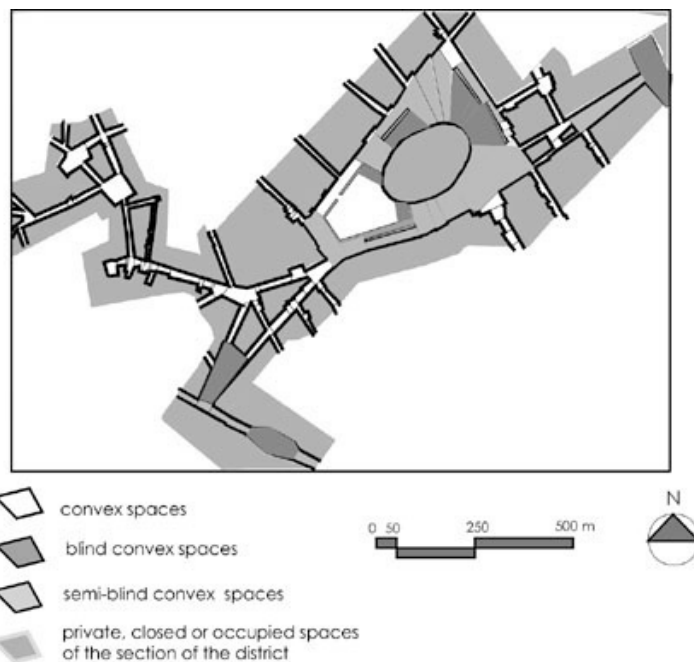


Fig. 5 section of Syo Cristovao: blindness of convex spaces

Fig. 6 Praça Pinto Peixoto: resting and chess playing



Fig. 7 Praça
Elsio Cyllena:
permanence of



Fig. 8 sidewalks
close to Largo
Pedro Lobianco:
appropriation by
formal commerce

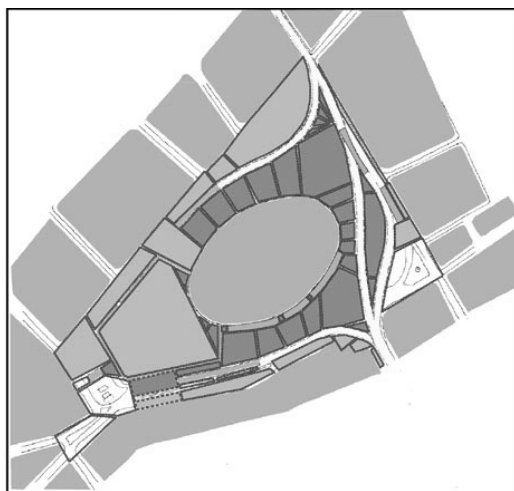


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Fig. 9 triângulo das
corner open
spaces: lunch
hour for drivers

Fig. 11 Campo
de São
Cristóvão:
blindness of sub-



- sub-spaces
- spaces under the viaducts of the express way Linha Vermelha
- private, or occupied spaces of the section
- semi-blind spaces
- blind spaces



Fig. 10 Praça
Padre Sève:
pedestrians at
its surrounding
sidewalks

Indeed, the presence of permanent users corresponds to physical features, which enable formal uses or adequate climatic conditions. The lack of urban furniture, though, causes diverse types of adaptations of use. Another aspect that influences the quality of the uses and appropriations is degree of "blindness" of spaces. In the district, the blind spaces seem to attract undesired, inadequate or even illegal uses.

In Sao Cristovao, at the vast and underused areas of the Campo and at the spaces near its frontiers (the park and the viaduct), inadequate uses are found and also feelings of unsafety are observed in the interviews. This confirms that "anti-social uses of space seem to seek the most integrated spaces available after those taken up by natural movement" (Hillier, 1996, p. 201).

Fig. 12 Campo de Syo Cristovao: students at bus stop under viaducts



Fig. 13 Campo de Syo Cristovao: sidewalks at its surrounding, under the viaduct



Fig. 14 Campo de Syo Cristovao: soccer field at the closed square (the Pavillion in the back)



Fig. 15 The fair at the Campo de Syo Cristovao: users under tilts fixed on viaducts

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Jacobs (1961) says that transport lines and isolated and massive uses generate frontier zones. These are vacuums of use, an obstacle in the urban tissue. In Sao Cristovao, there are such marginal spaces close to the expressways and also to the massive uses of the Park and the hangars. They occur there in its blind spaces, with no tendency to attract permanent users, and where the inadequate or anti-social uses are observed.

So, paradoxically, central open spaces of the study also can be considered as marginal spaces. The Campo de Sao Cristovao is at the centre of the integration nucleus, the heart of the district. But it has blind spaces, and the fair is an exception in their degradation, a resistance of appropriation of the public open spaces. So, the Campo represents at the same time, front and backspaces, centre and periphery. And, as the most visible space of the district, the collective perception of the district depends on the landscape of its open spaces.

Fig. 12 Campo de Syo Cristovão: students at bus stop under viaducts



Fig. 13 Campo de Syo Cristovão: sidewalks at its surrounding, under the viaduct



63.8



Fig. 14 Campo de Syo Cristovão: soccer field at the closed square (the Pavillion in the back)



Fig. 15 The fair at the Campo de Syo Cristovão: users under tilts fixed on viaducts

Notes

- 1 Which is defined by Habermas as the realm of our social life where public opinion is formed (1964).
- 2 These strong boundaries also enable the configurational analysis to consider the urban tissue of the district separately from that of the rest of the city.
- 3 Located at the steeper hills inside the district and at its frontiers, they have a highly segregated structure, and distinctions in size and density. Therefore, they were not considered as spaces in this graphic analysis.
- 4 These barriers are the Railway line and their areas; an expressway, the avenida Brasil, the two elevated expressways, Linha vermelha e avenida perimetral, and the Tuiuti and Manguiera Hills.
- 5 In contrast to the spaces- public or private, built or unbuilt, which have restrictions to the access.
- 6 These are in fact "almost" convex ones, due to the fact that only an infinite number of convex spaces can be traced around the oval pavilion.
- 7 This occurs since the fifties, due to the fact that the Campo was the place of arrival of buses bringing them to the city as manual workers.
- 8 *Forro* is a regional and popular countryside ball, with a specific type of music and dance, originally from the North-eastern states of Brazil.

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