

Transcultural Landscapes: Public Space and Bioclimatic Architecture

Dinah Tereza Papi de Guimaraens

Associate Professor, Ph.D., PPGAU-UFF, Brazil.
dinahguimaraens@iduff.com.br

ABSTRACT

Objectives: To analyze Transcultural Landscapes defined by Public Space and Bioclimatic Architecture of African Brazilians and Indigenous Cultures. Indigenous architecture from native ethnic groups added to Africans who came to the country as slaves. Such Brazilian tropical architecture is characterized by moving away not only from the usual constructive methods, but also from a characteristic of western culture of aggressiveness towards nature. **Theoretical approach:** Architecture as Landscape, Place and Sustainable Development. **Discussion:** Conforming Architecture to socioeconomic and environmental issues to conform buildings to sustainability. **Theoretical / methodological contributions:** Architecture comes from ecological conditions resulting from the natural context (Biophilia). Place as a fundamental concept for the study of geography, linking it to Cultural Landscape in which culture is the agent, the natural area is the environment, and the Cultural Landscape is the result. Cultural Landscape concept was adopted by UNESCO in 1992 and incorporated as a new typology of recognition of cultural assets according to the 1972 Convention, which established the World Heritage List. **Social and environmental contributions:** Changing the Urban Paradigm through micro-prototypes implanted in the favela Morro do Palácio, in Niterói/RJ from the perspective of Technological Innovations and Experiments with New Materials, Processes, and Tools, as goals of the LAPALU (Transcultural Laboratory of Landscape and Place), PPGAU/UFF/CNPq. **Conclusion:** Teaching the Project of Architecture and its Social Innovation at the Brazilian Federal University.

KEYWORDS: Transcultural Landscapes. Public Space. Bioclimatic Architecture.

1 INTRODUCTION

Architecture as Landscape and Place: Sustainable Development

Figure 1: Xingu flute. Campus Praia Vermelha/UFF. Figure 2: LAPALU logo.



Photo: Dinah Guimaraens, 2014. LAPALU logo. Marina Vasconcellos de Carvalho, 2014.

The Industrial Revolution initiated significant transformations in society, with technological exponentials leading to an increase in human life expectancy. The same technological increment brought with it, however, components for the devastation of the planet (BRAUN, 2008). The indiscriminate growth in the use of energy to meet the needs of industrialized societies caused the current ecological crisis. The term 'sustainable development' was introduced into the international debate in a document by the World Commission for Environment and Development called "Our Common Future". This expression became increasingly used, until it was adopted as a keyword at ECO 92, the United Nations Conference on Environment and Development that was held in 1992, in Rio de Janeiro (MANZINI, 2008, p. 21).

Sustainable development can be characterized as "the development that meets present needs without compromising the ability of future generations to meet them". This term arose from the concern with climate change in the 1980s, when CO₂ emissions were identified as causing greenhouse effects. The main greenhouse effect can be considered the CO₂, and the

main source of CO₂ (with about 50% of all emissions made by humanity) resides, however, in engineering (ROAF, FUENTES & THOMAS, 2006, p. 15).

The discussion on the built environment brings about the conformation of Architecture to socioeconomic and environmental issues, seeking to conform buildings to sustainability. According to data published by the Brazilian Council for Sustainable Construction, civilization is undergoing a paradigm shift, involving standards of production, consumption, and life quality. Although the Brazilian market does not have its own methodology for environmental certification, the North American model Leadership in Energy and Environmental Design (LEED) and the French *Haute Qualité Environnementale* (HQE) have been used to meet the demands of the construction market in Brazil.

Therefore, it is a priority to contextualize the environmental improvements obtained in foreign countries in relation to the Brazilian reality, which is seen as disadvantaged by international environmental standards. Because Brazil is framed as a developing country, which differs significantly from the socioeconomic and environmental issues of the models developed above, it seems far from the required sustainable quality in Architecture with low environmental impact. Numerous attempts have been made by public and private bodies to bring Brazilian buildings closer to ecologically correct standards. Projects that use sustainable certifications as a parameter undergo major changes in the design paradigm. The concept of sustainability must be born in the very conception of the project, that is, in the making of design decisions together with the client, and not as an exclusive desire of the architect. In search of a desirable environmental comfort, it is necessary to adapt the architecture to the climate and the environment, and not just import international design concepts without contextualizing them to the landscape and the place. In 1900, only a tenth of the world's population lived in large urban areas.

Today, for the first time in history, half of the world's population lives in cities, and within 30 years, this proportion should reach up to three-quarters of the planet's inhabitants, with the urban population increasing by 250,000 people a day. As humanity's habitat, it is ironic to think that cities are the biggest destroyer of the ecosystem, and the greatest threat to the survival of humanity on the planet. Increased ecological awareness, communications technology and automated production are conditions that contribute to the development of a socially responsible and environmentally conscious post-industrial urban culture. The core of the concept of sustainable development lies in redefining wealth to include natural capital: clean air, clean water, effective ozone layer, clean sea, fertile land and abundant diversity of animal and plant species. Regulatory norms are required by public and private management to set an adequate price for natural capital, hitherto considered as unlimited or without any cost (FOSTER, 2014, p. 4-5).

Architects specializing in high tech architecture, such as Richard Rogers, propose to actively direct development in favor of the world's majority: the poorest portions of the urban population. For this, environmentalism to be practiced jointly by architects and ecologists must focus on the three "E" proposed by ECO 92: Energy (Energy embodied, Energy in use, Fossil fuels, Renewable energy, solar energy, wind energy, geothermal), Surroundings (Earth, Water, Food Production, Air Quality, Global Health, Individual Health) and Ecology (Life Cycle Analysis, Biodiversity, Tropical Forests, Recycling, Other Species, Habitat Creation) (EDWARDS, 2013, p. 89 -91).

Since the 1992 UN Earth Summit in Rio de Janeiro, ecological issues have focused more on systems than on resources. The ecological project highlighted the intellectual poverty of the international architectural project because, while nature creates the maximum wealth with the minimum of resources and the maximum of recycling, humanity creates the minimum of richness and complexity with the maximum of resources and the minimum of recycling. In the Brazilian case, municipal planning has been considering the cultural dimension as one of the pillars for sustainable development. Sustainable development therefore requires the promotion of cultural practices that respect and value diversity, pluralism, natural heritage, and the preservation of natural and artistic heritage, making room for effective citizen participation.

The culture for sustainability is a necessary concept for the integration between the different sectors of the municipal administration, insofar as it can lead to the appreciation of local identity and participatory management, in addition to contributing to fostering local production. The National Culture Plan, launched in 2010 by the Ministry of Culture, establishes that cultural policies must value symbolic capital by encouraging its multiple manifestations. According to the prerogatives foreseen by the Creative Economy of Culture, culture must also be seen as an 'asset' or a real opportunity for the generation of work and income, mainly in the less favored sections of the population.

Education for sustainability gained importance when UNESCO launched the International Decade of Education for Sustainable Development between 2005 and 2014. Its objective was to incorporate sustainable development practices into all aspects of education and learning, implying work for social inclusion, in the defense of diversity and in the integration of sustainability in curricula and pedagogical proposals. This agenda was proposed by the Ministry of Education through the National Environmental Education Program, gaining greater visibility with the approval, in 2014, of the National Education Plan (PNE), which had the participation of organized civil society. With indicators and strategies aimed at guiding educational public policies by 2024, the law establishes parameters for strengthening a quality educational network.

According to the new UN development parameters, the axis of the Sustainable Cities Program, seen as Education for Sustainability and Quality of Life, aims to integrate, in formal and non-formal education, knowledge, values and skills to building a sustainable and healthy way of life. Environmental education aims to change habits and build a society capable of sustainable development. Integrating it transversally into education is the path to transformation. In order to make cities and human settlements inclusive, safe, resilient and sustainable, it is necessary to strengthen efforts to protect and safeguard Brazil's cultural and natural heritage.

An essential dimension of educational training, the recognition of the diverse ethnic-racial identities that make up Brazilian society aims to train citizens who live well with different ways of life, and their respective cultural representations. The country's cultural diversity must be valued, and, for this, it is essential to link education and culture policies. Supported by this perspective, the National Common Curricular Base has been elaborated by the Ministry of Education since 2015, relying on five integrating themes: 1) Consumption and financial education; 2) Ethics, human rights, and citizenship; 3) Sustainability; 4) Digital technologies; 5) African and indigenous cultures.

Figure 3: Wilma's ice cream shop. Morro do Palácio, Niterói/RJ.



Photo: Dinah Guimaraens, 2017.

2 OBJECTIVES

Bioclimatic Architecture: African-Brazilian and Indigenous Cultures

Paulo Archias Mendes da Rocha (1928-2021), belonging to the generation of João Batista Vilanova Artigas (1915-1985), was the winner of the Pritzker Prize in 2006, and the Golden Lion at the 15th International Exhibition of Architecture at the Venice Biennale in 2016. Stating that “the first and primordial architecture is geography”, the works of Mendes da Rocha are characterized by a certain attitude towards the territory, with the domain of the site through the change of topography, its redefinition or even a mere action on the flows of circulation from the surroundings.

Despite the relevance of the territory in the architectural design methodology, Brazilian architecture was almost always referenced to international works due to its European influences, with the incorporation of imported construction techniques having been adapted to the tools and materials available in the national territory. Architectural styles such as the so-called International Style, of German origin from the Bauhaus and French from Le Corbusier, were widely disseminated and recognized here from the 1930s to 1940s.

The socioeconomic growth of the 1950s and 1960s led to the construction of Brasília and the outbreak of real estate speculation in the Rio de Janeiro/Niterói - São Paulo axis in the 1970s and 1980s. In opposition to this predominant Eurocentric posture in the Brazilian real estate market, a bioclimatic regional architecture has been seeking to emphasize constructive techniques, spatial meanings, and formal intentions typical of indigenous, African/African Brazilian, and popular cultural matrices in sustainable projects. Popular architecture itself was the result of not always friendly relations between whites (Portuguese, French, Dutch, Italians, Germans, Swiss, etc.), blacks (Bantu, Nagô, Fula, Yoruba, Hausa, etc.) and native Indians (more than 200 ethnic groups who suffer, until today, the destruction of their habits and cultures).

An indigenous architecture coming from indigenous ethnic groups was added to that of African Bantu, Nagô, Fula, Yoruba, Hausa, and other ethnic groups from Africa who came to Brazil as slaves. Such Brazilian tropical architecture (SEGAWA, 2005) is characterized by moving away not only from the usual construction methods, but also from a characteristic of Western culture, which is an evident aggressiveness towards nature.

The ecological Amazon by Chico Mendes, and Serra Pelada by Sebastião Salgado manages to be represented by bioclimatic architecture, in which technological radicalism does not reside in high tech, but in the expression of a natural outdoor space. Bioclimatic architecture therefore does not use electronic devices for environmental conditioning and only makes use of

traditional building resources: wooden tiles, millenary ceramic tiles, equally ancient brick masonry and wooden structures, without the use of reinforced concrete.

Faced with the destruction of the environment, architects such as Lucio Costa, Severiano Mário Porto and Mário Emílio Ribeiro proposed architectural alternatives to integrate buildings with the environment. Known as the 'poet of Amazonian architecture' and born in Niterói/RJ, Severiano sought inspiration in the houses of caboclos (mixed races of indigenous and Europeans) to compose his projects. He used local building materials to create an architecture climatically integrated with the Amazonian environment in his 'covers' of the Environmental Protection Center of Balbina, located in Presidente Figueiredo, AM.

Built in 1984, as environmental compensation for the construction of a hydroelectric plant, this architectural complex was created in an area impacted by the construction of a hydroelectric plant, adopting a plan of independent units that are joined by galleries and covered walkways. Such a solution protects the user from constant rain and strong heat. The overall impression of unity comes from the large undulating roof, reminiscent of a membrane in the style of Friar Otto. Such a membrane, however, is a wooden cover in popular use, designed with a wooden structure that avoids the conventional orthogonality of constructions using this bioclimatic material (balloon frame type). Such architecture reveals a real organicity, in reference to the Amazonian indigenous constructive structures and, perhaps, to the baroque churches from Minas Gerais.

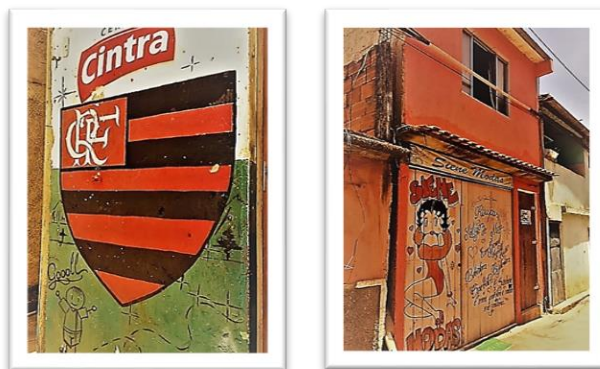
Figure 4. Balbina Environmental Protection Center, Presidente Figueiredo, AM.



Project by Severiano Porto & Mário Ribeiro, 1984.

Thus, the foundations of an architecture adapted to the climatic conditions were established, where houses made of mud or adobe covered with thatch of palm trees or coconut trees emerged. The new sense of Intangible Heritage promulgated by the Institute of National Historical and Artistic Heritage (IPHAN) began to consider the architecture made by the common man. The decree no. 3,551 of August 4, 2000 instituted the registration of cultural assets of an intangible nature that constitute the Brazilian cultural heritage, in the following books: 1) Registration of Knowledge (knowledge and ways rooted in the daily life of communities); 2) Record of Celebrations (rituals and parties that mark the collective experience); 3) Registration of Forms of Expression (literary, musical, plastic, scenic and recreational manifestations); 4) Registration of Places (markets, fairs, sanctuaries, squares of collective cultural practices).

Figures 5 e 6: Popular theme in buildings on Morro do Palácio, Niterói.



Photos: Dinah Guimaraens, 2016.

3 THEORETICAL-METHODOLOGICAL CONTRIBUTIONS

Cultural Landscape, Place and Ecological Architecture

Architecture comes from ecological conditions resulting from the natural context in which it is inserted. The original hut, as the first human shelter, means that it is only possible to inhabit what is built and the ultimate meaning of construction represents building places that provide stay and circumstance to the quadrature (HEIDEGGER, 2012). In the case of housing, radically different typologies have identified the architectural suitability for cold or tropical climates. Therefore, the hut could have been built with heavy stones to protect the interior space from the harsh winters or with light plant elements that allow the ventilation of the places, adapting the house, in both cases, to its environmental conditions. In classical geography at the beginning of the 20th century, when the study and manufacture of maps was one of the foundations of the discipline, 'place' in its locational sense was used to define geography itself. Today, place is a fundamental concept for the study of geography, which links it to the concept of Cultural Landscape in which culture is the agent, the natural area is the medium and the Cultural Landscape is the result (SAUER, 1998).

The concept of Cultural Landscape was adopted by UNESCO in 1992, having been incorporated as a new typology of recognition of cultural assets according to the 1972 Convention, which established the World Heritage List. Until 2012, sites recognized worldwide as Cultural Landscapes were related to rural areas, traditional agricultural systems, historic gardens, and other places of symbolic, religious, and affective natures. The recognition of the Cultural Landscape of Rio de Janeiro/Niterói represents a new vision and approach to the cultural assets inscribed on the World Heritage List by UNESCO, which included for the first time, on 01/07/2012, an urban site as an asset to be registered. Over more than two millennia, the aesthetic principles of classical architecture managed to define the shapes of buildings constructed with traditional materials, where the rigidity of architectural orders did not allow for greater possibilities of adaptation to climatic variations.

Technical innovations that emerged from the second half of the 19th century seem to have been hidden by the decorative scenario composed of historicist architecture, which remained until the beginning of the 20th century. Modernism established new foundations for the theme of housing through the artistic and cultural renewal of the anti-academic vanguards, from the 1920s onwards, with Le Corbusier's critique of the traditional city, which was not only

directed at its aesthetic contents, but rather at the difficult living conditions of the low-income population with their houses without ventilation, narrow streets without sun, dense neighborhoods without green spaces and precarious hygiene conditions.

3.1 CARIOCA SCHOOL

In Rio de Janeiro, the influence of Lucio Costa was established as a priority, derived from Le Corbusier's guidelines when designing garden terraces to enjoy the landscape and the sea breeze, alongside pilotis that raised the floor where hammocks were affixed among the palm trees and coconut trees, with panoramic windows that revealed the magnificence of the natural surroundings. The free planes and glazed facades were protected by trellises, balconies and lattices that favored intimacy, shading and cooling, by enabling a stealthy and permanent dialogue with the Marvelous City that characterized the *Carioca* School composed by Affonso Eduardo Reidy, Oscar Niemeyer and MMM Roberto.

The adaptation of climate and technological innovations of the Ministry of Education and Public Health (MESP), described by Elisabeth D. Harris and Professor Oscar Corbella, unveiled the meaning and usefulness of the *brise-soleils*. The main analyzes on the MESP addressed the unprecedented character of the architectural typology for a public building, as well as its urban, formal, and spatial qualities that placed this project among the first important works of the Modern Movement in Brazil and Latin America. However, this building contains a series of contributions - both in its environmental characteristics and in its technical infrastructure - that were not commonly employed in private office buildings, nor in public buildings built in Rio de Janeiro, in the 1930s and 1940s, by the government Vargas (SEGRE, 2008).

The suitability of the building's climate to its site, using *brise-soleils* that covered the entire façade, was also an issue of environmental interest. As the *brise-soleil* was originally designed by Le Corbusier, this bioclimatic element had never been, however, placed on a facade of a public building of that size. The arrangement of a glazed façade (curtain wall) was unprecedented in the architecture of the Ministry of Education and Public Health (MESP) and was later used in office buildings in the United States. This glass curtain allowed natural cross ventilation inside the entire building, avoiding the use of air conditioning, which was present only on the floor of the MESP.

The project's most original contribution to environmental comfort, however, consisted in the design of its electrical and telephone system, as well as the artificial lighting, based on a 1.50m x 1.50m modulation that covered the entire floor, allowing the free arrangement of its employees. To guarantee such modulation, a distribution system was established based on the presence of small metal boxes associated with the handrails, which were located along the facades, with the arrangement of electrical wires inside. To obtain homogeneous artificial lighting, light fixtures of English origin were arranged on the ceiling of each floor, providing uniform light, as no dividing walls were placed up to the ceiling, thus creating a unit of continuous space. The first works designed by Le Corbusier from 1928 onwards, such as his residence in Cartago and the popular houses in Algeria and Barcelona - all using *brise-soleils* - revealed his concern with controlling light and climate of the buildings located in the tropical context, indicating experiences that served as the basis for the solution to be obtained at the MESP, in the 1930s and 1940s.

Definitions and proposals derived from a rational solution of the house, soon spread to schools, hospitals, sports centers, and office buildings, according to Segre's pertinent critique (in op. cit.). Corbusier's modern architecture established some innovative concepts of environmental comfort that occurred even before the dissemination of the theme of sustainability, which seem to have been retaken recently by the current of Critical Regionalism. Such concepts would thus be summarized: 1) Buildings inserted in green spaces; 2) Adequacy of architecture to solar lighting; 3) Seeking cross ventilation in countries with a hot climate; 4) Rationality in dimensions and distributions of internal functions; 5) Employment of industrialized construction materials and processes.

3.2 SÃO PAULO SCHOOL

The architecture inspired by the modernist São Paulo School of Vilanova Artigas, and Lina Bo Bardi involved a political practice engaged in the discussion of crucial and collective urban problems. It created an architecture of resistance or rationalism, complex and inflexible in its rustic structural truth, which exposed a concrete raw brutalist in vast gables, aiming to operate a social revolution in the 1970s. The group 'Brasil Arquitetura Studio' (SANTOS, 2005) was influenced by the rigorous, obstinate, and rebellious architecture of Artigas and Lina Bo Bardi, being composed of São Paulo natives from the FAU -USP like Marcelo Suzuki (who left the group in 1995) and by Francisco Fanucci and Marcelo Ferraz from Minas Gerais. This group of architects asserted himself in the late 1970s with a modernist language, amid echoes of the post-modernist polemic of 'complexity and contradiction in architecture', which was released by Robert Venturi. This modernity was inspired by the songs of João Gilberto (in his album 'Brasil', made with Caetano Veloso and Gilberto Gil), in the ideas of Darcy Ribeiro, in the Glauberian images of Cinema Novo and, mainly, in the vernacular and everyday inspiration of Lucio Costa and Oscar Niemeyer.

Such an anti-Eurocentric stance was called Critical Regionalism (SEGAWA, 2005), and practiced in the work of Louis Kahn, Luiz Barrágan, Alvar Aalto and Frank Lloyd Wright, among others. Lina Bo Bardi's influence on the work of 'Brasil Arquitetura Studio' is manifested in the emphasis on 'primitive' forms, stripped or poor in the most modern sense of the word for revealing essential elements derived from: 1) Economy of materials; 2) Strict functionality; 3) Inventive creation. The modesty of the creative architectural solutions of 'Brasil Arquitetura' combined with a festive sense of life and the intimate poetry of the Brazilian land. Its modernist architecture was expressive in structure and materials and adapted to the place, revealing a spontaneity and simplicity of the true human quality of feeling close to the typical nature of national life.

The *Habitat* magazine, published in São Paulo from 1951 onwards, revealed that architecture is a product of a particular way of seeing, researching, registering, and incorporating local wisdom and craftsmanship, emphasizing the environment, and sharing spaces and spirituality as forms of cultural expression. The architecture of the 1980s-2000s at 'Brasil Arquitetura' was plural, tolerant, diverse, adaptive to the place, and aimed to promote harmony with historical moments different from the present. As a product of compositional methodology, aesthetics, program, function and technology, this architecture took on a cultural bias by revealing the life of the Brazilian people. Lucio Costa can be considered as one of the first regionalists who influenced the architects of the 1980s to see Brazilian culture as being hybrid

in the manufacture of bricks or in the design of a roof, revealing the impure and imperfect aspect of its vernacular architecture.

For Lucio Costa, authentic regional architecture would plant its roots in the earth. The modernists of the 1980s revealed that it was possible to ‘anthropophagically’ swallow the rationalist dogmas to create a quality architecture full of poetry that opposed the super-modern design as an absence of paradigms and the ‘non-place’ (AUGÉ, 2005) of the 21st century. If architecture has the power to transform the way of life by combining intellect and intuition of objective and subjective aspects, the political militancy of ‘Brasil Arquitetura’ is revealed in the multifaceted work of revitalization, restoration, and renovation of the Housing Complex of *Gelbes Viertel* in Berlin, in which a Kadiwéu design re-characterized the place as an identity, and established a new relationship with the city, revealing an integration of the German Natural and Cultural Landscape.

The contemporary architecture of modernist inspiration carried out by the ‘Brasil Arquitetura Studio’ specializes in the design of houses, mostly in the metropolitan capital of São Paulo or along the coast of São Paulo, except for the urban intervention in the Berlin Housing Complex. Such a project meant a requalification of a rationalist perspective of extreme crudeness and schematism, typical of a Latin American and Brazilian identity language, establishing a sensitivity with the nature of the place and revealing a whole new repertoire of forms, materials, colors, and indigenous textures, which were registered as Kadiwéu cultural heritage.

Alongside this intervention, the international revitalization|restoration of the Rodin Museum and the Polytheama Theater, in addition to the construction of the Monument to the Indigenous Nations and the Socio-Environmental Institute, appear as examples of the dialogue between the contemporary language of new interventions and historical references of the architecture of the past. The design of residences almost always reveals an interest in the place as an occupation of new empty spaces through the emphasis on planimetry, topography, landscape, and lighting. The environment and geography were highlighted there, favoring a phenomenological perception of reality that seeks inspiration for the development of architectural projects in the obstacles of each specific situation.

The perceptive quality of the space, the nature and malleability of the materials, and the meaning of the place are elements that do not get rid of the functional principle that guides the distribution of activities in their respective areas, nor do they reject a dialectic between the analysis of the properties of the land, the program and production conditions. Contrary to the imposition of constructive standards and structural logic, the residential projects propose a design strategy that is based on the perceptive experience of constructive craftsmanship, revealing a creative freedom in the discovery of the unexpected.

4 METHODOLOGY/ANALYSIS METHOD

Changing the Urban Paradigm and Microprototypes in Morro do Palácio

Em ‘Discurso aos Tupiniquins ou Nambás’, Mário Pedrosa (1975) questionou a continuidade da arte e da arquitetura modernas, buscando responder à pergunta: Nas sociedades desenvolvidas em que a arte, como luxo estetizante, sucumbe diante da voracidade do mercado capitalista, as vanguardas dos países da periferia, erroneamente, estariam em busca da ultimíssima novidade, ao invés de perceber que a história cultural do terceiro mundo não

repetirá o desenvolvimento desses países, podendo, em lugar disso, construir sua própria história. Enfatizava Pedrosa que:



“In countries like ours, which do not arrive exhausted, even if oppressed and underdeveloped, at the level of contemporary history, (...) when one says that their art is primitive or popular, it is as valid as saying that it is futuristic”.

Figure 7: Transcultural Panel. Coral Guarani/Aldeia Araponga.
Photo: Duda Penteadó, 2014.

Based on the concept of transcultural philosophy (POULAIN et alii, 2010), the intention is to discuss the dialogic forms of informal communication between indigenous cultures and formal university academic knowledge, emphasizing those cultural exchanges established between the erudite architectural culture and its contamination by cultures autochthonous.

The Transcultural Laboratory of Landscape and Place (LAPALU) looks, therefore, at examples of how the population spontaneously transforms technical artifacts into active places for the political-cultural participation of creative manifestations in everyday life, through the creation of vegetable gardens in urban areas in Rio de Janeiro and Niterói. The university teaching in Architecture, Urbanism and Landscaping from the perspective of technological innovations, including experimentation with new materials, processes, tools, and laboratory practices, emphasizes the teaching of Architectural Design and its Social Innovation.

Public policies to assist minorities and vulnerable populations stand out, involving initiatives for the qualification of public spaces in Rio de Janeiro's favelas and the application of an inclusive and universal urban design in sustainable green micro-prototypes. Priority is given to an urban critical reading that elects the city as a Green Laboratory in experiences of changing public spaces, based on new interventions in empty spaces that emphasize a reflexive exercise of self-criticism, through prototypes of urban microplanning in favelas.

The project also addresses typical constructions of indigenous cultures (ocas), focusing on the promotion of a culture of peace and non-violence, of global citizenship and allows the appreciation of cultural diversity in megacities such as Rio de Janeiro/Niterói. The Green Laboratory focuses on transcultural communication through technical-aesthetic innovation and social sustainability (sustainism) at MACquinho, an organ of the Community Culture Secretariat of the Municipality of Niterói. The main objective of the Transcultural Laboratory of Landscape and Place (LAPALU) is, therefore, to expand the scope of university knowledge through transcultural research around ecological sustainability and intangible cultural heritage (popular ways of doing and building).

The Pilot Project for Green Walls and Indigenous Graphics is based on a transcultural dialogical communication in Architecture and Urbanism (GUIMARAENS, 2016), through technical-aesthetic innovation and ecological sustainability in MACquinho/Morro do Palácio. The main result achieved by the project's team was the symbolic occupation of Beco da Paz (2017), amidst the drug trafficking war of young residents of Morro do Palácio, located in the Ingá neighborhood, and the daily police truculence that ravages this slum. The goal is empowering the public in the favela with adequate information as a way of preserving lives, in collaboration with the Community Secretariat of Culture of the Municipality of Niterói.

Figure 8: Green Wall/Indigenous Graphics. Peace Alley. Morro do Palácio.



Photo: Dinah Guimaraens, 2017.

5 RESULTS

EXPERIMENTAL SITE: GREEN WALLS IN MORRO DO PALÁCIO

The university extension project 'Space Landscape/UNESCO (Living Museum): Prototype of Bioclimatic Architecture' received, in 2017, a Social Innovation award by the Dean of Research and Innovation (PROPPi/UFF), referring to the implementation of a Green Wall and Indigenous Graphics at MACqunho/ Morro do Palácio, Niterói. The transcultural logic present in Rio's favelas would be defined by the transformations that occur in the friction of different cultures. Academic knowledge in Architecture and Urbanism then turns to a discussion in the field of Anthropology and Digital Technologies, seeking to find viable solutions to the current impasse of Brazilian megacities regarding the occupation of public space, housing, and mobility that define the quality of urban life.

This project explores an urban design logic responsible for spaces of socioeconomic exclusion and disciplinary schemes of public-private control. It also focuses on daily violence and the organic architecture of favelas such as Morro do Palácio. Emphasizing the occupation of megacities by groups of activists summoned by the digital media, the research analyzes a micro-scale action based on social practices and collective appropriations, calling attention to the relevance of cutting-edge initiatives in Urban Cultural Landscape. The prototype of Green Wall and Indigenous Graphics was created, on April 29, 2017, by students at the University Federal Fluminense (UFF), amidst the tension generated by the death of a representative of the local drug trade by the police. This manifestation of urban violence in Morro do Palácio brought to the fore those tensions that apparently had already been resolved in the relationship between the inhabitants and groups of young drug dealers that occupy the community.

Public management support could then transform local skills into a factor of inclusion and prominence for the municipality, producing economic activities related to them. The construction of a local identity, which includes the diversity of popular cultural manifestations, would be an important part of the development of a sustainable city. Fostering cultural expressions represents a necessary public policy for the advancement of the municipality and the participation of residents. For this, some essential strategies need to be adopted, such as: 1) Working towards the formulation of conceptual and methodological references for the public policies of each action or equipment; in addition to promoting participatory management involving the community, professionals in the cultural area and public managers; 2) Guarantee wide access to existing cultural spaces and maintain a diversified program; encourage cultural

creation and production in the communities and establish free or symbolic access to public cultural facilities and spaces.

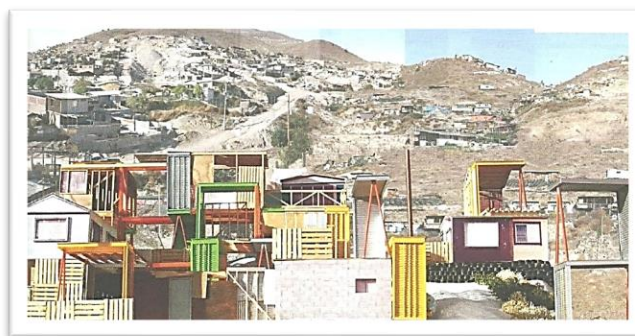
The project for Green Walls, Community Gardens and Bioarchitecture (built with bamboo, wood, clay, vegetable fibers, etc.) on Morro do Palácio aimed to ensure that the students of that community, in addition to those university students involved in the seminar “Indigenous Bioclimatic Architecture”, ministered between 2017 and 2019 at the MACquinho Auditorium, acquire the knowledge and skills necessary to promote education for sustainable development and enable sustainable lifestyles, alongside an emphasis on human rights, gender equality, the promotion of a culture of peace and non-violence, global citizenship and the appreciation of cultural diversity, and the contribution of culture to sustainable development.

This practical-theoretical seminar emphasized a reflective exercise of critical self-assessment based on the analysis of typical constructions of Brazilian indigenous cultures (ocas or malocas). This course complies with the recommendations of the MEC in Laws nº 9,394, of December 20, 1996, 10,639, of January 9, 2003 and 11,645, in force since March 2008, which provided for the mandatory teaching of didactic contents related to the indigenous and African-Brazilian cultures in the first, second and third degrees and Law No. 9649, of May 27, 1998, on registration by the National Historical and Artistic Heritage Institute (IPHAN) of intangible heritage in the Book of Registration of Knowledge, which highlights knowledge and constructive ways of doing things rooted in the daily lives of communities.

6 CONCLUSION

Considering the design requirements based on the motto “Think Globally, Build Socially”, emphasizing the concept of an architecture of resistance or intervention (LEPIK, 2013), a reflective exercise of critical self-assessment was carried out based on the analysis of typical constructions of the Brazilian indigenous cultures (ocas or malocas), seeking to promote a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity. Such architecture as an act of resistance, of a political nature, was practiced on the scale of the built environment and assumed a clear decolonial posture, which seeks to think globally in three dimensions: 1) Non-Synthetic Hybridism, in which Local Constructive Techniques mixed with Projects stand out Architects in Digital Media; 2) Participatory Architecture, based on a Dialogical Communicative Logic, established from Close Encounters with the Other; 3) Aesthetic and Technological Transculturality, seeking a Third Term of the Contemporary Architecture Project, created through Disparate but hybrid Architectural Collaborations.

Figure 9: Project by Teddy Cruz, Mexico, 2000.

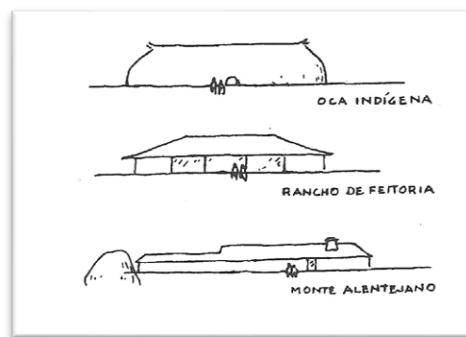


Source: Project Manufactured Sites, 2013.

The role of the architect and his formal mastery derive from knowing exactly the properties of form and their design consequences. Therefore, projecting does not mean inventing something out of nothing, but emphasizing originality in arranging already existing elements. Authentic architecture always employs formal and compositional repertoires in a critical way, the architect being more interested in essence than appearance. The relationship with the place is fundamental for architecture, as no quality project can be indifferent to its surroundings. The attention to the place results in the suggestion of a visual / spatial structure related to it, being however an independent element (MAHFUZ, 2004). According to this posture, every place is something complex, composed by: 1) Topography; 2) Geometry; 3) Culture; 4) History; 5) Climate. To define the design logic of the green parties, the project is inspired by concepts about vernacular architecture, which were exemplarily defined, below, by Lucio Costa (1995).

6.1 FROM OCA TO COLONIAL ARCHITECTURE: THINKING ABOUT LOCATION IN A WESTERN CONTEXT

Figure 10: Lucio Costa, 1995.



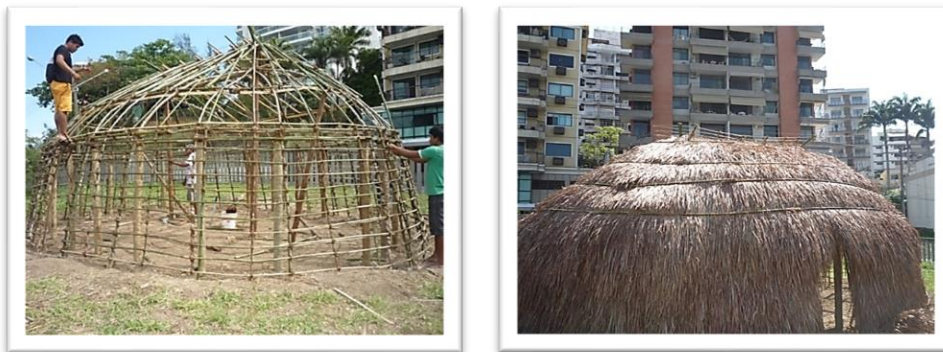
Source: Lucio Costa. Registro de uma Vivência, p. 453.

(...) The identification with the indigenous was restricted to the 'program' of the initial shelters in the guise of houses – large spaces covered in the trading posts or ranches, as in the 'hills' of the Alentejo – where to welcome the waves of settlers brought by the fleets. Due to their size, these roofs little raised from the ground, as in the mills themselves, broke with the metropolitan tradition, thus bringing such structures closer, due to their formal purity and proportions, to the monumental huts of the natives, even more so as they were implanted in clearings, such as the *terreiro das malocas*, since the enemy – animal or Indian – came from the forest. It's just that there was a curious coincidence generated by the focus of heat, the fire – the foyer. The *Trás-os-Montes* and Indians proceeded in a similar way to keep the whole house warm by making use of the kitchen fire and the smokehouse, simply letting the smoke escape through the empty roof tile or through an ingenious device on the roof of the huts. (...) It is interesting to point out that this scheme was the embryo of the Brazilian rural house. So, in a way, everything fits together – the indigenous hut, the *Trás-os-Montes* house, the so-called 'bandeirante' house, the farm house, the suburban house, the urban house in the neighborhood. (...) (COSTA, 1995, p. 453-454.)

6.2 TRANSCULTURAL TEACHING METHOD: OCA-ESCOLA DO ALTO XINGU

Finally, an activity of the Transcultural Site of Social Innovation of the School of Architecture and Urbanism (EAU), of the University Federal Fluminense (UFF), was carried out within the framework of the CAPES-Cofecub n. 752/12 “Transcultural Aesthetics at the Latin American University”, coordinated by Professor Jacques Poulain, from Université Paris 8-Saint Denis and Professor Dinah Guimaraens, from PPGAU/UFF. This activity involved the construction of an Oca-School of Alto Xingu/MT (Ethnicities Yawalapiti, Kamayurá and Aweti) on the Campus of Praia Vermelha/UFF, carried out in 2014 by its faculty and students.

Figures 11 e 12: Taquara mooring for the structure. Placing the thatch on the roof. Oca Xinguana. UFF.



Photos: Dinah Guimaraens, 2014.

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