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PARTICIPATORY SENSITIVE METAVERSES: CULTURAL LANDSCAPE REGISTRY/UNESCO

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Abstract: Objective – Virtually expose the knowledge and practices of ``Morro do Palácio``, in Niterói/RJ, the only slum that has a building by Oscar Niemeyer (MACquinho) to house a community culture in Brazil; Methodology - The creative reality of ``Morro do Palácio`` to be unveiled through Expography and Sensitive Digital Museology with the creation of a Virtual Display of Carioca Cultural Landscapes declared by UNESCO (2012), accessed by VR glasses that allow you to virtually walk through the territories of the communities included in the landscape; Originality/relevance – Highlight in Metaverses, Digital and Social Patrimonialization (popular knowledge and practices) in a project that wants to bring the discourse into the Community, highlighting the different interactive layers (Traditions, people and built landscape, etc.);Results –Create a Cartographic Display of the Guanabara Bay Territory with Heritage, Social and Landscape Assets to access the Landscape Registration Line from the MACquinho promontory, in addition to displaying its Sensitive Metaverses online on the Digital Urban Platform of the City of Niterói/RJ; Theoretical/methodological contributions: Slums of Grande Rio are territories made invisible in the Cultural Landscape/UNESCO Record Line, to be discovered through Metaverses Participative. We want to allow and guarantee Sociocultural and sensitive Accessibility to the ``Morro do Palácio`` slum to reach a sociocultural/heritage perception, aiming to break with structural racism by breaking social masks and virtually diluting physical borders; Social and environmental contributions –Photograph everyday life from slum of Chapadão`` (top of slum) and enjoy routes/trajectories to expand the living space of its residents, in addition to emphasizing the educational relationship between MAC-Niterói and MACquinho, through the Environmental and Patrimonial Art-Action project.

Keywords: Social Museology. Culture of Sensitive Peripheries. Sustainability

INTRODUCTION

Figures 1 and 2 – Illustrative diagram / Organic party. Morro do Palácio, Niterói.

Source: MAC-Niterói/Google Earth (2023).

The slums of Grande Rio are territories made invisible in the Registration Line of the Urban Cultural Landscape of Rio de Janeiro/Niterói by UNESCO (2012). The current academic proposal of a technological nature intends to make them visible through transversal Social Innovation, through Metaverses Participatory Virtuals with an educational-cultural character. We want to allow Sensitive Access and Sociocultural Accessibility to the ``Morro do Palácio`` slum in order to reach Accessible Sensitivity, aiming to break with structural racism by breaking social masks, in addition to unveiling the role of a "Social Niemeyer", who achieved transposing culture to a social dimension in ``Morro do Palácio`` in his architectural project for MACquinho, a building adjacent to MAC-Niterói located on ``Praia de Boa Viagem``.

To this end, the aim is to create a virtual space through a Sensitive Expography that manages to bring the Urban Cultural Landscape of Greater Rio closer, registered as a World Heritage Site by UNESCO in 2012.

and reiterated by IPHAN (Institute of National Historical and Artistic Heritage) in 2013, next to of social and cultural values that Afro-descendant and indigenous communities bring to the human and social landscape of Guanabara Bay. The technical team of the current project of the Postgraduate Program in Architecture and Urbanism/PPGAU at ``Universidade Federal Fluminense``/UFF is currently using a cartographic base to visualize, in an inclusive way, the slums within the territory of Greater Rio a be critically mapped, virtually valuing the daily activities, artistic manifestations and sociocultural identity of its populations in a contextual way.

Therefore, it is proposed to create several layers of information, in which users will be able to visit the structure (Orography and Hydrology) of the territory of Guanabara Bay and its surroundings, accessing, in second and third layers of information, different intangible heritage (Knowledge and Traditional Doings) of the most relevant slums in Greater Rio. Furthermore, it seeks to enhance the knowledge of the community's present in the area by revealing Physical and Digital Goods and Arts produced by these slums, previously invisible in the somewhat Europeanizing vision of UNESCO by establishing the limits and the vicinity of the Rio de Janeiro/Niterói Cultural Landscape Registration Line.

Figures 3 and 4 – MACquinho's modernist blade. Project by Oscar Niemeyer (2008).

Source: Bruno Platais (2023).

As primary objects of study and cartographic recording, slums, quilombos and territories of indigenous occupation such as sambaquis stand out, alongside heritage assets from Portuguese colonization such as forts, fortresses, farms and churches. In this first stage, emphasis is placed on the knowledge and practices of ``Morro do Palácio``, in Niterói/RJ, the only slum with 6,000 inhabitants that has a building designed by Oscar Niemeyer (MACquinho) to house a community culture in Brazil. Located on ``Praia da Boa Viagem``, overlooking Guanabara Bay and MAC-Niterói, MACquinho is an organization of the Community Undersecretariat of Culture of the City of Niterói dedicated to developing artistic and technological activities within the community of ``Morro do Palácio`` through a Digital Urban Platform. The modernist project of MAC-Niterói and MACquinho therefore refers to the socialist origins of Oscar Niemeyer and Brazilian modern architecture itself.

In order to reach the core of modernity in Architecture and Urbanism, it is essential to trace the main evolutionary line on which the genesis of the modern movement is based, which led to architecture carried out in most of the 20th century, especially in the periods between decades of 1910 and 1950. This first heroic modernist origin takes into consideration, that modern architectural ideas are absolutely linked to the project of modernity and, in particular, to the Enlightenment worldview, valuing the technological innovations obtained with the Industrial Revolution and the various urban and social proposals made by theorists such as utopian socialists and supporters of garden cities. According to this interpretation, the aesthetic problem here is secondary: the modern has much more to do with a social cause than with an aesthetic cause. In the specific case of Niemeyer, the "pertinent form" (MAHFUZ, 2003) of his "free plastic forms"

(UNDERWOOD, 2002) managed to combine, in a paradigmatic way, a desired social design function with the modernist aesthetics of reinforced concrete, which defines the Brazilian modern architecture itself in its strength and originality with international repercussion.

It is exactly such a modern hegemonic social cause, expressed so clearly in the work of Oscar Niemeyer, that inspires this research project, by highlighting in Sensitive and Participatory Metaverses an Intangible Patrimonialization (Knowledge and Popular Doings), through an art project -education that wants to bring the discourse into the slum, highlighting different thematic and interactive layers there (Landscape_Guanabara Bay_MAC_MACquinho Casas_e Pessoa_etc). The theoretical gap in the Brazilian university (and even in society itself) that the project wants to overcome could, then, be summarized as follows:

> "Perhaps the true democratization of culture will not be the one we have been applying [from top to bottom], without knowing the consequences, if it will not be rather the creation of an inverse movement that takes popular culture to the presence of higher cultural bodies" (José Saramago).

GOALS
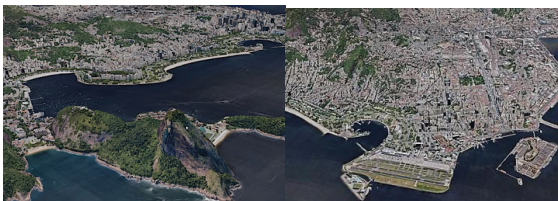
Figures 4 and 5 – Images of the Digital Landscape where the slums appear.

Source: https://www.3dcadbrowser.com/th/7/144/144613.webp (2023).

Create a Cartographic Display of the Guanabara Bay Territory with Heritage, Social and Landscape Assets to access the Landscape Registration Line from the MACquinho promontory, in addition to displaying its Sensitive Metaverses online on the Digital Urban Platform of the City of Niterói/RJ.

The creative reality of ``Morro do Palácio`` will be unveiled through a Sensitive Digital Expography, with Participatory Virtual Metaverses integrated into the Grande Rio Registration Line as an Urban Cultural Landscape by UNESCO (2012) and reiterated by IPHAN (2013), to be accessed by VR glasses that allow you to walk around the slum territory (figures 4 and 5).Bring this Heritage Landscape registered by heritage organizations closer to the social and cultural values that communities contribute to the human and social landscape of Guanabara Bay, through a cartographic base to visualize slums, their artistic activities and their cultural identity in a contextual way.

View an Accessible Virtual Space with VR glasses, allowing the public to walk through the digital territory and discover, in an innovative way, the iconic territorial and heritage complexes of Rio capital (entrance to Guanabara Bay with Forte S. João and Fortaleza de Santa Cruz; Pão-de-Açúcar; ``Cristo Redentor``; Tijuca Forest; Mountains (``Morro Dois Irmãos``, ``Serra da Covanca``, ``Pedra Bonita``, ``Pedra da Gávea``, etc.), Rivers (Carioca, ``Mãe das Águas``); Lagoons (Rodrigo de Freitas); Espelhos d'Água da Urca and Botafogo; with ``Aterro do Flamengo`` and Copacabana Promenade with design by Burle-Marx; Art and Culture of Slums with emphasis on ``Morro do Palácio``, in Niterói. A multi-scalar vision of the Cultural Landscape is proposed, in which the user has the possibility of knowing the territory in scales and hierarchies depending on the content, importance and scale of the information.

Figures 6 and 7 – VR glasses / LANDSCAPE VIEWER-UNESCO at MACquinho.

Source: PROEX (2021).

Collaborate with the educational mission of MACquinho, together with the ``Morro do Palácio`` Residents Association, to access virtually and physically the Grande Rio/ UNESCO Landscape Registration Line, from the MACquinho promontory. To understand what each person understands about the Cultural Landscape of Greater Rio without wanting to impose UNESCO's vision, but rather identifying personal and group views on the meaning of natural and cultural landscapes.

The project aims to photograph everyday life from the slum of ``Chapadão`` (top of ``Morro do Palácio``) and enjoy routes/ trajectories that intertwine to expand the living space of its residents, aiming to show the educational relationship between MAC-Niterói and MACquinho in a two-way street. Thus, the aim is to rescue the memory of one of the most successful museum projects linking Art and Sustainability (1999), through the work of cultural agents from ``Morro do Palácio`` who were part of the "Arte Ação Ambiental" project carried out by the MAC-Niterói educational team.

Figures 8 and 9 – Members of ``Morro do Palácio``. Art Environmental Action. MAC-Niterói.

Source: Márcia Campos, Educational Sector. MAC-Niterói (1999/2008).

The work of socio-environmental agency through art, promoted at MAC-Niterói with the ``Morro do Palácio`` community, began in 1999, in the first years of the existence of this Museum of Contemporary Art, under the coordination of professor Luiz Guilherme Vergara, former director from MAC and founder of the "Arte Ação Ambiental" project. Without adequate space for studio work, the workshops occupied temporary alternative locations in the museum and within the ``Morro do Palácio`` community itself, such as the church hall, the headquarters of the Residents Association, the Health Center and even young people's own homes.

The young people's initial strangeness with the museum's bold architecture gradually turned into familiarity as the meetings took place. Soon the transformations became

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explicit. The group's coexistence became closer, more cordial and participatory. A new universe of paths and possibilities for individual and collective growth was opened. The program, driven by relationships of affection and trust, was of fundamental importance for the involvement of young people who, for the most part, were entering a museum for the first time.

The expansion of the project and the structuring of the work motivated the idea of building its own headquarters in ``Morro do Palácio``, the MAC-Niterói Community Action Module, with financial support from BNDES and Niterói City Hall. The participation of architect Oscar Niemeyer, who designed the Museum, in the conception of MACquinho's architectural project, was fundamental for the formal and conceptual integration of the two units. It is important to highlight Niemeyer's enthusiasm for the opportunity to design the headquarters that would house social programs and that were in line with his ideals of building a more just and egalitarian society.

With the beginning of the works, the residents of the community who followed the construction of MAC-Niterói, with expectation and curiosity about what benefits an art museum installed close to their homes could bring to the community, were even more surprised. when they see the museum extending its actions and geographically integrating itself into the community's territory, through the construction of the Community Action Module.

In the context of the completion of the MACquinho works, at the end of 2008, the "COMUNIARTE" project was under development, the second project proposed with the Palácio community that articulated partnerships with the Universidade Federal Fluminense/UFF, with the participation of teachers and university students, the Family

Doctors program, the Andy Warhol Museum with the participation of artists and curators, Colégio Aurelino Leal with the participation of high school students and community residents.

METHODOLOGY / ANALYSIS METHOD
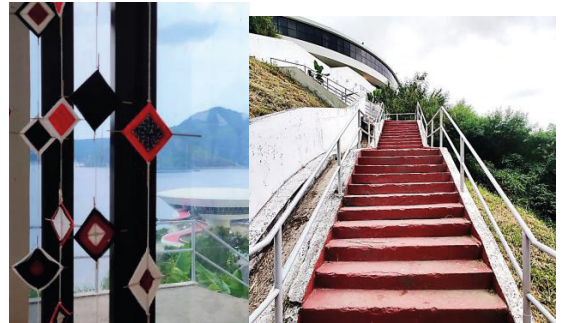
Figures 10 and 11 – Artistic Projects/Rise of MACquinho.

Source: Breno Platais (2023).

The project methodology derives from an Extension Project/PROEX/UFF 2023, entitled "Don't Let Niemeyer's Dream Die: Come to MACquinho!", based on a collaboration agreement signed in 2017 between the School of Architecture and Urbanism/EAU of the Universidade Federal Fluminense/UFF and MACquinho, an organization of the Community Secretariat of Culture of the Municipality of Niterói/RJ. The 3D Gallery File of technological scope that results from this proposal has the following characteristics:

- Intuitive and accessible navigation in real time.

- Use of Spatial Open Source Platform Technology to enable universal access for any computer. "Light Customer" concept.

- Use of guidance systems based on accelerometers and other technologies for a more dynamic visit adapted to various platforms (PC, Android and

IOS.)

- Automatic Generation of Avatars through facial recognition by topology in real time using audio and video in real time (Use of the Space Platform for visualization).

- Concentration on accurate and accessible information for the general public through historical and iconographic study.

The cartographic scope of the project corresponds to the territorial scope of Guanabara Bay, comprising:

- 1st Layer - VIRTUAL LANDSCAPE DISPLAY / UNESCO- 1st visitable layer in the Territory Metaverse. (Presence of access points to other spaces and metaverses). 10 heritage groups are considered, focusing on the scope of the landscape declared an Urban Cultural Landscape by UNESCO in 2012, as well as highlighting the slums present in it.

- 2nd Layer - VIRTUAL DISPLAYS OF PARTIAL LANDSCAPE- 10 themed spaces associated with listed heritage sites. Virtual Museum Rooms associated with each place with Modeling, Digitization and multiplatform materials (Images, Texts and Videos) of each place with objects characteristic of the culture and identity of each place, considering 3 Objects at different scales (Material and Intangible Heritage) of each place.

  - Quilombos:-Sacopã;

  - Slums (``Morro do Palácio``, Rocinha, Pavão/Pavãozinho, Cantagalo, Chapéu Mangueira/ Babilônia);

  - Águas (Guanabara Bay).

- Forests (Tijuca Forest);

- Mountains (``Morro do Pão de açúcar``, ``Corcovado``, ``Cristo Redentor``, ``Morro da Gávea`` and ``Dois Irmãos``); Islands (Cagarras, Boa Viagem).

- 3rd Layer or included in the 3rd layer – Thematic images and videos (3 per place) of a patrimonial and/or social and material and/or immaterial nature. Highlighting pieces as generators of narratives and the history of each set. History of objects and their context.

Figure 12 and 13 – Virtual Navigation of the Metaverse

Source: Adolfo Ibañez Vila (2023).

RESULTS: DIGITAL ART GALLERY / METAVERSE

This virtual project can be considered conceptually pioneering and technologically innovative, with the aim of promoting expanded knowledge of one of the first cultural landscapes registered by UNESCO as a world heritage site: "Rio de Janeiro, entre a Montanha e Mar". The axis of the idea gives potential to the landscape as a driving force behind the proposal.

The project is therefore articulated based

on two premises: publicizing the heritage, landscape, historical and human value and promoting its dissemination. A striking feature of the Spatial Platform is the possibility of working with different primary documentary sources: on the one hand, the physical and material data provided by the digitization itself and, on the other, the possibility of publishing its ruins or remains via the Internet.

The final result lies in the creation of a Cartographic Display of the Guanabara Bay Territory with Patrimonial, Social and Landscape Assets, to be implemented by the different actors (School of Architecture and Urbanism/UAE of ``Universidade Federal Fluminense`` /UFF-MACquinho technical team- members of the ``Morro do Palácio`` Residents Association), aiming to access and contextualize the Grande Rio Landscape Registration Line from the MACquinho promontory, in addition to displaying their Sensitive Metaverses online on the Digital Urban Platform of the City of Niterói/RJ. (https://www.spatial.io/s/Exposicao-Morro-do-Palacio-MAC-63eba4547e9f01714b04be6c?share=6803630886614292471).

In this innovative virtual navigation through Spatial Platform, a "Morro do Palácio MAC Exhibition" is unveiled with photographs by Josemias Moreira Filho, one of the members of the "Environmental Art Action" project carried out by the MAC-Niterói educational team and current MACquinho employee. In Sensitive Records of the Landscape of Guanabara Bay, of slum Houses and their Residents, the artist-photographer invites the virtual public to walk through the winding spaces of Oscar Niemeyer at MAC-Niterói, with the ascent of the ramp revealing the previously invisible territory located on the Urban Cultural Landscape Registration Line demarcated by UNESCO.

Figures 14, 15, 16 and 17 –``Morro do Palácio`` from the artistic perspective of a slum photographer.

Source: Josemias Moreira Filho.

CONCLUSIONS: TALK ON THE CLIMB: TELTO'S RAP

In the hip hop poem "MACquinho on", professor Elielton Rocha Mc Telto, a former MACquinho employee, expresses the group's real creativity and artistic inspiration arising from MAC-Niterói's "Arte Ação Ambiental" project:

> What's up? Get off the Wall. Hi Future, say hi to your Future!
> 1998 genius idea, two-way museum Niemeyer social
> Kids permeating a new cultural space,
> MAC-Palácio, Art appeared Environmental Action
> Architect designed a special design and today we are Digital Urban Platform
> Working for the common good in various segments
> Socio digital inclusion aiming for empowerment
> Slum lives and screams once a month, Macquinho on event giving voice time and time again. Publics in the plural give their message to society
> Making access accessible and accessibility-sensitive
> Forever! Because our time has come Remix of ideals all together
> same time now
>
> A Niemeyer on the hill is a tourist blessing,

Talented bands, opportunities, artistic residency
Sound that shakes beyond four walls, effective and affective connection weaving networks
Provide a space for convergence, technology, languages and experiences
Fusion of media adaptable to fluency, digital and analog in the same
experience

The world is an octopus that hugs you with several tentacles
Open your mind and the curtains it's show time
Original is what is created and everything is copied, they are innovations that range from technology
Improve performance, high-level improvement
Highlighting what was once almost invisible
Keyboard, guitar, drums improving quality
Voice, bass, embrace the hug necessary to embrace the city
Musicalize, let's sound, experiment, new ways of creating, composing and singing
Band Festival culmination of excellence, musical theory, growth in evidence

Search for your space in the market, insert yourself, for many "earn bread"
Interaction, socialization, it's time to make history and the soundtrack is
"Macquinho" On
"Macquinho" On
Wherever you are, wherever I go
I fly higher art me so I can find you
if to enchant you in any fine and immersed rhyme
From physical to virtual and vice versa
There is no barrier between Art and Life, between us and the world, the future is the starting point
Trust me, Hi future? And it won't be for nothing
Let's enhance connections that drive people."

On a guided visit ("Papo na Subida") to the slum where he was born and lives today, Telto walks through alleys, streets, squares, bars until he reaches MACquinho with its privileged view of Guanabara Bay and MAC-Niterói(https://youtu.be/NVhP-h8LvAc). Finally, the research critically asks: Will it then be possible to merge Workshops of the Word/Poetry and Workshops of Sculpture/Photography through Participatory Sensitive Metaverses that bring us closer to the intangible reality of a slum in Greater Rio with its daily violence and wealth experiential? This is certainly what the participatory and inclusive technical team of this project aims for...

Figures 18, 19 and 20 – MAC seen from ``MACquinho/Casas do Morro do Palácio``.

Source: Josemias Moreira Filho.

REFERENCES

ARÉVALO, Marcia Conceição da Massena. **Patrimônio Imaterial: Os debates, os critérios e o histórico de uma política cultural**. Monografia apresentada ao curso de História da Universidade Federal de Ouro Preto/UFOP, Instituto de Ciências Humanas e Sociais. Orientador: Prof. Dr. Valdei Lopes de Araújo. Leitores críticos: Fabio Adriano Hering e Antônio Gilberto Ramos Nogueira. Mariana, Minas Gerais, 2007. https://lph.ichs.ufop.br/sites/default/files/lph/files/163_maria_da_conceicao_ damascena_arravolo_-_patrimonio_imaterial.pdf?m=1525724428. Acesso em: 5 mar. 2023.

_____Lugares de memória ou a prática de preservar o invisível através do concreto. **I Encontro Memorial do Instituto de Ciências humanas e Sociais**. Mariana, ICHS UFOP, 9-12 nov. 2004 http://www.anpuh. org/arquivo/download?ID_ARQUIVO=62. Acesso em: 5 mar. 2023.

AZEVEDO, Jorge Baptista de. Paisagens Transculturais: Um Olhar para a Periferia Carioca em Tempos de Transconhecimento. **Geograficidade**, V. 8, Número 1, verão de 2018. ISSN 2238-0205. https://periodicos.uff.br/geograficidade/article/view/12994/ pdf. Acesso em: 5 mar. 2023.

CASTRIOTA, Leonardo Barci. Paisagem cultural: novas perspectivas para o patrimônio. Arquitextos, São Paulo, ano 14, n. 162.02, **Vitruvius**, nov. 2013. http://www.vitruvius.com.br/revistas/read/arquitextos/14.162/4960. Acesso em: 5 mar. 2023.

_____**Patrimônio Cultural: Conceitos, Políticas, Instrumentos.** São Paulo: Annablume; Belo Horizonte: IEDS, 2009.

COSTA, Luciana de Castro Neves & SERRES, Juliane Conceição Primon. Memória, identidade e paisagem cultural: interfaces na constituição do patrimônio brasileiro. São Paulo, Unesp, v. 12, n.1, p. 158-178, janeiro-junho, 2016. **Patrimônio e Memória**, ISSN – 1808–1967. https://pem.assis.unesp.br/index.php/pem/article/view/475/879. Acesso em: 5 mar. 2023.

CURY, I., & HOUYELA JAYO, J.A. As paisagens cariocas no âmbito dos tombamentos federais: propostas para seu ordenamento e gestão. **Anais do 5º colóquio ibero americano da paisagem cultural: patrimônio e projeto**. Belo Horizonte: PPG-ACPS (UFMG) e IEDS, IPHAN e ICOMOS Brasil, 2018.

_____Monitoramento das Paisagens Cariocas. **Anais do 5º colóquio ibero-americano da paisagem cultural: patrimônio e projeto**. Belo Horizonte: PPG-ACPS (UFMG) e IEDS, IPHAN e ICOMOS Brasil, 2018. Obtido de: https://issuu.com/antoniohoyuelajayo3/docs/monitoramento_das_paisagens_cariocas_isabelle_cury. Acesso em: 5 mar. 2023.

_____**Os morros no Rio de Janeiro: da proteção geomorfológica a proteção paisagística, integrando natureza e cultura**. Rio de Janeiro: IPHAN, projeto PRODOC4018, 2020. ObtIdo de:https://issuu.com/antoniohoyuelajayo3/ docs/nota_tecnica_2_2021. Acesso em: 5 mar. 2023.

GUIMARAENS, Dinah. **Ecletismos e Museus Nacionais: Europa Recriada nos Trópicos**. Rio de Janeiro: Riobooks, 2022.

_____*et alii*. "Architecture of Emptiness in "Slums": Green Walls and Indigenous Graphism at MACquinho | Morro do Palácio, Brazil". **Journal of Building Construction and Planning Research**, 2022, https://www.scirp.org/journal/ jbcpr. ISSN Online: 2328-4897 ISSN Print: 2328-4889.

_____*et alii*. "Architecture of Emptiness in "Slums": Green Walls and Indigenous Graphism at MACquinho | Morro do Palácio, Brazil". **International Journal of Latest Research in Humanities and Social Science (IJLRHSS)**, Volume 05 - Issue 03, 2022, www.ijlrhss.com, 146-152.

_____*et alii*. "Museus de Slums: Museologia Social, Museografia Periférica e Diálogo Transcultural". *In:* **Escola em Transe: Escola de Arquitetura e Urbanismo - UFF** [recurso eletrônico]: nº 4 - 2º semestre 2021 / organizadores: Fernanda Sánchez *et alii*- 1. ed. - Rio de Janeiro: Letra Capital, 2021, p. 88-92.

_____*et alii*. "Laboratorio de Paisaje Verde / UNESCO". **Revista Latino-americana de Ambiente Construído & Sustentabilidade**. ISSN 2675-7524 / v. 2, n. 5 (2021), p. 68-84.

_____*et alii*. "Laboratório Verde da Paisagem/UNESCO". **Revista Latino-americana de Ambiente Construído & Sustentabilidade**. ISSN 2675-7524 / v. 2, n. 5 (2021), p. 68-84.

_____(org.) **Estética Transcultural na Universidade Latino-Americana: Novas Práticas Contemporâneas**. Niterói: EdUFF, 2016.

HOYUELA JAYO, José Antonio (2021). Cristo Redentor y Cristo del Otero, el patrimonio cultural desde la perspectiva del paisaje / Cristo Redentor e Cristo do Outeiro, o patrimônio cultural desde a perspectiva da paisagem. Lote e quadra, cidade e território: espaços livres, redes ecológicas e direito à paisagem Parcela y manzana, ciudad y territorio: espacios libres, redes ecológicas y derecho al paisaje. **III Colóquio Lote e Quadra, Cidade e Território Niterói/21.** Escola de Arquitetura e Urbanismo – EAU. Universidade Federal Fluminense – UFF. Grupo de Pesquisas Paisagens Híbridas – EBA/UFRJ. Niterói, Rio de Janeiro, 26, 27 e 28 de maio de 2021.

MAHFUZ, Edson. Reflexões sobre a Construção da Forma Pertinente. **Projetar 2003**. I Seminário Nacional sobre Ensino e Pesquisa em Projeto de Arquitetura. Natal de 01 a 10 de outubro, RN/BRASIL, PPGAU-UFRN. http://projedata.grupoprojetar.ct.ufrn.br/dspace/bitstream/handle/123456789/167/MR14.pdf?sequence=1&isAllowed=y. Acesso em 14/03/2023.

MARTINS, Dalila; OLIVEIRA, Lídia; AMARO, Ana Carla. Del codiseño a la construcción de un metaverso para la promoción del patrimonio cultural y el turismo: el caso de Amiais. **Procedia Informática,** v. 204, p. 261-266, 2022.

SHEN, Jinlu et al**. Resumen mundial y diferencias entre países en la investigación del metaverso: un análisis bibliométrico**. Sostenibilidad, v. 15, n. 4, p. 3541, 2023.

UNDERWOOD, David Kendrick. **Oscar Niemeyer e o modernismo de formas livres no Brasil**. Tradução: Betina Bishof. São Paulo: Cosac & Naify, 2002. http://toaz.info-oscar-niemeyer-e-o-modernismo-de-formas-livres-no-brasil-pr_2f5217b18ff2873c50d7cc102a172339%20(1).pdf. Acesso em 14/03/2023.

VILA, Adolfo B. I. Digitalization of Cultural Heritage. In: Jorge Lopes Sergio Alex Azevedo Heron Werner Junior Antonio Brancaglion Junior. (Org.). **Seen Unseen. 3D Visualization**. 1ed.Rio de Janeiro: RIO Books, 2019, v. 1, p. 86-87.