Urban free spaces: possibilities and potentialities along the Biriguizinho Stream in Birigui-SP

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SUMMARY

Free public spaces are elements of vital importance in the social and spatial constitution of the urban landscape. This theme has been addressed by several publications on the construction of the urban environment, especially regarding the design and use of spaces. With factors such as gentrification and real estate speculation driven by the prioritization of the economy, social segregation and the so-called urban voids have become increasingly visible. Every city needs a relationship between full and empty spaces, but the so-called urban voids are places of no use and eventually become devalued, unused, and neglected. The history of the city of Birigui, located in the state of São Paulo, was marked by the passage of the Noroeste do Brasil Railroad. The town expanded into the valley of the Biriguizinho stream, presenting an improper occupation of its banks, especially in the second half of the 20th century. Without adequate planning, the city was divided into regions with well-defined uses (without multifunctionality), which culminated in the so-called urban voids, spaces with potential but without value. This paper aims to identify the free spaces on the banks of the Biriguizinho Stream that lies in the city of Birigui-SP, looking for traces of historical layers that overlap and compose the city, and verifying the possibilities and potentialities to form a system.


INTRODUCTION

The urban development may have occurred for several reasons: landing, railroad, presence of water courses, expansion of territory, planting or the land clearing of unknown regions. However, for all cities to exist, some availability of water and the possibility of its collection is necessary. The development of new technologies and the growing demand for land occupation have caused the importance of rivers to be neglected and their presence to be hidden in many cities, especially in their densely urbanized stretches. An opposite movement has been emerging since the end of the 20th century, motivated by the spreading of awareness about the relevance of watercourses and the serious consequences of denying them.

People need resources to live: water, food, shelter, and community life. Human settlements tend to grow and expand from the development of techniques to generate subsidies. Over time, in order to solve the factors that have been considered problematic in urban settlements, human will has prevailed over the pre-existing landscape. The functions of the elements that make up the landscape gradually change to meet human needs. However, the loss of natural balance can trigger damaging processes for all living beings.

When consolidating, cities needed to expand to accommodate the contingent of people who left the countryside for the urban environment. For this, it was necessary to adapt the population and create new activities and occupations. Besides the vegetable plantations that were initially established on the banks of urban streams, the presence of railroad tracks was also observed, which were implanted in the valley bottoms of many cities. However, as the years went by, these areas were left abandoned or degraded.

With industrialization and real estate speculation, based on the search for exploitation of urban space, the rivers and streams had their routes altered and their margins were reduced or sealed. Many springs and bodies of water were buffered and the rivers and streams, due to the hygienist paradigm, started to be considered attractive areas for diseases. However, later these interventions caused new problems, such as floods, due to soil sealing and the lack of a
rainwater absorption strip. And this is what happened along the Biriguizinho stream, in the city of Birigui-SP.

The waters present in the urban environment influence the perception of the city. They were once used as landmarks and delimitations and today are still seen as residual areas, which is due to the devaluation of riparian regions (MATOS; VELOSO, 2007). The question is whether there is a possibility of reintegrating the bodies of water into the urban fabric, making them areas of public use.

The components of social, economic, cultural, environmental, and political nature demonstrate an additional side of the landscape: the organization of the territory, expressed as "a more or less vast extension of the earth’s surface that can be delimited according to geophysical divisions (hills, rivers) ... or conventional divisions" (ASSUNTO, 2011, p. 128). In conclusion, public spaces, in addition to the factors described above, are the result of the course of time, presenting layers that overlap and constitute different possibilities and characteristics. Therefore, it is evident that cities live frequent changes, which have a connection with the place’s past, and can be considered as layers of an urban space, regarded as a palimpsest (PESAVENTO, 2007).

In this direction, this paper aims to identify the free spaces on the banks of the Biriguizinho Stream in the city of Birigui-SP, seeking to analyze the overlapping historical layers in order to verify their possibilities and potentialities.

METHODOLOGICAL PROCEDURES

In order to understand and analyze the dynamics of the landscape we used as methodological procedures the bibliographic research, choosing as keys for reading the urban voids, valley bottoms, and linear parks. The documentary research comprised the consultation of relevant legislation, maps, plans, and projects, as well as newspaper archives. For the case study of the Biriguizinho stream, field research was fundamental to identifying the spatial and environmental structures, enabling the observation of use and behavior, as well as the activities carried out by users. The photographic survey complemented the reading of the landscape.

LINEAR PARKS INSERTED IN THE URBAN LANDSCAPE

Public open spaces are indispensable to cities. They represent meeting places for people and for different elements that make up the urban environment. For Dimenstein and Scocuglia (2017, p. 418) the public space embraces the dimension of coexistence, urbanity in the city constitution, visibility, and unrestricted accessibility. There is special attention for those in valley bottoms, since water holds an attractive factor (Coy, 2014). However, Sennet (1988) states that there are as many different cities as there are different ways of conceiving them, as are the infinite possibilities of existing public spaces.

The real estate market, together with the State, produces urban space, manipulating the valuation of some areas and the devaluation of others, influencing the activities and
appropriation of citizens in space, as well as the segregation in the spatial occupation by social classes (FARRET, 1985; MARICATO, 1996). Bacellar (2005) reminds us that the State’s intervention with its investments may present itself as something partial, and may be dictated by thoughts characteristic of one or of a group of managers and not for the common good, and may even look away from valley funds.

Because of its potential possibilities, there are new trends to produce better used and recognized public open spaces, resignifying and requalifying the urban environment through the implementation of linear parks in urban valley bottoms.

For Marcondes (1999, p. 33), the loss of value of areas such as valley bottoms is one of the biggest problems in cities, disregarding the laws protecting springs. In his words:

[…] for us, the theory of land rent, as thought by Lojkine, especially the concept of differential rent, can be applied to the analysis of the production of space in the area of springs in order to explain the processes of devaluation of these areas due to the absence of investments in infrastructure, in accordance with what the legislation for the protection of springs published in the 1970s recommends. (MARCONDES, 1999, p. 31-32).

When prioritizing bicycle and pedestrian paths along linear parks, a greater connection with the city is encouraged (GEHL, 2013). Therefore, linear parks and other strategies to adapt the city to more natural and sustainable forms are multifunctional projects (BRANDÃO, 2011) and, according to Scalise (2002) present connectivity and strategies in search of the balance between environmental preservation and urbanization.

Another important point to be considered in relation to linear parks is that they can show several aspects, both functional (related to the practical requirements of everyday life) and bioclimatic (related to environmental comfort, temperature, and air quality), economic, sociological (related to the conditions of permanence and movement of people, interpersonal encounters), topoceptive (related to the legibility and visibility of the place, giving it identity), affective, symbolic and aesthetic (HOLANDA, 2007).

The valley bottom areas make up a portion of the Environmental Preservation Areas, being considered "protected area, covered or not by native vegetation, with the ecological function of preserving water resources, landscape, geological stability and biodiversity, facilitating the genetic flow of fauna and flora, protecting the soil and ensuring the well-being of human populations", according to the Forest Code, Law 12.651 of 2012 (BRASIL, 2012).

There is difficulty in understanding that the permeable areas that include the Areas of Permanent Preservation (APPS) are enriching factors to the urban space, unlike the mistaken view that these are restrictive to urban development and the real estate market (COSTA AND FURUITI 2007). Ikuta (2003, p.74-75) points out that the best way to seek environmental preservation and the use of free spaces consists of "valuing and expanding the channels of popular participation in decision-making processes and socialization of rights, duties, and existing instruments related to the environmental issue" and of "a continuous educational process aimed at reflecting on current living conditions and building new values. Gentrification
presents itself as a factor of segregation of spaces in economic classes and usages in projects for valley bottoms, revaluing them, but nevertheless limiting who makes use of them (COY, 2014).

FAU/USP (2006) published in Report 2 that Fluvial Parks in the urban area present themselves as tools for the conservation and preservation of watersheds, intending to foster articulation with the different social actors present in these watersheds. These projects prevent the inappropriate physical appropriation of river banks and promote the recovery of local vegetation and preservation of it, the good use of natural resources and space with leisure practices, contemplation, and meeting of diversities. With these activities, opportunities are created to establish a daily connection between human beings and nature, simultaneously allowing socioeconomic benefits (HERZOG, 2008).

In private spaces, soil sealing does not contribute to urban drainage. In order to make the most of the built space, people respect only the legislation in force in some building codes, which safeguard a minimum permeable area. There are still cases and citizens who do not comply with this determination. With utilitarian thinking, many public spaces prioritize constructions over free and green spaces (MACEDO E SOUZA, 2014).

The APPs are not well defined and explained as to the activities and occupations for which they are intended. Once public use is at stake, there is a predisposition to flexibility in the legal definitions of limits and use. In this sense, Macedo and Souza (2014, p. 14) agree that there are preserved areas with a simple ecological purpose, leading to the reading of these spaces as being foreign to the social sphere. If followed to the letter, the norms end up creating devalued and abandoned areas from the economic point of view, which encourages their occupation by the impoverished population. Mello (2008) adds that valley bottoms can be interpreted as urban barriers and reinforce the distancing of people from each other and from spaces since they are associated with insecurity.

The benefits of green areas, both in the social and environmental common good, end up helping each other (MAYMONE, 2009). Thus, by providing influencing the balance by stabilizing beds, smoothing temperatures, avoiding silting of water bodies, and providing food for the species that inhabit them (COSTA AND FURUITI, 2007), the preservation of green spaces along rivers helps in the prevention of floods, which also comes to be a social benefit.

It is necessary to read, listen, and observe the landscape in its peculiarities to understand what it is, and then design what it can become or, in the words of Besse (2014, p. 61), "create something that was already there. Bonduki (2010) indicates that new interventions in these landscapes must be found, based on the importance of fitting into the context of the space.

**BIRIGUI: URBAN EXPANSION AND FREE SPACES**

Being for many years a clearing key, opened by the tracks of the Noroeste do Brasil Railroad Company (CEFNOB), the beginning of the urbanization of Birigui-SP town occurred by the Companhia Colonizadora de Terras e Madeira de São Paulo.
The main objective of the colonizing companies was to obtain a fast return on the investment made and the sale of land became a less uncertain and more profitable source of resources. Profitability came from real estate activity and power from local political control. It became a highly profitable business, and since a quick return on investment was expected, the urban layout was designed to minimize land and infrastructure costs and maximize the use of space.

Initially, the urban layout in the chessboard pattern was drawn up in 1914 by engineer Theodore A. Graser, based on the limits of the railroad esplanade, whose tracks ran parallel to the Birigui stream. Its growth was based on the trade of land for planting, including immigrants as a target public (GHIRARDELLO, 2002).

Over the years the city expanded into the valley bottom of the stream Birigui without due consideration of the APPs, with the eradication of the riparian forest, the canalization of the watercourse in the urbanized area, and the buffering of the spring. Industrialization and the economy defined the land occupation while promoting the growth of urbanization in Birigui, as well as the advancing use of the stream banks for housing, commerce, and leisure areas (even if these were few in number).

Today, Birigui’s expansion is based on territorial occupation and not on the qualification and diversification of the use of existing spaces, in addition to excessive spending on infrastructure to serve the subdivisions far from the center, which has resulted in the so-called urban voids.

These voids can be found all over the city. However, with the exception of new subdivisions and non-urbanized territories, most of the vacant lots are on the banks of the Birigui stream, which may indicate that the lack of use is motivated by the frequent flooding there. In Figure 01 it is possible to observe several free spaces, with or without use. But, in this paper, only two were selected without use (A and C in Figure 01) and two with defined use (B and D in Figure 01) and open to the public.

Figure 01 – Free spaces along the Birigui stream: A and C (no use); B and D (with use).

SOURCE: https://www.google.com.br/maps/@-21.2878155,-50.3318867,2554m/data=!3m1!1e3?hl=en-BR, with input from the authors (2022).
The stream receives water from two other tributaries - Parpinelli and Piscina - and ends up being the destination of a significant part of the city's rainwater drainage. This last factor is what causes the stream to be overloaded, especially during episodes of heavy rainfall, taking its waters to the Baixotes Brook.

Near the meeting of the Parpinelli and Biriguizinho streams, there is a large empty lot ("A" on Figure 01), surrounded by a recently paved road (Rua Cândido Tomás de Carvalho). In its surroundings, we can observe the presence of a private hospital, a middle-class residential area, and the Fire Department, with a view of the Mother Church, which is in the center of town.

Following the capitalist logic, this land should not be unused and with high and dense vegetation. From this terrain into the neighborhood, nighttime walking is avoided. The Parpinelli Stream is another devalued stream, partially canalized and with invasive vegetation on its banks.

*Figure 02 – Free space without use (A in Figure 01).*

The second free space analyzed (B in Figure 01) is large and has a defined use. In 1962 an artificial lake was formed in a stretch of the stream with the purpose of containing floods and creating a leisure space, and for a while, it has remained so (Figure 03). Between 1997 and 2000 the lake was filled in and became the Anna Nunes Garcia Square, also known as Parque do Povo (People's Park). The space is used for municipal events, private events, sports, and recreation.
The Parque do Povo (People's Park) turns out to be a privileged area, except on days of heavy rains, when the park is flooded (Figure 04). When this does not happen, the space of 250 meters long by 150 meters wide ends up being used for recreation (picnics, meditation, meetings, and walks with pets) and sports (such as outdoor gym, walking, soccer, slackline), receiving improvements and installation of equipment such as sand volleyball courts, restoration and improvement of the outdoor gym, and new toys (Figure 05). Its use is continuous, with a greater flow of users in the morning, late afternoon and evening. In its surroundings, there are residential buildings and a very popular pizzeria. The park is inserted in the area that has given origin to the city, preserving until today the dense vegetation that blends with other landscape elements inserted later. As for the infrastructure, we can see supermarkets, hospitals (one public and one private) and roads with heavy traffic near the central region.
Following the course of the Biriguizinho stream towards a residential neighborhood further away from the city’s downtown, we find the remains of a piece of land (free space C, in Figure 01) that was once a psychiatric hospital (Figure 06). While this hospital was in operation, it preserved a green area on the site and was used for the rehabilitation of inmates. This area has always been fenced but was the object of pollution and various speculations about the danger it offered, both due to prejudice against patients and the lack of public lighting at night. In its surroundings there is currently a recently built fast food establishment, which brought more safety to pedestrian traffic along the road, being revalued by public lighting. Its vegetation is dense and, because it is a private place, it is likely that many actions are not taken...
due to disagreements among owners, such as indecision about the destination and use of the land, its trade, and the intention to make more profit (Figure 06).

**Figure 06 – Free space without use (C in Figure 01).**

The last free space analyzed, the Ecological Park Valdemar Salmeirão (letter D in Figure 01) is inserted in a residential neighborhood that does not offer other leisure places. The proposal aimed at preserving a stretch of the Biriguizinho stream (which until then was not surrounded by a paved road), restoring the natural vegetation on the banks, but enclosing the area to prevent garbage disposal and grazing by horses. The project contains a walking track, a three-point basketball court, fencing around the bed, a grassed area, an outdoor gym, and a playground, but only the last four were executed. Added to this, there was negligence in the management and maintenance of the space and it became less and less frequented, including toys that offered risk to users. However, the broken toy was recently removed and new ones were installed. It is possible to notice from Figure 07 that, little by little, the population started to walk on it again, indicating public use.

**Figure 07 - Free space with use (D in Figure 01) - Valdemar Salmeirão Ecological Park.**

SOURCE: The authors (2022).
The open spaces, being private and unmaintained, contribute to the devaluation of the region. They end up becoming unsafe places and sites for the dumping of garbage and waste. The incentive for their use can be provided by the government, through the main tenance of these spaces or through public-private partnerships. Maricato (1996) points out that the areas along the streams may be devalued even with legislation in force to protect them, but on the other hand, they must be duly inspected. Treating the urban environment in a commercialized way is to segregate it, stimulating individuality and consumption, as well as destroying human-human and human-space relations, which condemns spaces of public use to extinction (SERPA, 2007).

Tardin (2010) speaks of the need to draw a collective project of landscape, where urban interventions can be idealized and executed valuing the common good. Due to the collective importance, the importance of preserving the landscape as a cultural asset is denoted, intending to protect "the authenticity and integrity of the sites, urban groups and monuments isolated from the impact of contemporary developments, which often threaten the natural and cultural heritage of exceptional value, decharacterizing it" (CARNEIRO; DUARTE; MARQUES, 2009, p. 139). In this sense, we can say that when considering the set of public and private free spaces along the stream treated as a system, it will allow defining an identifying character, enabling quality of life and that the residents "recognize and define themselves through it, which, by its historical character, enables the inhabitants to rediscover the traces of former deployments, their signs of affiliation" (JODELET. 2002, p.33).

**CONCLUSIONS**

Observing the multiple faces of the landscape and the different individual and collective looks, we tried to identify and analyze four free spaces along the Biriguizinho stream in the central area of Birigui-SP. We also intended to understand the complexity of the relations between the body of water and the city verified "from congruences and contradictions" (COSTA, 2006, p.10).

From the analysis of the implemented free spaces (Parque do Povo and Parque Ecológico) or those with potential, but which remained unused, it was confirmed the need to design with the landscape in order to create and explore new and better possibilities. The water, with its attractive factor and the options for leisure and contemplation, can contribute to the sense of belonging on the part of the community.

Despite being surrounded by a busy avenue that strangles its banks, along the Biriguizinho stream, there remain some urban voids at strategic points that have the potential for various public uses, perhaps due to a lack of municipal funds for feasible projects and also because some are private spaces, awaiting land valuation.

If the municipality were available to require the plots for community use or applied the legislation that institutes penalties for those who do not make their property useful as described in the Brazilian Federal Constitution of 1988, it says that each municipality has the power to institute taxes on "urban land and property, which may be progressive according to
the value of the property and have different rates according to its location and use" (CONSTITUIÇÃO DA REPÚBLICA FEDERATIVA DO BRASIL, 1988).

Turning attention to these areas, and stimulating their use and maintenance, would enable the production of more democratic and sustainable urban spaces, as well as avoid the damage that human activity has been causing to the place and its degradation.

BIBLIOGRAPHICAL REFERENCES


