


Landscaping in RPPNs as collective memory: Towards eco-responsible policies

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ABSTRACT

The aim of this paper is to identify possible directions to landscape policies for Private Natural Heritage Reserves (in Portuguese, RPPNs) as a way of promoting both (i) the preservation and conservation of hotspots in Brazil even in inhabited areas, and (ii) the construction of a collective multisensory structure of memory that promotes eco-responsible values. It is exploratory-descriptive research of bibliographic review and document analysis. Studies are carried out on the Atlantic Forest; the most threatened Brazilian biome. Then, environmental and urbanization laws are compared to examine points and counterpoints in public policies for land use and occupation in RPPNs. From the articulation of bibliographic review and document analysis, preservationist and conservationist vectors are listed. Furthermore, gaps are identified for proposing strategies for disseminating values regarding the collective sharing of environmental responsibility.

Keywords: Green cities, Environmental conservation, Environmental education.

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INTRODUCTION

THE URBAN LANDSCAPE: INITIAL CONSIDERATIONS

The imagery about the urban landscape is usually linked to buildings and cultural interventions to the detriment of a natural, untouched locus. In fact, urbanism implies the use and occupation of the soil, that is, man's questioning of the biotic and abiotic natural environment. The occupation and use of the land are for the purpose of meeting basic human needs, such as food production and housing. Intervention in space to meet these needs is what connects nature and culture, environment, and economy. The formative *eco-*, present both *in economics*, etymologically recovered from the Greek meaning "organization of the house", and *in ecology*, also from the Greek meaning "study of the house", suggests how the very conceptualization of the "house" is linked to an environment articulated by the natural and cultural environment.

When basic needs give way to strictly economic references, the conceptual and axiological root that links man, his activities and the environment is lost, and a degrading and (self-)destructive pattern of intervention is instituted. This is blatant in the urban landscape without greenery, with degraded water bodies, air pollution, among many other factors. Visually, there is an aesthetic marked by imbalance, in which the cultural overcomes the natural. Environmentally, there are harmful consequences for urbanization itself.

Take the case of the rectification of lowland rivers, such as the Pinheiros River and the Tietê River, in the city of São Paulo, in the late nineteenth and early twentieth centuries. From a physical point of view, the curves provided conditions for the flow of the currents, since in the plain there was not enough slope for the flow of water. In the floodplain stretches, the seasonal floods promoted biotic and abiotic renewal, with regular redrawing of the curves of the river and the surrounding vegetation. In the eagerness for progress, engineering projects rectified the rivers and waterproofed their banks, giving them a visuality contrary to the original. More than altering the landscape, these interventions in favor of occupying space have brought serious problems to urbanization itself. Without the natural conditions for water flow, floods were reconceptualized as floods, *and floodplain* stretches with seasonal renewal of rivers and their banks gave way to *risk zones*.

The Brazilian coast is home to one of the most biodiverse biomes in the world: the Atlantic Forest. Having been the region most affected by Portuguese colonization from the fifteenth to the nineteenth century, it is not surprising that less than 12% of the original landscape remains. This makes it a *hotspot*. In the twentieth century, with the development of agriculture in the interior of the country, the Cerrado also joined the list of threatened biomes. At the end of the twentieth century and the beginning of the twenty-first, Brazilian environmental legislation was consolidated as one of the most advanced in the world, which shows the tendency of public policies to recover the balance of eco-responsibility.



Without denying the relevance of human food and housing needs, the legislative trend shows a promising direction in the way of occupying urban space. From the current policy, the establishment of the National System of Conservation Units (SNUC) by Federal Law No. 9,986, of July 18, 2000, stands out in this work. From this law, the Private Natural Heritage Reserves, the RPPNs, are selected as a strategy for reprogramming the collective imaginary about the urban space. The objective here is to identify possible directions for landscape policies in which Private Natural Heritage Reserves (RPPNs) simultaneously promote (i) the preservation and conservation of *hotspots* in Brazil, even in occupied areas, and (ii) the construction of a multisensory collective structure of memory that fosters eco-responsible values.

METHODOLOGY

This is a theoretical study of exploratory-descriptive character developed by the articulation between bibliographic review and documentary research.

LITERATURE REVIEW

The research was based on two key Brazilian works for the not only aesthetic, but also ethical approach to landscaping: (a) the conception of ecogenesis in landscaping, by Chacel (2001), and (b) the historiography of green cities in Brazil, by Cardim (2022). From them, the technique of secondary indirect documentation was used (Marconi & Lakatos, 2021). Open science studies were conducted in the *Google Scholar*. The search was made for the key terms "urban landscaping", "environment" and "ecogenesis", with a time restriction from 2020 onwards.

DOCUMENTARY RESEARCH

For the examination of environmental and urban public policies, federal legal and normative instructions from different legal statutes were collected. The documents are listed in order of promulgation, regardless of the most recent supplementary texts:

- Law No. 6,938/1981, which establishes the National Environmental Policy;
- CONAMA Resolution 001/1986, regulating instruments of the National Environmental Policy;
- Federal Constitution of Brazil, of 1988, especially article 225;
- Law No. 9,795/1999, which provides for environmental education policies
- Law No. 9,986/2000, which establishes the SNUC;
- Law No. 5,746/2006, known as the Atlantic Forest Law.



URBAN LANDSCAPING, (IN)SUSTAINABILITY AND COLLECTIVE MEMORY

The geopolitical history of Brazil begins with the project of Portuguese exploratory colonization in the fifteenth century. If politically this resulted in the idea of nation and state that defines the country today, environmentally its genesis takes place through a degrading process of high impact, and the collective structures of memory vectors of national symbolic unity do not always coincide with the ecosystem unity.

The French sociologist Maurice Halbwachs is a notorious name in the treatment of not subjectivist but collective memory. Based on the Durkheimian school, the scholar starts from an understanding that the collective whole is not the result of the sum of individuals. From this point of view, the collective organizes itself and functions according to its own regulations and, therefore, can be treated as an "independent organism". Adjusted to the dynamics of society, the memory shared by the group is also not defined by the association of the memories of individuals in a society. On the other hand, collective memory configures a permanent work of construction, and not of fixation, of the past to perpetrate social groupings. (Halbwachs, 1968). From his intellectual production, the conceptualization *of memory as a permanent work is recovered here, which highlights the processual nature at the same time that it dismisses the concept of memory as fixation, and as collective, hence: a permanent collective work.*

What differentiates the memory thus conceived from other works that are also collective and permanent is what it takes for cultural intervention: the past. Being materially intangible, the past does not escape symbolic coercion. Its material perpetration therefore depends on records. For the collective memory, such records need the cultural seal. They cannot be limited to subjective valuation; They need to meet group valuations. The different ways of perpetrating it constitute what Halbwachs (1968) calls the *collective structure of memory*. In the present discussion, the urban landscape is seen as the result of human intervention on the natural space interpellated by various motivations. Thus, the urban landscape functions as a monument of values that shape the space-time relationship and emerges as an element of the collective structure of memory. It should be emphasized: not as a fixation of values from the past, but as a record of a collective work on the space to be assembled, as if it were a narrative in which the way of occupying space is transformed over time. To speak of a "Brazilian landscape" requires considering the values that erect this collective structure of memory.

Until the arrival of Europeans, indigenous peoples also exploited the natural riches of the land. They took food and medicine from it, settled their villages and so on. From the way they related to the environment, there is a poignant lesson, albeit with redesigns, to this day: the floor of the villages should be clean of vegetation. This visually marked the space dominated by man, the preponderantly culturalized space. It is likely that this practice had varied motivations, one of them



being the scaring away of venomous animals. With the process of colonization, the cultural marking of the territory is tainted by a disjunction that, also in a certain way, is perpetrated to this day: the abundant biodiversity was seen, on the one hand, as "wild", being opposed to the ideal of civility of the time, and, on the other, as a source of economic resources for large-scale exploitation.

From the meeting of these two perspectives on the environment inhabited by man – the gaze of the native peoples and their ways of constituting villages, and the gaze of the Europeans who found natural biodiversity strange and considered it uncivilized – seems to be the genesis of one of the main values that would be impregnated as vectors of Brazilian collective memory in most of the territory. Above all, in regions susceptible to cultural exploitation over a longer period of time: the dichotomization between nature and human occupation. The more marked the human presence, the greater its negative impact on the environment: deforestation followed by soil sealing and/or replacement of the original flora with exotic ones; destruction of the original fauna, domestication of animals alien to the natural ecosystem. The urbanized landscape was woven as a collective memory and updated in the construction of Brazil, registering, in the time-space relationship, structuring values of human actions on the environment; from the punctual and fortuitous ones in the backyard of a residence to the government policies for the use and occupation of the territory. Cities have been built in this tension with the environment and the tension has brought its effects: floods, landslides, pollution of water bodies.

This is the scenario that fragments the entire Brazilian coast, where one can find what is now recognized as the domain (Coutinho, 2006) Atlantic Forest and its varied phytophysionomies and phytosociologies. A similar case is that of the Cerrado and the many stretches of transition between one biome and another. It is no coincidence that the Atlantic Forest and the Cerrado are two *biodiversity hotspots*. The fragmentation of ecosystems by culturalized modes of land use and occupation since Portuguese colonization, whether for large-scale agriculture or urbanization, has brought and still has a negative impact on gene flow, compromising populations of fauna and flora and their systemic interactions, leading to loss of biodiversity.

In the present discussion, the focus is on urban occupation, since more than half of the Brazilian population currently occupies cities, and most of them are concentrated in the eastern part of the territory, where the fragments of Atlantic Forest are located. The urban landscape is mobilized here as monuments of collective memory that tell of structuring values of the space-time relationship. For its examination, two meanings of the urban transition are categorized: (i) the disdirection, which tells about unsustainable ways of occupying space, and (ii) the course traced by the horizon of sustainability.



THE LANDSCAPE AS A MISDIRECTION: MISCHARACTERIZATION OF THE ECOSYSTEM

Among those who lived with their grandparents until the second half of the twentieth century, there was a certain imaginary that "grandmother's house" was, in fact, a house, and not an apartment, with a backyard and a few flowerbeds. Eventually, there were a few fruit trees. This can be considered a metonym of what Cardim (2022) will categorize as first and second generation green cities in Brazil.

The prototypical Brazilian urban landscape retains little of its original flora and visuality, and this, according to the botanist and landscape architect, would be the result of a few centuries of interpellation of non-preservationist or conservationist values.

The "first-generation green city", characteristic of the first centuries of colonization in Brazil, was marked by the absence or scarcity of vegetation within urban public spaces, often officially encouraged according to Portuguese traditions and influenced to a greater or lesser degree by the common fear in the popular imagination regarding native nature. The garden was restricted to the private space of the residences, usually a hybrid between exotic and native species, with a predominance of the former, and formal landscaping was something rare. (Cardim, 2022, p. 27).

The scholar adds that second-generation green cities are related to a trend of valuing spaces with vegetation and formalizing the field of landscaping. According to the author, second-generation green cities developed from three axes of value: "Green fashion (1860-1930); The intense growth of cities (1930-1980); Conflicts and the Environment (1980 onwards)". (Cardim, 2022, p. 29).

Broadly speaking, green fashion has been a geopolitical response to accelerated urban development. It was an understanding that greening in urbanization was a public health issue. Parks and landscaped public areas, with English or French aesthetic proposals, figured as a strategy for air purification. Being an absolutely anthropocentric approach, there was no ecosystem concern. Echoes of this semiosis are in the so-called biophilic approach nowadays (Cunha, 2020; Evangelist, 2021; Matias & Deodato, 2022) even though there is an attempt at a confluence between biophilia and environmentalism. (Moraes *et al.*, 2020). The concern with bringing green to the urban space with a view to the well-being of the human reiterates anthropocentrism, without necessarily giving clues to an effective concern with the environment and ecosystem functions in the long term. The factor considered in the "hygiene" of the late nineteenth century and in the biophilia of the twenty-first century seems to be the same: man. For this reason, the scale does not always project in its temporal dimension a range compatible with the impacts, for example, on ecosystem functions, which end up affecting even the well-being of man himself.



THE LANDSCAPE ON A SUSTAINABLE PATH: CONSERVATION AS A BEACON OF COLLECTIVE MEMORY

If the memory of the Brazilian urban landscape inherits unsustainable values and faces natural and cultural effects of misdirection, scientific knowledge nowadays and environmental public policies have contributed to the promotion of other values and new ways of thinking and signifying the human presence in space. Preservationist values, which aim to keep nature untouchable, and conservationist values, which aim at a non-destructive relationship with the environment, have been increasingly disseminated, although there is tension with degrading ways of thinking whose results are evident in the urban landscape. The pollution of water bodies and the low rate of soil permeability would be just two of the many aspects to be reorganized towards a sustainable urban occupation. Even so, it is necessary to recognize the growth, albeit timid, of ecological awareness in the collective memory.

In line with the eco-responsible orientation, landscape architect Fernando Chacel undertakes what he calls *ecogenesis*: a landscape principle according to which cultural intervention should mimic the original environmental conditions as much as possible. (Chacel, 2001). It is not, therefore, a preservationist view, since landscaping implies environmental impact. It is a conservationist commitment, which guarantees biodiversity even with the impact of human settlement.

Etymologically, *ecogenesis* goes back to the "origins of the house" and, as a principle, installs a responsible approach to intervening on the space to be occupied by man. The organization of the urban landscape in this way brings natural and cultural gains. From an ecosystem point of view, it reduces the negative effects of the impact of human occupation on local fauna and flora. The non-introduction of exotic vegetation to the biome, for example, maintains tropical relations, ensuring local biodiversity. In addition, with local plants, there is a tendency to save resources for their maintenance, since they are adapted to the local water regime, to local animals, among others. From a cultural point of view, one of the main gains is the installation of a taste for what is proper to the biome, without appeals to aesthetic fads that, not infrequently, end up favoring the categorization of the local flora as "bush" and the fauna as "pest". A space altered by the bias of *ecogenesis* favors the ecosystem balance and promotes the aesthetic appreciation of the original phytophysiology of the place to be occupied.

In this vein, Cardim (2022) defines landscaping that fulfills multiple functions as sustainable, aesthetics being just one of them. The landscape must also meet ecological and socio-cultural demands. In the words of the author, sustainable landscaping should

Provide protective, regenerative and responsible actions to the environment. It contributes to the development of healthy communities, the enhancement of native biodiversity, the restoration of habitats, the protection of air, soil and water quality and the continuity of the



balanced water cycle, and provides greater energy efficiency through vegetation. (Cardim, 2022, p. 103).

By meeting such multifunctionality, landscaping is an important strategy for re-accentuating the collective memory structure of the Brazilian landscape. Environmentally and socially harmonious visuality alters man's relationship with the environment in order to operate as a factor of cultural identity. For example, the presence of vegetation specific to each location in the urban landscape attests to what is formally studied in school education regarding the geophysical and botanical distribution. Thus, parks, tree-lined and landscaped streets, residential and public gardens figure as a multisensory illustration of Brazilian biodiversity and as a visual mark of its richness. The population can link its regional identity to the urban landscape marked by elements of the local ecosystem, constituting an integrative community link with nature, and not a segregating one. Getting to know the local plants and birds is an important collective identity repertoire, since the landscape tells something about the space and the communities that occupy it.

Roughly speaking, sustainable landscaping simultaneously fulfills several tasks that direct the direction towards eco-responsible occupation and land use. Ecologically, the systemic balance between species and between species and abiotic elements is maintained, in addition to enabling, despite the fragmentation that urbanism causes, gene flow, which is essential for biodiversity. Culturally, it operates for the sociological construction of a taste that values, and not depreciates, what is proper to the place. The "bush" becomes a symbol of cultural ties and a factor of collective identity. Economically, healthy housing conditions for the present generation are maintained without compromising the good quality of life for future generations. The alignment of environmental, economic and cultural factors constitutes a collective structure of memory that promotes permanent appreciation of the biodiverse heritage.

TOWARDS A LANDSCAPE POLICY IN RPPNS: ENVIRONMENTAL CONSERVATION AND EDUCATION

The history of Brazilian government awareness of human responsibility for the environment is long and exceeds the scope of this discussion. Here, some clues of eco-responsible public policies are recovered, not in chronological order, and some "blind spots" are indicated that may be appropriate as opportunities to amplify the practical scope of normative instructions. First, however, a caveat and a highlight are made.

Although it is among the strengths of Brazilian environmental legislation, it will not be considered the laws on environmental crimes. The purpose of this section is to identify gaps for the potentiation of positive conservationist factors that confirm the eco-responsible course. Allied to this,



there is a fine line between the rights guaranteed to the environment and society and the latter's moral duties to the environment.

RIGHTS AND WARRANTIES

Article 225 of the Federal Constitution of 1988 states the right of society to a balanced and healthy environment:

Everyone has the right to an ecologically balanced environment, a good for the common use of the people and essential to a healthy quality of life, imposing on the Government and the community the duty to defend and preserve it for present and future generations.

This is the first time that the country's highest legislation makes environmental law explicit, so to speak, although it is not the first law to implement environmental public policy. In fact, environmental policy is formally instituted in 1981, by Law No. 6,938, and much of what has been regulated nowadays is nothing more than its effective forwarding and unfolding.

Among these developments, in 1999, the law establishing the National Policy for Environmental Education – Law No. 9,795 – was enacted. Here it is worth mentioning the formal definition of what "environmental education" is in the scope of public policy, article 1; three of its eight basic principles listed in Article 4; and three of its seven fundamental objectives listed in Article 5:

Art. 1 Environmental education is understood as the processes through which the individual and the community build social values, knowledge, skills, attitudes and competencies aimed at the conservation of the environment, a good for the common use of the people, essential to a healthy quality of life and its sustainability. (...)

Art. 4 The following are the basic principles of environmental education:

I- the humanistic, holistic, democratic and participatory approach;

II- the conception of the environment in its totality, considering the interdependence between the natural, socioeconomic and cultural environments, from the perspective of sustainability; (...)

VIII- the articulated approach to local, regional, national and global environmental issues (...)

Art. 5 The following are fundamental objectives of environmental education:

I- the development of an integrated understanding of the environment in its multiple and complex relationships, involving ecological, psychological, legal, political, social, economic, scientific, cultural and ethical aspects; (...)

IV- the encouragement of individual and collective participation, permanent and responsible, in the preservation of the balance of the environment, understanding the defense of environmental quality as an inseparable value of the exercise of citizenship; (...)

VII – the strengthening of citizenship, self-determination of peoples and solidarity as foundations for the future of humanity. (Brazil, 1999 – emphasis added)

The following year, the law establishing the National System of Nature Conservation Units (SNUC) was enacted – Law No. 9,986/2000. In this law, the full protection units were differentiated from those of sustainable use. In this discussion, the seventh of the seven categories of sustainable use conservation units is considered: the Private Natural Heritage Reserve. By its own classification, it is a private area intended for environmental conservation with eco-responsible use:



Art. 21. The Private Natural Heritage Reserve is a private area, recorded in perpetuity, with the aim of conserving biological diversity. (...)

§ 2 The following may only be allowed in the Private Reserve of Natural Heritage, as provided for in the regulation:

I - scientific research;

II - visitation for tourist, recreational and educational purposes. (Brazil, 2000 – emphasis added)

A legally recent entity, the RPPN certainly sets an important course in terms of the eco-responsible occupation of private space. The innovative character, however, generates some legal gaps that, if morally filled, can enhance the function of this new way of occupying space, and landscaping is one of these gaps.

MORAL DUTY

In addition to guaranteeing the right to a balanced environment, article 225 of the Federal Constitution of 1988 also shares the responsibility of defending and preserving it between the government and other collective associations, whether private, non-governmental or community organizations. In this sense, RPPNs are an innovative legal device in which public-private integration implements collective environmental responsibility in practice. In this scenario, in spite of the favorable points for the installation of this type of conservation unit for the purpose of sustainable use, it is highlighted, on the one hand, the legal silence about landscaping in the Reserves; on the other hand, the normative bases that guide gestures morally committed to the eco-responsibility that defines their legal status.

If there is a legal gap regarding anthropized stretches in the RPPNs, the eco-responsible course is already indicated by other instructions, such as CONAMA resolution 001/1986, which regulates the basic criteria and general guidelines for the use and implementation of the Environmental Impact Assessment as one of the instruments for the implementation of the National Environmental Policy.

Although the resolution does not regulate landscaping projects within the scope of the RPPNs – in fact, there is no explicit normative instruction in this regard – the guidelines for the development of the environmental impact study listed in article 6 consider the relationship between the biotic, abiotic and socioeconomic environment of the area to be studied. Since visitation and environmental education are activities planned for the RPPNs, why is the landscape design in these conservation units not oriented as an extension of conservation areas, with an aesthetic approach to the local flora? Why not include landscaping as one of the management actions to be included in the official plan necessary for the legal regularization of the RPPN? If it is not a legal obligation, there are instructional conditions for sustainable landscaping to be morally assumed by those who deliberately choose to implement a conservation unit.



If the legal environmental guidelines recognized as advanced for the execution of sustainable landscaping are mobilized, landscapes are designed that enhance a collective structure of eco-responsible memory. The landscape guided by sustainable principles mitigates the fragmenting aspect of human action, fosters the dissemination of a repertoire about the local fauna and flora, optimizes energy resources, among many other benefits for the environment and the societies that settle in it. This can be an important step towards sharing eco-responsibility.

FROM PUBLIC POLICIES TO COLLECTIVE MEMORY: FINAL CONSIDERATIONS

Conceiving urban landscaping through the conservationist lens of Brazilian environmental legislation seems to be a strategy that has not yet been explored to share the eco-responsibility provided for in the Magna Carta. However, more than becoming another legal framework, the redesign of landscaping by sustainable multifunctionality has the potential to redefine ways of conceiving and symbolizing the space occupied by the different social groups that constitute Brazil. This means rethinking landscaping as not only an action of intervention on space, but also as an intervention on the collective structure of memory. This would have a direct impact on the way communities see the environment and relate to it.

In view of Brazilian biodiversity, laws such as that of the Atlantic Forest – Law No. 11,428/2006 – must also be challenged for other biomes, with sensitivity to the conditions of local communities. It is urgent that at least the Cerrado has this regulation. Thus, it would be possible to guide the "progress" towards sustainability and protect two *hotspots* in Brazilian territory.

Sustainable urban landscaping is built by the integration of aesthetic, economic and ecological factors. (Cagriota, 2009; Moraes *et al.*, 2020). The anthropization of green space does not escape cultural boundaries (Rodrigues *et al.*, 2017) that value spaces as beautiful, set economic limits, and impact the functioning of the ecosystem. Ideally, these three axes need to be aligned and balanced so that the landscape corresponds to the ideal of sustainability that emerges, preponderantly, from the 1980s in Brazil.

More than beautifying, landscaping can act as a multifactorial vector of restoration and ecological conservation. (Curado, 2007; Dias, 2018). To this end, it is important to adjust the aesthetic constraints to the characteristics of the local biome, to carry out landscaping actions and to the responsible commercial availability of native seedlings. These are interdependent axes for the anthropized space to preserve ecosystem services, conserve biodiversity, function as a means of environmental education and ensure the effective sharing of eco-responsibility.



REFERENCES

1. **BRASIL.** (1981). *Lei n. 6.938, de 31 de agosto de 1981.* Dispõe sobre a Política Nacional do Meio Ambiente, seus fins e mecanismos de formulação e aplicação, e dá outras providências. Disponível em [link](http://www.planalto.gov.br/ccivil_03/leis/16938.htm). Acesso em 12 out. 2022.
2. **BRASIL.** (1988). *Constituição da República Federativa do Brasil.* Brasília, DF: Senado Federal: Centro Gráfico.
3. **BRASIL.** (2000). *Lei n. 9.985, de 18 de julho de 2000.* Regulamenta o art. 225, § 1o, incisos I, II, III e VII da Constituição Federal, institui o Sistema Nacional de Unidades de Conservação da Natureza e dá outras providências. Disponível em [link](http://www.planalto.gov.br/ccivil_03/leis/19985.htm). Acesso em 12 out. 2022.
4. **BRASIL.** (2006). *Lei n. 11.428, de 22 de dezembro de 2006.* Dispõe sobre a utilização e proteção da vegetação nativa do Bioma Mata Atlântica, e dá outras providências. Disponível em [link](http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/lei/11428.htm). Acesso em 12 out. 2022.
5. **CARDIM, R. H.** (2022). *Paisagismo sustentável para o Brasil: integrando natureza e humanidade no século XXI.* São Paulo: Olhares.
6. **CASTRIOTA, L. B.** (Ed.). (2009). *Paisagem cultural e sustentabilidade.* Belo Horizonte: IEDS, UFMG.
7. **CHACEL, F.** (2001). *Paisagismo e ecogênese.* Rio de Janeiro: Fraiha.
8. **COUTINHO, L. M.** (2006). *O conceito de bioma.* Acta bot. bras., 20(1), 13-23.
9. **CUNHA, Y. G.** (2020). *A teoria e a prática de projetos biofílicos em espaços exteriores e urbanos.* Mestrado em Arquitectura Paisagista (Dissertação). Faculdade de Ciências e Tecnologia, Universidade do Algarve. Disponível em [link](<https://sapientia.ualg.pt/handle/10400.1/15453>). Acesso em 03 nov. 2022.
10. **CURADO, M. M. de C.** (2007). *Paisagismo contemporâneo: Fernando Chacel e o conceito de ecogênese.* Rio de Janeiro: UFRJ, 20p. Dissertação (Mestrado) Programa de Pós-Graduação em Urbanismo, Universidade Federal do Rio de Janeiro.
11. **DIAS, M. A. M.** (2018). *O lugar da ecogênese transdisciplinar: uma abordagem hermenêutica do paisagismo urbano.* Porto Alegre: UFRGS, 251p. Tese (Doutorado) Programa de Pós-Graduação e Pesquisa em Arquitetura, Universidade Federal do Rio Grande do Sul.
12. **EVANGELISTA, D. N.** (2021). *Avaliação da Biofilia no Jardim Botânico do Porto como espaço de lazer e visitação.* Mestrado em Arquitectura Paisagista (Dissertação), Faculdade de Ciências da Universidade do Porto, Portugal.
13. **HALBWACHS, M.** (1968). *La Mémoire Collective.* Paris: Presses Universitaires de France.
14. **MARCONI, M. de A., & LAKATOS, E. M.** (2021). *Técnicas de pesquisa.* Atualização da edição João Bosco Medeiros. 9. ed. São Paulo: Atlas.



15. **MATIAS, E. B. S. S. E., & DEODATO, F. A. G.** (2022). *Estratégias da neuroarquitetura e biofilia aplicadas nas habitações de interesse social.* In *A construção civil: em uma perspectiva econômica, ambiental e social* (Vol. 2). Editora Científica Digital. DOI: 10.37885/220509039. Acesso em 03 nov. 2022.
16. **MORAES, D. F. de, SOUZA, C. L. de, FERREIRA, M. L.** (2020). *Biofilia e sustentabilidade no planejamento urbano: interfaces conceituais e parâmetros de análise.* *Sustentabilidade: Diálogos Interdisciplinares*, 1, 1–14. DOI: <https://doi.org/10.24220/2675-7885v1e2020a5174>. Acesso em 03 nov. 2022.
17. **RODRIGUES, M. H. da S. G., CAMPOS, J. B., FARIAS, D. S. E. de, DEBLASIS, P., SANTOS, M. C. P., & ZOCCHÉ, J. J.** (2017). *Gestão integrada do patrimônio e da paisagem cultural: breves considerações.* In *Planejamento e gestão territorial: gestão integrada do território* (pp. 310-321). Criciúma: UNESC. DOI: <http://dx.doi.org/10.18616/plan23>. Disponível em [link](<http://repositorio.unesc.net/handle/1/5165>). Acesso em 17 nov. 2022.