DOSSIER DESIGN AS A SOCIAL PRODUCTION

Editorial Dossier Design as a Social Production
Editorial Dossiê Design *como produção social*

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Starting from the understanding of Design as a form of social production, we critically assert that investigations into what the field produces must be grounded in its dialectical relationship with society. In other words, the field of Design is both shaped by and helps to shape the social values of a specific historical context — in this case, late capitalism. This critical concept, introduced by Alberto Cipiniuk (2014) in his book *Design — The Book of Whys: The Field of Design Understood as Social Production* (*Design — o livro dos porquês: o Campo do Design compreendido como produção social*), presupposes that the social environment influences the production, circulation, and legitimization of goods produced within the field of Design. This relationship, in turn, sheds light on the *modus operandi* of the practices and beliefs that underpin the field. Consequently, the notion of Design as social production posits that an interpretative analysis of reality must be based not on isolated parts, but on the whole, on the social environment to which the field belongs, the collective ideological movements that precede and shape it, and the political struggles among these movements in their quest for legitimacy.

This dossier aims to encourage critical reflection on the various aspects of production, circulation, and legitimization within the field of Design as social production, as well as its role in the creative economy. In the ten articles selected for issue 26 of *Revista Diálogo on Creative Economy*, a range of themes and approaches emerged related to this perspective on the field's outputs, including identity, territory, fashion, crafts, history, visual culture, technology, and social innovation.

The article "Black hair aesthetics in Rio de Janeiro: for a political and discursive approach of peripheral visualities," authored by Cristiany dos Santos, Daniela Novelli, Lucas da Rosa, and Icléia Silveira, seeks to identify the political construction surrounding the aesthetics of *pivete blonde* and *lined up highlights* as male style trends, drawing from contemporary black visualities from the outskirts of Rio de Janeiro. The study emphasizes the symbolic and sociocultural significance of these visualities within the contemporary historical process of legitimizing Rio's communities through the lens of Fashion.

The second article in this edition also explores the relationship between Fashion Design and identity. "Design thinking as an inspiration to interpret the imaginary of the aesthetic identity of fashion in Rio Grande do Sul," authored by Milena Cherutti and Cristiano Max Pereira Pinheiro, presents a study on the urban and contemporary *Gaúcho* aesthetic identity from the perspective of creative industry. The study is based on a co--creation workshop utilizing Design Thinking processes to investigate this imaginary.

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Continuing with the themes of identity and territory, the article "Creative district in wool: an experience report bringing together design and crafts" highlights the importance of initiatives that foster interaction and co-creation environments among various actors in creative economy, particularly designers and artisans. Authors Carolina Iuva de Mello, Ana Gabriela de Freitas Saccol, Danielle Neugebauer Willie, Paola Cargnelutti Bariquelo, and Stephanie Nunes Goulart emphasize creativity as a strategic factor for territorial development and recognize that Design and crafts play a crucial role in the establishment and enhancement of Creative Districts.

In the article "Taste and values in handicraft: connected relationships," authors Miguel de Araujo Lopes, Claudia Mourthé, and Raquel Ponte present crafts as a multifaceted field influenced by equally complex variables. Their work aimed to explore the connections between taste, value, and their relationship with ceramic craftsmanship produced in the northern part of the state of Rio de Janeiro, specifically in the city of Campos dos Goytacazes. The study focused on identifying the latent perceptions of the local population regarding the consumption of this craft product.

In "Histories about design, photography, and art in contemporary visual culture," Rafael Frota and Jofre Silva investigate the technical, aesthetic, and historical relationships between Design, Photography, and Visual Arts. The authors proposed viewing these disciplines not as isolated fields of knowledge but as intrinsically connected expressions, whose mutual influences contribute to the understanding of visual culture elements. The article highlights how the dynamics between knowledge, power, and processes of subjectivation permeate image creation and foster resistance movements.

In the article "The construction of a modern *ethos* in Rio de Janeiro: illustrated magazines and published objects," Melba Santos Porter de Souza and Tatiana Siciliano analyze objects and technological devices featured in advertisements for *Kósmos*, an illustrated magazine that served as an important documentary resource in early 20th-century Rio de Janeiro. The study aimed to understand how Rio's society assimilated the modernization of the federal capital, examining the effects of interactions with cars, electric trams, heavy machinery, and other modern innovations, as represented in the contemporary press.

In the article "Antagonisms in the discourse on user experience design in platform companies," Ana Carolina Ribeiro Ferreira da Costa and Leandro Velloso explore the complex role of designers in the development of digital interfaces within platform companies. They examine the influence of late capitalism on these companies' organizational logic and analyze the discourses surrounding UX Design in the context of increasingly precarious work conditions.

In his essay "Digital confinement: on the hidden oppression in digital interfaces," Mário Fontanive argues that contemporary sophisticated digital technologies have adopted alienating structures rooted in historical forms of worker submission, tracing a trajectory from slavery through the Industrial Revolution to modern Design work with current technologies. The author connects this configuration to

the misleading notion of "resolution of needs" and concludes by discussing how a renewed focus on marginalized populations could foster emancipatory practices.

The study "Communal Houses of the Javari Valley: an AI contribution through Stable Diffusion for the preservation of Brazilian cultural heritage," by Silvio Lasmar Santos, Marcos Paulo Cereto, and Lúcio Tiago Maurilo Torres, explores the use of Generative Artificial Intelligence (AI) in the digital reimagining and preservation of indigenous communal houses in the Northwest Amazon.

Finally, the article "3D printing for Social Innovation: analysis of case studies from a Design perspective to define guidelines," authored by José Victor dos Santos Araújo and Pablo Marcel de Arruda Torres, examines the relationship between Additive Manufacturing (AM) and Social Innovation from a Design perspective. The study aimed to propose guidelines for integrating 3D printing into socially beneficial projects/businesses, with a particular focus on rural communities.

We invite readers to engage in a critical examination of the field of Design as social production through the texts presented here. We hope that this exploration will resonate and inspire new approaches to production, circulation, and legitimization within the field.

Enjoy your reading!

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Editorial

About Cover #26
Sobre a Capa #26

Isabella Perrotta[1] (iD), Carolina Aranha Guimarães Oliveira[1] (iD)

> If the will exists among designers, it will surely be possible to reinvent design. If it doesn't, designers will simply remain part of the problem whose solution other professions will need to invent (Margolin, 2002, p. 102).

In a recent article to be presented at R&D Design 2024, we explore the evolving contours of Design and its various definitions. Confronted with the Brazilian scenario of an unregulated professional practice and the perception of an expanding field — both in terms of its disciplines and complexity —, this work revisits the definitions proposed by critics, theorists, and, most importantly, by the field's legitimizing associations. It was by revisiting both these definitions — where mentions of the impact and social responsibility of professional practice were plentiful, as well as the field's orientation toward solving society's complex problems — and the historiography that defines the social orientation of the profession that this cover[1] was conceived.

In the concepts proposed by international associations, such as the World Design Organization[2] (WDO, 2024), the Design Council UK (2024), and the International Council of Design[3] (ICoD, 2024), the holistic analysis of the social context as a constitutive factor of the field was prominently emphasized. Among the definitions and results obtained, the one proposed by ICoD (2024) stands out.

The association, which acknowledges the growing expansion of disciplines and professions within the field, defines Design as both a practical discipline and a field of study, centered on the human being and encompassing functional, cultural, aesthetic, contextual, and social aspects. What stands out, however, is the identification of central and fundamental notions that are common across and unify all practical manifestations of the field. Among these is the holistic analysis of problems — which involves understanding not only their surface aspects but also the productive, cultural, social, and environmental systems in which they are embedded — and the emphasis on human needs and capabilities is identified as a core element in all manifestations of the profession (ICoD, 2024). This unifying concept of Design inspired the creation of this cover, which aims to metaphorically represent the social scenario and its institutional forces, both formal and informal, as essential and constitutive parts of the field of Design.

The analysis of the role, responsibility, and social impact of Design is not, however, a debate that has emerged recently. In the appeals of activist movements such as First

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1   Graphic design by Carolina Aranha..
2   Former International Council of Societies of Industrial Design (Icsid).
3   Former International Council of Graphic Design Associations (Icograda).

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Things First — from its first edition in 1964 through all subsequent versions, including the most recent in 2020 — and in the theories of academics in the field like Papanek (1985) and Bonsiepe (2013), the urgency of reorienting the field to address social and environmental needs has gained prominence (Papanek, 1985; Bonsiepe, 2013; Poynor, 2021). The very institutionalization and formation of Design are closely tied to its social role. According to Walter Gropius, the Bauhaus aimed to prioritize the promotion of new social structures over the establishment of a formal grammar (Argan, 2005). Likewise, the Ulm School of Design (HfG Ulm), its successor, emerged as a response to the need to rebuild a devastated society, incorporating into its curriculum subjects on politics, culture, and debates about socio-environmental issues and the responsibility of Design (HfG Archiv Ulm, 2024).

Taking into account the historical attribution of the social role of Design, and recognizing the repertoire as a fundamental part of the creation and dissemination of Design products, this cover was conceived as an aesthetic reinterpretation of Vkhutemas (Soviet school of arts, crafts, and technology). The school holds historical relevance and influence that its recognition (or rather, lack thereof) does not do justice to. Its origins precede the world-renowned German Bauhaus school, yet its purposes, productions, and history were until recently almost unknown. The aim of expanding knowledge about this period and this school was part of the reason it was chosen as a visual reference for the cover, instead of other more widely recognized movements. In a society that was largely illiterate, abstraction and visual metaphors became essential tools for artists aligned with the Russian Revolution (including Vkhutemas teachers) to convey their messages to the public. The school's visual language, characterized by a limited color palette — primarily black and red — along with diagonal lines, photomontages, bold typography, and simple geometric shapes, reflected an understanding of social factors and conditions while serving clear social purposes.

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Black hair aesthetics of Rio de Janeiro: for a political and discursive approach of peripheral visualities

Estéticas capilares negras do Rio de Janeiro: por uma abordagem política das estéticas corporais periféricas

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ABSTRACT

This article sought to identify the political construction of *pivete blonde* and *lined up highlights* hair aesthetics as male style trends based on contemporary black visualities from the peripheries of Rio de Janeiro. To this end, basic research with a cultural constructivist approach was used to descriptively and qualitatively analyze these aesthetics through bibliographic and documentary surveys (journalistic articles from websites, virtual channels, and Instagram profiles). The results obtained point to the symbolic and socio-cultural relevance of these visualities in the contemporary historical process of empowerment of Rio's communities through fashion — whether through the tactics of relaxation of peripheral youths or the redefinition of the appropriation of black identity in places hegemonically legitimized by the ethos of whiteness.

Keywords: Bodies. Periphery. Masculine aesthetics. Black visualities. Fashion.

RESUMO

O presente artigo buscou identificar a construção política em torno das estéticas capilares do loiro pivete e do reflexo alinhado enquanto tendências de estilo masculina a partir das visualidades negras contemporâneas das periferias do Rio de Janeiro. Para tanto, lança mão de uma pesquisa básica, com abordagem cultural construtivista, para analisar descritiva e qualitativamente essas estéticas por meio de levantamentos bibliográfico e documental (matérias jornalísticas de sites, canais virtuais e perfis do Instagram). Os resultados obtidos apontam a relevância simbólica e sociocultural dessas visualidades no processo histórico contemporâneo de empoderamento das comunidades cariocas pelo viés da moda — seja pelas táticas da descontração de jovens periféricos, seja pelas táticas de redefinição da apropriação da identidade negra em lugares hegemonicamente legitimados pelo ethos da branquidade.

Palavras-chave: *Corpos. Periferia. Estéticas masculinas. Visualidades negras. Moda.*

INTRODUCTION

Just like in urban centers, peripheral regions also contribute to creating aesthetics, customs, and reinterpretations of symbols that become characteristic of these areas. In the city of Rio de Janeiro, hairstyles such as *"pivete blonde"* (*"loiro pivete"* in Portuguese, which roughly translates as blonde rascal, consisted of men's hair dyed a shade very close to platinum white), along with *lined up highlights* (consisted of men's hair dyed as polka dots lined up as rows), define visual trends that originate from peripheral areas. These styles are particularly noted as a seasonal trend marking the beginning of summer and the festive *Carnaval* celebrations.

This article aimed to identify the political construction around the hair aesthetics of *pivete blonde* and *lined up highlights* as masculine style trends, based on contemporary Black visualities from the outskirts of Rio de Janeiro. In this context, hair aesthetics are viewed as potential political manifestations that challenge the aesthetic-visual standards imposed by fashion trends. It is observed that there is a constant influence of a cultural elite that reinforces the aesthetic-cultural silencing of the bodies inhabiting the peripheries. This constitutes yet another way of perpetuating trends that do not align with the values and capital serving Rio's middle classes (Goldenberg, 2015).

As these trends are primarily reproduced by Black and peripheral bodies, marginal aspects are attributed to these hairstyles. Fashion has long corroborated the exclusion of bodies that did not meet the stereotypes desired by whiteness[1]. The historical and sociocultural erasure of Black and peripheral aesthetics is then normalized, perpetuated by the mischaracterization and association of negative attributes to any manifestations of trends that revolve around this aesthetics.

The relevance of this research lies in its transcription of the fashion perspective, based on cultural studies that narrate the peripheral aesthetics of Rio de Janeiro, considering these spaces as potential incubators of fashion behaviors and trends. Furthermore, it underscores the importance of academic studies in the field of fashion that focus on aesthetics emerging from the outskirts of Rio. This addresses an urgent need to produce and acknowledge existing knowledge on this topic. Therefore, fashion can be understood as a political tool capable of valuing the expressions of bodies that relate to peripheral cultures.

The research is classified as basic, qualitative, and descriptive, incorporating bibliographic and documentary research as essential data collection methods. Theoretically, it contextualizes the outskirts of Rio de Janeiro through the lens of styles, fashion fads, and aesthetics originating from these areas; the performances of the *pivete blonde* and the *lined up highlights* on peripheral bodies are qualitatively analyzed based on journalistic articles from websites, virtual channels, and Instagram profiles. Finally, their visualities and representations are discussed in light of the constructivist, discursive, and political approaches proposed by Frantz Fanon

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1   The term is adopted by Novelli (2014), alluding to the different dimensions of the privilege of individuals socioculturally positioned as "white," connected both to a "place of advantage" and to a historically hegemonic "point of view."

(2008) and Stuart Hall (2016). By engaging with decolonial studies, this article aimed to contribute to future research that critically reflects on style trends produced in peripheral contexts, historically marginalized by European fashion, and commonly accepted and naturalized by Brazilian society.

AESTHETIC POWERS OF THE PERIPHERAL REGIONS OF RIO DE JANEIRO: STYLES AND HAIR AESTHETICS TRENDS

Rio de Janeiro: favelas and peripheral regions

At the beginning of the 20th century, after the abolition of slavery, the city of Rio de Janeiro embarked on a process of urban remodeling to assert itself as a republican capital based on notions of civilization and modernity. The reurbanization design proposed by Pereira Passos was modeled after the reforms applied to Parisian cities in the previous century. Beyond establishing order, this project aimed to erase the traces of African populations and their descendants, who had been enslaved during the Colonial Period, from the central and port areas of Rio de Janeiro. This was done to meet the economic, political, and aesthetic demands of the republican elites.

Until the beginning of this process, it was possible to observe distinctions among the various social classes coexisting and playing their social and economic roles in the central areas of old Rio de Janeiro (Silva, 2018). The discomfort of the elite gentlemen and ladies moving around the region among the poorest people was decisive in promoting what Santos and Motta (2003) call "urban surgery", radical changes made to the city's urban fabric through public works.

> The urban planning project by Pereira Passos had good objectives, except for the socio-segregating aspect implicit in its ideals, which entailed an ethnic and racial "cleansing" hidden behind reformative ideals. This led to the eradication of tenements and the displacement of the poorer population, particularly Black individuals, to the hills and more remote, less noble areas. Consequently, real estate speculation contributed to ensuring that the economically lower class would not occupy areas now designated for those deemed "deserving" of enjoying the urban development process (Silva, 2018, p. 51).

Given the above, the poor black population that inhabited the center of Rio de Janeiro found themselves displaced and forced to reorganize around the hills that surrounded the city, thus forming the first traces of favelas and outskirts. In this logic, by displacing residents to peripheral areas or "pushing" them to the central hills, Passos determined these spaces as characteristic of excluded populations (Neder, 1997). In other words, favelas and peripheral regions became housing destinations for black and poor populations, absorbing the stigmatization that was previously associated with tenements.

Even in contemporary times, the traces of this merciless urbanization process, developed from conservative modernization, extend beyond the spheres of architecture. According to Andrade (2018), current social relations are victims of the city

project that had exclusionary characteristics for the Afro-descendant and poor population. The reform, in addition to creating social segregation, imposed on the favelas and peripheral regions of Rio the stigma of violence and marginality.

However, the behavior of depreciating these spaces is not solely associated with the practices carried out by parallel powers that inevitably established themselves due to the lack of public assistance. It is also rooted in the fact that, in the early 20th century, the cultural practices of formerly enslaved people were prohibited and criminalized by law under the government of Pereira Passos.

> The knowledge, memories, and cultures originating from the enslaved population, and later from the freed population, were looked down upon by the dominant class of the city. Initially considered exotic and inappropriate, they eventually came to be seen as inconsistent with the republican city project that was being pursued (Andrade, 2018, p. 96).

The favelas and outskirts of Rio de Janeiro, by becoming official housing for these populations, provided a space for aesthetic-cultural freedom, exemplified by the pivotal role of samba schools in affirming peripheral black aesthetics. In this context, these areas resisted European aesthetic-cultural impositions and, as a result, began to be socially marked as inferior (Silva, 2018).

Therefore, it can be understood that the urban arrangements of Rio de Janeiro were created with the support of a policy that purposefully excludes and removes those who do not meet European aesthetic standards from the city center. Trends in art, fashion, and design styles and aesthetics built in these spaces are invalidated or even criminalized until they are endorsed by those who contribute to making up the dominant layers. It is important to highlight that symbols originating from Afro-Brazilian and peripheral cultural aesthetics in Rio de Janeiro take on different meanings when appropriated by the whiteness present in central areas.

Cultural representations and discursive potentialities

The social imaginary created about peripheral territories is surrounded by signs that negatively label their inhabitants and can be understood as the result of a slave society that commonly develops its relationships based on social hierarchies designed to make these spaces invisible as creative powers. From the perspective of Villaça (2010), the peripheries and their spaces, with their creative bias, challenge conservative views and reconstruct them, prompting actors to consider new ways of functioning of spatial representations outside the established norms of centralities in opposition to the margins and peripheries.

The author reiterates that these spaces can be perceived as "a potential for experimentation both for the actors who build them and for the inhabitants who live in them" (Villaça, 2010, p. 69), thus being regions responsible for producing innovative, creative solutions, self-sufficient, and sustainable. This occurs despite enduring the prolonged silencing of their cultural representations by a media system that does not recognize them as producers of cultural discourses (Faustini, 2009).

Representations, including their practices, are a key concept of the "cultural circuit" (Hall, 2016) and can be interpreted as part of a politics that "constitutes not only identity, but the existential quality itself [...] being represented in its values, interests, positions, priorities, with its members (and non-members), its rules and institutions" (Hall, 2016, p. 13). In this way, it is understood that "to represent" means "to exist" in society, whether through appearance or culture. In this process, language operates as a representational system (Hall, 2016), which becomes a fundamental resource for the production of meanings within a given culture.

> To belong to a culture is, *broadly speaking*, to belong to the same conceptual and linguistic universe, to know how concepts and ideas translate into different languages, and how language can be interpreted to refer to the world or to serve as a reference for it. Sharing these aspects means seeing the world through the same conceptual map and deriving meaning from it through the same language systems (Hall, 2016, p. 43).

The dominant classes, by symbolically holding power, subjugate and exclude the peripheries because these areas produce cultural languages that do not align with their interests. The hegemonic advertising machine perpetuates this exclusion by erasing the languages and meanings of the Afro-Brazilian and peripheral population. This effort maintains an aesthetic and discursive representational system where "white people are closed in their whiteness" (Fanon, 2008).

According to Hall (2016, p. 83), "it is the discourse — not the things themselves — that produces knowledge." Discourse forms when language and practice are associated, opposing the notion that actions are distinct from a subject's languages (Hall, 2016); discourse "produces the objects of our knowledge, governs the way in which the subject can be meaningfully talked about and debated, and also influences how ideas are put into practice and used to regulate the conduct of others" (Hall, 2016, p. 80). Although colonialism, as a political process, ended in the 19th century, its practices continued to exercise power over black and peripheral bodies, resulting in a hegemonic discourse that excludes and stereotypes individuals who do not conform to recognized and validated languages. Fanon (2008) posits that the process of inferiorizing black bodies results from a negative charge from a colonial system that symbolically violates them and generates trauma, placing them primarily in a position of villainy.

In the context of this study, it is understood that peripheral territories begin to employ tactics to ensure their cultural identities are acknowledged beyond the dominant discourses of centralization. According to Certeau (2002), tactics can be seen as actions that operate between the conservative frameworks of strategies. They are responsible for shaping behavioral norms and defining what aligns with their own rules. Certeau suggests that "tactics are shaped by the absence of power, just as strategy is structured by the assertion of power" (Certeau, 2002, p. 101).

Therefore, when considering the prominent style trends within peripheral aesthetics, as well as the aesthetics emerging from peripheral regions of Rio de Janeiro, it becomes evident that there is an effort to establish modes of representation that (re)exist in opposition to a fashion system that perpetuates inequalities.

Style and aesthetic trends in the periphery

Fashion, along with style and trends, is often discussed solely in terms of clothing and attire. However, it is crucial to clarify that fashion "operates within the realm of the imaginary, of signifiers; it is an integral aspect of culture" (Sant'Anna, 2007, p. 74). Unlike clothing, which serves as practical tools for expressing these three components.

In the realm of communication, fashion can be seen as a non-verbal element that conveys information through an individual's image and appearance. Sant'Anna (2007) asserts that various social groups are formed around notions of appearance, and societal beauty standards can be viewed as instruments of power for those who conform to them.

> Body appearance is a social knowledge that enables the enactment of practices aimed at constituting social strategies based on self-seduction and the seduction of others. Identifying bodily excellence, which varies across different social groups within a society under study, involves understanding how specific and societal strategies articulate to form social hierarchies (Sant'Anna, 2007, p. 78).

As a manifestation of power, whiteness conceals a privileged social position through its historical alignment with the stylistic and beauty ideals of the colonial era. The social hierarchies within this group contrast starkly with those of black and peripheral bodies. According to Novelli (2014), colonialism can be viewed as a "desiring machine," extending beyond political structures to implement aesthetic mechanisms that marginalize the style and beauty trends of Others (non-white) because they diverge from colonial desires.

Due to its colonial foundations, the fashion system possesses the ability to sustain the dominance of symbolic representations associated with white bodies. The social and cultural behaviors of this demographic have become sources of inspiration for fashion products on both physical and visual levels. According to Rech and Gomes (2018), social expressions rooted in values and desires, visibly manifested through behaviors, are classified as trends. Campos and Wolf (2018, p. 15), however, argue that these phenomena primarily involve matters of taste and style.

Style, in turn,

> It will encompass aesthetic and subjective elements that follow a kind of conciseness or singular form of encounter between various natures of variables, characterizing a movement, a grouping, a way of writing, playing, expressing oneself, among other manifestations (Mesquita, 2009, p. 9).

Thus, when examining historically and broadly the image representations in Western and Europeanized fashion, it becomes evident that media portrayals of style trends have long centered around archetypes of whiteness. The naturalization of the [white] body in fashion (dominant and oriented toward fulfilling colonizer desires) places upon the hegemonic and socio-culturally/economically privileged

system of whiteness the responsibility for symbolic violence — since this ethos is utilized to legitimize the symbolic authority of the white group (Novelli, 2014).

From this viewpoint, it is evident that the style trends that became prominent within Brazil's fashion sectors often excluded connections with peripheral and black bodies. Consequently, the aesthetic ideals in fashion, formulated in a country predominantly composed of black individuals and residents of peripheral areas, adhere to white and elitist standards. In essence, the dominant landscapes of the fashion industry dismiss styles that diverge from its norms, where the concept of "ugliness" continues to be linked to racial characteristics, as noted by Mesquita (2002).

The rejection of style trends originating from black and peripheral bodies, along with the historical prejudices stemming from early 20th-century hygienic practices imposed on descendants of enslaved populations, can be seen as a form of symbolic violence perpetuated by the aesthetic system for over a century. In addition to conventional norms, style trends emerging from peripheral contexts serve as pathways for individuals in these spaces to redefine aesthetic standards. The appreciation of these aesthetics is being reshaped by these actors through discourse in cyberspaces, which aims to dissociate them from marginalizing stereotypes, such as the *pivete blonde* and the *lined up highlights*.

Pivete blonde emerged in the early 1990s within communities on the outskirts of Rio de Janeiro, where young people began bleaching their hair as a stylistic expression for the summer and *Carnaval* festivities (Soupin, 2020). It is important to note that the origins of this trend are largely anecdotal. While data accuracy is limited, available evidence suggests its early manifestations were predominantly within the *funk* and pagode cultures of the 1990s. Influenced by figures in these music scenes, young men from peripheral areas of Rio de Janeiro started using hydrogen peroxide to bleach their hair (Coutinho, 2022). For those who embrace this style, bleached hair (Figure 1) symbolizes a moment of self-expression that celebrates a cultural trend, challenging negative associations imposed on these bodies by outsiders who may misunderstand or marginalize them.

Source: Afotogracria (2022a).
Figure 1. *Pivete blonde*, a cultural trend in Rio deJaneiro's periphery communities.

In the journalistic piece published by UOL, featured in the *TAB* section, which explores the realities of Brazilian street life, the *"pivete blonde"* phenomenon is examined not only from the perspective of peripheral communities in Rio de Janeiro but also from affluent areas of the city (Figure 2). The article notes: "Criminalized from its very name, the platinum-blond aesthetic resonates with youth and has taken root in the South Zone of Rio." It highlights disparities in how individuals with bleached hair are treated between residents of peripheral communities and those from wealthy neighborhoods within the same region.

Source: Soupin (2020).
Figure 2. Special report on *pivete blonde*.

In essence, while bleaching hair may be seen as a fashionable and "cool look" for individuals in privileged areas, those in peripheral regions who adopt this aesthetic are often stigmatized as criminals or delinquents, *"pivete."* The report also raises concerns about how military and police groups interpret the appearance of young black people sporting the *pivete blonde* style trend. Furthermore, bodily control is enforced by militias — who use force to restrict, threaten, and even prohibit young black individuals from maintaining bleached hair outside of festive occasions like the end of the year and *Carnaval* in the peripheral areas under their control.

As an act of resistance against prejudice and violence, artist Maxwell Alexandre organized an event titled "Global Pre-Carnaval Discoloration" at the Rio Art Museum (*Museu de Arte do Rio* – MAR) (Figure 3). The initiative aimed to reclaim space within the museum for a practice integral to black and peripheral cultures in Rio de Janeiro: the bold expression of young black and peripheral individuals through hair bleaching.

The artist, from the Rocinha favela, states in an interview with the TAB UOL portal:

> A Black blonde person to me is synonymous with power, as there is a stigma regarding bleached hair in black-skinned people. Choosing to be blonde when you are black is confronting these stereotypes. In other words, it's an assertion of freedom against judgment of the black body. We have to be who we want to be. Affirming this aesthetically is an exercise in freedom and power (*apud* Soupin, 2020).

Source: Museu de Arte do Rio's photobook (2020).
Figure 3. Photos from the Global Pre-Carnaval Bleaching Action, 2020.

In this context, the artist, through similar actions in peripheral territories of Rio de Janeiro like Rocinha and Morro do Santo Amaro, emphasizes the afore-mentioned style trend and helps dissociate it from any marginalized connotations. Within the art scene, this effort disrupts traditional hierarchies, demonstrating a dedication to democratizing the concept of "art" within peripheral contexts. It also expands cultural dialogue, fostering reflection on issues of identity, power, and representation in contemporary society.

The appreciation of the *pivete blonde* style is reaffirmed in various territories. The photobook *Loiro pivete: da margem ao centro* explores this style trend within the peripheral communities of Ilhéus, Bahia (Figure 4), revealing similarities with the hair bleaching trend in Rio de Janeiro. This work invites reflection on hair bleaching not just as an aesthetic choice but as a powerful instrument of cultural and personal affirmation within the black Bahia community, challenging marginal stereotypes. In essence, the photographic project is seen as a "movement of redefinitions in the appropriation of identity and the construction of self-esteem among young peripheral black people" (Sales, 2020, p. 67).

The authentic reports and impactful images humanize and give voice to the protagonists, reinforcing positive perspectives around the hair trend by showcasing how bleaching is integrated into the daily life and culture of peripheral communities in Ilhéus. Overall, the practice of hair bleaching is celebrated as an expression of joy and resistance within aesthetic productions from peripheral territories. Therefore, it is crucial to acknowledge

in the potential of art, culture, and human beauty lies the construction of a more just, plural, and diverse society, where individuals are respected for their identity and style, admired for their audacity and intelligence, a society where being a *pivete* symbolizes joy, irreverence, and creativity (Sales, 2020, p. 60).

Source: Sales (2020).
Figure 4. *Loiro pivete: da margem ao centro* photobook.

When analyzing the frames[2] (Figure 5) from the video produced by KondZilla, available on their YouTube channel, it becomes evident that the *pivete blonde*, while portrayed in a São Paulo context, carries the same significance as in the outskirts of Rio: bolstering the self-esteem of young black individuals from peripheral areas within an aesthetic-political framework. Therefore, the intention of the audiovisual protagonists is to initiate a discourse on body image centered on the appreciation of an aesthetic that challenges conventional norms of beauty and behavior.

Source: Kondizilla (2020).
Figure 5. Ngks dyeing his hair *pivete blonde*

2   The term is used to refer to the frames of images in audiovisual productions.

On the YouTube video platform, a wide range of content produced by young people from peripheral contexts in Brazil showcases tutorials on achieving the ideal bleached hair color for men, whether it is *pivete blonde* or *lined up highlights*. This phenomenon highlights that peripheral communities, with their unique characteristics geographically dispersed across various regions of the country, share similarities (Ávila, 2006). In essence, this hair aesthetics originating in the peripheral communities of Rio de Janeiro gain visibility and popularity in other peripheral regions throughout Brazil.

Lined up highlights, empirically known as a stylistic offshoot of *pivete blonde*, gained popularity after being popularized by funk artist MC Poze do Rodo. This technique involves bleaching strands of men's hair using a highlighting cap, forming polka dot rows (Figure 6).

Source: Afotogracria (2022a; 2022b).
Figure 6. *Lined up highlights* technique and result.

In the peripheral neighborhoods of Rio de Janeiro, the style trend serves as a means to preserve oneself aesthetically and socioculturally amidst style appropriations by dominant classes. It also challenges conventional social and cultural norms, sometimes provocatively, through aesthetic subversion that redefines beauty and self-expression for black and peripheral bodies. This stands in contrast to an elite that often excludes or marginalizes those with non-conforming physical characteristics. Thus, this trend significantly contributes to constructing and reinforcing an aesthetic identity rooted in black and peripheral cultural references, which confront Eurocentric norms.

It is also noted that at times, *pivete blonde* is referred to on social media with another name: *nevou* (snow) (Figure 7). For instance, barber Bruno Garcia's post caption in *Figure 7* reads: "TRUE SNOW OF THE COMMUNITIES, 0 makeup, 0 effects." These adopted expressions seem to be efforts by marginalized individuals to replace negative stereotypes and counteract the racialized associations typically linked to their bodies through terms like "*pivete*." Instead, they aim to redefine terminology based on their own cultural references for this style trend — constantly challenged by Brazil's racist structures.

A   B

Source: Garcia (2022) e Rodrigo (2022).
Figure 7. The "snow" style as presented in the discourses of different barbers

It is crucial to emphasize that peripheral cultural aesthetics gain strength when these style trends prominently feature in mainstream media on black and peripheral bodies. This is particularly significant because cultures from peripheral communities often face racist discourses, despite being strategically endorsed in high-profile fashion campaigns by influential figures. For instance, the Calvin Klein campaign featuring football player Richarlison sporting this hairstyle serves as evidence that black and peripheral bodies are not inherently associated with criminality or destined for failure due to adopting these style trends. On the contrary, this is illustrated in a post by TV Baiana reporter Raoni Oliveira, who wore the blonde hair while presenting a show (Figure 8).

Part of the caption from Raoni's post in Figure 8 reads: "My hair simply tells about myself and the culture I belong to, which is black and peripheral. In recent days, I have received several messages from kids from the neighborhood who felt represented when they saw me on TV." The context surrounding his statement underscores how positive messages convey the symbolic significance of his appearance in a prominent media setting, using a trend often stigmatized by elitist and racist narratives outside of the peripheries. Thus, within the realm of beauty and aesthetics, the term "*pivete*" is reinterpreted by black and peripheral individuals who historically have faced oppression for embracing this hairstyle as a form of self-expression.

A   B

Source: Oliveira (2022).
Figure 8. *Pivete blonde* style and the importance of its prominence in black and peripheral bodies in traditional media contexts.

In summary, *pivete blonde* and *lined up highlights* hairstyles have become integral to the universe of Brazilian outskirts. For black and peripheral individuals, these trends, despite being discriminated against, serve as empowering tools that enhance their appearances. Given this, the tactical role of peripheries involves strategically influencing discourses that often misinterpret aesthetics originating from these communities.

DISCUSSIONS ON PIVETE BLOND AND LINED UP HIGHLIGHTS

Fashion, as a pioneer in aesthetic and behavioral trends, incorporates studies to appropriate new aesthetics into fashion products and consumer styles. However, these behavioral mappings predominantly originate from central contexts, occasionally considering customs emerging from peripheral regions.

As style trends, *pivete blonde* and *lined up highlights* are predominantly represented by black and peripheral bodies. However, this hair aesthetics is seldom central in cultural representations of fashion, often distorted by a whiteness that alters their original meanings from black and peripheral communities. Despite symbolic recognition of the aesthetic and cultural contributions of these communities, there is an effort to assimilate them into mainstream media dynamics (Villaça, 2012). Conversely, peripheral individuals employ this aesthetics and develop tactics to assert their existence within a fashion system that typically upholds conservative, hegemonic, and elitist norms.

In this study, the aesthetics stemming from these style trends, *pivete blonde* and *lined up highlights*, are linked to the (re)affirmation and defiance of the "appearance of power" imposed by hegemonic fashion (Sant'Anna, 2007). Consequently, the dynamics of this colonial fashion directly impact cultural and racial norms in the lives of black and peripheral individuals, influencing their identity and self-image issues.

Thus, according to Fanon (2008), drawing from his analysis of the experiences of black individuals in colonized societies dominated by whiteness, many black people develop a "white mask" — meaning they adopt behaviors, language, and appearances associated with dominant white culture in an attempt to assimilate and gain societal acceptance. From this viewpoint, black and peripheral bodies embrace unconventional aesthetic trends like *pivete blonde* and *lined up highlights* as a means of challenging this "white mask," actively rejecting the notion that they must conform to Eurocentric beauty standards to be valued or accepted. These aesthetic choices can be seen as affirmations of identity and refusals to conform to cultural norms that uphold whiteness as the ideal of beauty, instead seeking genuine self-expression. Consequently, black and peripheral actors wield influence through their appearances, distancing themselves from the influence of whiteness and reinforcing style trends that celebrate their cultural identities.

The initiative led by artist Maxwel Alexandre to bring the practice of bleaching hair into museum spaces extends beyond mere visibility. It serves as a platform to present this aesthetic and its socio-political implications to the cultural elites frequenting these art institutions, emphasizing it as a cultural aesthetic originating from the peripheries. Moreover, it underscores the necessity for museum spaces to embrace and represent peripheral cultural expressions. These representations embody complex meanings and political languages that are actively evolving (Hall, 2016). Through these actions, Maxwel Alexandre not only challenges conventional aesthetic norms but also questions the fundamental structure and role of museums as centers of power and cultural representation. This underscores the significance of acknowledging and integrating peripheral voices and expressions within and beyond these institutional spaces.

The contrast in perceptions of blonde hair across different social and geographic strata of Rio de Janeiro illustrates a profound dichotomy in Brazilian society: between stigmatization and style appropriation. As highlighted in the report from the TAB UOL portal (Soupin, 2020), style trends can be interpreted drastically differently depending on the social context. In affluent neighborhoods, blonde hair may be viewed as a fashion statement or individual expression, often associated with white bodies. However, in peripheral communities, it is frequently stigmatized and linked to crime and marginalization — this disparity in perception not only reflects social inequalities within Rio de Janeiro but also underscores the symbolic impact of stereotypes and prejudices in shaping opinions and value judgments.

Furthermore, it underscores the critical role of positive representation in reshaping these perceptions. Public figures like football player Richarlison or reporter Raoni Oliveira, who incorporate *pivete blonde* as a part of their identity and cultural expression, play a crucial role in challenging stereotypes and empowering black and peripheral individuals. Their presence in prominent media spaces with this aesthetic not only reaffirms their identity and culture but also provides alternative representations that challenge hegemonic, elitist, and racist narratives.

When *pivete blonde* is depicted prominently in museums or other media contexts, it signifies a popular phenomenon rooted in fashion references originating from peripheral communities. In this context, the cultural languages developed hold significant meaning in bolstering the self-esteem of young black individuals from the peripheries. The *Pivete Blonde* photobook and the visibility of this style trend championed by black figures in mainstream media outlets foster identification, empowerment, and reaffirm the potency of appearance through the lens of peripheral cultural aesthetics. *Pivete blonde* and *lined up highlights* as style trends can symbolize a quest for authenticity and liberation for black — especially peripheral — bodies to assert their true selves without compromising their racial identity, amidst the tensions outlined between authentic identity and societal expectations imposed by white norms (Fanon, 2008).

Although there is an effort from dominant groups to exert social control over these style trends, there is a noticeable silent resistance from these young individuals who frequently reproduce and adapt this aesthetics. This silent resistance can be seen as a response to the oppression faced by them, revealing a clear understanding of the power dynamics at play. This movement aligns with Certeau's (2012) concept of "tactics," as:

> They operate blow by blow, move by move. They seize "opportunities" and depends on them, without a basis to stockpile benefits, increase property, or foresee exits. What they gain is not preserved. This non--place undoubtedly allows their mobility, but in a docility to the misfortunes of time, to capture in flight the possibilities offered by the moment. They must use, vigilantly, the gaps that particular conjunctures are opening in the vigilance of proprietary power. There they go hunting. They create surprises there. They manage to be where no one expects. It's cunning. In short, tactics are the art of the weak (Certeau, 2012, p. 100).

It is evident that peripheral style trends, once overlooked by the global aesthetic mainstream, are now gaining prominence and interest beyond the confines of peripheral communities (Villaça, 2010). This shift highlights tactics emerging when alternative terms are introduced for *pivete blonde*, aiming to symbolically and visually dissociate it from marginalizing discourses. Additionally, the creation of new style trends like the aligned reflection serves to navigate historical and cultural appropriations and counter the social context dominated by whiteness.

FINAL CONSIDERATIONS

The research focuses on *pivete blonde* and *lined up highlights*, two hairstyle trends originating from the aesthetic and sociocultural milieu of peripheral communities in Rio de Janeiro. Symbolically, these trends also influence behaviors and political identities. These territorialities, shaped by a historical white and sanitizing political agenda that marginalized black cultures and their descendants, now serve as potent arenas for the struggle for discursive recognition of specific forms of knowledge and ideas enacted tactically — including contemporary visualities

found in cyberspace, where more spontaneous and democratic virtual social interactions thrive.

The analyses conducted on media sources referenced in this article confirms that the adoption of blonde hair (both *pivete blonde* and its derivative, *lined up highlights*) by black individuals represents a deliberate confrontation of stereotypes through aesthetic-political (re)existence. This adoption is observed in various contexts, whether as a form of self-expression (among young people in peripheral communities on social media profiles, websites, virtual channels, and photobooks) or as a means to redefine the appropriation of black identity in spaces historically legitimized by whiteness (museums and mainstream television news).

It can be argued that this hair aesthetics, emerging as style trends from the peripheral communities of Rio de Janeiro, extend into other territories, pioneering a perspective on fashion and style trends from a peripheral standpoint. They thereby foster new aesthetic ideals rooted in visual elements associated with black and peripheral cultures. This reflection underscores how languages and cultural representations shaped by whiteness, representing the powerful "group that dictates appearance norms," perpetuate entrenched discourses that discriminate against and oppress alternative representations — based on conservative, elitist, and prejudiced theories, stemming from judgments rooted in central representations. Ultimately, this study aimed to contribute to fashion discourse by recognizing and promoting the aesthetic potential of peripheral communities, advocating for further research in this area.

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26

Design thinking as an inspiration to interpret the imaginary of the aesthetic identity of fashion in Rio Grande do Sul

O design thinking como inspiração para interpretar o imaginário da identidade estética da moda gaúcha

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ABSTRACT

Creating consists of an act that enables the ability to understand, in addition to the ability to relate, characterize, compose and signify. In this way, this research proposes to carry out a study about the imaginary of the urban and contemporary gaucho aesthetic identity, from the perspective of the creative industry, based on the proposal of a co-creation workshop, based on design thinking processes. Understanding the aesthetic identity of Gaucho fashion and its interpretation within the social context are central elements of this study, with the general objective of collecting local information and data about the aesthetic identity of Gaucho fashion, using them as policies for the development of style elements for a signature fashion collection. As a methodology, it uses a bibliographical research and also a field research, conducted in a qualitative and descriptive way. Therefore, from the concepts addressed, it became possible to validate the theoretical approach of the concepts conceived during the co-creation workshop as inspiration for the development of the color chart, models, cuts and aesthetics, choice of materials (trimmings and fabrics) seeking the identification of the target audience as well.

Keywords: Design thinking. Co-creation workshop. Gaucha's identity esthetics. style elements.

RESUMO

Criar consiste em um ato que possibilita a competência de compreender, além da aptidão em relacionar, caracterizar, compor e significar. Dessa maneira, esta pesquisa propôs um estudo acerca do imaginário da identidade estética gaúcha urbana e contemporânea, na perspectiva da indústria criativa, por meio de um workshop *de cocriação, abalizado nos processos de* design thinking. *A compreensão da identidade estética da moda gaúcha e sua interpretação conforme o contexto social são elementos centrais deste estudo, cujo objetivo geral é coletar informações e dados locais sobre a identidade estética da moda gaúcha, utilizando-as como* policies *para o desenvolvimento de elementos de estilo para uma coleção de moda autoral. Como metodologia, utilizaram-se uma pesquisa bibliográfica e também uma pesquisa de campo, conduzida de forma qualitativa e descritiva. Com base nos conceitos abordados, tornou-se possível validar a abordagem teórica dos conceitos concebidos durante o* workshop *de cocriação como inspiração para o desenvolvimento da cartela de cores, modelagens, cortes e estética, escolha de materiais (aviamentos e tecidos), buscando a identificação do público-alvo.*

Palavras-chave: Design thinking. Workshop *de cocriação. Identidade estética gaúcha. Elementos de estilo.*

INTRODUCTION

This article explored creative processes, specifically design thinking, in the fashion industry, using intuition as a starting point for problem-solving. The design thinking process enables symbolic transfers that give meaning to the product/service being developed. The research is structured around proposing and conducting a co-creation workshop, inspired by design thinking principles, and involving six participants from various sectors of the creative industry. The guiding question of this research is the exploration of visual and aesthetic concepts related to the Gaucho identity, viewed through the lens of individuals from different creative sectors.

To understand how the social context influences fashion production and is influenced by it, the general objective included collecting local information and data about the aesthetic identity of Gaucho fashion. This information was used as policies[1] for developing style elements for a signature fashion collection. To make the research tangible, the specific objectives consisted of:

- understanding the creative with a focus on design thinking and its stages;
- studying Rio Grande do Sul imagination and identity;
- carrying out field research in the form of a co-creation workshop with creatives from different sectors, helping to identify the contemporary *Gaucho* aesthetic identity according to their perspective;
- developing concepts arising from field research that can inspire the creation of an original fashion collection.

This research has a basic nature and employs phenomenology as its method, aimed to manifest what the data are, in order to clarify them and, "it is limited to the essential and intrinsic aspects of the phenomenon, without resorting to deductions or empiricisms, seeking to understand it through intuition, aiming only at the data, the phenomenon, regardless of its real or fictitious nature" (Prodanov; Freitas, 2013, p. 36). Regarding the objective of the study, it is characterized as exploratory research, bringing knowledge about a topic through a bibliographic investigation, possible interviews, and analysis of examples.

Regarding technical procedures, bibliographical research was employed, drawing upon already published materials. Additionally, field research took the form of a co-creation workshop, aimed at addressing the research problem. This workshop unfolded in three phases:

- carrying out a literature review on the topic to provide context;
- development of techniques to be used in data collection and sample definition;
- establishment of how to record this collection and the techniques for analyzing the results.

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1   The term "policies" is used here as visual standards or guidelines to guide the development of stylistic elements in a fashion collection.

In approaching the problem, a qualitative method was employed, involving the interpretation and attribution of meanings to the analyzed events in a clear and descriptive manner. The environment was acknowledged as a direct source of the data presented (Prodanov & Freitas, 2013).

This article is an integral part of the Bachelor's degree work in Fashion at Universidade Feevale. The culmination of this academic endeavor was the creation of an original fashion collection titled "the aesthetics of cold" (Cherutti, 2018), which drew heavily from the concepts explored within this research. Structurally, the research is divided into four sections: the theoretical foundation, dedicated to conceptualizing creative processes through the lens of the design thinking methodology and its associated stages, using research carried out by Brown (2010), Vianna *et al*. (2012), and Ostrower (2014), among others; a section that delves into the exploration of the *Gaúcho* identity, addressing concepts of imaginary and identity, based on Durand (1998), Felippi (2006), and Hall (2015); analysis of workshop materials and data, from their conception to their tangible manifestations, assessing their viability in supporting the creation of an authorial fashion collection; and final considerations, which conclude the study, providing a synthesis of the research findings and future perspectives.

CREATIVE PROCESSES

Creative processes endeavor to structure and experiment with productive methods to establish a connection with the object being created. It is through these symbolic transfers that meaning is imbued into the product. According to Ostrower (2014), creative processes are underpinned by emotions, abstract thoughts, and intuition. Despite their conceptual and intellectual nature, they are intrinsically linked to intuition, which directly resonates with the individual's sensitivity. Intuition permeates every creative process, as it guides coherence, organization, comparison, and evaluation. Consequently, when emotions and experiences are shaped and organized, they bestow consciousness and significance upon the product, fundamentally characterizing this process as intuitive.

Hence, creative processes encompass a spectrum of possibilities, experiments, errors, and triumphs, culminating in one or more creative solutions, whether tangible or intangible. They involve diverse personalities and modes of thinking, serving as a nexus between self-awareness — self-knowledge — and interpersonal relations, facilitated by structures, communication, interactions, and the attribution of meanings. The ability to convey these meanings to the consumer is crucial. Engaging in the act of creation facilitates a deeper understanding of phenomena, constituting a comprehensive constructive process inherent to human endeavor (Ostrower, 2014).

The creative process "relies on synthesis, [on] the collaborative effort of assembling components to form comprehensive ideas. After gathering data, it becomes imperative to scrutinize and recognize meaningful patterns," facilitating the generation of alternatives and informed decision-making (Brown, 2010, p. 64-65).

In essence, it constitutes a problem-solving endeavor that can be segmented into multiple stages, each aimed at fostering inventive and pertinent solutions to various types of problems.

Given this perspective, this study draws inspiration from design thinking as a methodology to guide the development of field research in a workshop format. Design processes inherently entail the amalgamation of various methods that, when combined, tailor to the unique requirements of each project. Creative processes involve multiple cycles to systematically organize insights emerging at different stages of the process (Demarchi, 2011).

DESIGN THINKING

According to Ambrose and Harris (2011), design is an ongoing process, and design thinking, as a methodical approach, permeates every stage of this journey, from the initial client briefing to the final project completion. Design thinking encapsulates project-oriented thinking, encompassing processes that transmute a problem into a design solution, necessitating a dual focus on both the project itself and the end user. Consequently, it translates individual insights, observations, and memories into the development of products and services aimed at enhancing people's lives. Novel ideas stem from the behavioral analysis of individuals, culminating in strategies to navigate the diverse realms in which people exist, with empathy often serving as a cornerstone. "Empathy is the mental habit that leads us to think of people as people, and not as laboratory rats or standard deviations" (Brown, 2010, p. 46-47).

These insights often stem from empathy, which involves comprehending the world of others — be it personas or a target audience —, their experiences, behaviors, and emotions. This understanding of cultures presents a significant opportunity for innovation, facilitating the discovery of solutions. Moreover, the utilization of empathy within the design thinking process enables the projection of experiences that resonate with the target audience, employing various sensory elements such as images, sounds, textures, shapes, symbols, and aromas. The process begins by identifying factors — or constraints — that aid in visualizing ideas, guided by three key criteria: "practicality (what is functionally feasible in the near future); viability (which is likely to be part of a sustainable business model); and desirability (what resonates with people)" (Brown, 2010, p. 18).

Authors Brown (2010) and Vianna et al. (2012) delineate design thinking processes into analogous and complementary phases. The former refers to them as the three spaces of innovation, comprising the phases of inspiration, ideation, and implementation. The latter label their stages as immersion, ideation, and prototyping.

The initial phase, immersion — or inspiration — seeks to contextualize the team regarding the problem by providing an overview of both the company and the customer. During this phase, the project's boundaries are defined, and the profiles of the target audience are identified. A comprehensive survey is

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conducted to gather all necessary information related to the problem's context, taking into account the brand's universe and the prevailing market trends. This information is then analyzed to identify relevant references and opportunities. The creation of inspiration panels or moodboards proves invaluable in comprehending the symbolic meanings of the concepts explored, as "images aid in understanding the processes of interpreting memory, meanings, and beliefs of individuals, thus influencing their cognitive and decision-making processes" (Vianna *et al.*, 2012, p. 45).

Considering the scale of the problem and the company's reality, as outlined by Vianna *et al.* (2012), the focus shifts to the idealization/ideation phase, with the purpose of fostering the generation of creative and innovative ideas. Synthesis tools, established in the preceding phase, are employed to facilitate the creative process and the development of pertinent solutions to the problem at hand. During this phase, brainstorming sessions are conducted, drawing upon the received information, with the aim of generating as many ideas as possible in a dynamic, rapid, and efficient manner. The quantity of ideas generated in brainstorming sessions is paramount, as the quality of these ideas often stems from their abundance, thereby increasing the likelihood of attaining an innovative solution.

Other people can be invited to participate in this multidisciplinary team, from areas that conveniently bring other views, and add to the group's insights, thus developing co-creation workshops. This conglomerate of expertise can contribute positively, from different perspectives, with the generation of more complete and creative solutions, aiming at assertiveness. Therefore, the co-creation workshop is a systematic meeting of a specific group, with the aim of stimulating the creativity of individuals, through collaboration and a sense of collectivity, since co-creation is related to the act of collective creativity. People with some involvement — direct or indirect — with the solutions in the development process are usually invited (Vianna *et al.*, 2012).

The last phase consists of implementation — or prototyping —, in which a prototype is created, that is, "the making of an idea tangible, the transition from the abstract to the physical in order to represent reality — even if simplified — and provide validations" (Vianna *et al.*, 2012, p. 122). This prototype serves as a parameter for choosing an idea, helping the entire company to understand how an abstract idea can be materialized in the form of a product, being able to evaluate this product and improve it to identify the best solution. Even if rudimentary and simple, the important thing is that this prototype is functional, so that its weaknesses and strengths can be analyzed and, thus, it can be taken forward (Brown, 2010).

Thus, Figure 1 illustrates the creative process grounded in the design thinking methodology, providing a straightforward visualization of its phases. This schematic served as a guiding framework for the implementation of the co-creation workshop proposed in this study.
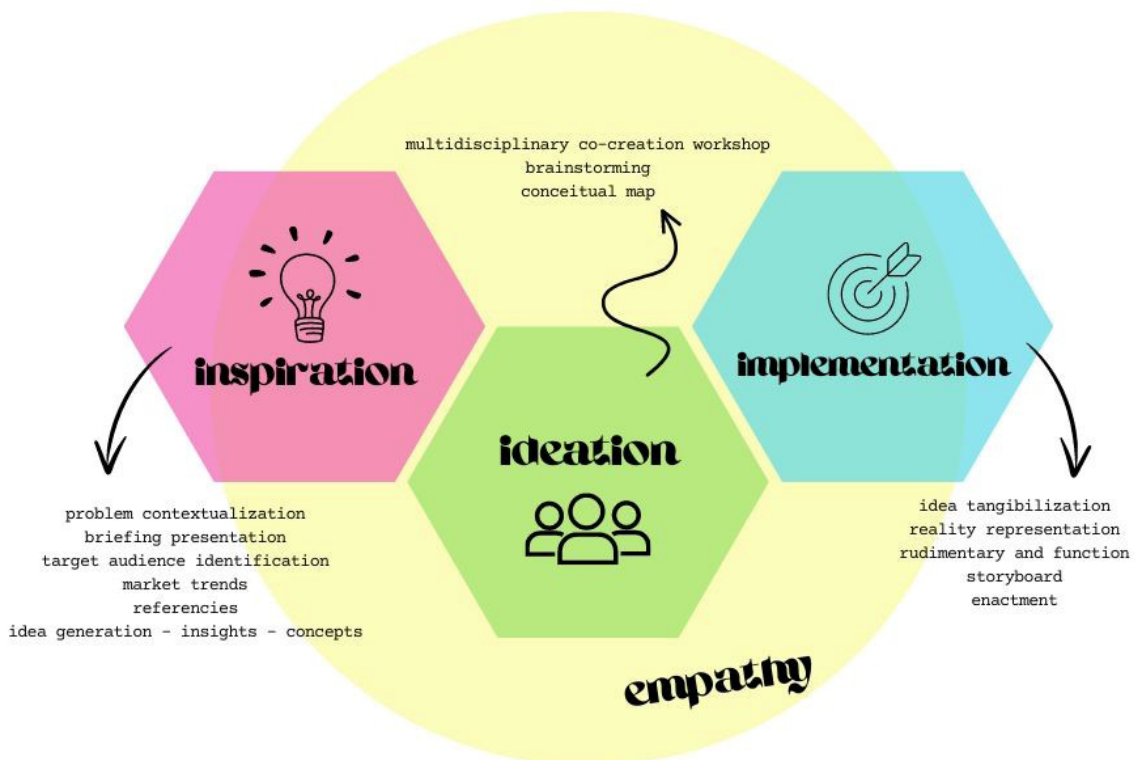
Figure 1. The creative process of design thinking.

The subsequent section delves into the collection, analysis, and findings derived from the study of the *Gaúcho* identity's imagery, as well as the field research conducted through a co-creation workshop format.

IMAGINARY AND *GAÚCHO* IDENTITY

The concept of the imaginary and the identity of Rio Grande do Sul formed the foundation for crafting the briefing to be presented to participants in the forthcoming co-creation workshop, as detailed in the subsequent section. The imaginary encompasses individuals' perceptions of a particular event, taking into account historical occurrences, lived experiences, associated images, resemblances, and acquired knowledge. "Any manifestation of the image represents a kind of intermediary between an unmanifest unconscious and an active awareness," thereby being translated into symbols that indirectly allude to certain meanings (Durand, 1998, p. 36).

Identity encompasses various elements that contribute to an individual's sense of belonging, including ethnic, racial, religious, linguistic attributes, regional characteristics, meanings, and cultural values. "Thus, identity is essentially a construct that develops over time through unconscious processes, rather than being an innate entity present in consciousness at birth. There is always an element of 'imaginary' or fantasized unity within identity" (Hall, 2015, p. 24). Identities, according to the author, are shaped and reshaped based on the representation of their meanings, extending beyond mere political entities to encompass a collection of symbols that embody a culture.

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Hence, when depicting a regional identity such as that of the people of Rio Grande do Sul — the focus of this research — it becomes imperative to elucidate certain concepts about the subject and the characteristics of the individuals inhabiting the state of Rio Grande do Sul, tracing their history from its inception to contemporary times, encompassing the present day.

Therefore, firstly, it is necessary to clarify that the present study uses the term *gaúcho* referring to the people of Rio Grande do Sul, that is, to any and all individuals who were born and reside in the state of Rio Grande do Sul — without links to traditionalism or folklore —, despite a certain historical perspective being brought in to understand specific behaviors. It is also important to highlight that, based on historical research, the aim was to outline an aesthetic identity for these people, thinking about how individuals from different creative sectors — who are also *gaúchos* and encompass the target audience — see the contemporary urban *gaúcho*.

According to Felippi (2006), uncovering cultural patterns that represent the residents of Rio Grande do Sul entails a complex process. Certain elements encompassing history, politics, economy, and culture of the region allow for the analysis of a predominant identity that persists to this day. The term *gaúcho* is intricately linked with the borders of Uruguay and Argentina. The local culture's origins have been significantly influenced by these neighboring countries. In the 18th century, records of inhabitants in the Southern region, spanning Rio Grande do Sul, Uruguay, and Argentina, highlighted their cultural similarities. During this era, terms such as *gaúcho* and *gaudério* carried pejorative connotations, describing individuals as poorly dressed, dirty, devoid of values or sentiments. They were often labeled as thieves and lacking in character, though notably loyal to those providing temporary work and shelter.

The *gaúcho* identity is deeply rooted in the extensive history of Rio Grande do Sul, shaped by wars and the region's unique physical, geographic, cultural, and human characteristics (Freitas; Silveira, 2004). Alongside internal conflicts marked by revolutions and struggles, European cultural influence significantly contributed to the identity of Rio Grande do Sul. This influence stemmed from substantial waves of international migration during the 19th and 20th centuries, resulting in a diverse population composed of immigrants from various ethnic backgrounds, predominantly European. Consequently "although the *gaúcho* identity is traditionally represented by the fusion of Portuguese and Indigenous peoples, the discourse surrounding Gaucho identity also acknowledges the impact of diverse migratory streams (Africans, Azoreans, Germans, Italians, Poles, Jews, and others)" (Felippi, 2006, p. 67). Thus, any attempt to delineate the *gaúcho* aesthetic identity must necessarily consider the amalgamation of immigrant peoples in shaping their culture, customs, architecture, and movements.

In the contemporary world, globalization blurs the boundaries between local and global cultures, thereby expanding the notion of identity. On one hand, there is a trend toward the standardization of products, production methods, tastes, behaviors, and ideologies. Conversely, there are movements aimed at bridging the gap between local cultures and emphasizing their representation in the global arena, including within markets and economies (Felippi, 2006).

In view of this, fashion plays a significant role as a vector in the affirmation and construction of identities, influenced by the social context surrounding it. This context is defined by specific spatial and temporal characteristics, impacting the production of local material culture artifacts and being intrinsically linked to collective ideological movements that shape and compete for legitimacy. Fashion, in this sense, acts as a collective expression, reflecting social behaviors by interpreting contemporary trends and representing specific historical periods. When the collective imagination is shared, group identity emerges, encompassing various ethnic, racial, religious, linguistic, regional aspects, meanings, and cultural values. Identity is a continuous process, formed over time through unconscious processes, far from being an innate trait present in consciousness since birth (Durand, 1964; Durand, 1998; Hall, 2015).

COLLECTION, ANALYSIS, AND RESULTS

Considering that identities are shaped and transformed by the representation of their meanings, extending beyond mere political entities to encompass a set of symbols reflecting a culture, this approach focuses on using fashion as a means of producing cultural goods, particularly through the representation of *gaúcho* aesthetic identity.

This study aimed to critically reflect on various aspects involved in producing an authorial fashion collection. Additionally, it sought to present the process of preparing and conducting field research, structured as a co-creation workshop inspired by the stages of design thinking. To create a favorable context for the participants, an interdisciplinary team was assembled, comprising individuals with diverse mindsets from the creative industry. This approach was based on the classification of Cultural Domains by the United Nations Educational, Scientific and Cultural Organization (Unesco) (2013), as shown in Figure 2.

Therefore, six individuals working in creative sectors were invited, each representing one of the Cultural Domains, divided into the following groups:
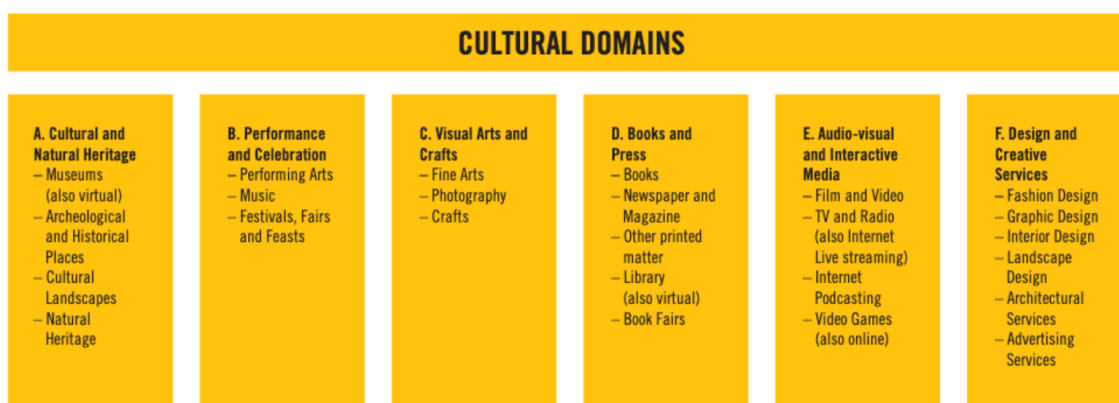
Source: Unesco (2013, p. 25)
Figure 2. Cultural Domains.

- culture and natural heritage;
- performance and celebration;
- visual arts and crafts;
- books and press;
- audiovisual and interactive media;
- design and creative services.

Thus, guest 1 (culture and natural heritage) has a degree in History and has worked as a teacher in the municipal network for 27 years; guest 2 (performance and celebration) is the manager of *Teatro Feevale*; guest 3 (visual arts and crafts) has a degree in Photography and works in the field of advertising photography; guest 4 (books and press) is a writer with published fiction and romance books, and also holds a law degree; guest 5 (audiovisual and interactive media) has a degree in Digital Games and a master's degree in Creative Industry, and works with sound design at a game development company; and finally, guest 6 (design and creative services) has a degree in Product Design with an emphasis on footwear and accessories, a master's degree in Creative Industry, and has worked for over 12 years in the footwear industry.

Contact was made via email, and the day before the meeting, guest 2, from the theater sector, announced that he would not be able to attend the scheduled date due to professional reasons. To honor the agreement with the remaining participants, it was decided to proceed with the dynamics with the five confirmed guests. The meeting location was chosen to be easily accessible and conducive to creativity, which led to selecting the Experimental Communication Agency (*Agência Experimental de Comunicação* – Agecom) at Universidade Feevale in Novo Hamburgo, Rio Grande do Sul (RS). Data collection occurred through the completion of two of the three phases proposed by the design thinking creative process — inspiration and ideation — while the final phase, implementation, will be conducted in a subsequent study, covering the entire development of the authorial fashion collection "the aesthetics of cold," which will be showcased at the 27th edition of the *Projeta-me* event, a fashion show for the institution's Fashion graduates.

For recording the data collection, audio recording was chosen to facilitate subsequent analysis, along with photos of the processes, moodboard, and mind map. To optimize time and increase productivity in generating ideas and concepts, only three activities related to each phase of the creative process were conducted, led by the researcher. Firstly, the research and the problem were contextualized for the guests through an illustrative presentation of the creation brief. Afterwards, two questions were posed to stimulate the creative thinking of the guests: Which image, for you, represents the *gaúcho* identity?; and Which keywords translate the *gaúcho* identity?

At that moment, everyone gathered around a round table, equipped with colorful post-its, pens, and cardboard, to write down the main words that emerged

from the discussion. The first stage of brainstorming then began, based on the experiences and knowledge of the guests themselves regarding their backgrounds and their idea of *gaúcho* identity, based on who they knew as *gaúcho*. This discussion revealed a kind of paradox, that is, the stereotype of the *gaucho*, associated with images of horses, the pampas, the roper, and the traditions upheld by *gaúcho* tradition centers, is quite distant from the daily reality of a resident of the Metropolitan Region of Porto Alegre (RS). Furthermore, it is easier to establish an image of Rio de Janeiro or Ceará, due to their unique climate — heat —, whereas Rio Grande do Sul often experiences four seasons in a single day, adding to the region's diversity.

Through references and insights, the participants also suggested that *gaúchos* share more similarities with their neighboring countries, Uruguay and Argentina, and that this connection makes them a more reflective, intense, and welcoming people, characterized by a strong sense of community. Because Rio Grande do Sul is a border state, it exhibits traits of militarism, *"bravado"* — a term mentioned by one of the guests —, sobriety, and masculinity. Additionally, it was noted that *gaúchos* are perceived as beautiful, elegant, and refined, based on a "European standard." This perception is linked to the diverse mix of peoples that formed Rio Grande do Sul — particularly European immigrants —, which makes the region somewhat akin to a Brazilian Europe, especially in terms of organization and the architecture of some cities. Up to this point, the discussion was naturally guided by the guests' experiences and perceptions, without direction or interference from the researchers.

It was noticed that when asked about the figure of the *gaúcho*, all the guests envisioned a male figure. This led to a discussion about how the people of Rio Grande do Sul still exhibit a sexist culture in their daily lives. Regarding women from Rio Grande do Sul, they are often associated with the stereotype of thinness and strive for balance in their clothing choices. Considering that Rio Grande do Sul experiences lower temperatures, *gaúchas* balance different layers of upper garments to keep warm — such as a second skin, a wool blouse, a vest, a scarf, and a coat — with more fitted lower pieces, maintaining proportion.

The conversation then shifted to how *gaúchas* dress, prompting discussion about their tendency toward traditional attire, often featuring pieces made of leather and fur. The cold climate was viewed as a positive differentiator in terms of fashion possibilities. When asked about possible compositions involving leather, guest 6 suggested mixing it with cotton and satin fabrics. They also mentioned specific cuts and clothing styles aligned with the daily life of *gaúchas*, influenced by tailoring, such as blazers, vests, shirts, and shorts, as well as pieces with geometric cuts and refined designs, contributing to the elegance previously mentioned. Additionally, it was noted that *gaúchas* possess the ability to incorporate items from men's wardrobes into their attire, adapting them in a feminine and representative manner.

Once the inspiration phase concluded, the ideation stage commenced with a second round of brainstorming. Guests were tasked with transforming their ideas

into concepts by combining keywords they deemed similar and complementary. They were challenged to avoid repeating keywords that could fit into multiple concepts. Upon analyzing the keywords raised thus far, it was decided to categorize them into two groups: behavior and imagery.

Each concept was written on a cardboard, and the guests engaged in discussions to determine which keywords belonged to each concept, without any interference from the researcher. Consequently, keywords such as pride, European colonization, parochialism, careful dressing, authoritarianism, border state, *chimarrão*, welcoming people, traditionalism, receptivity, bravery, reflectiveness, plurality, intensity, *pampa*, why do we always have to do it right?, readiness for war, *macho*, unhurried conversation, and interior with introspection were attributed to the concept of behavior of the people of Rio Grande do Sul.

The keywords bowtie, sober, boots, cotton, satin, tall people, more refined modeling, leggings instead of pantyhose, stereotype of thinness, aesthetics of cold, beautiful, geometric cuts, rigid, discreet, *tropeiro*, elegant, tailoring, European standard, proportion (balance), leather, short clothes (lower), covering more on the upper part, conservative, masculine, overlapping, heat of 30°C, and cold of 6°C were attributed to the concept of imagery, from the perspective of the guests. Figure 3 depicts the two brainstorming tables formed around the behavioral and imagery fields.

To conclude the dynamic with the construction of a mental map further summarizing the scope of the concepts formulated, the guests were asked to distill

Figure 3. Brainstorming: Concept of Imagery.

each concept into, at most, three words that could express their aesthetic identity. Regarding imagery, it was suggested that the people of Rio Grande do Sul are beautiful, adhering to a distinct standard of beauty, reminiscent of the various *gaúcha* beauty queens. Additionally, the word sober was introduced to characterize the region's use of elements, always in a restrained manner, without excessive colors, thereby creating elegant compositions. Elegant was chosen as the third word to encapsulate the concept of imagery: *gaúchos* are beautiful and elegant people, but in a restrained manner.

To translate the concept of *gaúcho* behavior, focusing on product development and its relation to the fashion collection to be produced in the second stage of this study, the first word mentioned was reflective. It was noted that a characteristic behavioral tendency among girls from Rio Grande do Sul is their reflection on environmental issues, reuse, and questions such as "where do my clothes come from?", a reflection emblematic of contemporary society. Another key aspect addressed was plurality, stemming from the blending of peoples and cultures through colonization, resulting in a highly diverse identity. Plurality is also evident in the *gaúcho* stereotype, which, while traditionally rooted, coexists with an urban and diverse daily life, shaped by the region's fluctuating climate, where temperatures can vary from 30°C one day to 12°C the next, even in summer.

Finally, a word emerged that had not been mentioned until then but resonated with all the guests: alternative. This term reflects the *gaúcho*'s desire to be different from everyone else, to be original in their story and their anthem. *Gaúchos* embrace their unique way of being, valuing individuality and distinctiveness.

Figure 4 represents, in an illustrative way, the mental map developed based on the translation of the imagery and behavior concepts.

The field research, conducted in the format of a co-creation workshop, lasted around two hours and provided a unique perspective on the Rio Grande do Sul

Figure 4. Mind map.

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identity. It delivered aesthetic concepts of fashion and behavior that relate to other sectors of the local creative industry. Initially, the research aimed only to extract the main aesthetic concepts of *gaúcho* identity from the guests' perspectives — a concise and theoretical outlook from the creative industry, justifying its short duration. These concepts will be addressed practically in a subsequent study, during the third phase proposed by design thinking, the implementation, through the authors' free interpretation of the data obtained from the workshop, aiming to materialize these concepts into women's clothing pieces.

Therefore, the proposals for the development of a collection are presented below. The intention is to discuss how the concepts raised during the field research will be utilized, alongside the theoretical framework, in the development of the collection project.

PROPOSALS FOR STYLE ELEMENTS FOR A COLLECTION

Considering that identities are shaped and transformed by the representation of their meanings, expanding beyond a mere political entity to encompass a set of symbols that reflect a culture, this section proposes a connection between this process and the investigation into what the field of design produces through its dialectical relationship with society. Thus, we present proposals for the development of the "aesthetics of cold" fashion collection, based on the authors' free interpretation of the symbolic representation of concepts elaborated during field research into the imaginary of contemporary urban *gaúcho* aesthetic identity, in alignment with the theoretical framework.

In this way, the diversity and plurality addressed during the discussion were incorporated, highlighting the striking characteristics of Rio Grande do Sul. The collection aims to cover varied stereotypes, portraying traditionalist imagery alongside urban aesthetics, which embrace the mixing of different races and cultures. This plurality reflects the complexity of the cultural identity of Rio Grande do Sul residents in contemporary times. Identity is formed based on various aspects that allow individuals to feel part of something, encompassing ethnic, racial, religious, linguistic, and regional characteristics, as well as cultural meanings and values. Consequently, opposing behaviors are observed, such as traditionalist *versus* urban movements, the bravery and kindness of the *gaúchos*, and the experience of four well-defined seasons throughout the year, sometimes even in a single day, as previously discussed.

The traditionalist aspect can be represented by using leather and fur in the composition of the pieces, as well as incorporating tailored cuts in shirts, blazers, vests, and shorts. Additionally, the development of more elaborate and structured models can be enhanced by elements such as boots and hats. The urban side of *gaúchas* can be reproduced through geometric cuts and mixed compositions, bringing a more laid-back and alternative look to the collection. This diversity can also be expressed through the asymmetry of the pieces and the combination of more structured fabrics, like leather and cotton, with lighter and more fluid fabrics, such as satin and crepe.

Masculinity, another element identified during the co-creation workshop as part of the *gaúcho* identity, is reflected in the use of tailoring, which has its origins in the men's wardrobe. This influence appears in the development of some wider models with straighter cuts, mixed with details and more fitted pieces at the bottom, highlighting the silhouette of the female body through balance and proportion. The collection features overlapping pieces to demonstrate the characteristic temperature variation of the South Region, accommodating the fluctuating conditions of everyday life that can range from cold to hot. The proposal also includes combining different elements, overlaps, and larger pieces, while maintaining the sobriety and elegance highlighted in the mental map. This sobriety is represented by a reduced color palette based on the aesthetics of the cold, featuring cold colors such as black, gray, brown, beige, white, and shades of blue, along with solid colors and discreet prints. Additionally, the use of some embroidery and handmade work is proposed to convey a sense of introspection and reflectivity.

The mix of creativity and culture lies in the cultural and historical values that the fashion products in this research aim to embody. These products link traditional knowledge from the past (through the previously analyzed imaginary of the *gaúcho* identity) with current technologies (production processes). Therefore, Figure 5 presents a diagram containing the main concepts identified during the workshop and the proposal for making these ideas tangible.

The analysis of the field research conducted in a co-creation workshop resulted in the generation of alternatives and proposals for the development of an authorial

plurality — complexity; leather and fur x crepe and satin; asymmetry; layering

tailoring — shirts, blazers, vests and shorts; geometric cuts; structured patterns

masculinity — robust touch; tailoring with loose-fitting pieces

elegance — looser fits mixed with tailored pieces; balance and proportion

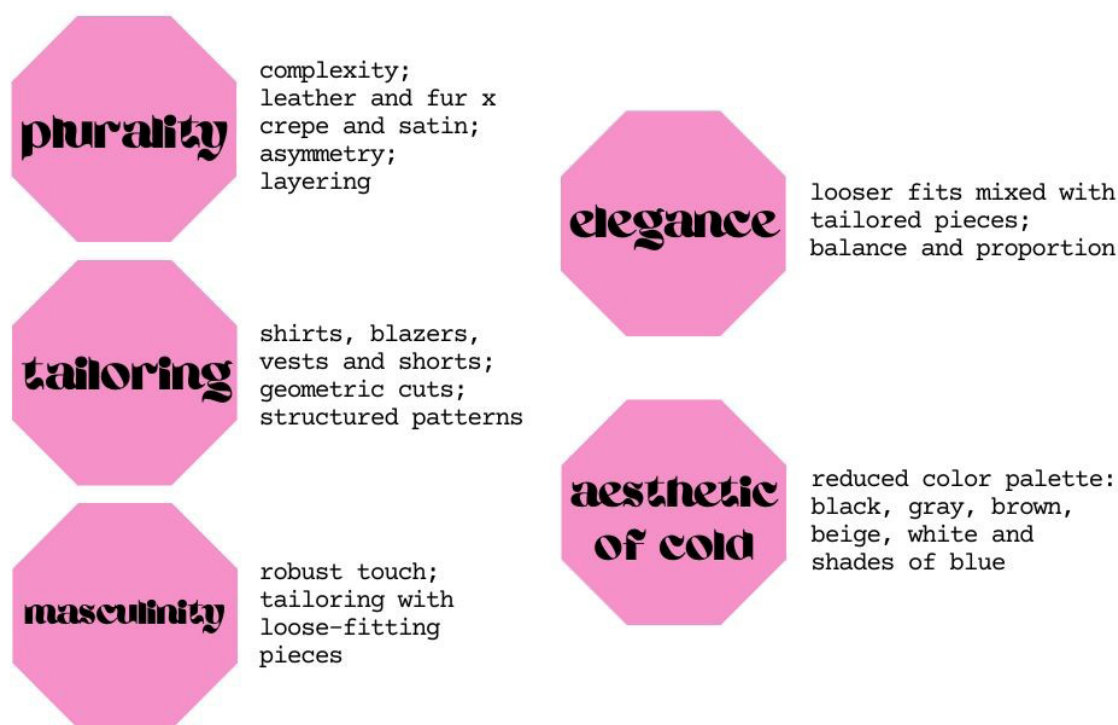**aesthetic of cold** — reduced color palette: black, gray, brown, beige, white and shades of blue

Figure 5. Proposals for collection development.

fashion collection. This collection is inspired by the concepts of urban and contemporary *gaúcho* aesthetic identity from the perspective of creatives from different

sectors of the creative industry. These concepts can be translated into style elements, as "a collection must present visual unity, and the pieces must maintain a relationship with each other. This relationship is obtained through the style elements and the collection theme, with all pieces reporting the same inspiration" (Treptow, 2013, p. 132). According to Treptow (2013), these elements can include lines, colors, applied textures, silhouettes, shapes, and applications, among others. The union of these elements in the collection generates aesthetically attractive combinations, and visually, a similarity between the looks can be observed due to their repetition with variations from one model to another, transforming the collection into a unique and original one.

Therefore, among the elements of style, we can consider geometric cuts, balance and proportion, layering, horizontality, and the mix of textures and opposites. Geometric cuts and lines were proposed, featuring more straight and linear designs, in keeping with the theme of horizontality, in wider pieces and with more structured modeling. Balance and proportion can occur through the composition of wide pieces paired with more fitted lower pieces, subtly defining the feminine silhouette, also using leather belts for this purpose. Layering allows the combination of several pieces to create a cohesive look, including pants or leggings, a skirt, a shirt, and a cape or overcoat, representing the need to shelter from the cold, along with the ability to adapt to the high temperatures characteristic of a temperate climate. The mix of textures and opposites relates to the *gaúcho*'s plurality, through the combination of more structured materials — such as leather, beaten wool, and denim — with lighter, more fluid fabrics — like crepe and neoprene — in tailored pieces, demonstrating the sudden changes in temperature. Opposites also refer to the blend between the urban *gaúcho* girl, in her busy daily life in the city, and elements of traditional *gaúcho* culture, through parochialism, pride, and internalization.

Figure 6 presents a panel with the style elements to be used in the development of the collection's pieces, based on references originating from the proposed theme.

This composition of few elements is the result of work that is both casual and judicious, demonstrating rigor, depth, clarity, subtlety, and lightness. Therefore, it was concluded that gauchos express themselves through interiority, also referring to sobriety and conservatism mentioned in the field research. As a release that communicates the essence of the aesthetics of cold, we have: "The cold, a natural phenomenon always present on the agenda of the national media and, at the same time, a metaphor capable of speaking about us in a comprehensive and defining way, symbolizes Rio Grande do Sul and is symbolized by it" (Ramil, 2004, p. 13-14).

> Thus, the collection The Aesthetics of Cold draws its inspiration from this cold and characteristic climate, as the cold is a defining feature of Rio Grande do Sul that sets it apart from the rest of the country, creating a certain visual unity among *gaúchos*. Through a reduced color palette, the collection seeks to capture the *gaúcho* aesthetic identity in an urban and contemporary manner, interpreting regional cultural elements, represen-

Figure 6. Style elements panel.

> ted in a casual collection for the busy everyday life of *gaúcha*s (Cherutti, 2018, p. 194).

In short, the analysis of the field research, conducted through the co-creation workshop, resulted in concrete alternatives and proposals for developing an original fashion collection. These proposals are based on the concepts of *gaúcho* aesthetic identity, interpreted in an urban and contemporary way, according to the participants' perspective within the creative industry. This wealth of ideas and style elements converges to create a cohesive, unique, and original collection that seeks not only to reflect the expression and preservation of *gaúcho*'s cultural identity but also to contribute to it.

FINAL CONSIDERATIONS

This research provided an understanding of the imagery associated with *gaúcho* identity, rooted in cultural, historical, and social concepts. By exploring the perspectives of participants in the co-creation workshop, policies were identified for developing stylistic elements for a distinctive fashion collection inspired by *gaúcho* aesthetic identity. This exploration revealed that the *gaúcho* imagery is intricately connected to elements such as regional history, the influences of diverse peoples and cultures, and geographical and climatic characteristics. Furthermore, *gaúcho* identity is a complex construct shaped over time through subconscious processes, involving people's self-perception and the representation of meanings through symbols.

The proposed objectives were achieved through the development of a theoretical framework and analysis of field research. Creative processes, particularly design thinking within the fashion realm, were employed to generate alternative aesthetic proposals. The dynamics of the co-creation workshop facilitated an exchange among

professionals from various creative sectors, representing the Cultural Domains defined by Unesco (2013). This diversity of perspectives enriched the comprehension of *gaúcho* identity, encompassing behavioral and visual elements.

The result of this process was the creation of proposals for an original fashion collection called "the aesthetics of cold." This collection, based on identified style elements, aimed to balance *gaúcho* tradition with contemporary influences, incorporating cultural diversity, the unique climate, and the behavioral characteristics identified during the workshop. Geometric cuts, layering, balance and proportion, horizontality, and a mix of textures and contrasts are elements that represent the plurality of *gaúcho* identity, both in people's behavior and in their aesthetic choices.

Finally, the study provides insights for the creative industry, emphasizing the richness and complexity of *gaúcho* identity. The interdisciplinarity fostered by the co-creation workshop contributed to a holistic understanding of *gaúcho* culture and aesthetics, enhancing the creative process and inspiring the creation of a collection aimed at capturing the essence of *gaúcho* aesthetic identity. This work represents an initial step in exploring practical approaches to Gaucho identity in fashion and suggests opportunities for future research, such as the implementation of the proposed collection and its reception by the public. Furthermore, it underscores the importance of considering cultural diversity and contemporary dynamics when exploring a region's identity.

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Creative district in wool: an experience report bringing together design and crafts

Distrito criativo em lã: relato de experiência aproximando design *e* artesanato

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ABSTRACT

This paper proposed reflections based on an experience report established in the collaboration between two extension projects: "Weaving Workshop and Design, Identity and Territory," both developed at the Universidade Federal de Santa Maria, with the aim of stimulating the enhancement of the identity of the Santa Maria territory, more specifically the Centro-Gare Creative District. Considering local manufacturing characteristics, the territory's iconographic potential and the market segments to be reached, new sheep's wool artifacts were codesigned to be marketed as identity souvenirs. Graphic promotional materials were also proposed, such as flyers and tags, to reinforce the territorial link between the products. The practical actions followed the stages of action research, while the article, qualitative in nature, is exploratory in terms of its objectives, seeking to promote a deeper understanding of the topic. Finally, by recognizing creativity as a strategic factor for the development of territories, we understand that design and handicrafts play an important role in consolidating and boosting Creative Districts. In this sense, we emphasize the importance of initiatives that promote interaction and co-creation environments between different players in the Creative Economy, especially designers and craftspeople.

Keywords: Design. Handicraft. Sheep wool. Territory. Creative economy.

RESUMO

O presente trabalho propõe reflexões com base no relato de experiência estabelecido na aproximação entre dois projetos de extensão, Ateliê de Tecelagem e Design, Identidade e Território, desenvolvidos na Universidade Federal de Santa Maria, com o objetivo de estimular a valorização identitária do território de Santa Maria (RS), mais especificamente do Distrito Criativo Centro-Gare. Levando-se em consideração as características locais de manufatura, o potencial iconográfico do território e os segmentos de mercado a serem atingidos, foram cocriados artefatos em lã ovina para serem comercializados como suvenires identitários. Também foram propostos materiais gráficos de divulgação, como cartazes e cartões, para reforçar a vinculação territorial dos produtos. As ações práticas seguiram as etapas da pesquisa-ação, enquanto o artigo, qualitativo em sua natureza, é exploratório em termos de objetivos, buscando promover uma compreensão mais profunda do tema. Por fim, ao reconhecer a criatividade como um fator estratégico para o desenvolvimento dos territórios, compreendemos que o design e o artesanato desempenham um papel de destaque na consolidação e dinamização dos distritos criativos. Nesse sentido, enfatiza-se a importância de iniciativas que promovam a interação e ambientes de cocriação entre diferentes atores da economia criativa, especialmente designers e artesãos.

Palavras-chave: *Design. Artesanato. Lã ovina. Território. Economia criativa.*

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INTRODUCTION

The city of Santa Maria, located in the central region of Rio Grande do Sul, has been developing significant initiatives regarding its cultural heritage, particularly with the formalization of the Centro-Gare Creative District in April 2022. Universidade Federal de Santa Maria (UFSM) has played a crucial role as a partner in this initiative, actively contributing to the promotion of cultural and creative activities in the area. In 2023, through a notice to encourage extension actions within the creative district, there was a collaboration between participants of the Design, Identity, and Territory projects from the Department of Industrial Design, and the Weaving Workshop developed at the Wool Laboratory (*Laboratório de Lã* – LabLã) from the Department of Animal Science. Both projects were provided with resources to design actions and artifacts aimed at promoting the identity and appreciation of the territory.

By reporting on this experience, this article aimed to stimulate reflections on the intersection between design and crafts and the potential of creativity as a strategic factor for development. Through actions that encouraged the active participation of those involved and promoted the appreciation of local heritage, artifacts were co-created to be sold as identity souvenirs of the Centro-Gare Creative District. Graphic identification and publicity materials, such as flyers and labels, were also developed to strengthen the territorial connection of the products.

In addition to producing artifacts, an effort was made to disseminate knowledge about sheep wool, valuing not only the material itself but also the historical, technical, and social aspects inherent to its production. The convergence of different areas of knowledge provided a dynamic exchange of knowledge and practices, establishing a connection between past and present, tradition and innovation. The joint action of the projects contributed to creatively stimulating the appreciation of the cultural identity of Santa Maria and the state's sheep farming industry. This collaboration also sought to encourage entrepreneurship and income generation linked to creative economy. The results highlight the positive impact of interdisciplinary integration on the development of creative and territorial initiatives.

When developing projects that promote the valorization of territorial identities, it is essential not only to compile identity references and incorporate them into products for commercialization, but also to establish a continuous dialogue with local actors. This ensures that the valorization is effective and aligned with the local reality (Krucken, 2009; Mello *et al.*, 2011; Mello; Froehlich, 2022). Dialogue was therefore prioritized as the method of interaction between actors, establishing continuous interaction and collaboration (Freire, 1987). In this context, where a participatory design approach is required, designers act as facilitators, actively involving other members in the process of creating and developing projects.

From a methodological point of view, the practical actions were primarily based on the principles of action research. As highlighted by Benbasat, Goldstein,

and Mead (1987), action research can be seen as a type of case study, differing in that the researcher transcends the role of mere observer to become an active participant. The process of social change not only becomes the focus of investigation but also represents the intentional purpose of the researcher (Thiollent, 1997). This article, characterized by its qualitative nature, adopted an exploratory approach with the aim of fostering a deeper understanding of the topic in question and reflecting on the actions carried out.

The next section of this article provides theoretical contextualization on themes underlying the research, such as territory, crafts, design, and the creative economy. This is followed by a report and reflections on the actions developed in partnership between the different areas and the LabLã artisans. Finally, the article presents final considerations and outlines directions for future work.

THEORETICAL CONTEXTUALIZATION

The notion of development based on industrialization, urbanization, and bureaucratization has been questioned in recent decades, primarily due to its evident difficulty in promoting significant advances in peripheral societies. In the process of globalization, economic logics that privilege homogenizing processes are consolidated (Canclini, 2003).

In pursuit of more suitable alternatives for each territorial scale, the cultural dimension has come to be recognized as an indicator of uniqueness, expanding the possibilities of paths to achieve development (Burity, 2007). This involves the affirmation of identity, distinctive elements, and unique characteristics that differentiate the territory within the context of globalization. This effort begins with the discovery, recognition, and appreciation of local assets, that is, the potentials, vocations, opportunities, comparative and competitive advantages of each territory (Juarez de Paula *apud* Lages; Braga; Morelli, 2004).

As pointed out by Adélia Borges (2003, p. 63), "the more globalization advances, bringing with it deterritorialization, the more [...] we feel the need to belong somewhere, to that specific corner of the world that defines us." In this context, historical-cultural specificities and typicalities of territories have been mobilized by various actors as a means of differentiation and in pursuit of development (Mello, 2016; Froehlich; Mello, 2021). Territories can therefore be understood as arenas of contention in which actors use diverse material and cultural resources to imprint meanings and interpretations, stake positions, garner support, and produce and legitimize consensuses favorable to themselves (Brandão, 2007).

Identities involve a process of creating meaning and differentiation through mediations. Affirming identities requires the consolidation of boundaries through languages, postures, and discourses (Hall, 2006). As a mediating practice, design contributes to the valorization and dissemination of the distinctive symbolic aspects of territories, affirming and consolidating identities. Design occupies a

central role in the intersection of economy and culture, producing signs and symbols that are exchanged commercially and consumed for the value they acquire in society (Barrera, 2010).

Design, beyond its role in enhancing the apparent quality of the final product, possesses analytical and interpretative capabilities regarding symbolic and cultural aspects. It identifies and renders local qualities recognizable, thereby enabling the activation of territorial resources (Krucken, 2009). This enhances and underscores the role of designers, particularly in emerging economies, broadening their opportunities to promote products and services tied to the territory.

In this context, handicrafts also play a significant role as products resulting from the transformation of raw materials by artisans, predominantly using manual techniques. This practice traditionally spans generations and is closely tied to the territory where it is practiced, making crafts an integral part of the material culture of the social groups that produce them (Froehlich; Mello, 2021). Essentially, handicrafts can be considered a fundamental element of material culture when their production and consumption processes are deeply intertwined with the daily life of the social group, reflecting its customs, beliefs, and values at a particular historical moment.

In contemporary times, efforts to valorize handicrafts are driven by their role in the economic and social integration of a significant portion of the population, as well as by the symbolic values transmitted through artisanal production, which resonate increasingly with consumers (Mello, 2016). Thus, the continued relevance of craftsmanship today can be attributed to the symbolic aspects evoked by this practice. There are numerous studies and initiatives aimed at integrating crafts into territorial development strategies, using them to differentiate products based on local cultural specificities. This approach fosters closer collaboration between artisans and designers, promoting creative partnerships that aim to balance traditional knowledge with the demands of innovation and the contemporary market (Borges, 2012).

In this context, the work carried out for over 20 years by the Laboratory *O Imaginário* at Universidade Federal de Pernambuco stands out, renowned for its trajectory and efforts in valuing Brazilian artisans. Acknowledging the nuanced dynamics of the interaction between design and craftsmanship, the laboratory operates with an ethical framework rooted in respecting differences, fostering environments conducive to the exchange of ideas and knowledge (Andrade; Cavalcanti, 2020).

As emphasized by Leite (2005), in the context of bridging designers and artisans, efforts to promote the value of crafts often encounter a dilemma. On the one hand, these efforts support the survival of artisanal practices in a market saturated with industrial goods. On the other hand, they risk diminishing the symbolic value of craftsmanship for its producers. Therefore, Leite (2005, p. 41) argues that the perspective on craftsmanship should not "be limited solely to products but should

encompass processes that are thoughtfully integrated into their production context and reflect the ways of life of those who create them."

Therefore, it is important to recognize that the market value of handicrafts holds significance for artisans from an economic standpoint. However, for the integration between design and craftsmanship to truly benefit artisans, it must be grounded in a horizontal and dialogical relationship. This means that academic or professional design knowledge should not dominate over the practical and experiential knowledge of the artisan. As Noronha, Farias, and Portela (2022) argue, in this context, design should be "with and for others," responsive to community well-being aspirations, aiming to move beyond the functionalism and rationalism often associated with modern design.

Design and crafts, alongside other sectors, form part of creative economy, which, according to Reis (2008), emphasizes the production of uniqueness, the symbolic, and that which is intangible: creativity. The theory of the creative economy emerged in the mid-1970s, influenced by the deindustrialization observed in major North American cities like Los Angeles and New York. It was subsequently adopted in industrialized British countries during the 1990s to stimulate economic growth through the implementation of creative ideas (Santos; Rocha, 2020). In contemporary times, creativity has become an indispensable factor for economic vitality.

> In today's economy, creativity is widespread and continuous: we are constantly reviewing and enhancing every product, process, and conceivable activity, integrating them in new ways. Furthermore, technological and economic creativity is fostered by cultural creativity and interacts with it. This dialogue is evident in the emergence of new fields such as computer graphics, digital music, and animation (Florida, 2011, p. 5).

Creativity holds immense potential for socioeconomic transformation and inclusion. In the context of the global dynamics of the creative economy, so-called creative cities play a pivotal role. They foster networks of cooperation and talent exchange, transforming their environments and promoting a distinctive dynamic for this sector (Landry, 2003 *apud* Costa; Souza-Santos, 2011).

In this context, creative districts are emerging as a solution to revitalize urban areas that have suffered from the relocation of businesses or residents to other parts of the city (Douglass, 2016). Through organic and/or planned processes, these districts are transformed into attractive environments characterized by a concentration of businesses and creative activities (Testoni, 2018). In 2022, the city of Santa Maria implemented its first creative district, named Centro-Gare.

DESIGN AND CRAFTSMANSHIP IN WOOL IN THE CENTRO-GARE CREATIVE DISTRICT: EXPERIENCE REPORT AND REFLECTIONS

In early 2022, Santa Maria established the Centro-Gare Creative District, encompassing a section of the historic center and the city's old Gare. The district aims to stimulate the area and enhance its cultural heritage by fostering

initiatives linked to creative economy. The UFSM has played a significant role in supporting this initiative, particularly through the promotion of extension projects that contribute to the development of creative economy and the promotion of local identity in the territory (Lisbôa Filho *et al.*, 2023). To this end, UFSM annually releases calls for extension actions aimed at promoting the Centro-Gare Creative District.

The collaboration between the extension projects Design, Identity, and Territory from the Industrial Design Department, and the Weaving Atelier linked to LabLã from the Department of Animal Science, occurred under one of these calls. The objective was to integrate expertise and collaborate on joint initiatives to craft artifacts from sheep wool that promote the appreciation of local identity within Santa Maria, specifically focusing on the Centro-Gare Creative District.

LabLã was established in August 1981 as part of the sheep genetic improvement program in Rio Grande do Sul, focusing on sheep wool analysis. However, with the advent of synthetic fibers in the international market and the subsequent decline in wool prices, sheep herds were increasingly replaced by breeds more suitable for meat production. Consequently, the analyses conducted by LabLã lost relevance over time. By the late 1990s, LabLã shifted its focus to promote and encourage the use of sheep wool in crafts. The laboratory acquired equipment for wool processing, including carding machines, spinning wheels, and looms. In partnership with the National Rural Learning Service, LabLã began organizing courses and training sessions aimed at teaching various handicraft techniques using raw wool to the Santa Maria community.

The acquisition of equipment enabled the space to be utilized by artisans already skilled and interested in weaving. Consequently, in 2022, the Weaving Workshop extension project was launched, aimed at offering Santa Maria's artisan community a space for collaboration, sharing experiences, and enhancing technical skills in manual wool techniques. In 2023, the studio expanded its activities to the territory of the Centro-Gare Creative District.

The Design, Identity, and Territory project, initiated in 2020, aims to enhance the recognition of territorial identities. It focuses on designing and creating artifacts and communications that engage UFSM Industrial Design students with stakeholders in the creative economy sector. Additionally, the project aims to facilitate the integration of products and established processes within the territory, fostering university outreach across various industrial design fields and promoting knowledge exchange among different domains of expertise.

Methodologically, the actions followed the phases of action research proposed by Thiollent (1997):
- Exploratory Phase: diagnosis to identify a problem;
- Main Phase: action planning, considering actions as alternatives to solve the problem;
- Action Phase: execution of actions, selecting a course of action;

- Evaluation Phase: evaluation of the consequences of the action.

The eight actions to value local products, proposed by Krucken (2009), are:

- Recognize: understanding the space where this product will be produced, its history, qualities, lifestyles of the communities, its tangible and intangible heritage, among others;
- Activate: integrating competencies, investing in the development of an integrated vision of all involved actors, conducting research, and advising on legal and financial matters;
- Communicate: informing about the traditional methods of making the product, its history, and origin;
- Protect: strengthening the territory's image by developing a clear and cohesive image through its products;
- Support: valuing craftsmanship and seeking ways and new technologies that assist without detracting from the identity of the product and the territory;
- Promote: raising awareness among producers and policymakers, strengthening public policies aimed at valorizing territorial identities;
- Develop products and services that respect and valorize the territory through knowledge of local potentials;
- Consolidate: creating networks of cooperation between local actors and agents of innovation within the territory.

For Krucken (2009), these eight essential actions outline how design can promote territories, although the author underscores that there is no singular approach. Given the specifics of the reported experience, the actions were implemented in the sequence depicted in Figure 1.

Figure 1. Methodology used.

Exploratory phase: recognize and activate

> The valorization of local resources depends on capabilities and competencies that go far beyond the isolated boundaries of various areas of knowledge. It requires integrating competencies, investing in the development of a shared vision among actors from the business, institutional, and governmental sectors (Krucken, 2009, p. 100).

As previously mentioned, the collaboration between participants from the aforementioned projects was facilitated by a promotional notice issued by the UFSM Dean of Extension. This notice aimed to foster actions that would enhance the Centro-Gare Creative District, promoting closer integration of the academic community with the development and revitalization of the territory. Recognizing their shared objectives, both projects were selected, leading to a collaboration that pooled efforts and expertise to support initiatives aimed at maximizing positive impacts within the district.

The initial approach began with a visit by the industrial design team to LabLã, where artisans gather every Tuesday afternoon to create their pieces and exchange experiences. During this visit, the artisans demonstrated their techniques, including felting, needlework, and weaving on the loom. They showcased various artifacts they had previously crafted, emphasizing their connection to local identity, such as paintings, sculptures, and tapestries. In subsequent meetings, artisans instructed the students in felting techniques, explained different methods of dyeing wool, and shared the personal significance of craftsmanship to them. This experience provided the industrial design team with a comprehensive understanding of material possibilities, processes, and the implicit knowledge held by the artisans.

Following this, the industrial design team presented the Design, Identity, and Territory project. They proposed strategies to enhance the communication and promotion of products crafted by the artisans, and discussed plans for co-creating identity artifacts in wool to be marketed as souvenirs of the creative district. This led to a discussion about potential collaborative actions between design and crafts to enrich territories, fostering deeper relationships among all participants involved.

Following this initial approach, which aimed to integrate skills and cultivate a shared vision for the future, attention shifted to identifying the territory that would inspire the creation of products, the geographical area within the Centro-Gare Creative District in the city. To achieve this, a Creative Walk was organized. This event brought together artisans, academics, technicians, and teachers involved in the research. Its purpose was to inspire and document diverse perspectives on the buildings and surroundings that define the territory.

The Creative Walk was guided by an architect affiliated with the Weaving Workshop project, offering detailed observations of the architecture within the district and enriching understanding of the historical significance of these structures. Santa Maria's architectural ensemble is internationally acclaimed as the second-largest continuous Art Deco complex, dating back to the peak of the railway era. This period saw the construction of many impressive buildings along Avenida Rio Branco, connecting the city's commercial hub with the Santa Maria Railway Station.

Throughout the initiative, various characteristics, elements, formal codes, and compositions of the architecture in the district were identified. Iconic buildings such

as the fountain and bandstand at *Praça Saldanha Marinho*, *Casa de Cultura*, *Theatro 13 de Maio*, *Catedral Metropolitana Imaculada Conceição*, and the Vila Belga housing complex were analyzed and photographed. These visual records were subsequently translated onto wool by the artisans at *Ateliê da Tecelagem* (Figure 2). Each artisan brought their unique perspective on the city to their crafts, highlighting in their pieces the aspects of the city and architecture that most resonated with them and, in a way, hold a sentimental memory of their experience in the territory.
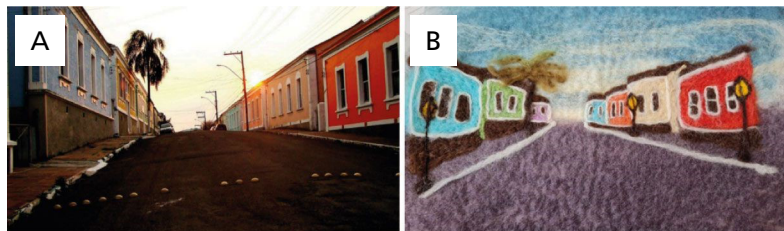
Source: (a) Santos (2008) and (b) Mirian Schalemberg (2023).
Figure 2. Landscape of Vila Belga reproduced in wet and needle felting with wool. (A) Photograph of Vila Belga and (B) its representation in wool.

Revisiting the history of our locality and focusing on its details provided moments for reflection and the sharing of meanings and experiences within the territory. This exercise not only enhanced the perception of the Centro-Gare Creative District but also enabled all participants to connect more deeply and meaningfully with the local context.

The awareness cultivated during the Creative Walk inspired artisanal products to manifest visually not only according to the design team's perspective but also based on the interpretations of all participants. Thus, the collaboration among project participants, the exchange of knowledge, and joint actions proved crucial in strengthening the group and fostering a horizontal relationship between designers and artisans.

Moreover, the initial meetings enabled the design team to grasp the actual needs of the artisans, encompassing their expectations, challenges, and the capabilities and constraints of the equipment available at LabLã. This understanding played a pivotal role in shaping future proposals for new artifacts, ensuring they were more accurately tailored to meet the specific requirements of the artisanal process.

Main phase: support and develop

> Contact with educational and research institutions and access to funding programs are fundamental in planning innovative solutions. It is important to analyze the economic, technical, and environmental viability of products and production methods, aiming to identify existing technical support, necessary competencies, and the motivations of the producing community for the future (Krucken, 2009, p. 103-104).

Initially, we aimed to enhance the technical aspects of artifact production that were already being undertaken by the Weaving Workshop project. For instance, in the needle felting wool technique, artisans typically use biscuit shapes to define the desired design. This approach allows them to achieve the final thickness of the felted wool more quickly compared to the freeform process without a pre-established contour (Figure 3).

Source: Pufftique (2013).
Figure 3. Needle felting using a cookie cutter as a delimiter.

When creating the identity pieces they had been developing, the artisans lacked molds that referenced the architectural collection present in the creative district, resulting in longer production times for each item. To expedite this process, personalized molds were designed to evoke the houses in Vila Belga and architectural details that could be used in various applications (Figure 4). These shapes were constructed using layers of 3 mm MDF, which were laser-cut and then glued together.

Figure 4. Custom molds referring to the architecture of Vila Belga.

It is worth reflecting on the fact that the reported situation demonstrates that the designer's actions, from a social perspective and respectful of the artisan's work, will not always involve creating a product or making aesthetic decisions. Instead, they may include small interventions that offer tangible benefits to the work already being done by the artisan. In this case, by using an existing technique, new molds were proposed to improve the production process.

Experiments with new mold models also sparked new ideas through conversations between academics and artisans. They considered products with commercialization potential and design proposals that established connections between the city's iconography and the artifacts created.

In this context, the design team suggested that the artisans recreate classic wool games, which, in addition to providing entertainment and interaction, could represent

the identity aspects of the creative district, offering another souvenir option for visitors and local residents. Through a collaborative creative process, alternatives were designed that considered both the possibilities of wool crafting and the architecture observed during the Creative Walk. Tic-tac-toe generated the most interest among participants, as it is a simple game that appeals to different age groups and allows for various representations of elements from the territory (Figure 5).
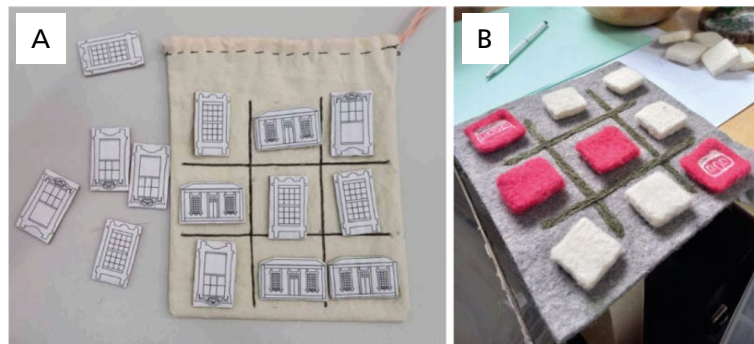

Figure 5. Alternatives for tic-tac-toe as a souvenir from Vila Belga.

To facilitate the creation of tic-tac-toe pieces using the felting technique, MDF molds of various sizes were developed in the shape of the windows found in the houses of Vila Belga (Figure 6). When working with these molds, the artisans explored new possibilities for material application, considering the unique characteristics each mold brought to the same technique. Some artisans used the molds to structure the felting, while others innovatively used them as stencils to stamp on an already felted structure. Inspired by the stencil design, the idea emerged to create a specific mold to reproduce the Santa Maria Railway locomotive, leading to new experiments and possibilities.
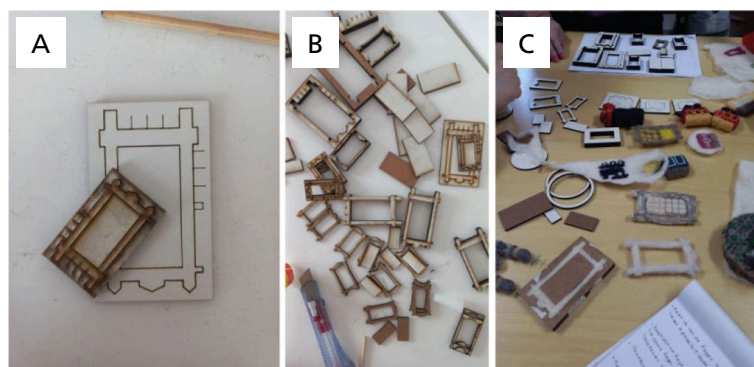

Figure 6. Craft molds representing the windows of Vila Belga.

In this context, the potential of window molds as mini looms was also realized. By slightly increasing the width of the edges, it was possible to create small holes at the base to pass the wool thread produced by the artisans. Tests were conducted to determine the window model that would best fit the loom, as well as to find the

ideal spacing and diameter of the holes in relation to the wool used in the technique. One of the main advantages of the mini loom was that it allowed artisans to express their creativity when crafting the interior of the window frame, resulting in unique and personalized artifacts. Thus, molding the windows in the form of a mini loom enabled the standardization of the artifact sizes while preserving the individuality of each artisan (Figure 7).
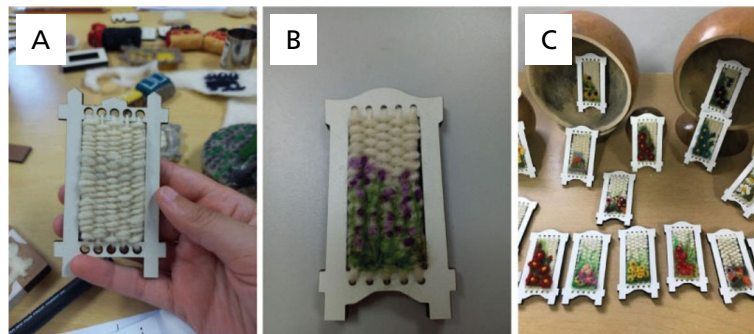

Figure 7. Mini looms crafted using molds of the windows of Vila Belga.

During the interactions, the importance of the active participation of all team members in creating the artifacts became clear. Through debates and experiments, new ideas emerged, and several possibilities were identified for exploration in future stages of the project. Collaboration among participants also led to the discovery of innovations and unexpected applications of materials. This demonstrated that a participatory process, without a pre-configured path set by the designer and based on relationships between peers rather than a predefined product idea, can offer alternatives with significant creative potential.

Action phase: communicate and protect

> The local values and qualities present in the products need to be translated and communicated in accessible language to consumers living in different contexts. Therefore, investing in communication can reduce the opacity of the product in the eyes of consumers, making relationships more transparent (Krucken, 2009, p. 101).

Recognizing the importance of visual communication in supporting and promoting territorial artifacts, several graphic materials were developed with visual elements aimed at informing and strengthening the connection between wool artifacts produced by LabLã artisans and the Centro-Gare Creative District. According to Krucker (2009), it is possible to communicate the product's relationship with its origin territory through various tangible and intangible elements such as color, aroma, packaging, and verbal and visual information. Therefore, the chosen color palette uses tones inspired by the buildings of Vila Belga (Figure 8), creating a visual association with the district.
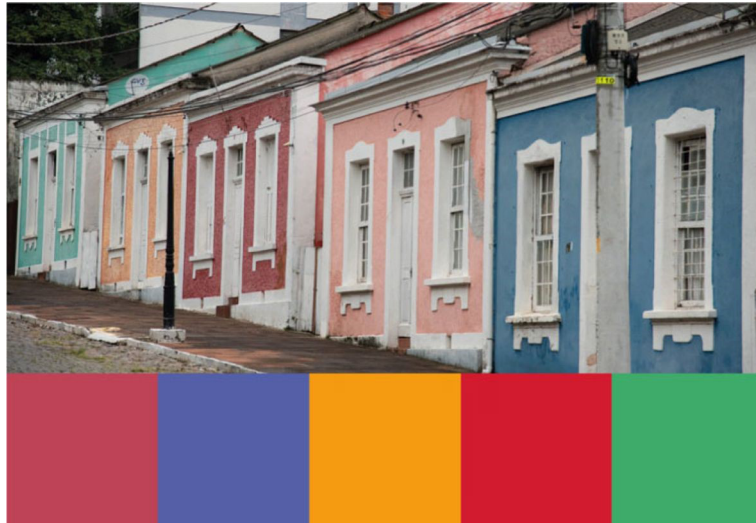
Source: adapted from Ramos (2023).
Figure 8. Vila Belga, Santa Maria (RS) and its color palette.

As for visual elements, illustrations representing some of the city's main architectural landmarks were chosen (Figure 9). This decision was grounded in the recognition that historic buildings integrated into the urban landscape have the power to evoke a sense of belonging among the population.

Figure 9. Illustrations of the tourist spots and architectural landmarks of Santa Maria (RS).

Regarding typography, two typographic families were utilized. The first is Playfair Display, a serif font designed by Claus Eggers Sørensen in 2011 for titles, evoking typographic elements found in some buildings along Avenida Rio Branco. The second is Barlow, a family of grotesque, sans-serif fonts with slight rounding, created by Jeremy Tribby in 2017. Both fonts are available on the Google Fonts platform.

With these elements, posters, cards, and labels were developed to accompany and promote the artisanal products and workshops facilitated by the projects. The promotional cards (Figure 10) were designed to be distributed with the artifacts, aiming to make the identity aspects they represent recognizable to consumers, thereby adding symbolic value to the artisanal work.

Furthermore, to enhance and emphasize the connection between artisanal artifacts and the territory, an identity souvenir stamp was created for participating artisans to use on products that bear a connection to some element of the Centro-Gare Creative District. Graphic materials were also designed for posting on social networks to promote LabLã and the Centro-Gare Creative District. Additionally, a

Figure 10. Examples of the developed promotional flyers.

label was designed to be attached to the back of the miniloom windows, providing textual information about the product's story (Figure 11).

Figure 11. The *Tecendo Santa Maria* label.

As highlighted by Krucken (2009), establishing a clear and cohesive image of the territory enhances its dissemination and dynamization, thereby boosting local tourism. This can attract visitors and consumers, ultimately contributing

to the strengthening of commercial and/or industrial activities within the territory. It is anticipated that the graphic materials developed will assist in solidifying the image of the Centro-Gare Creative District, thereby increasing its visibility and appeal.

Assessment phase: promote and consolidate

> The development of networks is essential to competitively integrate the territory, as it can facilitate access to the product for consumers (*i.e.*, market access) and promote connectivity and mastery of new technologies. [...] For networks to succeed, it is necessary to develop mutually beneficial relationships. This way, actors will be motivated to work together, producing value and quality (not just commercializing physical goods) (Krucken, 2009, p. 106).

To promote the appreciation of wool crafts and encourage the incorporation of elements from the Centro-Gare Creative District into the city's artisanal creations, LabLã artisans led a workshop with the support of the industrial design team. The objective was to teach wool craft techniques while emphasizing the potential to establish a distinctive identity in crafts through the integration of local iconographic elements. This workshop was announced during an edition of *Brique da Vila Belga*, an event that gathers numerous exhibitors from Santa Maria's creative economy.

The initiative, which brought together women of different age groups, commenced with a presentation by the industrial design team on the significance of identity crafts, particularly within creative districts, illustrating possibilities with real successful cases. Following this, the participating artisans were introduced to the processes of scouring, washing, drying, carding, and spinning wool. Using the carded wool, they practiced wet felting to create fabric and applied needle felting for finishing. Additionally, the participants learned how to create mini-loom windows (Figure 12), enabling each person to take home their finished artifacts while learning various craft techniques.

Figure 12. Workshop in the creative district on wool.

During the workshop, copies of identity souvenir cards and stamps were distributed among the participants for them to use in promoting their products, thereby linking local crafts with the Centro-Gare Creative District.

The initiative aimed to showcase the potential of using sheep wool in crafts and foster artisanal production connected to cultural and sustainable aspects. The distributed graphic materials were designed to enhance the visibility of artisans within the cultural tourism landscape, encouraging the formation of cooperative networks.

During October 2023, another collaborative effort unfolded at the Santa Summit, an event hosted by the city of Santa Maria to bolster its innovation ecosystem. Spanning two days, the summit featured insights from over 50 speakers across diverse fields, addressing themes such as education, innovation, entrepreneurship, and sustainability. Alongside presentations, the event included a business fair, drawing exhibitors and engaging a rotating audience of over a thousand attendees (Rubin, 2023). Notably, artifacts linked to the Centro-Gare Creative District, crafted throughout 2023 at Weaving Workshop, were showcased to participants during the event (Figure 13).

Figure 13. Exhibition of products at the Santa Summit 2023.

In addition to the exposure and promotion highlighting the potential use of sheep's wool, it was evident that the products' innovative nature resonated strongly with the public's curiosity and interest. The process of turning sheep wool into city postcards imbues significance through its techniques, enhancing value and fostering an emotional bond between consumers and the artifacts. At the exhibition, visitors expressed interest in witnessing representations of other buildings within the area made from wool, which evoke nostalgic memories in some manner.

To promote the year-long initiatives of Weaving Workshop and the Design, Identity, and Territory projects, mini-loom windows were created for distribution to select event attendees. This artifact was selected because it embodies contributions from all participants involved in the project. Inspired by the architecture of Vila Belga and crafted from laser-cut MDF, these windows represent the collaborative effort of the Industrial Design course team. The looms adorned with wool threads and embroidered flowers inside the windows showcase the

artisanal craftsmanship of LabLã, reflecting the weaving techniques developed during the activities. The inclusion of flowers as decorative motifs symbolizes the growth observed in the Centro-Gare Creative District. Thus, the artifact serves as a metaphorical representation of open windows to opportunities, creativity, and imagination.

"The convergence of diverse bodies of knowledge entails the transformation or translation of existing knowledge and the merging of horizons — namely, the collaborative generation of knowledge" (Long; Ploeg, 2011, p. 44). The interdisciplinary collaboration facilitated by the integration of participants from the Weaving Workshop and Design, Identity, and Territory projects has led to the development of a more comprehensive and innovative initiative titled "*Tecendo Santa Maria: Experiência Criativa com o Uso da Lã Ovina.*" This project aims to reinforce the connections established throughout 2023, linking various social actors to actively contribute to the creative ecosystem of the Centro-Gare Creative District. It seeks to enhance the creative economy and promote innovative experiences through the utilization of wool across different cultural facets of the city.

Thus, the project aims to further advance the development and showcase of crafts that reflect the identity facets of local history and cultural heritage, aiming to imbue the work done with wool with added value, sentiment, and affection. Looking ahead, there are plans to extend this creative endeavor to other municipalities, replicating the successes achieved in Santa Maria across different regions.

FINAL CONSIDERATIONS

This article proposes reflections based on the outcomes of the collaboration between the Weaving Workshop and the Design, Identity, and Territory extension projects. It focuses on developing identity products aimed at enhancing the value of the Centro-Gare Creative District's territory and local craftsmanship, exploring the iconographic potential of the region. Through the co-creation of woolen identity artifacts, the aim was to materialize diverse perspectives on the territory, creatively reproducing significant representations of architectural heritage within Santa Maria, specifically within the Centro-Gare Creative District.

The artisans' convergence of expertise in traditional techniques and their profound material understanding, coupled with a respectful and innovative design approach, led to the development of distinctive and individualized artifacts that narrate stories and embody community identity. By translating the artisans' concepts into reality, a variety of new possibilities emerged, fostering collaborative construction, enhancing existing techniques, overcoming constraints, and inspiring creativity. Efforts were taken to propose alternatives that streamline processes and set standards without overshadowing the artisans' narratives and unique perspectives on the territory.

The design profession often emphasizes the designer's role as a problem solver or the individual responsible for conceptualizing and creating products, particularly in industrial and large-scale processes. While this definition is applicable in those contexts, experiences in integrating design and crafts as forms of social production suggest that a dialogical approach, where designers act as facilitators rather than sole creators, is more effective. This approach streamlines practices and knowledge, benefiting both designers and artisans by fostering mutual learning and exchange throughout the creative process. It is crucial to recognize and legitimize manual work as an intellectually enriching process that significantly enhances creativity.

It is believed that the initiatives reported have motivated artisans to explore new formal possibilities and engage in fairs and events connected to creative economy. These platforms provide opportunities for artisans to showcase and sell their crafted products. Thus, the collaboration between projects not only fostered creative appreciation for the cultural identity of Santa Maria and the state's sheep farming but also promoted entrepreneurship and income generation within the creative economy. Moreover, the artisanal pieces offer a distinctive appeal in a globalized market by encouraging consumers to connect with the territory and feel a sense of belonging, aligning with Canclini's (2006) concept of "cultural product," where symbolic values outweigh utilitarian and commercial considerations.

As emphasized by Krucken (2009), establishing networks of cooperation is crucial for promoting the significance of local products within the community and cultivating a collective consciousness tied to the territory's identity aspects. In this context, the value of forming a multidisciplinary team becomes evident, where designers serve as facilitators in the artisans' creative processes. The goal is to continue fostering collaboration between design and craftsmanship, aiming to strengthen cooperation networks among local stakeholders and innovation catalysts within the Centro-Gare Creative District.

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Taste and values in handicraft: connected relationships

Gostos e valores no artesanato: relações imbricadas

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ABSTRACT

The present research aimed to understand the links between taste, value, and their relationships with ceramics craftsmanship produced in the Northern region of the state of Rio de Janeiro, specifically in the city of Campos dos Goytacazes, identifying the latent perceptions regarding the consumption of this product by the local population. As a methodological approach, the investigation was guided by a qualitative approach, and in order to address the research objectives, the data collection instrument consisted of the development and application of interviews. At the end of the research, we could comprehend that the surveyed audience understands tastes and values regarding craftsmanship taking into account various perspectives, especially their subjectivities. The diversity of responses enabled us to understand perceptions and gaps in the supply and consumption of ceramic products and pointed out future research demands.

Keywords: Affection. Handicrafts. Northern Fluminense Region. Rio de Janeiro.

RESUMO

A presente pesquisa teve como finalidade compreender os vínculos existentes entre gosto, valor e suas relações com o artesanato produzido em cerâmica no norte do estado do Rio de Janeiro, mais especificamente na cidade de Campos dos Goytacazes, identificando as percepções latentes acerca do consumo desse produto por parte da população local. Como processo metodológico, a investigação foi orientada pela abordagem qualitativa, e, a fim de responder aos objetivos da pesquisa, o instrumento de coleta de dados consistiu na elaboração e aplicação de entrevistas. Ao fim da pesquisa, pudemos averiguar que o público pesquisado compreende os gostos e valores em relação ao artesanato levando em consideração as mais diferentes perspectivas, principalmente suas subjetividades. A diversidade das respostas possibilitou observar percepções e lacunas existentes na oferta e no consumo de produtos em cerâmica e apontou para futuras demandas de pesquisa.

Palavras-chave: *Gosto. Artesanato. Região norte fluminense. Rio de Janeiro.*

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INTRODUCTION

When discussing artisanal production and modern crafts, various authors offer different perspectives and definitions from a contemporary standpoint. According to Lima (2005), crafts encompass a wide range of objects, including pans, dishes, and utensils essential for our daily lives, "which are products of making" (Lima, 2005, pp. 1-2). The author argues that the artisanal universe involves diverse methods of creation, stemming from distinct and thus non-homogeneous lifestyles, worldviews, and aesthetics.

Given the wide variety of raw materials used in artisanal creations, which reflect the cultural diversity of each region in the country, we can mention the use of threads, wood, leather, straw, and clay. The latter, in particular, holds significant historical importance in the artisanal production of Campos dos Goytacazes, located in the northern region of Rio de Janeiro.

The interest in writing this article emerged from the Postgraduate Program in Design at Universidade Federal do Rio de Janeiro, specifically within the course Aesthetic Taste and Diversity. This course engaged with the concepts and authors discussed here. Therefore, the creation of this work was motivated by a dialogue with these debates.

This research aimed to better understand the links between taste, value, and their relationships with the ceramic crafts produced in the municipality of Campos dos Goytacazes, identifying the latent perceptions of the local population regarding the consumption of these products. The study was conducted as qualitative research, using a series of individual semi-structured interviews with residents of the municipality as the research method.

The theoretical dialogue established between design and studies in the field of aesthetics was centered on qualitative research conducted throughout the study, based on the works of authors such as David Hume (1973) and Immanuel Kant (1995), both European philosophers from the 18th century, and Edgar Morin (1987), a contemporary sociologist and philosopher. The work does not limit itself to the concepts of these authors nor does it aim to exhaust them; instead, it seeks to identify points of intersection and divergence that were useful for the research. Firstly, the theoretical foundation is presented, highlighting the dialogue established between the field and the theory studied, starting with Edgar Morin's (1987) conception of complexity and explores the notions of taste and beauty discussed by Kant (1995).

Subsequently, the research proceeds with the methodological process, the analysis of interview results, and the final considerations. As previously mentioned, this study did not aim to comprehensively cover topics related to aesthetic values, taste, and beauty. Instead, its focus was on examining how certain social agents perceive and engage with local crafts, considering the pervasive presence of these cultural expressions in these people's daily lives.

Research on artisanal activity is justified due to its substantial annual revenue generation and widespread presence in 63.3% of Brazilian municipalities, as

reported by the Brazilian Institute of Geography and Statistics (2023). This sector not only supports the economy of artisans but also enhances the appreciation of locally developed cultural production. This study thus provides a foundation for future research initiatives in artisanal production, particularly in tourist areas, where such cultural manifestations are particularly beneficial.

LITERATURE REVIEW

Some authors acknowledge the difficulty in defining craftsmanship due to the complex characteristics involved. Oliveira (2019) suggests that having a rigid notion of artisanal production can weaken the approach, as it tends to overlook certain aspects that might be relative to those emphasized in the analysis. Borges (2011) also highlights this challenge as intrinsic to the topic, given the diversity of meanings presented by various authors, articles, and books on crafts — a term that, while familiar, remains widely misunderstood.

The concern with a clear conceptualization of artisanal activity was evident in one of the first systematic government initiatives to support crafts, embodied in Decree No. 80.098 of August 8, 1977. Although now revoked, this decree established the National Crafts Development Program under the supervision of the Ministry of Labor (Oliveira, 2019). Aimed at "coordinating initiatives to promote artisans and the production and commercialization of Brazilian handicrafts," the decree highlighted the urgent need for conceptual clarity. Article 8 stipulated the urgent need for this conceptualization by the commission then established as a consultative body for the work: "For the purposes of the Program, it will be primarily up to the Commission to adequately conceptualize crafts in order to preserve its identity as a peculiar economic activity and to characterize artisans professionally" (Brasil, 1977).

Further in Decree No. 80.098 of August 8, 1977, the commission proposed a definition:

> (a) The predominantly manual activity of producing a good that requires creativity and/or personal skill, possibly using tools and machines; (b) The product or good resulting from the above-mentioned activity; (c) The result of the individual assembly of components, even if previously worked on, which results in a new product (Brasil, 1977).

Due to gaps in the previous definition and the modifications that the activity has undergone over time, new official definitions have emerged, consolidated in a document that serves as a reference for this research. The new definition of craftsmanship arose from the Conceptual Base of Brazilian Craftsmanship, a Brazilian crafts program created in 2012 by the federal government, in which the definition was established:

> All production resulting from the transformation of raw materials, predominantly by hand, by an individual who possesses complete mastery of one or more techniques, combining creativity, skill, and cultural value (having symbolic value and cultural identity). In the course of this activity,

> there may be limited assistance from machines, tools, artifacts, and utensils (Brasil, 2012, p. 14).

It is worth highlighting that the document also includes guidelines that better define what is not considered crafts, helping to avoid mistakes or distortions of the concept:

> Work done through simple assembly, with industrialized parts and/or produced by other people; Gemstone cutting; Production of soaps, perfumes, and bath salts, except for those made with essences extracted from leaves, flowers, roots, fruits, and national flora; Skills learned through magazines, books, TV programs, among others, without cultural identity (Brasil, 2012, p. 14).

Based on these definitions, one can relate the difficulty of conceptualizing the term craftsmanship to the complexity and transformations this activity has undergone over the years. Riul (2015) clarifies that artisanal production was one of the primary methods for creating material accessories for human use in various contexts, leaving a legacy that permeates all of humanity, whether as inherited techniques, materials, and improvements, whether in aesthetic and functional terms.

Understanding craftsmanship as a complex field involves considering several factors, such as sales processes, relationships with clients and consumers, advertising, and the craftsmanship itself. This complexity can be analyzed using Edgar Morin's (2000) paradigm. The paradigm is based on open reason (opposing the idea of rigid logical and methodological systems), which is characterized by being evolutionary, dialogical, residual and complex. Estrada (2009, p. 86) summarizes this conception:

> This is a residual approach, as it embraces the a-rational and the super--rational. It is complex because it recognizes the complexity of the subject/object relationship, order/disorder, and acknowledges within itself a zone of obscurity, irrationality, and uncertainty, opening up to chance, randomness, the anomic, and the structural. It is dialogical because it operates with recursive macroconcepts, that is, large theoretical units that are complementary, competitive, and antagonistic in nature.

The author adds that reason is an evolutionary factor, progressing through mutations and profound reorganizations. Morin (2000) argues, following Piaget's perspective, that reason is not an absolute invariant but undergoes improvement through a series of operational constructions capable of generating novelties, corresponding to paradigmatic changes.

The paradigm of complexity opposes that of simplification by interconnecting elements within a complex system. In another work, Morin (1987, p. 80) clarifies:

> The polylogical game of order/disorder/organization cannot be considered a perpetual game. It's a game where the data transform, and we must consider the two antagonistic orientations followed by these transformations; one is the "progress" of organization and order, always complex, thus absorbing and encompassing more disorder in its sphere; the other,

indicated by the fatal prediction of the second principle, is the triumph of dispersion, the heat death of the universe.

However, he points out:

> Order and organization are improbable, that is, they are minority occurrences in the vast cosmic diaspora. However, this notion of improbability must be considerably softened and relativized. In fact, if every birth of organization is improbable, the very constitution of organization introduces a transformation of the local conditions where it operates. [...] In other words, the organization and the order associated with it constitute a principle of selection that reduces the possible occurrences of disorder, increases their chances of survival and/or development in space and time, and allows for the construction, against a backdrop of diffuse and abstract general improbability, of a concentrated, local, temporary, and concrete probability. Upon such a foundation of local and temporary probability, a new improbable and minority organization can be built, benefiting from stable organizational support, which can itself establish its own probability, and so on (Morin, 1987, p. 80-81).

Indeed, the idea of complexity is closely tied to the concepts of order and disorder. However, for Morin (2000), order extends beyond notions of stability, repetition, rigidity, and regularity; it embraces the concept of interaction. In contrast, disorder encompasses two distinct perspectives — objective and subjective. Objectively, disorder pertains to phenomena such as dispersion, agitation, instability, irregularity, or what could be termed as noise and errors. Subjectively, disorder involves "indispensability or relative indeterminacy. Disorder, to the mind, translates into uncertainty" (Morin, 2000, p. 200). Estrada (2009, p. 87) notes that disorder "brings with it chance, an inevitable ingredient in everything that appears to us as disorder."

The concept of complexity does not seek to replace clarity, coherence, determination, and certainty with ambiguous ideas or contradictions. Instead, the author grounds these principles on the necessity for coexistence, interaction, and collaboration among them.

According to Morin (2005), complexity is viewed as a qualitative instrument due to the profound quality of interactions and interferences among the units comprising a system. The author emphasizes that complexity should not be conflated with complication. Morin observes that the real challenge lies not in simplifying complexity by establishing simple foundational rules, as complexity itself constitutes the foundation.

The modernization of complex systems enables us to construct representations of contexts that we wish to explore further, employing a focused perspective to address specific inquiries. This systemic approach also involves considering the variables present in the environment with which the system interacts, thereby broadening the scope of research beyond traditional approaches. It does not aim to confine theories or methods but rather extends beyond the concept itself.

The complexity as understood by Morin (2000) can be highlighted by relating it to individual perceptions of attraction and repulsion. In one of his significant

works, "Moral, Political and Literary Essays," originally published in 1742, David Hume (1973) argues that in the realm of art, there exists a certain standard of what is beautiful, ugly, pleasing, or not. To support this view, Hume incorporates empiricist concepts — a philosophical school of which he was a prominent advocate —, including the relationship between ideas and knowledge derived from facts.

Hume (1973) emphasizes that opinions vary greatly among individuals because we each perceive and understand the world differently. In further elaborating his viewpoint, the empiricist philosopher categorizes as "barbaric" those things that do not align with our personal tastes, that is, those which we do not wish to see, cultivate, or consume. This underscores the lack of universal agreement in matters of taste, as it is inherently tied to individual preferences and perspectives.

As a supplement, in the realm of "language ethics," one might argue for the necessity of a word to encapsulate a feeling. Hume (1973) posits that when examined through the lens of culture or specific patterns of taste, such agreements may not hold much validity, as the same word or pattern can evoke different interpretations based on the cultural context in which it is embedded. Ethics further complicates matters by highlighting the divergence between the particular and the universal. In other words, while all cultures identify fundamental concepts such as taste, humanity, and justice, each culture interprets these concepts uniquely.

Thus, Hume (1973) identifies a fundamental divergence in universality concerning the understanding of taste, stemming from these cultural differences — which he extends to include religion itself. Based on this perspective, it appears that the author aims to persuade us that "taste cannot be debated," as disagreements persist both in the universal and particular domains.

Attraction and repulsion are directly linked to Hume's (1973) approach to art. According to him, beauty can be perceived through judgment or feeling, but our perception of it can vary based on the internal disposition of our spirit, leading us to perceive it more or less favorably.

> Beauty is not a quality inherent to things themselves; it exists only in the mind that contemplates them, and each mind perceives beauty differently. It is even possible for one person to find deformity where another sees only beauty, and every individual should acquiesce to their own feelings without attempting to regulate those of others. To seek to establish a real beauty or a real deformity is as futile an endeavor as trying to determine a real sweetness or a real bitterness (Hume, 1973, p. 316).

So, beauty does not reside in the object itself; it does not depend on an opinion or judgment to be considered true. Beauty is within us.

When it comes to judgments, there is inherent subjectivity because statements like "I believe it to be like this" or "this is like this…" do not perfectly align with the objective reality of the object. In legal contexts, for instance, we rely on evidence and observations to form our understanding of the object. Therefore, what we perceive or opine about the object may differ from others' perspectives, as everyone interprets things differently.

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Although Hume (1973) asserts that the perception of taste and beauty is tied to the internal disposition of our spirit, Kant (1995) posits that beauty is primarily linked to the object itself. Despite some theoretical differences between these authors, it is evident that there are similarities in certain concepts they discuss.

Almost 50 years later, Kant (1790) argued that "beautiful" is not connected to an "internally generated concept," whereas "good" is intimately linked to the individual's internal spirit. The philosopher noted that while the association of "good" with something pleasant is implicit within us, it is not solely related to emotions. In his *Critique of the Power of Judgment* (1790), he observes:

> Before all else, it is necessary to be entirely convinced that in judgments of taste (about the beautiful), one attributes pleasure in the object to anyone, without relying on a concept (for then it would concern the good); and that this claim of universal validity belongs so essentially to a judgment by which we declare something beautiful, that without thinking of this universality, no one would have the idea to use this expression, but everything that pleases without concept would be reckoned as agreeable, with regard to which everyone is left to follow their own mind and no one presumes from another the adherence to their judgment of taste, which, however, always occurs in judgments of taste about beauty. I can call the first one the taste of the senses; the second, the taste of reflection: while the first expresses merely private judgments, the second, in turn, expresses purportedly universally valid (public) judgments; from both sides, however, aesthetic judgments (non-practical) about an object simply with respect to the relation of its representation to the feeling of pleasure and displeasure (Kant, 1995, p. 58).

In the passage, Kant (1995) briefly explains the distinction between the taste of the senses and the taste of reflection. The former closely relates to the notion of feelings expressed by Hume (1973), drawing a parallel with private (individual) judgments and personal perception when we access and/or interpret a certain object.

Kant (1995) also acknowledges that the experience of taste varies for each individual and that universality does not universally apply. Universality, in his view, does not stem from concepts of objects (even empirical ones); it is not strictly logical but aesthetic. This universality lacks an objective basis in judgment and is instead subjective, often referred to as "common validity."

So far, we have observed that beauty, taste, and repulsion are intricately connected within a network of values that are sometimes poorly understood, emphasizing the importance of revisiting these themes. The complexity analysis paradigm, as proposed by Morin (2000), serves as a robust framework, facilitating a broader and more comprehensive understanding of the social perception of artisanal production in Campos dos Goytacazes. Through this approach, conducting interviews with residents of the municipality not only yielded valuable insights into their preferences but also highlighted gaps and areas requiring further study.

METHODS AND TECHNIQUES

This study aimed to uncover the underlying perceptions of the local population in Campos dos Goytacazes regarding the consumption of handicrafts,

acknowledging the region's significant production in this sector, as emphasized by authors like Leitão (2013). To advance this investigation, interviews were conducted with all participants involved in the research.

The use of interviews as a method for gathering information was crucial. Through this approach, we gained a deeper understanding of the local community's interests in consuming regional crafts and could better grasp the interviewees' subjectivities and curiosities regarding broader tastes and values. The selection of interviewees was based on recommendations from the current coordinator of the Caminhos de Barro extension project, at Universidade Estadual do Norte Fluminense.

The research focused on several key themes, including patterns of consumption of ceramic objects and insights into the productive potential of handicrafts in northern Rio de Janeiro. Additionally, ten images were presented to gauge interviewees' perceptions of beauty, attraction, and repulsion. To deepen understanding of the interviewees' interest in these objects, they were also asked which artifacts they would choose to display in their homes and which they would select as gifts, along with the reasons behind their choices.

This study takes a qualitative and exploratory approach, employing semi-structured interviews as its methodological framework. Due to time constraints and participant availability, a total of six individuals were interviewed. The small sample size does not compromise the findings, given the qualitative nature of the study. The goal is not to achieve population representativeness but rather to explore and uncover latent perceptions on the topics under investigation.

The interviews were conducted at times chosen by the participants to ensure their comfort and availability for answering questions. A structured script was generally followed to understand various issues based on the group's perceptions. Chart 1 presents the profile of the interviewees selected to respond to the questions guiding the objectives of this research.

Chart 1. Profile of the interviewees.

Interviewee	Profile
Interviewee 1	Female, aged 20 to 30 years old, resident of Campos dos Goytacazes (RJ)
Interviewee 2	Female, aged 30 to 40 years old, resident of Campos dos Goytacazes for 7 years
Interviewee 3	Female, aged 30 to 40 years old, resident of Campos dos Goytacazes
Interviewee 4	Male, aged 30 to 40 years old, resident of Campos dos Goytacazes
Interviewee 5	Female, aged 20 to 30 years old, resident of Campos dos Goytacazes for three years
Interviewee 6	Male, aged 40 to 50 years old, resident of Campos dos Goytacazes

Given the adverse conditions caused by the COVID-19 pandemic, all interviews were conducted between May and June 2021 via the videoconferencing platform Microsoft Teams, a user-friendly tool. Each interview lasted no more than 25 minutes.

It is worth noting that all interviews were recorded, and direct notes were taken. The interviewees were informed beforehand about the research objectives and potential publication methods, and they expressly agreed to participate.

At the beginning of each interview, the objectives, methodological process, recording of the conversation, and subsequent transcription were explained to the participants. Six open-ended questions were asked, with additional prompts provided when necessary.

The same set of ten images was presented to each interviewee, as shown in Figure 1. Five of these images depict handicrafts produced in Campos dos Goytacazes (1, 3, 4, 6, and 8), while the other five represent ceramic pieces produced on a large scale, mostly from China (2, 5, 7, 9, and 10). Figure 1 reproduces the images as presented to the research participants. The images were deliberately mixed regarding their origin to make it difficult to discern which were locally produced and which were not.

Figure 1. Selection of items for the interview.

The origin of each piece was not disclosed to the interviewees beforehand. This deliberate counterpoint in the selection of images introduced an element of uncertainty regarding the choice of locally produced pieces *versus* those more commonly found and widely available in the city's central decoration stores. This approach aimed to explore preferences without the influence of known origins.

DATA ANALYSIS AND PROCESSING

The first part of the interview focused on identifying the interviewees' understanding of how ceramic objects are consumed and whether they believe that the northern region of Rio de Janeiro is a significant producer of handicrafts.

Regarding the first question addressed, there was almost a consensus: the lack of acquisition of ceramic objects was attributed to the lack of purchasing opportunities. An interesting observation reported in the responses was the decline in the consumption of these objects due to the COVID-19 pandemic, which made visiting craft fairs unfeasible. Other reasons given for the lack of habit of buying ceramic objects included a lack of interest and a preference for plastic objects, as explained by interviewee 4:

> I don't consume it; I don't have that habit. Usually, I buy plastic ones; I don't have that custom. Maybe because of the convenience, because when we go to the mall or bigger stores to shop, you end up finding plastic ones; for ceramic ones, you have to go to a more specific place to buy them. So, that's why.

Regarding the second question, the interviewees' statements indicated that the region has great potential for growth in the handicraft sector, but that this sector is currently stagnant. There was no consensus on the reasons for this stagnation: some attributed it to a lack of government incentive or initiative from the artisans themselves. However, there were also reports of residents valuing handicrafts. One interviewee mentioned that they purchase products from local artisans whenever possible and noted that some groups of artisans have modernized by migrating their sales to social media, especially after the COVID-19 pandemic, to increase their business.

When asked which objects they found most beautiful, the vast majority of interviewees chose piece number 8, a ceramic object produced in the region. Another interviewee preferred piece number 6, which is also part of local artisanal production. Notably, both pieces are the only ones among the ten with clear religious expressions. The justifications for their choices varied, emphasizing factors such as usefulness, beauty, richness in details, and meaning.

Object 7, which is not part of the local crafts group, was chosen by a single interviewee. The justification provided by this interviewee carries a series of meanings:

> I really like this number 7, this fat woman, because I think it's wonderful [to have] objects that also convey a political-ideological message, which I think always does in reality, but [this] is something... Women always seek this process of deconstruction, pressure. In my house, it's full of regular objects that have this meaning of deconstruction, which always seeks to bring a message (Interviewee 3).

The speech highlights what Hume (1977) comments on when he explains the notion of the taste of the senses, which is related to the subjective feelings expressed by the individual. Expanding on this discussion, the beauty perceived in the object chosen by the interviewee aligns with what Kant (1995, p. 82) describes as *conformity to ends*: "Beauty is the form of conformity to the ends of an object, insofar as it is perceived in it without representation of an end." "Nothing other than subjective conformity to ends [...] can constitute the pleasure that we judge as

universally communicable, without concept, therefore, the determining foundation of the judgment of taste" (Hume, 1997, p. 67).

Regarding the notions of attraction and repulsion provoked by objects, the interviewees expressed feeling attracted to those they perceived as beautiful. All interviewees reported feeling repulsed by object number 5, which they identified as lacking in meaning, difficult to understand, and highly abstract. One interviewee's repulsion toward object number 3 was justified by its religious content, which she did not share, stating that the object *"doesn't make much sense"* to her.

We can associate the points discussed with the concept of disorder (Morin, 2000), especially when considering its objective side, which relates to the realm of dispersions, agitations, instabilities, irregularities, as well as what Morin terms noises and errors.

To complement the discussion, interviewees were also asked about which objects they would place in their homes and which ones they would give as gifts. The majority selected more than one object they would place in their homes, citing reasons such as functionality, utility, beauty, and meaningfulness — similar reasons to those cited when asked about the most beautiful objects. The most chosen objects were 1, 2, and 8. Among these three, two were produced locally and one on a large scale. Table 1 illustrates the distribution of these preferences.

Table 1. Comparison between the objects displayed in the image and the choices made by the interviewees.

Item number	Subject to presentation and individual choices
1	5
2	3
3	0
4	1
5	0
6	2
7	1
8	4
9	1
10	0

It is noteworthy that among the three favorite objects, the only one of non-local origin to the research site is object 2, which originates from China. Object 2 features an internationally recognized image, that of the *Three Wise Monkeys*. Originating from Japan, this motif has undergone numerous adaptations and stylizations while retaining its core meaning to varying extents. Perhaps its inclusion in the cultural repertoire of a globally recognized symbol, with widespread familiarity and ease of understanding and recognition, could explain its popularity among interviewees.

An intriguing aspect of the second question posed in the final part of the interview, regarding which object they would choose to give as a gift, was the

complete disparity compared to the objects chosen for personal use in their homes. The objects selected for gifting were consistently different from those chosen for personal use. This discrepancy was justified by the consideration of the recipient's specific personality, which was perceived as distinct from their own preferences.

RESULTS AND FINAL CONSIDERATIONS

The semi-structured interviews, despite their brevity, provided valuable insights into latent perceptions of taste, beauty, and values in Campos dos Goytacazes. From the interviewees' responses, there is a noticeable consensus regarding which objects they perceive as "beautiful" and which ones attract them the most. While the small sample size cautions against definitive conclusions, it is noteworthy that the objects produced in the region consistently elicited the most attraction. This observation suggests a localized preference and appreciation for locally crafted items among the interviewees.

While most participants do not regularly purchase local craft products, this should not be interpreted as indicating that these objects repel them, as David Hume (1973) suggests that the "barbaric" refers to what we do not wish to cultivate or consume. The interviewees indicated that their lack of engagement with these artifacts stemmed from limited purchasing opportunities, which has kept consumption of these items at a distance from their daily lives.

Based on this reasoning, two interviewees emphasized the importance of policies that facilitate access to and enhance the value of local handicrafts, recognizing the economic and cultural significance of these products in their region.

In the context of taste and beauty, it became evident that all the craft pieces deemed "beautiful" by the interviewees elicited some form of emotion and/or meaning, and/or utility. This observation underscores that beauty is intricately connected to the subjective experience of the observer, as articulated by David Hume (1973), where beauty is perceived through the internal spirit of the beholder.

Another notable aspect is the individuality each interviewee perceives in the displayed craft pieces. It was evident that individuals bring their own values into play even before assessing the beauty of the object. This observation underscores the prevalence of private judgments as advocated by Hume (1973). Furthermore, in his essay "On the Standard of Taste" (1997), Hume observes that while there are many divergences in particular cases, there tends to be some level of agreement on generalities. Consequently, there is a "natural" inclination to seek a standard of taste that accommodates the individualities and subjectivities of the interviewees.

Based on the interviewees' responses, it is evident that they prioritize functionality in objects, even when the object is entirely abstract. When an object lacks this functional appeal or does not afford enough time for understanding, it tends to be deemed unattractive, bland, ugly, or repulsive. Kant's (1995) notion of the

judgment of taste and his concept of complacency can help interpret this data. Complacency refers to the subjective satisfaction or well-being derived from an object without necessarily forming a clear conceptual understanding of it. This is particularly noticeable in the case of object 5, which elicited the strongest repulsion among the interviewees, making it even clearer for this group of interviewees, utility plays a pivotal role, even if their articulation of this concept may seem ambiguous in their responses.

According to Morin (2000), constructing a systemic model based on complexity highlights how individuals perceive various objects differently. The sociocultural context influences perception of the object by presenting potential variables, thereby serving as a reference for this study and offering insights for future research in this area.

The sampling provided an overview of how certain residents perceive local crafts, particularly in contexts where there is a saturation of similar mass-produced items. It also highlighted that interviewees have limited access and knowledge about consuming artisanal pieces produced locally, possibly indicating insufficient investment in dissemination channels and policies to integrate artisans into sales outlets.

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Histories about design, photography, and art in contemporary visual culture

Histórias sobre design*, fotografia e arte na cultura visual contemporânea*

Rafael Frota[I] , Jofre Silva[I]

ABSTRACT

This paper investigates the technical, aesthetic, and historical relationships between design, photography, and the visual arts. It proposes an understanding of these disciplines not as autonomous fields of knowledge, but rather as intrinsically connected expressions, whose mutual influences contribute to a better understanding of visual culture elements. While adopting an approach based on Michel Foucault's work, the discussion also highlights how the dynamics between knowledge, powers, and subjectivation processes permeate image creation and encourage resistance movements — which, according to the author, are driving forces for both innovation and originality. The intersection between these fields, permeated by interdisciplinarity, reveals a complex and dynamic panorama, in which the limits between creative practices are blurred. This, as a result, opens space for new approaches and interpretations that feed the contemporary cultural fabric.

Keywords: Design. Photography. Visual arts. Subjectivation processes. Visual culture.

RESUMO

Este artigo investiga as relações técnicas, estéticas e históricas entre o design*, a fotografia e as artes visuais, propondo a compreensão dessas disciplinas não como campos autônomos do conhecimento, e sim expressões intrinsecamente conectadas, cujas influências mútuas contribuem para a compreensão de elementos da cultura visual. Ao adotar uma perspectiva fundamentada no pensamento de Michel Foucault, o texto destaca, também, como a dinâmica entre os saberes, os poderes e os processos de subjetivação permeiam a criação imagética e fomentam movimentos de resistência — que, para o autor, são forças propulsoras para a inovação e para a originalidade. A interseção entre esses campos, permeada pela interdisciplinaridade, revela um panorama complexo e dinâmico, em que os limites entre as práticas criativas se diluem e, com isso, abrem espaço para novas abordagens e interpretações que alimentam o tecido cultural contemporâneo.*

Palavras-chave: Design*. Fotografia. Artes visuais. Processos de subjetivação. Cultura visual.*

DESIGN, ART AND PHOTOGRAPHY

This study is a result of an exploratory qualitative methodology to understand the processes of subjectivation in the different dimensions of photographic image. Commonly described as a subjective aspect of thought, such an experience involves dynamics that have not been further investigated. Therefore, it is based on the seminars by Michel Foucault about the subject in its forms of subjectivity, as defined in his *technologies of the self*, in the early 1980s, which were later systematized and disseminated by Gilles Deleuze, especially in the publication titled *Foucault*, from 1986.

The motivating discussion of this text was part of an investigation developed in the scope of the laboratory and research group of the National Council for Scientific and Technological Development (CNPq), titled Photography: Art, Design & Communication (PHADEC), which has been part of the School of Fine Arts of Universidade Federal do Rio de Janeiro for 11 years. The space provides several activities about photographic technology and its interfaces with art, design and communication. In this period, for example, more than 230 students have gone through the laboratory, housing about 190 portfolios of photographic essays.

In the encounters between the histories of photography in design and art, for example, the body responsible for creating the photographic images presented below, in their processes of subjectivation, specifically in the formal dimension of knowledge, avoids bringing together a view of the plural and complex fields, derived from different social and economic conditions. It chooses the provocation of the impossible mission defended by Cardoso (2022) in treating design as an essentially hybrid activity and, thus, too complex and multifaceted to fit into any narrow definition. Thus, it perceives its "capacity to build bridges and forge relationships in a world increasingly shattered by the specialization and fragmentation of knowledge" (Cardoso, 2022, p. 173), which highlights its relevance in our time.

Following this line of thought, it is possible to observe in Flusser (2018) that etymologically the words "design", "art", and "technique" have always been strongly connected, making it impossible to think of each of them as representing an essentially autonomous activity. The author writes about it:

> The Latin equivalent of the Greek term techné is *ars*, which actually means 'maneuver' (*Dreh*). The diminutive of *ars* is articulum—small art—and indicates something that revolves around something else (such as the articulation of the hand). *Ars* therefore means something like 'articulability' or 'agility,' and artifex ('artist') means 'impostor.' The true artist is a conjurer, which can be seen through the words 'artifice,' 'artificial,' and even 'artillery.' In German, an artist is a *Könner*, that is, someone who knows something and is capable of doing it, as the word 'art' in German, *Kunst*, is a noun derived from the verb 'can,' *können*, in the sense of being able to do something; but also the word 'artificial,' *gekünstelt*, comes from the same root (Flusser, 2018, p. 160).

The English noun "*design*", in turn, refers both to the idea of a *plan, purpose*, and *intention*, as well as to the *configuration, arrangement*, and *structure* (Cardoso, 2000). It originates from the Latin verb "*designo*", which can mean both

to *designate, indicate*, and to *mark, trace, represent*, or even to *order, arrange, regulate* (Faria, 2023). Thus, it is possible to perceive that the term is already ambiguous in its own formation, establishing itself between two meanings: an abstract one, in the realm of *conceiving*, and a concrete one, in the realm of *making* (Cardoso, 2000).

Given the above, Flusser (2018) believes that design ultimately establishes itself as "that place where art and technique walk together, with equal weight, making a new form of culture possible" (Flusser, 2018, p. 161). According to Bomfim (1997), even a possible theory of design would be *unstable*, as it would need to combine knowledge from various scientific fields and, therefore, would not have a fixed field of study, whether disciplinary or interdisciplinary. This is because the relationships between design and art are not only etymological but also historical, aesthetic, and technological.

The printing processes that today are assigned to the realm of fine arts, such as lithography (stone printing), woodcut (wood engraving), and intaglio (metal engraving), played a central role in the history of visual communication by giving rise to many of the foundations of design as a formal discipline (Meggs; Purvis, 2009). The first printing technique developed by humans was relief printing, the origin of which, although undefined, dates back at least to 2nd century China. (Meggs; Purvis, 2009). Its principle is the same as that of a stamp: a solid surface, usually wood, is carved in the areas that will not be reproduced, creating a relief image. A thin layer of viscous ink is then applied to this matrix, allowing the transfer of the engraved image onto a surface, such as paper or fabric, through pressure. This principle, in addition to enabling the production of the first graphic design pieces, such as banknotes and playing cards (Meggs & Purvis, 2009), also allowed the German engraver Johannes Gutenberg in the 15th century to create the metal movable type printing press, thus originating the age of printing.

Around the same time, intaglio engraving was created using metal plates. Its origin, like that of relief engraving, is uncertain: Vasari credits it to the Florentine goldsmith Maso Finiguerra (Hind, 1963); Hind (1963) and Meggs and Purvis (2009) attribute it to a German artist known only as the "Master of the Playing Cards". The process of producing a metal engraving is the opposite of that for wood engraving: the design is etched into the plate through grooves that hold the ink. During printing, which is done on a cylinder press, the soft paper penetrates the engraved areas and absorbs the retained ink, thus creating a velvety copy with raised areas in the image.

Metal engraving flourished throughout the 18th century, and its ability to produce fine lines and delicate details made it highly valued for creating labels, business cards, letterheads, headers, and proclamations (Meggs & Purvis, 2009). This process, called intaglio printing, is still widely used in the graphic industry today, whether in an artisanal form (copperplate engraving) or for producing banknotes, stamps, and security documents, or in its industrial version, rotogravure. Created around 1784, rotogravure still dominates the high-volume print market, especially for packaging.

In 1796, the Austro-German actor and playwright Alois Senefelder, seeking an economical printing method for his texts and scores, created lithography (Meggs & Purvis, 2009). Unlike relief and intaglio engravings, the main characteristic of lithography is not incision, but a chemical principle. The image is drawn with a series of greasy materials on a limestone surface that is highly receptive to water. The incompatibility between water and grease creates areas on the matrix surface that either attract or repel the lithographic ink, which, being oily, adheres only to the drawn areas. This ink, applied to the drawn stone using a special roller made of leather or rubber, is then transferred to paper through a flat press. Compared to other printing technologies of the time, these characteristics allowed lithography to establish itself as a process that was easier, faster, and cheaper, which led to its dominance in the 19th-century graphic market. Thus:

> For the first time in history, it became possible to print images on a large scale and at a very low cost. The widespread dissemination of engravings and other illustrated prints at affordable prices was considered by some contemporaries to be at least as revolutionary in its social impact, if not more so, than the invention of the printing press itself (Cardoso, 2000, p. 44).

In 1881, French legislation allowed the free posting of advertisements anywhere except on churches, polling stations, or areas reserved for official notices. This led lithography to become central to a prolific industry: that of posters. As a result, many artists of the time found in this medium a new source of income. The works of artists such as Jules Chéret (Figure 1) and Henri de Toulouse-Lautrec (Figure 2), for example, are often considered some of the forerunners of graphic design, as they influenced an entire generation to create advertising in a more artistic and visually impactful manner (Meggs; Purvis, 2009).

Lithography also provided a significant advancement in the field of type design, which had previously been restricted to the technical domain of type engravers:

> Typographers and enthusiasts of good typography and printing were astonished by the fact that the design was created on the artist's drawing board rather than on the metal plate of the printer's press. Lacking tradition and freed from the constraints of typographic printing, designers could invent any typeface that satisfied their imagination and explore an unlimited palette of bright and vibrant colors, which had previously been unavailable for printed communication (Meggs; Purvis, 2009, p. 200-201).

Since then, lithography has evolved into the current process known as *offset lithography*, or simply *offset*. It retains the same principle of repulsion between water and grease but replaces the stone matrix with a thin aluminum plate mounted on a rotating cylinder. This plate, which is no longer drawn but photo-chemically etched from a *photolith*, does not produce a direct impression on the paper. Instead, it transfers the image to another cylinder made of polymer, which then prints the image.

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Source: Available at: https://www.yaneff.com/collections/jules-cheret/products/pastilles-poncelet. Access on: Apr. 26, 2024.
Figure 1. *Pastilles Poncelet*, 1896. Lithography by Jules Chéret.

Source: available at: https://www.metmuseum.org/art/collection/search/333990. Access on: Apr. 26, 2024.
Figure 2. *Moulin Rouge: La Goulue*, 1891. Lithography by Henri de Toulouse-Lautrec.

Due to these advancements, artisanal printing processes have become limited to artistic and educational purposes. However, today, as design has reached *institutional maturity* (Cardoso, 2000), the numerous technical and aesthetic possibilities offered by engraving have sparked interest among professionals who seek to add artistic value to their projects. For example, there is a growing demand in Brazil for small print shops specializing in alternative printing processes, such as Lithos (lithography and screen printing), Risotrip (risography), *Tipografia do Zé* (letterpress), among others.

The series of posters *Limpa, Linda, Muda* (Figures 3A and 3B) and *O Futuro? Adeus Pertences* (Figure 3C), created by the renowned designer Rico Lins and printed at Gráfica Fidalga, which specializes in paste-up posters, highlight how this search for artisanal materiality adds a certain "aura" of "authenticity" and "uniqueness" (Benjamin, 1985) that is often lost amid industrial mass production.

A   B   C

Source: available at: https://www.ricolins.com/portfolio/limpa-linda-muda. Access on: Apr. 26, 2024.
Figure 3. Paste-up posters of the séries *Limpa, Linda, Muda* and *O Futuro? Adeus Pertences* series, 2017. Design by Rico Lins. Printed by Gráfica Fidalga.

Photography, in turn, was born in a symbiotic relationship with design, the fine arts, and other developments of visual culture in modernity. Its invention in 1826 was the result of the search by, among others, French inventor Joseph Nicéphore Niépce, for the creation of engraving matrices that did not rely on his limited drawing skills. Not by chance, the process was named *heliogravure*, which means "*engraving by the sun*" (Meggs & Purvis, 2009). At this point, although credit is often given to Niépce, historian Geoffrey Batchen (1997) published a list of 24 people claiming the title of inventor of photographic technology from the year 1839. These claimants were not only from France or England but also from other countries such as Germany, Norway, Spain, the United States, and Brazil.
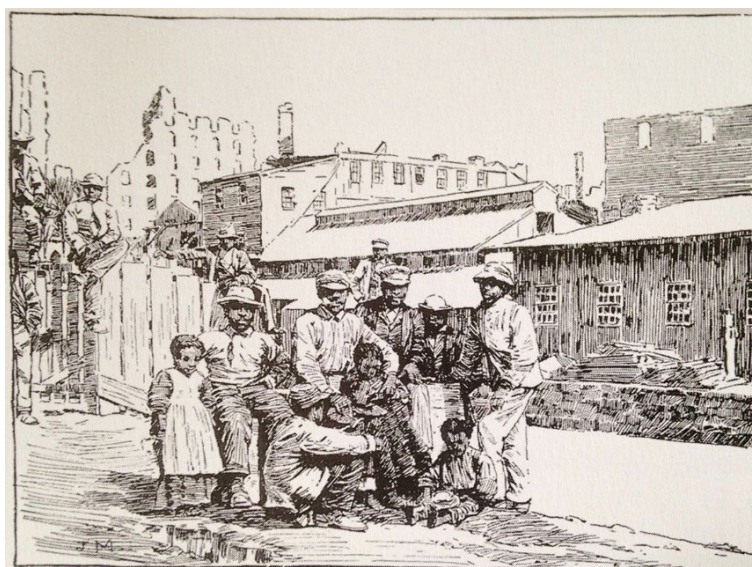
After the advent of photography, the first photomechanical prints date back to the early 1870s, but the process was not widely used until the 1880s (Cardoso,

2000). Until then, photography was extensively used as a support for the development of illustrations made through wood engraving. An example is the photograph *Group of freedmen, including children, gathered by a canal in Richmond, Virginia* by Mathew Brady (Figure 4), which was transformed into a wood engraving by John MacDonald (Figura 5):

Source: available at: https://digitalcollections.nypl.org/items/510d47e1-405e-a3d9-e040-e-00a18064a99. Access on: Apr. 26, 2024.
Figure 4. *Group of freedmen, including children, gathered by a canal in Richmond, Virginia*, 1865. Photography by Mathew Brady.

Source: available at: https://digitalcollections.nypl.org/items/510d47e1-405e-a3d9-e040-e-00a18064a99. Access on: Apr. 26, 2024.
Figure 5. *Freedmen on the Canal Bank at Richmond*, c. 1876-1881. Woodcut by John MacDonald.

> Arriving in Richmond, Virginia, shortly after the evacuation and the fire that destroyed most of the commercial district on April 2, 1865, when Union forces defeated the Confederate strongholds in the city, Brady turned his camera toward a group of former slaves who had suddenly found themselves free. A moment in time was preserved; a historical document that would help people understand their history was captured with the timeless immediacy of photography. As there were no means to reproduce this image at the time, *Scribner's* magazine turned to an illustrator to reinvent the image in the language of wood engraving so that it could be reproduced (Meggs; Purvis, 2009, p. 190-191).

This intrinsic connection between photography, design, and the fine arts can also be seen in daguerreotypes and *carte de visite* (small photographic portraits of 6 × 10 cm used in the 19th century as calling cards). Although initially treated as archaic design pieces, they are now appreciated as works of art. The pharmaceutical labels produced in São Paulo by the Franco-Brazilian artist Hercule Florence (Figure 6), in addition to enjoying similar prestige, are also considered the oldest photographic records in the Americas (Wanderley, 2015).

Source: available at: https://ihf19.org.br/pt-br/hercule-florence/inventos/fotografia. Access on: Apr. 26, 2024.
Figure 6. Photography of nine pharmacy labels, c. 1833. Contact print on photosensitive paper by Hercule Florence.

However, while the historical divergence between photography and art has now been overcome (Gombrich, 1999), a deeper reflection on its relationship with design still seems imperative. This is because, "just as typography, photography has always lived a technical, historical, and aesthetic marriage with graphic design. However, unlike typography, photography is rarely seen as one of the main resources in design" (Lupton & Miller, 2011, p. 121). The work of contemporary photographers like David Hiscock (Figure 7), for example, which circulates in both art galleries and advertising pieces, highlights the complexity of the previously described landscape. Naturally, this does not imply that every good designer is also a good photographer

Source: available at: https://www.1stdibs.com/furniture/wall-decorations/photography/david-hiscock-photographic-male-nude-composition-original-signed-work-1980s/id-f_28865132. Access on: Apr. 26, 2024.
Figure 7. *Photographic Male Nude Composition*, c. 1980. Photography by David Hiscock.

or visual artist (and vice versa), but it demonstrates that these professionals have always shared the same issues and creative processes.

This holistic view of design was widely advocated and practiced by László Moholy-Nagy (1947), a Bauhaus professor who introduced the idea that *design* is not a profession but an attitude. Alongside his teaching, he equally devoted himself to experimental films, theater pieces, photography (Figure 8), typography, painting, and sculpture, which supported his idea that there is no hierarchy among the arts. For Moholy-Nagy (1947), the internal and external characteristics of a plate, a chair, a table, a machine, a painting, or a sculpture should not be separated:

> There is design in organization of emotional experiences, in family life, in labor relations, in city planning, in working together as civilized human beings. Ultimately all problems of design merge into one great problem: 'design for life'. In a healthy society this design for life will encourage every profession and vocation to play its part since the degree of related-ness in all their work gives to any civilization its quality. This implies that it is desirable that everyone should solve his special task with the wide scope of a true "designer" with the new urge to integrated relationships. It further implies that there is no hierarchy of the arts, painting photography, music, poetry, sculpture, architecture, nor of any other fields such as industrial design. They are equally valid departures toward the fusion of function and content in "design" (Moholy-Nagy, 1947, p. 42).

Based on the ontological thoughts of Moholy-Nagy (1947), Lupton and Miller (2011), Bomfim (2017), Flusser (2018), and Cardoso (2022), as well as the

Source: available at: https://moholy-nagy.org/art-database-detail/172. Access on: Apr. 26, 2024.
Figure 8. *Photogram*, 1926. Photogram by László Moholy-Nagy.

etymological, technical, and historical trajectory that interconnects art, design, and photography—all previously presented—the processes of subjectivation of the author of the following photographic images address the impossibility of separating these disciplines into distinct fields of knowledge. Just as design is a visual art (ars, techné), photography not only is a part of design but can also be treated as design. It is in the viewfinder, in the way it frames the subject, that the photographer first encounters *design* in its most essential aspects: form, lighting, color, repetition, rhythm, contrast, depth, scale, movement, flow, emphasis, emotion, among others (Webb, 2014). Moreover, the emotional response that these choices imply is crucial for the success of a project, as a well-used photographic image evokes feelings that allow the audience to grasp the intended message more deeply. Conversely, when misused, it can even contradict the message (Ambrose & Harris, 2009).

Based on the subjectivation processes of the authors in this article, it is not merely a matter of considering fields but of highlighting that the term "design" has, in contemporary times, reached a meaning that transcends labor activity and functional aesthetics. Therefore, as Peixoto (2018) argues, it is important for contemporary design to articulate ideas from other fields of knowledge so that it can do more than just aestheticize and functionalize the world; it can act revolutionarily within it. For more:

> The strict conditioning of form to function removes from the user the aesthetic experience of the object, the possibility of empathy, and, therefore, inhibits their ability to generate meaning.
> [...]

> The endless repetition of thought models that are slow to free themselves from modernist functionalism, leading to widespread lack of creativity, is precisely due to a lack of poetry.
> [...]
> Trivial objects and graphic pieces can surprise by transcending their mere utility, revealing new meanings. In this sense, we can qualify a design object as poetic whenever its use surpasses its predictable functionality.
> [...]
> The distinction in design projects that assume an imprecise function, potentially unfolding into various undefined functions, including becoming a contemplative object for aesthetic enjoyment, lies in the simultaneous display of its potential to be and not to be a functional object (Peixoto, 2018, p. 152).

It is important to clarify here that, in addressing and advocating for this *expanded* view (Krauss, 2008) of design, the subjectivation processes of the authors of this article do not aim to propose an epistemological discussion of the fields. Instead, they present an understanding shared by authors more aligned with the conceptual approach of the photographic essays that comprise this exploratory study. This approach seeks to strengthen the creation processes of these essays in their technical, aesthetic, and poetic appeals, as well as to contribute with one more among many possible views regarding the ethos of design.

PHOTOGRAPHY AND VISUAL CULTURE: KNOWLEDGE, POWER AND SUBJECTIVATION

According to Martins (2012), this type of artistic-imagery hybridization is a powerful way to describe *visual culture*: an emerging field of investigation that crosses disciplines and methods to explore not only the aesthetic value of images, but also their impact on culture. The focus shifts from traditional artistic categories and academic disciplines to exploring the relationships between art and life, reflecting our diversity and complexity. Freedman (2006), in turn, synthesizes visual culture as "everything that humans form and feel through vision or visualization, and that shapes the way we live our lives" (Freedman, 2006, p. 11).

To understand the scope of the emotional appeal of images in articulating subjectivities through expressions such as *drama, feelings, affections, life, complexity*, etc., Michel Foucault's thought provides a powerful tool, as it advocates for a broader understanding of the connections between *power, knowledge*, and *subjectivation*. The way we relate to our own bodies, to others, and to society and its institutions is fundamental to constructing a more authentic life, both personally and socially. Therefore, by treating the body as part of the image creation processes, we also form ethical values that shape our conduct toward ourselves and the world.

The dynamics between the subject and their subjectivity were the central theme of the third and final phase of Foucault's thought. In a critical approach to traditional philosophical currents, which preached an autonomous and immutable nature of the human being, Foucault proposes that the individual is, in fact, constituted through *processes of subjectivation* (Foucault, 2006) — relations of knowledge and power that constantly shape and transform the individual, thereby making

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them a subjective subject. In other words: we are all constructed by the historical and social experiences we undergo.
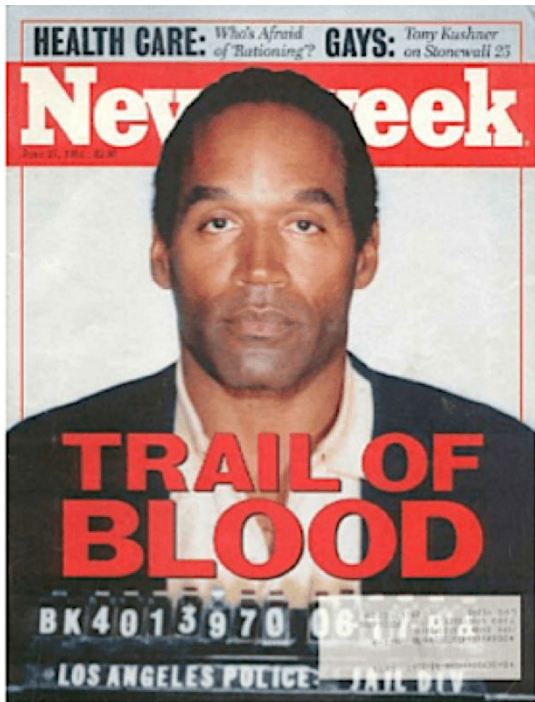
These relations of power and knowledge to which our bodies are constantly subjected influence our behavior, and subjectivation determines our ethical stance toward them (Silva, 2018). Therefore, if everything produced by the individual is a materialization of their own subjectivity (influenced by the context in which they are embedded), no perspective on social production is stable, as the subject and object, the viewer and the model, continually reverse their roles (Foucault, 1999). This is an argument that becomes indispensable in design to aid in deconstructing the idea of autonomy and *neutrality* in the creation processes.

Body, knowledge, and power are intrinsically interconnected: power not only governs bodies but also produces knowledge about them, just as knowledge also produces the power to govern them. This complex network of influences is reflected in all spheres of life, including the way we perceive the world, culture, and especially, images. Design can then be seen as a mirror, reflecting the interconnection between power, knowledge, and human experience. To highlight how this dynamic of subjectivation processes specifically acts in design, the exploratory research that leads to this article takes the liberty of using photography not only as an expressive medium but as a paradigm of design as a whole. This choice itself is evidence of the subjectivation processes of the author of the images that will be presented later.

As an important tool, photography exerts significant influence on society. This becomes evident when considering that the photographer, possessing the knowledge of how to transform a given subject into an image, can deliberately manipulate the way that subject is assimilated. An example of this is the discrepancy between the images of O. J. Simpson (actor and former American football player accused of murdering his ex-wife) published on the covers of *Newsweek* (Figure 9A) and *Time* (Figure 9B). The different treatments given to the same image not only reflected the editorial views of each publication but also influenced the public perception of the case. This is, for example, how knowledge creates power.

On the other hand, institutions, governments, or influential groups, such as the media, advertising, and fashion, can also use photography to manipulate public perception, but through power. In political or authoritarian contexts, this power can be used to control the dissemination of certain images considered subversive, which can affect the perception of important events and issues. Advertising and fashion have the power to use photography to create and reinforce stereotypes, beauty ideals, and consumer desires. This, in turn, influences how people see themselves and the world around them.

German photographer Erwin Blumenfeld, for example, achieved worldwide notoriety with his images for *Vogue* and *Harper's Bazaar* magazines between the 1950s and 1960s. Blumenfeld redefined the concept of female beauty in fashion photography, ignoring the obvious and readily recognizable in search of a deeper, nobler, more mysterious, and protected side within the person (Figure 10). Paying attention to the personal and commercial aspect of his production,

<div align="center">A   B</div>

Source: available at: https://www.artdoc.photo/articles/truth-in-photography-perception-myth-and-
-reality-in-the-postmodern-world. Access on: Apr. 26, 2024.
Figure 9. Covers of *Newsweek* and *Time* about the O. J. Simpson case, 1994.

Source: available at: https://www.artnet.com/artists/erwin-blumenfeld/nude-in-broken-mirror-new-
-york-d3LpWGO9L3CXabCTFXQzrA2. Access on: Apr. 26, 2024.
Figure 10. *Nude in broken mirr*or, 1944. Photography by Erwin Blumenfeld.

the photographer investigated the beauty of models, mannequins, busts, sculptures, mirrors, and veils. Faces and bodies were stretched, squeezed, multiplied, fragmented, and softened. In the lab, he experimented with the effect of reticulated negatives, a texture achieved by freezing the film while it was still wet. However, he was always very careful not to let technical manipulation steal the attention from the subject. His intention was to free the object from its physical and spatial limitations, replacing the feeling of distance with subjective, unstable, and imprecise separation (Silva, 2017, p. 60).

Another very relevant case in this regard was the controversy surrounding Victoria's Secret's *The Perfect Body* campaign, which sparked an intense debate about the beauty standards promoted by fashion and advertising. The campaign, launched in 2014, was widely criticized for presenting slim models as the only ideal of a perfect body (Figure 11). The controversy highlighted the power these groups have to influence self-esteem and perceptions of beauty, normalizing often unattainable standards. This case underscored the need for a change in the discourse and representation of beauty in the fashion and advertising industries, leading several brands, including Victoria's Secret itself, to promote a more realistic and inclusive representation of beauty (Fonseca, 2014).

Source: available at: https://exame.com/marketing/victoria-s-secret-celebra-corpo-perfeito-e-irrita-
-mulheres. Access on: Apr. 26, 2024.
Figure 11. Photography for Victoria's Secret *The Perfect Body* campaign.

The space also offers dynamics of life and work that impact the relationships of power, knowledge, and subjectivity. The place of people's lives, as well as the mode of occupation and circulation through territories, guides a discussion by Michel Foucault (2013) when he defines *heterotopia* as a place that opposes and neutralizes all others. Amid the Covid-19 pandemic, cyberspace (the virtual environment

created by the internet) became a kind of *digital heterotopia* in which various forms of resistance to isolation, such as birthday parties, meetings, musical rehearsals, and theater plays, could develop, even if virtually.

Similarly, in the face of the need to stay alive, photography, an inherently in-person activity, also expanded its presence in the virtual environment: online photography, produced from capturing video call sessions, is yet another example of how a power — the imposition of social isolation — created spaces of resistance for the development of knowledge in the realm of image creation. For Foucault (1998, p. 241):

> Resistance necessarily occurs where there is power, because it is insepa-rable from power relations; thus, resistance both constitutes power re-lations and, at times, is the result of these relations. As power relations are everywhere, resistance is the possibility of creating spaces for struggle and of enabling possibilities for transformation everywhere.

Online photography, even after the period of isolation, retains a significant advantage: it allows photographers to create projects with people from all over the world, which is a considerable benefit not only in the field of photography itself but also in design. In 2023, for example, the Ukrainian photographer based in New York, Dina Litovsky, conducted a remote photo shoot of the activist Olena Shevchenko (Figure 12), who lives in Ukraine. Using only an app, the photographer, who regards this process as "one of the futures of photography" (Ewing, 2023), was

Source: available at: https://time.com/6257849/olena-shevchenko-2. Access on: Apr. 26, 2024.
Figure 12. Portrait of Olena Shevchenko, 2023. Online photography by Dina Litovsky.

able to connect to Olena's phone and produce images that were featured in a special edition of *Time Magazine.*

Litovsky also contributed to the *New York Times Magazine*, in the article *"Their Final Wish? A Burial in Space"* (Figure 13), where she remotely photographed seven people from various parts of the world who had signed up to include a vial with their future remains in a rocket to be launched into space:

Source: available at: https://www.nytimes.com/2023/11/11/insider/remote-photo-shoot.html. Access on: Apr. 26, 2024.
Figure 13. Portrait of Lemuel Patterson, 2023. Online photography by Dina Litovsky.

> The idea was to create a collection of portraits of these space-bound subjects. [...] But Ms. Litovsky was headed to Japan in October and wouldn't be able to travel around the world to shoot the subjects in their homes in places like Reunion Island, in the Indian Ocean, and Topeka, Kansas.
> "I said 'I'd love to, but I can't do it,' " Ms. Litovsky recalled in an interview. But after sleeping on the idea, she emailed Ms. Ryan a question: What if we do it remotely?" (Ewing, 2023, our translation)

The works of Dina Litovsky presented earlier notably illustrate Michel Foucault's thinking about how powers create knowledge. By exploring the potentials of online photography, the photographer transcends geographical boundaries and, in doing so, highlights the importance of resistance movements in the face of powers that constrain the processes of image creation. Resisting — exploring new techniques, styles, materials, themes, and approaches — is a way to stimulate innovation and originality; it encourages the creation of works that surprise, provoke, challenge thinking, and expand the boundaries of what is considered conventional.

This understanding broadens the practical experience in the virtual photo essay titled *Metamatéria: Anima*, based on the heterotopias discussed by Michel

Foucault in the 1960s. The images that comprise this project, produced by Rafael Frota under the guidance of Prof. Dr. Jofre Silva, were created during the year 2023 as part of the master's research *Design and Photography in the Mediation of the Body as Aesthetic Experience*, ongoing in the Graduate Program in Design at the School of Fine Arts, Federal University of Rio de Janeiro (UFRJ).

Metamatéria: Anima addresses the movements of resistance of the body and space through the technical, aesthetic, poetic, and conceptual possibilities of online photography, as well as its capacity to function as a counter-space of resistance to the powers exercised over us. Drawing from Foucault's (2011) thinking, the processes of subjectivation and asceticism offer opportunities to outline an 'aesthetic of existence' towards the design and project of a "different life, different world".

The images were created using the process of screen *re-photography* (Figure 14) from a photo shoot conducted via video call app and were worked on to seek their possible aesthetic identity within the limitations of the medium, such as low resolution, moiré, chromatic aberrations, and high granulation. The results presented below (Figures 15 and 16), as well as other works that are part of the project, can be viewed on the laboratory's website: https://phadec.eba.ufrj.br/project-view/metamateria-anima/.
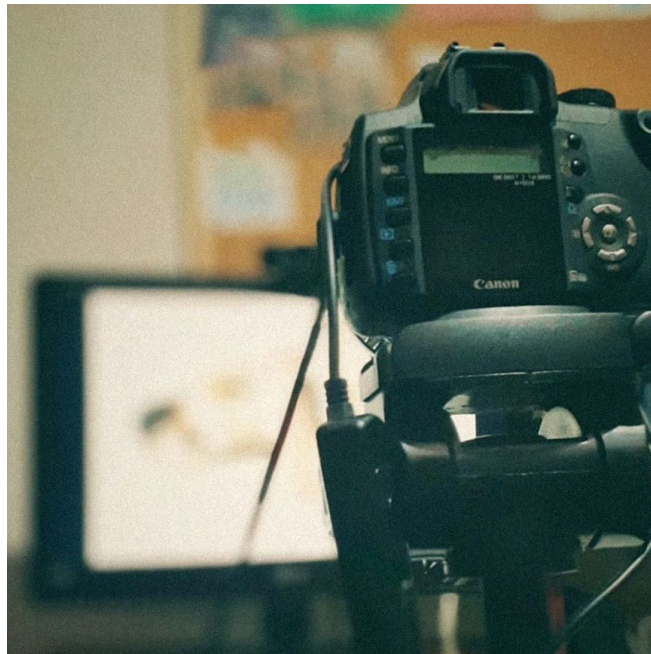
Figure 14. Capture of video call session with digital camera (rephotography).

FINAL CONSIDERATIONS

This discussion addressed how design, photography, and the visual arts are ontologically inseparable disciplines—an approach that contrasts with traditional ideas of autonomy and neutrality in design processes. Thus, this text presented how these three disciplines not only influence each other, but are also shaped by the
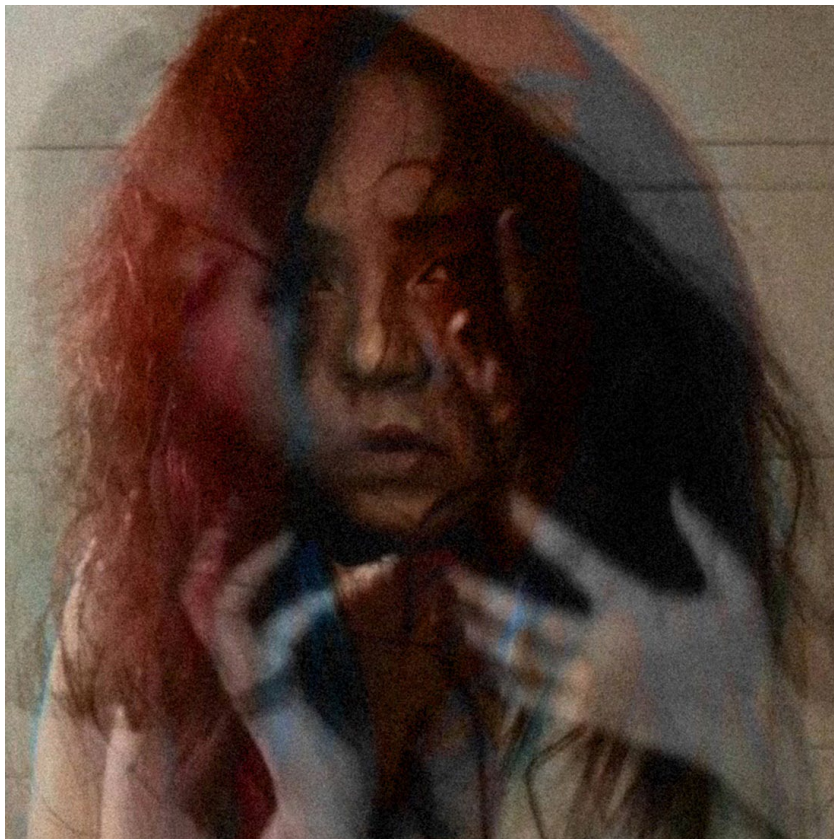
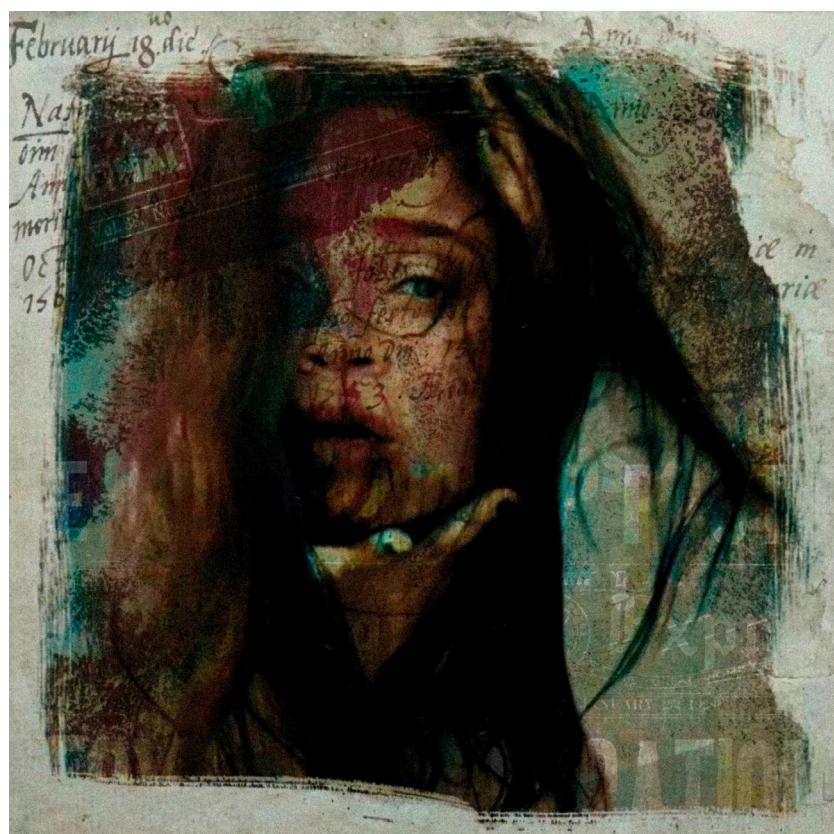Figure 15. Study for the *Metamatéria: Anima* project.

Figure 16. Study for the *Metamatéria: Anima* project.

discourses, practices, and values of their time. This debate remains highly relevant as it challenges established concepts and allows for a deeper exploration of the image as a vehicle for understanding the world and reality.

With this purpose, the aim was to highlight that design can be considered an intrinsically hybrid activity intertwined with the visual arts. This connection traces back not only to its etymology but also to the history of art, which shows how printmaking processes—most notably lithography, woodcut, and etching—were the precursors to contemporary graphic industry. Printmaking, in fact, is increasingly attracting the interest of designers; this reflects a growing appreciation for the artisanal and artistic expression as differentiators in a project, further bringing together the fields of design and art.

Although it already emerged in symbiosis with design and the visual arts, photographic technology has not always been recognized as an intrinsic part of these two fields of knowledge. However, contemporary practice reveals an increasing intersection between them, illustrated in the text by the works of photographers such as David Hiscock and Erwin Blumenfeld, whose works circulate between art galleries and advertising pieces. Furthermore, drawing from Michel Foucault's thought, the text addresses the role of photography in the construction of subjectivities and its influence on public perception.

Finally, online photography, a mode conducted over the internet that rose to prominence during the COVID-19 pandemic, demonstrates how resistance and innovation are inseparable from the relationships between knowledge and power outlined by Foucault. Therefore, by challenging conventional limits and stimulating creativity, this new photographic practice represents not only a response to the restrictions imposed by power but also an opportunity to expand the horizons of image creation.

Given the considerations gathered here, the greater intention is to provoke a broader and deeper reflection on design, encouraging the reader to understand it in a holistic manner. From this perspective, it becomes possible to promote a dialogue about the role of the image in contemporary visual culture, which enriches educational formation and encourages the pursuit of impactful and culturally relevant transformative solutions. Ultimately, understanding design as a dynamic and interconnected whole can catalyze a more conscious and critical appreciation of the visual expressions that shape everyday professional practices. Undoubtedly, it even becomes possible to envision a path toward a type of existence leading to a different life, a different world, even when it seems impossible and somewhat utopian.

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The construction of a modern ethos in Rio de Janeiro: illustrated magazines and published objects

A construção de um ethos moderno no Rio de Janeiro: revistas ilustradas e objetos publicizados

Melba Porter[I] (iD), Tatiana Siciliano[II] (iD)

ABSTRACT

Through the analysis of objects and technological devices published in advertisements in *Kósmos*, an illustrated magazine and important documentary support from the first years of the 20th century, this article sought to understand how Rio society assimilated the modernization of the Federal Capital, what effects it produced interaction with cars, electric trams, heavy machines, and other modernisms that went beyond those of an urban order, represented in the press of the time. For the study, all editions of the six years of the magazine *Kósmos* were analyzed, sometimes making use of intertextual comparisons with the narrative of other publications, such as *Revista da Semana*. As demonstrated in the study, the hypothesis is that, as "windows" for the understanding of modern culture, the technological devices and other objects published on the pages of the press brought more than revelations of how the reconfiguration of public space took place, of new ways of seeing and being in relation to modernity. With their own symbols, they helped in the aspiration and construction of a new moral value, character and a new lifestyle for the people of Rio.

Keywords: Illustrated magazines. Modernity. Rio de Janeiro. Advertising. Objects.

RESUMO

Por meio da análise de objetos e aparatos tecnológicos publicizados em propagandas da Kósmos, revista ilustrada e importante suporte documental dos primeiros anos do século XX, este artigo buscou alcançar entendimento sobre como a sociedade carioca assimilou a modernização da Capital Federal, que efeitos produziu a interação com carros, com bondes elétricos, máquinas pesadas e outros modernismos que iam além das de ordem urbana, representados na imprensa da época. Para o estudo, foram analisadas todas as edições dos seis anos de publicação do impresso periódico. Como demonstrado no estudo, a hipótese é que, como "janelas" para o entendimento da cultura moderna, os aparatos tecnológicos e outros objetos publicizados nas páginas da imprensa trouxeram mais que revelações de como se deu a reconfiguração do espaço público, das novas formas de ver e ser na relação com a modernidade. Com simbologias próprias, auxiliaram na aspiração e na construção de um novo valor moral, seu caráter e um novo estilo de vida para os cariocas.

Palavras-chave: *Revistas ilustradas. Modernidade. Rio de Janeiro. Publicidade. Objetos.*

ILLUSTRATED MAGAZINES AND THE IMAGINARY
OF THE EUPHORIC TIMES OF RIO DE JANEIRO

At the beginning of the 20th century, illustrated magazines showcased modernity by presenting an "aesthetics of spectacle" (Martins, 2008) through photographs, advertisements, cartoons, and articles by chroniclers who supported urban transformations and mentalities. This required educating sensibilities to shape a *Homo urbanus*, adapted to metropolitan life. Large cities — as Georg Simmel (2005) explained — influenced their inhabitants' mental organization due to the accelerated pace of interactions, impersonal relationships mediated by monetary predictability, and the dominance of rational calculation. However, urban life also gave rise to a culture of spectacles and visual culture, including illustrated magazines, which sharpened the senses and helped audiences, spectators, and readers construct their cognitive frameworks about the urban experience.

This new gaze, according to Jonathan Crary (2012), is the product of a historical construction that became radical at the beginning of the 19th century, when optical devices, scientific knowledge, and institutions were amalgamated and reorganized, breaking the Renaissance visual paradigm. This provided the emergence of a new type of observer in the West at the end of the 19th century and into the 20th century, a "subjective observer" totally different from those of previous centuries. The reorganization of this observing subject's gaze occurred before the emergence of photography and cinematography, as it was related to a new ordering of knowledge, discourse, and social practices that would come to shape the forms of the visual entertainment and spectacle industry in the 20th century.

The importance of the illustrated magazine in disseminating consumer practices during this phase of industrial capitalism is also highlighted. The new needed to be announced and consumed, quickly becoming obsolete, which provided new themes for the pages of illustrated periodicals. Such publications served as a primer on what it meant to be modern and how to adapt to the radiating poles of "civilization," such as Paris and London. This was particularly relevant for the inhabitants of Rio de Janeiro, the Federal Capital of Brazil, recently remodeled under the administration of Rodrigues Alves (1902-1906) by Mayor Pereira Passos. It is worth noting that, during the First Republic, the city served as a showcase of progress (Neves, 1991), at least as an aspirational idea of progress. Through a visual and fragmented aesthetic similar to a panel, illustrations, cartoons, snapshots, chronicles, poems, and advertisements emerged, juxtaposed on its pages. All of this was associated with a more sophisticated graphic treatment and better paper and printing quality than newspapers. Visuality allowed heterogeneous readers, not always highly literate, to "read" and browse the news, providing a spatial and temporal map for the residents of Rio de Janeiro.

Thus, the pages of illustrated magazines symbolically provided materiality to the dream of the Brazilian elite, from its Capital, of being able to compare itself to civilized countries. "Rio Civiliza-se:" this was the catchphrase that impelled public figures, the elite, and opinion makers, writers, and chroniclers of the time to criticize

old habits and defend physical and moral reforms (Siciliano, 2014). In the city, the visuality of new times was shaped by the tricks of urban reforms, and the construction of taste as a practice of distinction between its inhabitants (Bourdieu, 2007) was configured by the printed media, especially illustrated magazines, through clothing and objects. These objects expanded their utility to become "objects of desire" (Forty, 2013).

To understand how illustrated magazines contributed to the development of modern lifestyle sensibilities, part of this research is presented in this article. We chose to use the textual and visual material present in the advertisements of *Kósmos* magazine. And why *Kósmos*? *Kósmos* was published from January 1904 to April 1909, covering much of the historical period of the federal capital's modernization process. With editorial direction by Mário Behring and later by Jorge Schmidt, it represented the vision of the bourgeois elite of the time. By incorporating technological innovations on its pages, many inspired by foreign publications — *Kósmos* called itself a magazine modeled after European and North American publications in its opening editorial — becoming a symbol of the modern press. Its issues, available in the digital collection of the National Library, mentioned the administrative policies of the period while narrating the ways of being, seeing, and behaving in Rio de Janeiro. Above all, *Kósmos* embodied the visual and material culture of a modernizing project for Brazil, which presented itself as two distinct countries: one in the interior, marked by *coronelismo*, uninterested in including the nation among the world's greats and where political support actually came from, and the federal capital, a space of discontinuity, often used as a metaphor for the country, although far from it. Both were registered within the same Republic circle.

Just like *Revista da Semana*, *Fon Fon*, *O Malho*, and other publications from the early 20th century, *Kósmos* helped build the imagination of the "euphoric times" of the Federal Capital and transform the Avenue, materialized by the recently opened Rio Branco, into a place to see and be seen. In four and a half years, *Kósmos* became the main spokesperson for this imaginary of progress, consolidating a "new urban mythology" (Dimas, 1983).

With elaborate language, averaging 50 pages per edition and larger in size than other magazines (32 cm × 26 cm), *Kósmos* was printed monthly, with copies sold for two thousand *réis* (Brazilian currency at the time). Additionally, it had an extensive list of collaborators, including Afonso Arinos, Alberto de Oliveira, Artur Azevedo, Capistrano de Abreu, Coelho Neto, Euclides da Cunha, Felix Pacheco, Francisco Braga, Gonzaga Duque, João Ribeiro, João do Rio, José Veríssimo, Lauro Muller, Lima Campos, Manuel Bonfim, Medeiros and Albuquerque, Olavo Bilac, Oliveira Lima, Raul Pederneiras, and Vieira Fazenda.

This work uses advertisements from *Kósmos* magazine as a significant documentary source from the early 20th century. Through these traces, it reflects on how a new ethos and worldview were constructed in the then Federal Capital of Brazil. The concepts of ethos and worldview are understood here from Geertz (1989,

p. 143-144), with ethos being the moral and aesthetic style of a group or society, and worldview as "the framework that elaborates things as they are," "containing the most comprehensive ideas about order."

Initially, advertisements from a series of 24 editions of the magazine were analyzed, published in 1904 and 1905, the first years of the magazine's publication and the years when modernization work in the federal capital was also underway. This first section aimed to develop the model for descriptive and interpretative analysis of evidence during the empirical observation phase. As an initial methodological criterion, advertisements referencing modernity in the text or image were selected to identify the terms and associations used. We sought advertisements that served as "windows" for understanding the modern ethos of the early 20th century, often associated with the materiality of scientific-technological achievements. Through this approach, we encountered many objects, their design, and all their symbolism of the Europeanized urban-modern experience.

Of the 29 highlighted advertisements, only three featured images of men, women, or children. In contrast, the majority showcased the opulent and complex machinery of the printing and photographic industries, such as boilers, gas stoves, lamps, and gramophones. These advertisements materialized the desired progress through the promoted technological devices. In Rio de Janeiro at the turn of the 19th to the 20th century, there was a need to aspire to and experience new moral values and lifestyles, embracing beauty and cleanliness.

Such technological devices not only reflected modernity but also facilitated the assimilation of an urban culture. According to Forty (2013), in his studies on the history of design, objects serve as vehicles of interaction and social exchange, and he describes how goods and their uses evolved as they began circulating globally. From a social perspective, Grant McCracken (2015) argues that objects are crucial for materializing cultural categories. He contends that objects provide a means to express, organize, and categorize an entire culture. Goods offer a tangible manifestation of culture, enabling individuals to visually discriminate and distinguish culturally specified categories. Ultimately, goods and their uses contribute to shaping and defining cultural order and spaces.

An analogy can be drawn between the concepts of American anthropologist Grant McCracken (2003; 2015) and his British colleague David Miller (2013) regarding the power of objects, which are not merely accessories but crucial in defining the individual. As Miller (2013, p. 140-141) observes, "We think that [...] we are free agents who can do this or that with the material culture we possess. But we cannot."

Building on the ideas of Grant McCracken (2003; 2015), Adrian Forty (2013), and David Miller (2013), the analysis of advertisements from the modernization period of the federal capital aimed primarily to identify which objects were featured. The selected advertisements not only showcase these objects but also reflect the transformations and emerging lifestyles of the era. Thus, secondary questions were formulated to guide the research: What objects were deemed modern by Rio de Janeiro society at the dawn of the 20th century?

KÓSMOS ADVERTISEMENTS AND THE MATERIALIZATION OF MODERNITY IN RIO DE JANEIRO

But what Rio de Janeiro was this that the illustrated magazine *Kósmos* depicted as the stage for an ongoing civilizing process? In the then federal capital, numerous changes were unfolding, influenced by the European model of transforming other capitals, such as Paris and London, into suitable environments for what Walter Benjamin (2009, p. 43) referred to as the "phantasmagoria of capitalist culture." During this period, historiography notes a time of relative political peace and economic growth in Europe and the United States — thanks to the balance between expansion and consumption, a result of urban, industrial, and technological development. This era is often referred to as the *"Belle Époque,"* [1] a term associated with a time when countries like Brazil also enjoyed political and economic stability, enabling them to align with the modern European imagination. This was the moment to materialize the plans and ideas of engineers and sanitary reformers who, since the Second Brazilian Reign, had aimed to bring the lights of progress to the "capital of the Empire" and dispel the aura of backwardness surrounding the "capital city." "It was time for the ugly caterpillar city to metamorphose into a pleasant butterfly city and become a metonym for Modern Brazil" (Siciliano, 2011, p. 11).

Urban reforms alone would not be sufficient to eliminate all associations with the colonial, backward, ugly, and dirty past. Mobility and order were considered essential for advancing commercial activity, growth, and progress. It was necessary to redefine the city not only in terms of its physical layout but also in terms of behaviors and lifestyles, influenced by the concept of *habitu* [2] as described by Bourdieu (2007). According to Bourdieu, it is not merely economic conditions but also tastes, preferences, and lifestyles that position individuals within the social space. As Tatiana Siciliano (2011) explains, to align with the European model, more formal mechanisms for transforming customs were required to suppress those perceived as influenced by a Portuguese-African spirit and replace them with "civilized" habits.

Pereira Passos played a crucial role as an "agent of progress," imposing urban order through disciplinary control and the introduction of new codes of civility. This occurred despite vigorous public debates from groups that opposed the juggernaut of civilization. Through decrees and bans on street vendors, as well as the repression of practices such as begging, spitting, and urinating in the streets, the goal was to educate the population. The aim was to adapt the inhabitants of the

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1   The *Belle Époque* refers to the historical period, particularly in the Western world, spanning from 1871, when the Franco-Prussian War ended, to June 1914, when World War I began. This era was characterized by the euphoria brought about by the technological and scientific progress of the second half of the 19th century.

2   The concept, as conceived by Pierre Bourdieu (1983), refers to a system of individual schemes, socially constituted by structured (in the social) and structuring (in the mind) dispositions. This concept is acquired through and by practical experiences (under specific social conditions of existence) and is constantly oriented toward the functions and actions of everyday behavior.

federal capital to a new lifestyle, primarily characterized by the refined manners of elegant European society.

These were new values confronting the contradiction between the ancient and the modern, embracing new attitudes while maintaining continuity with traditions. The key was to "appear modern." Achieving this required deciphering the signs and codes of habits and objects deemed modern and adopting them. Merchandise and any demonstration of adherence to modern norms became symbols of social distinction. Those wishing to join a particular elite circle needed to embrace a specific way of life and a universe of symbolic differentiation. Understanding and incorporating the etiquette of the new era were also essential.

This was the movement of elite families (or those who aspired to such status). In this way, they asserted their superiority over other social classes, legitimizing their claims not so much through material or economic capital, but primarily through their way of thinking, ideals, lifestyle, and cultural and social "capital." Magazines and newspapers played a pedagogical role in disseminating new ideas and social codes that contributed to shaping the "soul pattern of *Homo Urbanus*" (Siciliano, 2016, p. 10).

The objects showcased to the public in the printed pages of illustrated magazines also played a significant pedagogical role. Objects and their designs are imbued with meanings. Although succinctly defining objects is challenging, it is important to interact with and view them as material entities rather than mere representations. Objects can include items, articles, merchandise, landscapes, or urban works. Objects exist long before language, but perceiving them without their layer of meaning is a significant challenge and a reflection of what is understood as culture. In the realm of culture, nothing is devoid of significance; every cultural expression is already imbued with meaning.

Kósmos aimed to both construct and represent the mindset of the elite within the civilized world. Consequently, its advertisements featured objects that promoted hygiene and elegance. The magazine advertised water filtration systems, such as *Mallié* filters (Figure 1), dental services, perfumes, syrups, elixirs, drugstores, purgatives, and mouthwashes. Although this was a period before advertising had become a professional field, the sensitivity applied in creating these advertisements was crucial, as the most subtle emotional appeals often unconsciously persuade consumers, masking the commercial intent. As Tatiana Siciliano (2016) notes, advertisements evoke functional equivalents of the "myth," turning projections or identifications into consumable goods.

Everardo Rocha (1995) emphasizes that advertising, as a system of ideas circulating within the social order, serves as a means of understanding, identification, and adaptation to behaviors, as well as a new ideological expression of society. It was essential to ensure that nothing would hinder Brazil's entry into the progress agenda.

The advertisement for *Mallié* water filters (Figure 1) appeared in the early editions of *Kósmos* (February 1904). The text highlights that the filter is of French

Source: Mallié Filters (1904, p. 52).
Figure 1. ¼-Page Advertisement for *Mallié* Filters.

origin and provides "absolute sterilization." Key features emphasized in the advertisement include the "ease of installation and cleaning," as well as the "simplicity and elegance" of the object, which confer the same distinction upon its owner. Everything from Europe, particularly France and England, was considered superior and a model to be emulated in Brazil. Adhering to the hygienist principles of the time, cleanliness was a central theme in homes, on the streets, and in the bodily *héxis* (Bourdieu, 1983)[3] of individuals aspiring to the modern urban *ethos.*

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3   In the article *Gostos de classes e estilos de vida*, Pierre Bourdieu (1983, pp. 83-84) asserts that lifestyle is "a unified set of distinctive preferences that express, within the specific logic of each symbolic subspace, furnishings, clothing, language, or bodily *héxis,* the same expressive intention. This principle of stylistic unity is surrendered to intuition and is fragmented by analysis into separate universes."

Shoes were crucial in distinguishing the inhabitants of the Federal Capital. They signified social status and "morally" erased the stain of slavery. Brazil had abolished slavery less than two decades earlier, and one of the restrictions imposed on enslaved people was the prohibition of wearing shoes. By the early 20th century, the so-called freed people were no longer labeled as "slaves," but they had not yet been integrated into the world of free labor or supported by public policies. They often lived precariously, relying on underemployment and odd jobs, and walked the city streets without shoes, either out of habit or due to financial constraints. Consequently, shoes became a significant symbol for their wearer, representing inclusion in the civilized group and serving as a marker of distinction. Through consumption, individuals could select, classify, and give meaning to the relationships around them. A good pair of shoes indicated that a person was aligned with European standards. As Sevcenko (1998, p. 556) noted, "any man can wear a jacket and a tie, but it is in his walk that the past reveals itself." This makes the Condor shoes advertised in issue 24 of *Kósmos* (December 1905) particularly noteworthy (Figure 2). The advertisement highlighted that these shoes were made using the "most perfect North American system" and were described as "elegant, solid, durable, and waterproof."

Source: Condor Footwear (1905, p. 88).
Figure 2. ½-Page Advertisement for Condor Footwear.

Another example of footwear advertising is the Clark shoe, featured in *Kósmos*, issue 21, September 1905. In the early years of the Republic of Brazil, modern men were expected to walk in the English style, mastering the "catwalk" technique, ideally with Clark shoes, described as "the only superior ones in Brazil," and noted for

being "waterproof, comfortable, elegant, and solid" (Figure 3). Men's fashion of the time was characterized by sobriety, typical of the businessman at the turn of the century, but it did not forgo luxury and refinement. Even in the frequent heat of the federal capital, it was common to wear shirts with collars and cuffs made of *tricoline* (a type of poplin fabric), wool, linen, or pure silk. Over these shirts, over-coats were worn and could be alternated with tailcoats or coats depending on the occasion, age, and, most importantly, social status. Pants were typically made from wool, linen, or *tricoline*. The outfit was completed with ties, socks usually made of Scottish thread, suspenders, hats (Figure 4), and walking sticks.
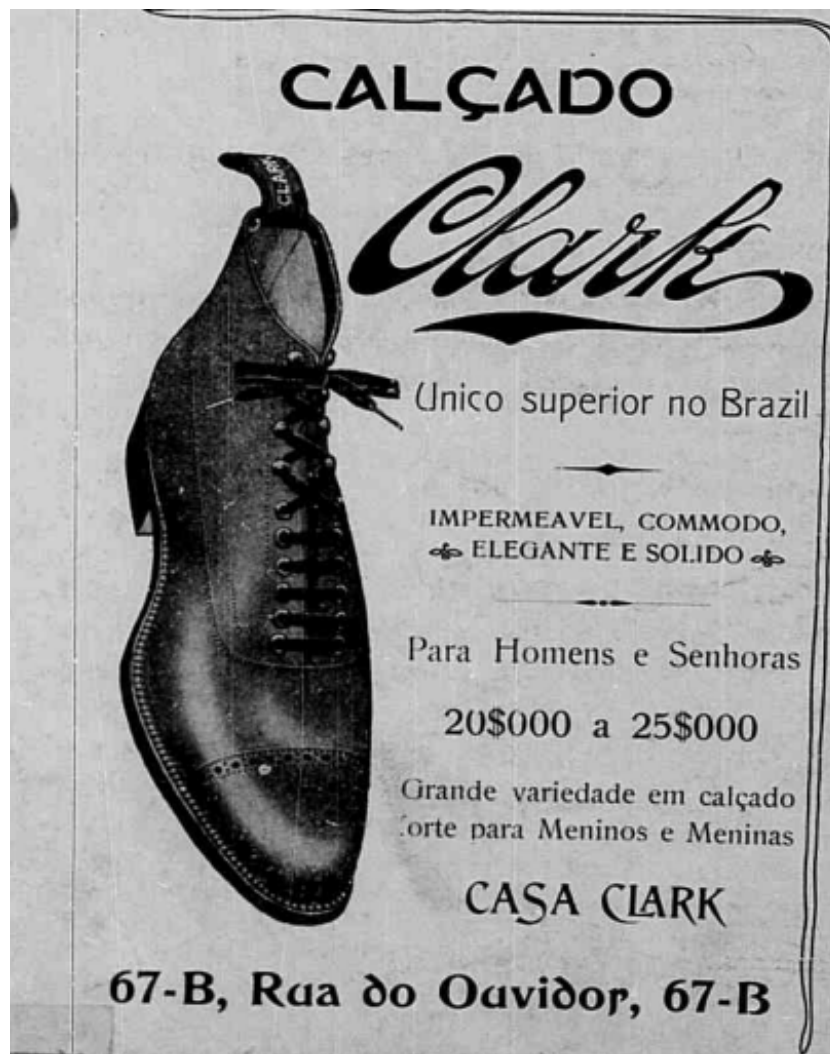
Source: Clark Footwear (1905, p. 3).
Figure 3. ¼-Page Advertisement for Clark Footwear.

In addition to dressing in a modern style and performing the "footing" walk on the Avenue, homes were expected to incorporate objects that reflected the new era. "From fundamental inventions to the most surprising, from large struc-tures to small details, a cartography of novelties captivated the eyes of these men,
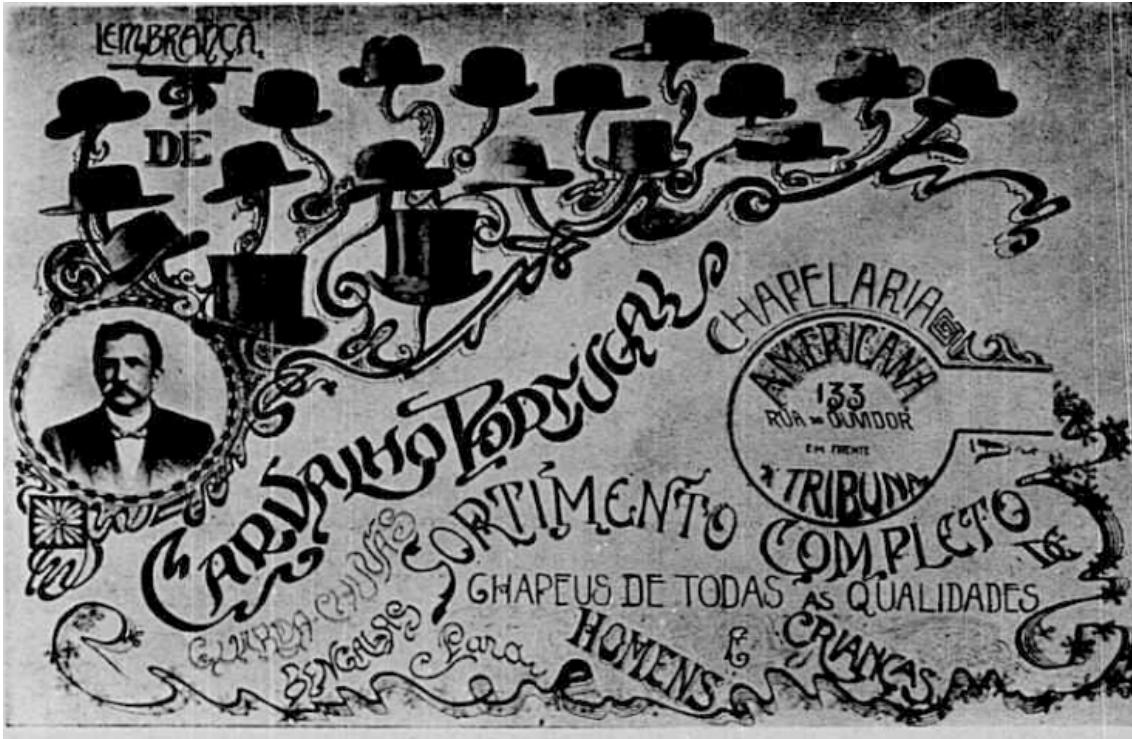
Source: Chapelaria Carvalho Portugal (1905, p. 51).
Figure 4. ½-Page Advertisement for *Chapelaria Carvalho Portugal*.

amazed by their marvelous machines," as Costa and Schwarcz (2000, p. 10) remind us. Advertisements for manufacturing facilities, foundry machines, and lamps showcased the materiality of progress. The sentiment was that Rio de Janeiro was aligned with developments occurring in other parts of the world, creating an atmosphere of harmony with global progress and civilization.

Heavy machinery, metal constructions, steel, and equipment featuring new technologies, such as electric lamps (Figures 5 and 6), embody and sustain this modernity. A particularly curious and symbolic example is the advertisement for *The Pyrilampo* (a beetle known for its ability to emit light due to the luminescent function of its organs). This ad includes images and a list of newly developed technologies for home illumination, emphasizing the name *Pyrilampo*, which evokes bucolic poetic imagery (forests, nighttime silence, and nature). This attempt seeks to make the consumption of lighting fixtures more relatable and familiar.

As seen in advertisements from that period, the emphasis is on images of machines, lamps, equipment, and materials. The accompanying texts do not directly appeal to consumption. Instead, advertisements commonly featured complimentary language and terms that conveyed the credibility of the objects' origins, such as "large factory" and "complete." Additionally, the texts highlight the variety of types, their functions and usefulness, and, importantly, the origin of their manufacturing.

In the advertisements for *Guinle & Co* (Figure 7), for instance, both text and image highlight the technological advancements of the time, including turbines,

Source: O Pyrilampo (1905b, p. 56).
Figure 5. Full-Page Advertisement for *O Pyrilampo*.

steam engines, pumps, compressed air tools, typewriters, and *Odeon* gramo-phones (Figure 8). The advertisements also feature equipment powered by elec-trical energy, such as chandeliers, pendants, table lamps, sconces, and lanterns. Electric energy revolutionized the city not only from an infrastructural perspec-tive but also in terms of social customs. Nightlife, which was further encouraged

Source: O Pyrilampo (1905a, p. 49).
Figure 6. Full-Page Advertisement for *O Pyrilampo*.

by urban reforms, was extended thanks to energy, first gas and then electricity, allowing for more time spent on the streets. However, the same electric light that powered trams and dispelled darkness also evoked fear. These were the ambiguities of progress, perceived differently by those directly involved and those on the sidelines.

Souce: Guinle & Co. (1904, p. 51).
Figure 7. Full-Page Advertisement for *Guinle & Co*.

As the advertisement texts convey, "demanding," "knowing how to use," "having," and mastering social codes were not just mechanisms of differentiation, the foundation of social life, but also markers of experiencing modernity. Through these objects, individuals positioned themselves within a civilizing process that was not always easy to adapt to.

ESPM-Rio, Diálogo com a Economia Criativa, Rio de Janeiro, v. 9, n. 26, p. 100-115, mai./ago. 2024.

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Source: Gramophone Odeon (1905, p. 91).
Figure 8. ½ -Page Advertisement for *Gramophone Odeon*.

FINAL CONSIDERATIONS

The illustrated magazine *Kósmos*, through its chronicles, photographs, and advertisements, reinforced the pedagogy of civilizing morality. Advertisements were employed to prevent and control diseases, beautify and scent bodies, which needed to appear healthy to be considered healthy. Having sun-free skin and perfumed bodies symbolized a departure from the image of a slave-owning country. Thus, illustrated magazines offered guidance on how to dress and behave, provided a primer on new social codes, and encouraged the acquisition of objects that would embody these codes.

In this way, advertisements in illustrated magazines like *Kósmos* reveal how objects deemed "modern" helped construct a new worldview and *ethos*. Advertising, through "symbolic constructs," promotes desirable lifestyles and identities that the public is encouraged to identify with (Kellner, 2001). Studying these objects allows us to understand the transformation that occurred in various aspects of social life. As Grosz (2009) notes, we inevitably perceive the world in terms of objects. Objects serve as resources for acting, living, and leaving a mark on things. In the context of the early years of the Brazilian Republic, objects mediated the relationship between individuals and the "new world," helping them to understand, aspire to, and assimilate it.

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Antagonisms in the discourse on user experience design in platform companies

Antagonismos no discurso sobre o design da experiência do usuário em empresas plataforma

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ABSTRACT

This article investigates the complex role of design in the development of digital interfaces within platform companies, considering the influences of late capitalism and discourses associated with UX Design practices. Through interviews with 18 designers working in platform companies, we identified two predominant attitudes in professional practice: the Idealistic Attitude, focused on user well-being, and the Pragmatic Attitude, aligned with the capitalist system. The discussion emphasizes the various contradictions between the pro-user discourse and practices that aim to meet the commercial needs of companies. We observed the impacts of design from two perspectives: the discourse of positive impact on users' lives and validation through commercial results. There is also a notable tension between the proclaimed purposes of designers and the reality of gains for users, revealing the concept of "purpose" as a rhetorical strategy for companies to manage both their reputation and the work of their contractors. Finally, attention is drawn to the intrinsic incoherence in the practice of design within platform companies, and questions are raised about the position of design as an agent of social transformation in the face of the dualities of objectives it attempts to address.

Keywords: User experience design. Professional practice. Platform companies. Digital platform.

RESUMO

Este artigo investiga a complexa atuação do design no desenvolvimento de interfaces digitais dentro de empresas plataformas, considerando as influências do capitalismo tardio e dos discursos associados à prática do UX Design. A partir de entrevistas em profundidade com 18 designers profissionais que atuam em empresas plataformas, identificou-se como resultados duas atitudes predominantes na prática profissional: a Atitude Idealista, focada no bem-estar dos usuários, e a Atitude Pragmática, alinhada ao sistema capitalista. A discussão enfatiza as várias contradições entre o discurso pró-usuário e as práticas que visam atender às necessidades comerciais das empresas. Observaram-se os impactos do design sob duas perspectivas: o discurso do impacto positivo na vida dos usuários e a validação pelos resultados comerciais. Destaca-se também uma tensão existente entre os propósitos proclamados pelos designers e a realidade dos ganhos para os usuários, revelando a ideia de "propósito" como uma estratégia retórica das empresas para gerenciar tanto sua reputação quanto o trabalho de seus contratados. Por fim, aponta-se para a incoerência intrínseca à prática do design nas empresas plataformas, e questiona-se a posição do design como agente de transformação social diante das dualidades de objetivos aos quais tenta responder.

Palavras-chave: Design de experiência do usuário. Prática profissional. Empresas plataformas. Plataformas digitais.

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INTRODUCTION

Based on the assumption that design is the product of a dialectical relationship with its environment — producing discourses and materializing culture in the form of artifacts while simultaneously shaping its imagination through interactions and exchanges — this article aimed to investigate and discuss the perspectives of professional designers within the context of creating digital interfaces for platform companies.

As a starting point, it was observed that, in this context, design is influenced by two main factors: the mode of production associated with late capitalism employed by platform companies, which is reflected not only in the mechanization of production but also in the circulation of goods facilitated by the introduction of electronic devices (Mendel, 1979 *apud* Valente, 2019), specifically within the Brazilian territory; and the ethical discourses associated with the professional practice of design, particularly those related to User Experience Design (UX Design). The first influence pertains to a dynamic and intense work logic characterized by principles of innovation and technological efficiency, while the second is based on humanist ideas that stress the importance of professional practice being dedicated to social and human well-being.

The result of these influences creates two distinct attitudes within professional practice that overlap in a conflicting manner, leading to a dissonant and even incoherent scenario.

The productive logic of platform companies

Platform companies are private organizations that develop, manage, and operate digital platforms, providing services and products through physical and digital interfaces. They utilize advanced technologies such as algorithms and artificial intelligence to structure their activities. These companies are increasingly integrated into people's lives; for instance, Uber and Airbnb are often cited as pioneers in this sector (Srnicek, 2017). Their primary operating logic relies on digital infrastructures, offering transportation and accommodation services without owning a single vehicle or property included in their services. Srnicek (2017), analyzing the economic emergence of platform companies, identifies three significant historical moments that contributed to the rise of these types of businesses:

- The decline in profits of American companies in the 1970s led organizations, which relied on Taylorist management methods, to seek process optimization and cost reduction through actions such as mass layoffs in non-essential business sectors and worker outsourcing;
- The emergence of "dot-com" companies in the 1990s encouraged the development and popularization of internet-related technologies, establishing a foundational infrastructure for an economy based on digital technologies;
- The 2008 financial crisis created an economic environment conducive to financial accumulation and risky investments, influenced by government responses

at the time. This climate made it acceptable to invest in organizations developing emerging digital technologies that were not yet consolidated.

Data extraction, analysis, and management are considered the key business differentiators of such ventures (Srnicek, 2017). Today, it is understood that the computing power of platforms is transformed into a profitable economic tool through algorithms that utilize data for their operations (Kenney; Zysman, 2016). As Zuboff (2020) explains, all collected data is used in two main ways: first, the data is used to improve the platform itself, enhancing its interfaces with the ultimate goal of gaining user loyalty. Second, artificial intelligence is applied to extract behavioral predictions, which are used to influence user behavior. These services and the associated data are sold and shared with other organizations that benefit from such predictions, constituting the largest source of revenue and profit for platform companies (Zuboff, 2020).

Therefore, the actions performed by users[1] within the interfaces of digital platforms become a strategic concern in the platforms' operational chain. The interface design is meticulously crafted to influence customer acquisition and retention. Consequently, users spend more time on the platforms, generating more data. This data is then used for mass behavioral predictions, which, once sold, can be appropriated by a multitude of other businesses for their own purposes. This creates a cyclical and feedback-driven model.

Within this context, design is recognized by the market as the discipline responsible for developing interface projects that yield more profitable results for companies. This is supported by the global consultancy McKinsey in its investigation into the relationship between investment in design and financial returns (Sheppard *et al.*, 2018). Thus, in this reality, human online behaviors — the "user experience" — are transformed into commodities for large corporations (Zuboff, 2020).

From the perspective of countries in the global south, the services provided by platform companies reveal two facets. On one hand, the middle classes now have access to certain privileges previously restricted to the very wealthy, such as private drivers[2]. This new service alleviates public transportation issues for a segment of the population and can be seen as a strategy to fill the gaps left by state and political institutions (Basukie; Wang; Li, 2020), though it does not actually resolve or change underlying problems. On the other hand, there is a growing number of unemployed workers who survive through underemployment, masked by the emancipatory notion of empowerment or entrepreneurship, referred to as the "digital neo lumpenproletariat" (Beiguelman, 2020, p. 6). While our primary focus is on how this logic affects the Brazilian scenario, it is

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1   Such actions are referred to by the author as "user experience." (Zuboff, 2020, p. 87).

2   Here we are specifically referring to the example of Uber. Despite being compared to taxi services today, the company originally emerged with the idea of providing a private driver service, not a taxi service. This can be identified both by the platform's name itself — "*über*," which means "superior" in German — and by the company's initial slogan — "everyone's private driver." (Slee, 2019).

acknowledged that the social impacts of platform companies are not confined to countries in the global south.

In this way, the discussion proposed by the German philosopher Haug (1997), although anchored in a different historical context, remains relevant:

> In a capitalist environment, design assumes a role that can be compared to the function of the Red Cross during wartime. It tends to some — of the less severe — wounds caused by capitalism. It addresses appearances, beautifying certain aspects and boosting morale, thereby prolonging capitalism much like the Red Cross prolonged war. Design thus maintains the overall organization through a particular configuration (Haug, 1997, p. 194).

The imaginary of UX Design

The scope of work defined for the practice known as UX Design can be characterized as: "UX Designers strive to create products that are user-friendly, minimizing friction and enabling users to accomplish tasks efficiently, with minimal distractions and obstacles" (Teixeira, 2014, p. 4).

However, the definition provided by Teixeira (2014) aligns closely with what researchers in the field of Human-Computer Interaction (HCI) characterize as usability: "usability is generally regarded as ensuring that interactive products are easy to learn, effective to use, and enjoyable from the user's perspective" (Sharp, Preece; Rogers, 2019, p. 14). Thus, we can observe that the UX Design approach diverges from other existing approaches, particularly within the fields of Information Sciences and Computer Sciences (True *et al*., 2017; Kou; Gray, 2018; Dedema; Zhang, 2019; Lasmar *et al*., 2019; Showkat; Choudhury, 2019).

The term "User Experience" (UX) originated from the practice of observing people interacting with advanced technology machines to ensure more efficient projects for them (Karlin, 1957); however, in the 1950s, UX was not yet formally treated as a project focus. In 1986, Brenda Laurel conceptualized "User Experience" for the first time, aiming to define a type of design thinking for computational artifacts. Laurel argued that the design of computer interfaces should consider not only machine aspects but also human factors. This idea was not entirely novel in design; many theories, tools, and techniques used in UX Design are documented and discussed under terms like "User-Centered Design" (UCD) or related concepts such as "Human-Centered Design" (HCD) or "People-Centered Design" (PCD) (Dantas, 2005). Even as early as 1949, Will Burtin stated that "man is both measure and measurer [...] He is an integral part of everything we can imagine and do. It is the most important part of a design" (Burtin, 1949, p. 101). However, Laurel is credited with popularizing the idea (later championed by Donald Norman)[3] that

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3   In 1993, psychologist and researcher Donald Norman named his team at Apple the "User Experience Architect's Office" (Norman, 2015) to demonstrate that the group's actions would not be limited to just computer screens (Norman, 1996). His work gained such prominence that today many consider him the "father of UX Design."

human experience should be a central consideration in Computing projects, especially those involving human-computer interfaces (whether physical, digital, or service-oriented).

Laurel (1986) begins her text by contextualizing that, even in that decade, computers were utilized for a wide range of activities, both recreational and functional. She suggests that in order to accommodate all these possibilities, interfaces should possess suitable characteristics to facilitate such actions. Therefore, according to the author, interface design should prioritize proposing an ideal user experience tailored to specific contexts of activities.

To achieve this, the author articulates a central point in her proposal: the principle of mimicry. Laurel suggests that computers merely simulate the real world, akin to a theatrical play. This analogy underscores the divide between the digital world created by computers and the physical world that actually exists. Despite subsequent discussions on interfaces by scholars (Bonsiepe, 1997; Manovich, 2003), it is noteworthy how this notion of two distinct worlds continues to underpin contemporary debates about the internet, computer usage, and consequently, UX Design.

As Morozov (2018) points out, discussions about the internet often treat it as an entity separate from existing social and geopolitical structures. This perspective suggests that technological projects operate at an indisputable and purely technical level, disconnected from political, economic, and social life. This viewpoint is not exclusive to UX Design but is part of a broader ideology regarding technology. Álvaro Vieira Pinto (2005) argues that the concept of the "technological age" is used to attribute positive value to the present times, supporting a moralistic narrative that current technologies and the present era are superior to all past ones. This narrative implies that progress is an inevitable and natural movement, achieved through a cumulative process culminating in the present. However, Pinto contends that this rhetoric conceals relationships of domination and dependence, separating the ideas of technological development from the broader context of economic, political, and social production.

Thus, the original proposal of UX Design, where the real world serves as an ideal for interface designers to achieve, leads to the issue that computational interfaces, by mimicking existing structures, also reproduce existing social inequalities and problems. Consequently, the notion that an ideal user experience would simply replicate real-world experiences fosters uncritical thinking about interface design, suggesting that merely reproducing what already exists is sufficient and ideal.

This original idea of proposing "Ideal Experience" projects not only persists today but has also evolved. Currently, many designers declare that they aim to produce not only ideal experiences but happy ones (Costa, 2023). According to Hassenzahl (2013), one of the most cited authors in the field, UX Design is concerned with ensuring that users of all types of artifacts have positive experiences, with minimal friction and free from "pain." This aligns with what the South Korean philosopher Byung-Chul

Han (2021) describes: a trait of our contemporary world, which is addicted to pleasure and seeks to transform painful experiences into pleasant situations at any cost.

In a similar vein, another significant trait associated with the UX Design ethos is the idea of "user advocacy." Monteiro (2020) — a Portuguese designer who works as a consultant for Silicon Valley technology companies — argues in his code of ethics for designers that these professionals should act as "gatekeepers" (Monteiro, 2020, p. 30). Citing the ideas of Papanek (2017), Monteiro (2020) articulates that designers have both the responsibility and the ability to prevent projects with negative impacts on people from advancing and materializing in the world.

In line with this idea, various theories articulate how design plays a key role in building a better world (Papanek, 2017; Manzini, 2023; Norman, 2023). However, these theories often overlook that in "capitalist societies, the main objective of producing artifacts, a process of which design is a part, is to make a profit for the manufacturer" (Forty, 2007, p. 13). This suggests that the issue may not be limited to practices associated with UX Design.

We therefore observe that the ideology of UX Design is closely linked to a professional practice that tries to play both a heroic and shortsighted role. While aiming to alleviate people's pain and create a better world, the theoretical framework that defines UX Design makes it difficult to consider people as complex human beings and parts of social, economic, and political entities. Instead, it reduces them to the role of users of a device or customers of a service.

METHOD

The results presented are based on interviews[4] with professional designers employed by platform companies. The following topics were covered in these interviews:

1. User approaches;
2. Perception of the impact of design work;
3. Day-to-day activities and team organization;
4. Characteristics of the company where you work or have worked.

In the initial interviews, topics about training in UX Design and Strategic Design emerged spontaneously. These were then incorporated into subsequent interviews.

Interviews were conducted with 20 designers between July 2021 and January 2022. Two of these were discarded as the interviewees did not meet our selection criteria. We selected Brazilian designers who worked in companies managing digital platforms, with operations established in the Brazilian national territory and of significant relevance and popularity in the country.

The interviews were transcribed verbatim and then analyzed using the affinity diagram method (Holtzblatt; Beyer, 2017). This method involves breaking

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4 The dataset used for this article and its resulting findings are an extension of the author's Master's thesis.

down the interviews into small excerpts that each reflect a single idea. These excerpts are then coded and simplified to fit and be readable on a single sticky note. Using an inductive method, the simplified excerpts are placed side by side and grouped by similarity, forming conceptual categories. Each group consists of a minimum of four and a maximum of six notes. The notes were color-coded to represent each interviewee, allowing us to observe how much each conceptual group reflected ideas that were more or less consolidated among the designers. This process was repeated for each level of conceptual categories, ultimately producing a taxonomic tree for each group of interviewees that summarizes the ideas derived from the interviews.

To ensure the anonymity of the interviewees, their names were replaced by codes, such as "Interviewee 1" or "Interviewee 2." The companies where the interviewed designers worked were also not named. However, it can be stated that the companies selected for this research, in addition to fitting the concept of platform companies, operated in activities such as logistics, urban private transport, food and beverage delivery, real estate services, and online commerce.

RESULTS

From the context presented and the interviews with UX Design practitioners, we observed a scenario of design practices within platform companies that allowed us to outline two main attitudes of professional performance. The first, referred to as the "Idealistic Attitude," is based on a propositional discourse that believes design activity is directly related to improving the well-being of users and consumers of digital products from platform companies. The second form of action, termed the "Pragmatic Attitude," adapts to the demands of the capitalist system of which it is part and bases the value and practice of design on business needs and results.

Charts 1 and 2 summarize the behaviors observed in each category of professional activity and provide quotes from the interviewees' statements that exemplify each of the behaviors characteristic of such attitudes.

Chart 1. Idealistic Attitude.

Conducts	Examples of Narratives
Being the voice and representation of users in platform company projects	"And I think the role of design is to bring these people to the discussion table because they won't be there." (Interviewee 9)
Validation of design work recognized through user stories	"We track [our impact] through stories [...] stories of people we sometimes talk to who say, 'Oh, [company name] changed my life!'." (Interviewee 4)
Belief in the positive impact on people's well-being as a result of the project	"Working with product design is about building bridges so that people can have their needs or pain points resolved with as little friction as possible." (Interviewee 18)
Ultimate goal is to benefit the user	"We look at all these social perspectives before making a decision, [...] maybe that's the big difference we've been practicing, this more human connection." (Interviewee 3)

Chart 2. Pragmatic Attitude.

Conducts	Examples of Narratives
Possibilities for user interaction guided by company needs	"In general, talking to the user will depend a lot on the time I have to complete the task, the depth of information I need, and how much I'm willing to risk." (Interviewee 14)
Validation of design work recognized through business metrics	"In terms of business metrics, specifically, there's a lot of tracking. So there's always tracking, sometimes even weekly, reports on things that are live." (Interviewee 12)
Creating good experiences as a strategy for acquiring and maintaining the customer base	"Having an experience much more suited to their [user's] needs, much more suited to their context. [...] In the end, it's about creating value for everyone. Not just for the end user, but for the company as well, because you'll have a product much more suited to your user. And then you'll have that converted into both conversion metrics and NPS, retention and everything, right?" (Interviewee 1)
Ultimate goal is to benefit the company	"The ultimate goal isn't necessarily to improve people's lives. The ultimate goal is to achieve economic growth for these platforms by solving problems." (Interviewee 13)

It is important to note, however, that these categories do not determine how groups of people act professionally as designers. Instead, they help to understand how the practice of design, as a discipline, is established within platform companies. Additionally, it is interesting to observe how these behaviors coexist and generate a sense of dissonance regarding the discourses and narratives associated with UX Design. For instance, in the following excerpt, the professional reveals both an idealistic and a pragmatic attitude within the same sentence: "*There are products that make (sic) this whole journey more friendly, reduce people's anxiety, right(sic)? The potential of design is to make people's lives easier and support the growth of companies*" (Interviewee 5).

In the speech, both an idealistic concern to "make people's lives easier" and a pragmatic attitude to "support the growth of companies" are evident, responding to the needs of platform companies. These concerns can indeed be seen as correlated: "*In the end, it's about creating value for everyone. Not just for the end user, but for the company too, because you'll have a product that's much better suited to your user. And this will translate into conversion metrics, NPS, retention, and everything else, right?*" (Interviewee 1).

In essence, as the statement suggests, designing for "good experiences" could directly correlate with commercial gains.

DISCUSSION

Design as representation

The idea of being a representative for users is a prevalent ideal in UX Design literature and is strongly reflected in the designers' statements. This conduct is nearly unanimous among these professionals. This approach to professional practice aligns with the design theory proposed by Kaizer (2022), who views design

as a political activity involving discussion and negotiation about the future of a common good.

According to the theory proposed by Kaizer (2022), the designer's role is seen as a dramatic dispute, where each agent plays a character in a defined scenario. In the context of platform companies, this theory suggests that designers, considering the imaginary of UX Design, act as "user advocates" within a delimited, "scenic" environment. This environment is exemplified in this research as platform companies that develop and manage the interfaces of digital products and services.

However, while the discourse on UX Design emphasizes "user advocacy," business parameters are established to define how and if interaction with the users will occur. User research is conducted with the aim of ensuring success or minimizing potential errors and risks associated with the launch of new products or services.

While interactions with users play an essential role in shaping design work by providing deeper insights into user expectations and challenges and enabling designers to make better-informed decisions about user behaviors, it is not the users' "pains" and needs that solely guide the decision to engage in such interactions. The decision to approach users is influenced by essential company factors such as the time allocated for the project, available budget, and risks involved in launching a product or service (*e.g.*, financial losses, brand positioning, and other risks).

Furthermore, when user design approaches are employed during the product development process, they are typically limited to user research, also known as experience research (UX Research). Such research often treats users merely as data sources and may not significantly influence the creative process. This contrasts with co-design[5] approaches, where users have the opportunity to propose design solutions.

Therefore, user research is used as an instrument to reduce the risks involved in launching new products, services, or functionalities, that is, essentially serving as a commercial tool. These practices and concerns are not new and are directly aligned with the operational models of large industries that employ cutting-edge technologies, such as platform companies. As American economist Galbraith (1977) describes, it is characteristic of production processes utilizing advanced technologies to have longer cycles, encompassing everything from product conception to delivery to the buyer. In other words, the creation of the product occurs far in advance of its availability to the consumer market. This production logic leads to escalating uncertainty about whether the desires and needs identified during the design phase will remain relevant by the time the product is sold. Galbraith (1977) points out that consumer research has long aimed — almost 50 years ago — to reduce this

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5   Co-design can be broadly defined as a creative practice where designers and individuals without specific design training work together in a design process (Sanders; Stappers, 2008).

uncertainty: "Much can be known about the future conduct of the consumer market through research and market evidence. (Research into what the consumer wants and will want merges into research into how they can best be convinced)" (Galbraith, 1977, p. 25)

Furthermore, within the labor division employed by platform companies, designers are not always the ones who have direct access to the people being researched. It is not uncommon for user research to be conducted by specialized research teams or external consultancies. Consequently, the designers responsible for creating interfaces for digital platforms often have only indirect contact with users, relying solely on the research results conducted by third parties. In other words, end users of a product are viewed merely as a source of data, which may or may not be considered during the project's development, while designers work without real involvement with the users.

Thus, the practice of UX Design is observed to be aligned with Gonzatto and Amstel's (2022) argument about the procedures and theories in the field of "HCI," of which UX Design is a part. According to the authors, these procedures tend to characterize users solely as minds interacting with computers, neglecting their concrete and human aspects, such as their corporeality. In the pronounced practice of UX Design on digital platforms, there is an even greater abstraction of the concept of users. Individuals who interact with digital platforms are reduced to behavioral data collected from the platform itself, as Zuboff (2020) explains, or reduced to research data.

Therefore, the quality of user representation provided by designers occurs in a conflicting manner. Even though designers claim to care about the well-being of the people they design for, the work process results in indirect and superficial contact between designers and users. This approach encourages the mischaracterization of users as human beings, reducing them to mere numbers.

Impacts and validation of design work

Within the context of platform companies, the impacts of design can be classified in two ways. On the one hand, there is the discourse that the discipline of UX Design is responsible for ensuring that companies' final products generate benefits for their users. On the other hand, the value of design is seen in its ability to improve companies' financial returns.

In the first case, designers tend to take pride in their work for its positive impact on the lives of their users, especially those who could be categorized as "platform workers." Here, we observe both aspirational discourse promoting entrepreneurship and a pragmatic understanding of how digital platforms effectively ensure earnings and income stability for these workers. In both scenarios, designers often see this concern as a mission for themselves and their companies, also referred to as "purposes."

ESPM-Rio, Diálogo com a Economia Criativa, Rio de Janeiro, v. 9, n. 26, p. 116-130, mai./ago. 2024.

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It is interesting to note how these impacts are often confirmed through customer stories from platform companies. Some groups of designers follow these stories in a non-systematic manner through spontaneous posts on social networks, user interviews, or company marketing efforts. It is curious to observe how designers collect and share these stories with affection, using them as examples to illustrate the value of their own work, whether it is stories from drivers, sellers, or other customers of platform companies.

However, acknowledging the operational logic of platform companies, which inherently prioritize fulfilling the business's desires and needs (Grabher; Tuijl, 2020; Valente, 2020), it is evident that the gains achieved within this framework of operations are not equitable. Numerous studies investigating work on digital platforms (MacDonald; Giazitzoglu, 2019; Wu *et al.*, 2019; Dutra; Sepúlveda, 2020; Abílio; Amorim; Grohmann, 2021) underscore this reality.

Thus, we have identified that the notion of the positive impact of design is also leveraged for purposes that are primarily beneficial to the companies themselves. What designers perceive as the positive outcomes of their work often serve as rhetorical strategies to manage the reputation of platform companies (Costa, 2023), strategies to which designers themselves are subjected. The alignment of designers' work with company "purposes" can be interpreted as a managerial tactic aimed at motivating those who design and develop digital platforms. This practice can be viewed as a sophisticated application of Taylor's scientific management (Braverman, 1978), adapted for a field-like design, which traditionally distances itself from its material relations of production and consumption and emphasizes a narrative of autonomy and historical continuity "independent of the social circumstances in which they were produced" (Forty, 2007, p. 14).

On the other hand, in the second perspective observed regarding the impacts of design work, we see how the field is validated based on the commercial outcomes it can deliver to the company. Design's impact is measured by its contribution to acquiring customers, boosting sales, and reducing costs through process optimization. These outcomes are tracked using metrics such as return on investment, customer acquisition costs, production efficiency, among other corporate metrics that are constant concerns for design professionals.

Thus, it is evident that there is a significant emphasis on solving business challenges. This approach not only ensures the relevance of design within the corporation but also elevates its standing in the corporate hierarchy. This heightened relevance is recognized as designers become increasingly involved in strategic decision-making about the company's future, a practice often referred to as "Strategic Design."

In summary, within the context of platform companies, design appears to pursue two distinct objectives: serving the companies' pursuit of continual and substantial profits, and addressing the problems, desires, and needs of users.

Despite occasionally aligning social benefit with profit, design seems to play a reconciliatory role that is fraught with challenges. While it aims to address social welfare and political issues in its discourse and production, it often acts in ways that contradict these stated goals.

CONCLUSION

This article explores the complexity of design within the context of producing digital interfaces for platform companies, emphasizing the contrasting influences of late capitalism's mode of production and UX Design discourses. The findings underscore two predominant attitudes among professional designers: the Idealist Attitude, focused on enhancing users' well-being, and the Pragmatic Attitude, which aligns with the imperatives of the capitalist system.

In the discussion on design as representation, the research underscored the dichotomy between pro-user discourse and the practical realities within platform companies. Factors such as reducing users to behavioral data and designers' indirect involvement in user approaches were identified as compromising the authentic and humanized representation of users.

The impacts of design were also analyzed from two perspectives: the discourse of positive impact on the lives of users, particularly platform workers, and the validation of design through commercial results. When contrasting these perspectives, a disconnect emerges between the proclaimed purposes by designers and the actual benefits for users. Ultimately, what designers label as "purpose" often functions as image-building strategies for platform companies, which also extend into management strategies aimed at the designers themselves.

Finally, we highlight the inherent incoherence in the practice of design, particularly evident in professional roles within platform companies. Here, the pursuit of profit and commercial outcomes frequently intersects with stated social and political aspirations. We acknowledge that this dual objective, balancing corporate demands with addressing user needs, creates a discordant landscape not unique to UX Design. However, this field is notably susceptible to superficial and rhetorical discourses around empowerment and entrepreneurship. This prompts us to question the effectiveness of UX Design as a catalyst for genuine social transformation.

Finally, it is crucial to reconsider the practice and discourse of design, aiming for a more integrated approach that reconciles the divergent elements present in its execution. In pursuit of alternatives to the exploitative logic of certain digital platforms, ideas like platform cooperatives, as articulated by Trebor Scholz (2016), offer potential pathways. One significant guideline proposed by Scholz is "Codetermined work: work platforms should involve workers from the moment the platform is programmed and throughout its use" (Scholz, 2016, pp. 79-80). Within the realm of design itself, practices such as Co-Design (Sanders; Stappers,

2008) and Participatory Design (Iversen; Alskov; Leong, 2012) are already well-established and studied. These approaches advocate not just consulting users and stakeholders, but actively involving them in the creative and decision-making processes. Moving forward, it is essential to explore how such alternatives can be integrated into current corporate frameworks to ensure tangible benefits for all involved in the use of digital platforms.

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Digital confinement: on the hidden oppression in digital interfaces

Confinamento digital: sobre a opressão oculta nas interfaces digitais

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RESUMO

This essay aims to show a path that starts with slavery, to which many workers were subjected before the Industrial Revolution, goes through the Industrial Revolution, showing how the violence to which enslaved people were subjected is transferred to an alienated form of work, and reaches current digital technologies. It proposes that digital technological devices have incorporated alienating structures arising from old forms of worker submission. The text begins by proposing that current sophisticated technologies are developed to solve demands that have no connection with the real needs of a large part of the population, and is concluded with the discussion about how a new form of attention towards marginalized populations can encourage emancipatory practices.

Keywords: Technology. Big tech. Slavery. Social design.

ABSTRACT

Este ensaio pretende mostrar um caminho que vai da escravidão, à qual foram sujeitos muitos trabalhadores desde antes da Revolução Industrial, passando pela Revolução Industrial, quando a violência a que eram submetidos os escravizados foi transferida para uma forma alienada do trabalho, até chegar às tecnologias digitais atuais. Propõe que os dispositivos tecnológicos digitais incorporaram estruturas alienantes advindas das antigas formas de submissão do trabalhador. O texto inicia falando sobre como as sofisticadas tecnologias atuais são desenvolvidas para resolver demandas que não têm ligação com as reais necessidades de grande parte da população e finaliza discorrendo sobre como uma nova forma de atenção para com populações marginalizadas pode incitar práticas emancipadoras.

Palavras-chave: Tecnologia. Big tech*. Escravidão.* Design *social.*

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THE SOCIETY OF CONTROL

In Porto Alegre, I go into a territory where low-income people live in and greet one of the men who control the access of strangers. This place has only one point of access — this condition is an advantage for the defense against the invasion of a group from elsewhere. The hand of the man I greet at my arrival is calloused, typical of a person who does hard work. He is very much likely discriminated; for being poor and black, he is probably often treated as a drug dealer or mugger, and most people – including myself – have no idea about the difficulties he goes through. The community he is a part of belongs to a conglomerate of many villages in the middle of Porto Alegre. The population of this group of villages is of almost 200 thousand residents.

In a different occasion, visiting the same place, I talk to Bia and Paula; the winter is severe, and they try to come up with a way to produce blankets to warm the community's population. I listen to their conversation. After a while, they define the material to fill the blankets: straw. I look at them, amazed, and ask them if they couldn't think of something better; aren't there any chicken coops in the Village? Couldn't the filling be made of feathers? They both laugh very loud. The feeling I have is that the knowledge design provides me does not consider the needs and problems resulting from the circumstances most of the Brazilian population is subjected to.

Places like Vila Cruzeiro are considered by many as irregular occupations, not integrated to what we may name as citizenship. Most of those who live there are under poor work conditions and, besides, the community is poorly assisted by the State, or even totally neglected.

Another point of view about this place is that most residents are black. So, the irregular occupation and precariousness relate to a historical condition of race discrimination. In this brief text, I will try to show that servitude and many of its disguises still underlie the technical progress of the contemporary world. For Marcuse (1973, p. 155):

> The incessant dynamics of technical progress have become permeated with political content and the Logos of technology has been transformed into the Logos of continuous servitude. The liberating force of technology — the instrumentalization of things — becomes the shackle of liberation: the instrumentalization of man.

It is possible to think that the emancipation of subjects is given by the free action that materializes their own subjectivity through work. An enslaved subject does not have access to that possibility; a slave would be one who does not have control over their own actions.

Despite the precarity and the non-integration as a citizen, a situation that embarrasses this peripheral population, this same population is integrated to another regime — an exogenous one — of social structure, which takes place through portable communication devices of high technological development. Cell phones integrate this group through the social media that collects data that can monitor

information from each individual, such as: daily commutes; friends' network; types of relationship; way of consumption; and many other behavioral aspects. Owning such data, large social media companies can induce the behavior of each person with the subliminal influence of the very own social media that surrounds them.

An experiment conducted by Facebook that has been made public manipulated the state of spirit of a community composed of 700 thousand people. It was observed that users used positive or negative words, which ranged according to the content to which they were exposed in the social media. This experience proved that "emotional states can be transferred to others through emotional contagion, leading people to try the same emotions unconsciously" (France Presse, 2014).

Deleuze (1992) mentioned this new form of control. He established a distinction regarding the disciplinary society defined by Foucault, in which the omnipresent eye of the power established the order. In the disciplinary or confinement society, the *panopticon* is the architectural system in which Foucault materializes the concept. This building is constituted by the architecture of a prison, where the center irradiates a series of hallways, and this enables to observe the entire cell complex simultaneously. Deleuze (1992, p. 219) summed it up: "Foucault analyzed the ideal project of means of confinement very well, which is visible especially in the factory: to concentrate; to distribute in space; to order in time; to compose, in space-time, a productive force whose effect should be superior to the sum of elementary forces".

The *panopticon* was conceived by the English philosopher and social theorist Jeremy Bentham, in the XVIII century (Foucault, 1987). The correspondence between factory and prison is interesting. Based on that, it is possible to establish an originating relationship connected with the worker servitude.

In 1990, before the dissemination of the internet, in the text called "Postscript on the society of control", Gilles Deleuze (1992) already observed that the society of confinement was making room to another type of domination, which he called society of control. He wrote:

> We don't have to stray into science fiction to find a control mechanism that can fix the position of any element at any given moment - an animal in a game reserve, a man in a business (electronic tagging). [...] It doesn't depend on the barrier but on the computer that is making sure everyone is in a permissible place, and effecting a universal modulation (Deleuze, 1992, p. 226).

The form of domain of society which currently operates is based on concepts and techniques that structure the actions without the need to determine a fixed place. The desires — if what technology instills can be called desire — are monitored and have little connection with the places where they are located. Evgeny Morozov (2018, p. 41) understands that "we create applications to solve problems applications can solve — instead of actually facing the problems that need to be solved".

Technology is a historical-social project and embeds archaic structures that perpetuate themselves and insidiously interfere in all spheres of culture. Marshall Mcluhan (1974) already prophesized this in 1964: "All technological

extensions of ourselves are subliminal, numbing; if it were different, we would not stand the action that such an extension has on us" (Mcluhan, 1974, p. 339).

Nowadays, most of the information about culture, politics and economy is accessed through social media platforms. The world of ultrastability of these means of interaction aims that nothing can disturb the system. At the same time, it facilitates and makes actions more comfortable, controls and determines the readings, which become restricted to specific patterns regulated for each person, in a sort of informational confinement.

TECHIQUE AND SERVITUDE

A way to define slavery is the dehumanization of subjects, in which people become merchandise that can be sold or discarded. Until the XIV century, there were remnants of slavery among Europeans. While being dehumanized, every slave suffers a lot of violence. Thomas Piketty (2020) quotes a saying from monk Guillaume de Jumièges. This monk talks about an uprising that took place in Normandy in the XI century:

> Without waiting for the orders, count Raoul immediately took all the peasants into custody, had their hands and feet cut off and returned them, powerless, to their families… The peasants, taught by experience and forgetting about their assemblies, hurried back to their plows (Piketty, 2020, p. 76).

It is to be imagined that the illustration and deepening of the Enlightenment thought should inhibit violence and oppose any form of slavery. Shortly before the Industrial Revolution, John Locke stated: "Slavery is so vile and miserable an estate of man, so directly opposite to the generous temper and courage of our nation; that it is hardly to be conceived, that an Englishman, much less a gentleman, should plead for it" (Locke, 1998 *apud* Buck-Morss, 2017, p. 44).

However, Locke was a shareholder at the Royal African Company; "involved in the American colonial politics in the Province of Carolina, Locke certainly considered the black man's slavery a justifiable institution" (Buck-Morss, 2017, p. 45). In the book titled Politiques of Enmity, Achille Mbembe (2020) establishes a difference between slavery inflicted by dominant countries in western capitalism and the native slavery in Africa, previous to colonization. He states that the surplus value extracted from the enslaved in western countries was incomparably higher than in African countries.

In the book Hegel and Haiti, Susan Buck-Morss (2017) shows that Enlightenment philosophers did not go deep in the matter of slavery, even when it became central in the European economic development. She describes:

> One would think that, surely, no rational, "enlightened" thinker could have failed to notice. But such was not the case. The exploitation of millions of colonial slave laborers was accepted as part of the given world by the very thinkers who proclaimed freedom to be man's natural state and inalienable right. (Buck-Morss, 2017, p. 33).

We can observe similarities of treatment in violent control forms to which a mass of laborers is submitted, even when the work regime is not called slavery. Virginia Woolf (2013), in a text from 1930 called "Memoirs of a Working Women's Guild", reported:

> Mrs. Burrow, for example, had worked the swamps of Lincolnshire at the age of eight, with forty or fifty other kids, and an old man who accompanied the group holding a long whip, 'which he did not forget to use'[…] They had seen women nearly starving to death waiting in line to receive payment for matchboxes while smelling the meat roasting for the master's dinner coming from inside (Woolf, 2013, p. 83).

The situation described by Virginia Woolf (2013) takes place between the late XIX century and the early XX century. At that time, the condition of servitude described in the text began to be replaced by the scientification or rationalization of work. What changes with such a rationalization? Herbert Marcuse (1973, p. 45) considers that:

> Now, the increasingly complete mechanization of labor in developed capitalism, while maintaining exploitation, modifies the attitude and condition of the exploited. Within the technological whole, mechanized labor in which automatic and semi-automatic reactions fill most (if not all) of the working time remains, as a lifelong occupation, an exhausting, numbing, inhuman slavery — even more exhausting due to the increase in work speed, control of machine operators (instead of the product), and the isolation of workers from each other [...] "technology has replaced muscular fatigue with mental tension and(or) effort".

To understand about the workers' condition in France, Simone Weil (1996) worked for a year — between 1934 and 1935 — in a Renault factory. In the book *A condição operária e outros estudos sobre a opressão*, she writes about a condition considered to be very similar to that of servitude:

> In the end, this system contains the essence of what is today called rationalization. Egyptian foremen had whips to drive workers to produce; Taylor replaced the whip with offices and laboratories, under the guise of science. [...] Ford's rationalization consists not in working better, but in making people work more. In short, management discovered that there is a better way to exploit the workforce than by extending the working day (Weil, 1996, p. 145).

In the book The Anatomy of Work: Labor, Leisure, and the Implications of Automation, George Friedmann (1972) wrote about what Taylor desired: "What I ask of him," observed Taylor, "is not that he produces more on his own initiative, but that he executes the given orders (emphasis is Taylor's) down to the smallest detail'" (Friedmann, 1972, p. 134). For Taylor, the worker should behave like a gear component.

In the beginning of industrialization, one of the main changes is that of the relationship between worker and machine. Before, the artisan was free to adjust to the way of using the instruments according to what he found in the object for production. Then, there could be a control in the way Foucault (1987) referred to the

Disciplinary Society, but this was an external control. With the Industrial Revolution, who worked became an attachment of the machine, even when there was no machine at all, as was the case of cattle slaughter in Chicago — in the XIX century —, in which only machete and other simple tools were used. The extreme division of labor determined a series of precise gestures that each worker should execute; the gestures were internalized by the worker. With the Industrial Revolution, workers saw a significant reduction in their control over their actions. It is plausible to think about that as scientifically controlled servitude. In the book called Mechanization Takes Command, Siegfried Giedion (1978), mentioning the work after the Industrial Revolution, considers that:

> Never before has humanity possessed so many instruments to abolish slavery, yet the promises of a better life remain unfulfilled. What we can demonstrate to this day is a deeply disturbing inability to organize the world, and even to organize ourselves. Future generations may well label this period as an era of mechanized barbarism, perhaps the most repulsive form of all barbarisms[1] (Giedion, 1978, p. 714).

A technique that can exemplify the notion of progressive control is that of drawing and its history of representation change since the Middle Ages. The evolution of precision in technical drawings occurred gradually. Initially, these drawings merely conveyed the author's fundamental intentions, providing readers with ample room for interpretation and active participation in authorship. In the Renaissance, Brunelleschi introduced an innovation by anticipating his works through perspective visualization, thereby expanding the capacity for control over the process.

Throughout the 18th century, there was a gradual adoption of scales in technical drawings, and by the 19th century, representations became standardized, allowing for uniform interpretation by those familiar with standardized codes. From this point on, the insertion of subjectivity in interpreting drawings became practically impossible. Drawings became records of strict guidelines, transforming into directives to be strictly followed.

It's important to emphasize that the purpose of using technical drawings is not necessarily linked to the quality of the product, as corporate practices were rigorous and detailed. What impacts the trajectory of drawing is the unequal division of labor that separates creators from producers. This development leads to precision in drawings that does not tolerate unexpected modes of interpretation. Uncertainties are eliminated, and the presence of chance, a distinctive characteristic in medieval architecture, disappears.

At this point, it's interesting to address the utopian dimension that this text is taking. It may sound unrealistic to critique techniques and established action structures, such as technical drawing, for example. What I critique is based on very

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[1]   In the original: "Nunca ha poseído la humanidad tantos instrumentos para abolir la esclavitud, pero las promesas de una vida mejor no han sido mantenidas. Cuanto podemos mostrar hasta hoy es una incapacidad muy inquietante en cuanto organizar el mundo, e incluso como organizar a nosotros mismos. Es posible que las generaciones futuras designen a este período como una época de barbarie mecanizada, que es la más repulsiva de todas las barbaries."

consolidated practices, which leads to considering them realistic. The argument I can present in defense of what I'm proposing is: that thought that works solely based on what is immediate and standardized will always appear positive, but it won't be capable of dealing with contradictions. However, by acting this way, it closes itself off and doesn't allow itself to be disturbed, ceasing to be practical. Here, we can refer to Marcuse (1973, p. 173):

> But this radical acceptance of the empirical violates the empirical itself, because within it speaks the mutilated, "abstract" individual who only experiences (and expresses) what is given to them (given in the literal sense), who has access only to facts and not to factors, whose behavior is one-dimensional and manipulated. Due to real repression, the world experienced is the result of restricted experience, and the positivist cleansing of the mind aligns it with this restricted experience.

We become subjects through the recognition of the other. However, if we enslave the other, if we reduce them to the status of a mere thing, we equally lose our subjecthood due to the erasure of mutual gaze and recognition.

This structure that closes in on itself and is unaffected by what is external reduces everything to its own one-dimensionality and alienates itself from reality. Violence is subsumed by the technical structure. According to Theodor Adorno and Horkheimer (1985, p. 36-37):

> The more the process of self-preservation is ensured by the bourgeois division of labor, the more it forces the self-alienation of individuals, who must shape themselves in body and soul according to technical apparatus. [...] The technical process, in which the subject has objectified itself after the elimination of consciousness, is free from the plurality of mythical thought as well as from all significance in general, because reason itself has become a mere adjunct of the economic apparatus that encompasses everything.

THE OPAQUE WORLD

In the book entitled *Work and the Power to Act*, psychologist Yves Clot (2010) quotes Espinoza, for whom: "The effort to develop the power to act is inseparable from an effort to elevate, to the highest degree, the power to be affected" (Clot, 2010, p. 31). Clot also considers that healthy work is one in which the individual can have "experiences of contradiction" and, in encountering these, have the freedom to act. When faced with something unexpected, the individual needs to dissolve the habitual structure of actions and rearrange them in a new, perhaps more complex way.

Yves Clot (2010) discusses the "modular" and "hierarchical" nature of skill. According to him, skills are developed by incorporating previously acquired units of action into a broader unit, which then becomes part of a higher-level unit. A broader perspective, with a more comprehensive goal, takes control of the acts that form the new module. With a broader perspective, it is plausible to think that the potential radiative power of the activity increases.

Some habits offer the possibility of expressing subjectivity. According to Darcy Ribeiro (2012, p. 10), an Amerindian who crafted a basket in a village was both a

producer and a consumer. Therefore, they put great effort into making the object to be recognized by the community they were part of. In a preface to a book by Gui Bonsiepe (2012), Ribeiro wrote: "That basket weaver puts so much effort into making their basket because they know that they are entirely reflected in it" (Ribeiro, 2012, p. 10).

It's important to remember that a characteristic of slavery is the lack of control over one's own actions. Those in a state of enslavement cannot achieve recognition of their subjectivity through work. How would social recognition occur in today's society of control?

According to Donald Norman (2010), what is expected of good design is that "natural signs inform without disturbing, providing a continuous natural awareness, non-intrusive, non-irritating, of what happens around us (Norman, 2010, p. 56). Norman (2010) hopes that we won't have to think about dealing with devices. He expects that the changes brought by new technologies will be assimilated and become a habit without any disruption, without the contradictions that Yves Clot (2010) discusses.

Most of the time, the influence of technology alters our consciousness subliminally, without us realizing it. We have few defenses against the changes that technology imposes on our perception. Neuroscientist Eric Kandel (2009, p. 152) asserts that:

> Although experiences modify our perceptual and motor skills, they are virtually inaccessible to conscious recall. For instance, once a person learns to ride a bicycle, they simply do it... In fact, constant repetition can transform explicit memory into implicit memory. Learning to ride a bicycle initially involves our conscious attention to our body and the bike, but it eventually becomes a motor activity and unconscious. [...] Unconscious memories are generally inaccessible to consciousness, yet they still exert powerful effects on behavior.

Building on Norman's proposition (2010) and Kandel's observation (2009), we can deduce that technical devices can interfere with our behavior without us having the opportunity to reflect on the change itself. A technical change is an external change that is incorporated and becomes an internal change. After a certain period of living with a new technology, we alter how we react to certain events. For example, the mode of transportation that a person usually has available becomes a kind of capacity that defines a way of reacting to certain situations. As I become the owner of a car, the possibility of mobility that opens up with this condition is incorporated into my way of thinking. I start structuring my actions and my thoughts according to the possibilities that the car offers. However, from this condition of internalizing technical order, it is also possible to deduce that thinking becomes restricted to mechanisms limited by the habits associated with such devices.

António Damásio (2018) argues that subjectivity manifests more prominently when we interact with a pliable medium, one that allows for diverse approaches in the interpretation of events. He explores the influence of the medium's working time, highlighting this dynamic by comparing cinema and literature. Damásio (2018) suggests that when interacting with literature, our subjectivity is amplified because

we have the ability to impose a rhythm on the acquisition and mental translation of events. In his words, "we can give whatever rhythm we want to the acquisition and mental translation" (Damásio, 2018, p. 172). He emphatically concludes: "If you desire true freedom, choose literature" (Damásio, 2018, p. 172). This stance by Damásio (2018) seems to refer to the construction of consciousness and the freedom necessary to establish an enriching interaction with what we could call the external world.

In the book *Philosophy of Symbolic Forms: Language*, Ernst Cassirer (2001) explains the intrinsic connection between gestures, hands, words, and intellect. For Cassirer (2001), the fundamental role of movement and action in the structure of consciousness is evident, emphasizing that "all psychic reality consists of processes and transformations, whereas the fixation on states of consciousness represents a subsequent work of abstraction and analysis" (Cassirer, 2001, p. 176). Knowledge, therefore, demands anchoring and structuring through the codes of signs, but these codes must also possess the flexibility to be influenced by the uncoded. Memories of actions have the potential to become elements in the combination of ideas, contributing to the institution and expansion of concepts. Just as it occurs in the formation of subjectivity, the construction of meaning, the object of language, takes place in the dynamics and exchanges with the real. For Jean Piaget and Inhelder (1975, p. 15):

> ...it is not enough for such operative schemes to correspond to connections pre-registered in the surrounding language to ensure their immediate assimilation; their understanding and use, on the contrary, presuppose a structuring and even a series of restructurings resulting from logical mechanisms that are not transmitted just like that, but, in fact, necessarily rely on the activities of the subject.

However, in the factory, any manifestation not previously established, that is, those that can cause disturbances, is segregated from the processes. Those involved in the work have few opportunities to experience the process in the way that production is structured.

Vaucanson's loom[2] only required someone to turn a crank. The person operating it became an appendage of production, behaving like a mechanism. According to Vaucanson (Doyon; Liaigre, 1966 as cited in Jacomy, 2004, p. 48), the loom "is a machine with which a horse, an ox, a donkey produces fabrics much more beautiful and perfect than the most skilled silk artisans".

It is valid to assert that the aim embedded in the organization of work since the Industrial Revolution has been the eradication of contradictory experiences and the control of actions. One of the techniques that is significantly changing contemporary society is the accumulation of behavioral data. Large companies such as Google and Meta have access to vast amounts of data through smartphones. The idea is that, through behavioral analysis based on massive data accumulation, it becomes possible to have more certainty in the decisions made regarding a particular society and specific behaviors.

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2   Jacques Vaucanson, a French mechanic, created the first fully automated loom in 1745.

Various types of applications are being created to define what would be optimal for certain behaviors. For instance, there's BillGuard, which notifies us when we exceed a reasonable spending limit. Evgeny Morozov (2018) also discusses another app, Glow:

> Max Levchin, one of the founders of PayPal, aims to leverage machine learning and data mining to address healthcare issues. "Healthcare is a big informational problem that will benefit from data analytics and wearable sensors," he said while announcing Glow, an app designed to assist women in conceiving. Glow tracks a woman's sexual activity (including positions), menstrual cycles, and sends various alerts ("Fertile window starting!" or "Wow! You're ovulating!") (Morozov, 2018, p. 110).

Morozov (2018) is describing a condition of abdicating the need for reflection. For him, the path of action is already subsumed in the operational structure of digital interfaces.

Hannah Arendt (2008) already anticipated this condition. In an article from 1954, she discusses the impoverishment of our capacity for understanding, referring to the "loss of the pursuit of meaning and the need for comprehension" (Arendt, 2008, p. 340). She observes: "The degree to which clichés have permeated our language and daily discussions reveals how much we have deprived ourselves of discursive faculty" (Arendt, 2008, p. 331). The term "cliché," originating from printing techniques as a matrix for printing images and texts, has come to represent that which is repeated until it becomes predictable and compulsory. It seems that industrialization has overflowed, invading and standardizing our dialogues, compromising the authenticity of communication and the depth of understanding.

To say that clichés have permeated language is not a rhetorical statement; the gesturality of manuscript writing was initially replaced by the clichés of the typewriter. Thus, the connection with corporeality was lost, the individual gesturality of each writer was erased. Even the signature, which represented an embodiment of language unique to each person, is being replaced by passwords or biometric readings.

In 1964, Herbert Marcuse (1973) published the book *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*. In one of its chapters titled "The Closing of the Universe of Discourse," he highlights the influence of the rationality of industrial society on language. When discussing the functionalization of language, Marcuse (1973) argues that in this administered form, concepts become synonymous with a specific set of operations, limited to inducing predictable and standardized behaviors. This reveals a technological reasoning that tends to categorize objects and their functions.

For Marcuse (1973), this type of reasoning not only indicates the functionality of things, but also defines them, restricting their meaning and excluding other possibilities of functioning. Thus, the ritualized concept would result in immunity against contradictions. He emphasizes that functional language is radically anti-historical, as the recollection of the past can trigger dangerous introspections, something that established society appears to fear given the subversive contents of memory.

This reduction of concepts to restricted sets of operations leads to the impoverishment of language and paves the way for mechanized thinking. Artificial Intelligence also relies on the massive apprehension of data. To develop texts, AI is based on the observation of relationships between words supported by an immense amount of texts. The model is exposed to large quantities of textual data and learns to predict the next word in a sequence of words. This helps the system simulate an understanding of the structure and relationships between words in different contexts.

Hannah Arendt (2008) wrote about the impoverishment of language related to the rationality of production:

> Here, the truth becomes what some logicians say it is, that is, simple coherence, with the caveat that this identification implies, in reality, the denial of the existence of the truth. This is because the truth is always supposed to reveal something, whereas coherence is merely a way of linking assertions and, as such, lacks the power of revelation (Arendt, 2008, p. 340).

Even in the production of AI, the exploitation of labor is present. A report by the English newspaper *The Guardian* states that in Nairobi, Kenya, people are employed to read texts with probable violent content (Rowe, 2023). They feed a kind of ethical consciousness into AI. These workers report having to read about 700 texts per day, are poorly paid, and live in constant fear of being fired at any moment. Many are suffering from psychological issues due to continuous exposure to violent content.

It is feasible to derive that the structure of servitude materialized in the machines of the Industrial Revolution has been subsumed into the technologies linked to the control society defined by Deleuze (1992). A positivist mindset fueled by massive quantities of data induces standardized behaviors determined as ideal.

FINAL CONSIDERATIONS

In the book *The Unnamable*, Samuel Beckett (1989) writes about a consciousness that only relates to itself and devours itself. He describes how self-reference, individuality, and the lack of the other are impoverishing. Words are born from action, and action demands the analysis of encounters that encompass various qualities, complexities, and distinctions between different affections. Even actions considered conscious are permeated by unspoken reactions, intertwining with an inner language, somatic reactions, noises, and even traumas. Words are like receptacles that encompass actions and attentions. The transition to languages occurs as a consequence of this involvement in a world of responses that are simultaneously habitual and potentially rich due to being engaged in various forms of action. Perceptions are structured based on learning and stories. These stories are integrated with the environments in which each individual lives. Geography, culture, time, and chance all influence the development of the interpretations we make of the world.

Currently, artificial intelligences are providing translations in such a way that two people speaking different languages can talk in real-time. The massive production of data leads us to a kind of meta-language that hovers absolutely above all

other languages, erasing differences, connotations, and histories. Heidegger (2003) mentions that in the book *Path to Language*:

> Currently, the target increasingly aimed at by scientific and philosophical investigation of languages is the production of what is called 'metalanguage'. Taking the production of this supra-language as a starting point, scientific philosophy consequently understands itself as metalinguistic. This sounds like metaphysics. In fact, it not only sounds like metaphysics, it is metaphysics. Metalinguistics is the metaphysics of the continuous technicization of all languages, aiming to turn them into mere instruments of information capable of functioning interplanetarily, that is, globally (Heidegger, 2003, p. 122).

Heidegger (2003) mentions that "we become aware of language 'where we do not find the right word to say what concerns us, what provokes us, oppresses us, or excites us" (Heidegger, 2003, p. 123). It is possible to say that technical means dominate our actions and the way we communicate so much that they no longer leave room for us to have the experience of lacking words. For current information technologies, there will always be an exact word for every situation.

How to get out of this "iron cage"?

For Achille Mbembe (2020, p. 211), "We will need a language that incessantly penetrates, drills, and excavates like a drill, capable of becoming a projectile, a kind of absolute solid, of a will that ceaselessly probes the real".

In a conversation in the *podcast* Sentipensante (2021), the University of North Carolina professor Lesley-Ann Noel said that she visited a series of places that are not normally served by designers. Places comparable with Vila Cruzeiro, mentioned in the beginning of this article as a peripheral place to the system of recognition of citizenship. During these visits, she concluded there is no method that can handle, at first, how the approximation of the designer with any community should be. The notion of a neutral subject, capable of absolute distancing regarding the object, is ideological. To escape from this, dialogues require the "communication of the differentiated". For Theodor Adorno (2009, p. 126-127):

> Dialectics is not a method at all: for the reconciled thing, which precisely lacks the identity that thought substitutes, is full of contradictions and opposes every attempt to interpret it in a univocal manner. It is the thing itself, and not the impulse toward organization proper to thought, that provokes dialectics.

An example of what I'm talking about is the German architect Anna Heringer (2021), who works with impoverished communities and has a philosophy of using existing resources in the places where she builds. She extensively uses clay — an abundant material that does not harm the environment. She considers that if the building is dismantled, it will be possible to plant with the leftovers. Additionally, she aims to employ local labor to ensure that resources remain within the community itself.

From this example, we can return to the beginning of the text and observe that working with straw, understanding the ways in which the material can be

crafted, looking at what is at hand can be a very rich way to promote integration between design and communities typically not served by disciplines bound to ready-made solutions.

If the field of Design wishes to maintain a relationship with the new, it necessarily has to deal with differences among the various fields of knowledge with which it engages. Only those who perceive the contradictions imposed by the various fields of thought on the object can achieve the new. For this, an external position to these established disciplines is necessary. That order that the subject imposed on the object is something external to it. To address this violence, paradoxical as it may seem, criticism must also be made from outside, from a place external to the various fields of knowledge, where we can perceive the particular, the unique, that which is not reducible to a rule. For Simone Weil (1996, p. 113):

> ...what matters in a human life are not the events that dominate the course of years — or even months — or even days. It is the way in which one minute is linked to the next, and what each minute costs, in one's body, in one's heart, in one's soul — and above all, in the exercise of one's faculty of attention — to achieve this linking minute by minute.

Weil (1996) talks about modes of action that are not completely determined — she even states that 'the same machine should have multiple, very varied uses, if possible, and even, to a certain extent, indeterminate' (Weil, 1996, p. 424). This indeterminacy, the lack of ultra-stability, can enhance our capacity for attention. I think that because design is a field where various knowledges come together for the creation of a new object, it can explicitly highlight the limits of each discipline. When I refer to the new, it is not the novelty that market procedures impose daily. New presupposes difference, something not determined by processes aimed at pure repetition of controlled phenomena. This is a field where design needs to work, where the perspective of each science appears partial, and where we must establish ephemeral methodologies in a place of conflict that always eludes definition.

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Communal Houses of Alto do Rio Negro: an AI Contribution through Stable Diffusion for the Preservation of Brazilian Cultural Heritage

As Casas Comunais do Alto do Rio Negro:
uma contribuição de IA por meio de Stable Diffusion para
a preservação do patrimônio cultural brasileiro

Silvio Lasmar dos Santos[I] (iD), Marcos Paulo Cereto[I] (iD), Lúcio Tiago Maurilo Torres[I] (iD)

ABSTRACT

This study explored the application of Generative Artificial Intelligence (AI) in the reimagining and digital preservation of indigenous communal houses in the Northwestern Amazon. By discussing the transformative potential of AI technologies in interpreting and safeguarding this irreplaceable cultural heritage, the research highlights the intrinsic role of these structures as hubs of community, social, and spiritual life among indigenous peoples. Through the analysis of a photographic collection, the research aimed at digital conservation and the investigation of new architectural forms in the pursuit of bridging tradition and innovation. This study, by employing Generative AI, opens new horizons for the understanding and reinterpretation of indigenous architecture and culture, demonstrating the potential of this technology as a possible tool for the preservation and celebration of global architectural heritage. The results underscore the AI's ability to generate visual representations that capture the formal essence of the communal houses, providing insights for future research and practical applications in material cultural heritage.

Keywords: Indigenous architecture. Material cultural heritage. Artificial intelligence.

RESUMO

Este estudo explora a aplicação de inteligência artificial (IA) generativa na reimaginação e preservação digital de casas comunais indígenas do Noroeste Amazônico. Ao discutir o potencial transformador das tecnologias de IA para interpretar e salvaguardar esse patrimônio cultural material insubstituível, a pesquisa destaca o papel intrínseco dessas construções como núcleos de vida comunitária, social e espiritual nos povos indígenas. Por meio da análise de um acervo fotográfico, a pesquisa visa à conservação digital e à investigação de novas formas arquitetônicas, com a busca de uma ponte entre tradição e inovação. Este estudo, ao empregar a IA generativa, abre novos horizontes para a compreensão e reinterpretação da arquitetura e cultura indígenas, demonstrando o potencial dessa tecnologia como possível ferramenta para a preservação e celebração do patrimônio arquitetônico mundial. As imagens resultantes evidenciam a capacidade da IA de gerar representações visuais que capturam a essência formal das malocas, com percepções para futuras pesquisas e aplicações práticas em patrimônio cultural material.

Palavras-chave: *Arquitetura indígena. Patrimônio cultural material. Inteligência artificial.*

INTRODUCTION

According to Hazucha (2022), the intersection of generative artificial intelligence (AI) and architectural heritage is an emerging field of research, brimming with innovations and opportunities. This article focuses on the use of generative AI to visually recreate *malocas*, which are emblematic and historically rich structures of the people of the Northwest Amazon. These constructions are more than mere buildings; they serve as symbolic sites for community activities, ceremonies, and ritualistic practices, reflecting the richness and traditions of the societies that build them.

Generative AI is a technology that uses machine learning algorithms to create new and original content based on large datasets. This type of AI can generate works of art, texts, music, and other types of digital content that extend beyond what has been explicitly programmed (Delsignore, 2022).

Generative AI operates based on models that learn patterns and characteristics from the data they are trained on. For example, in the context of visual arts, tools like ChatGPT and Stable Diffusion can analyze thousands of artworks and learn the aesthetics, styles, and techniques present in those works. Once trained, these models can generate new images that reflect the learned patterns but in new and unique ways (Hutson; Harper-Nichols, 2023).

In this context, generative AI emerges as a tool to capture and reinterpret the essence of these structures. This research aimed not only to preserve the image of these buildings but also to explore new forms of architectural and cultural expression.

The methodology adopted in this study involved preparing an image bank with 73 records of longhouses, using photos from *Instituto Socioambiental* to capture the architectural and cultural essence of these structures. Evaluation criteria for selecting images to train the generative AI model focused on ensuring high visual quality and cultural significance. Firstly, the images needed to have sufficient resolution for clear detail, be free of visual obstructions, and be well-lit to facilitate effective training. This included capturing different perspectives, angles, and lighting conditions. Furthermore, it was essential that the images authentically represent the architecture and cultural elements of *malocas*, such as the iconography on their walls and the textures of the materials used in their construction. Images were resized to a 1:1 aspect ratio and 512 px for training the AI models, which were then trained to learn and assimilate the style and characteristics of *malocas*.

The aim of this study was to explore the use of generative AI for the digital preservation of indigenous *malocas*, evaluating its effectiveness in digitally reproducing a crucial aspect of indigenous heritage. Additionally, the study aimed to investigate how this technology can facilitate the emergence of new perspectives and representations and examine how these representations can contribute to enriching global understanding of indigenous communities and their traditions. This study also sought to demonstrate the importance of implementing sensitive and respectful technological approaches in cultural heritage contexts.

MALOCAS AND COMMUNAL HOUSES

An epicenter of indigenous culture and architecture

Hans Staden, a German adventurer and mercenary born around 1525 in Homberg, Hesse, Germany, traveled to Brazil on two occasions, first as a soldier and later as an artilleryman in a Portuguese fortress. During his second trip, he was captured by a *Tupinambá* tribe on the coast of what is now the state of São Paulo, remaining in captivity for approximately nine months.

His work is one of the oldest descriptions of Brazil's indigenous people, their cultural practices, rituals, and everyday life. It also provides valuable information about the region's flora and fauna. Staden's (2014) report is considered an important document for studying the first contacts between Europeans and Brazilian indigenous peoples, even though his descriptions are filtered through the perceptions and prejudices of a 16th-century European.

In his book *Viagem ao Brasil*, Staden (2014) describes in detail the homes of the *Tupinambás*, showing appreciation for their functionality and adaptation to the environment. He notes that the huts are built collectively, highlighting the communal aspect of indigenous society. *Malocas*, large and domed in shape, are covered with palm leaves to prevent rain from entering, and there are no internal divisions, providing a shared space for families. The doors are low, requiring one to bend over to enter or exit, and each couple has their own designated space inside the cabin. Staden (2014) also mentions the importance of proximity to resources such as water, firewood, game, and fish when choosing the location of the huts, reflecting the deep connection with the natural environment. His description suggests a recognition of social organization and efficiency in housing construction, despite the context of captivity and cultural differences.

Cristina Sá and Corrêa (1979), in their study on indigenous housing in Alto Xingu (Mato Grosso – MT), detail the cultural importance and functionality of this traditional house. The authors highlight its collective construction and intrinsic symbolism. The house, besides serving as a shelter, reflects social organization and the community's relationship with the environment, incorporating natural elements into its structure and layout. Its construction is a communal process that emphasizes social cohesion, involving meticulous steps from selecting materials to dividing space for various social and family functions. This underscores the profound link between housing, culture, and environmental sustainability.

Today, *malocas*, although rarely used as residential spaces, continue to serve as centers for meetings and festivities, playing a vital role in the social life of communities. For instance, the headquarters of the Federation of Indigenous Organizations of Rio Negro (*Federação das Organizações indígenas do Rio Negro* – FOIRN) in São Gabriel da Cachoeira (Amazonas – AM) includes a *maloca* where assemblies and celebrations are held. In his book *Viagens pelo Amazonas e Rio Negro*, Alfred Russel Wallace (1979) described a *maloca* he visited in 1851 on the Uaupés River (in Açaí-Paraná) as a large house, highlighting the historical significance of these structures.

In the past, these lodges were the epicenter of important ceremonies and daily life. Hugh-Jones (1979), in his study of the Tukano people, emphasizes the role of malocas in Jurupari rituals, which delineated distinctions and connections within anthropological models of descent and consanguinity.

> Jurupari had said "'You will do all this in my memory." In memory of the one who had ascended, they made masks and dances. He is the chief of the dancers and leads the dance. Those who don't want to dance are whipped. He is also the chief of the instruments. Women must not see the instruments. Since Jurupari had to keep the secret of that music, women have never seen the instruments. Men will kill them if they do. They did not want to live where Jurupari had died; they dispersed and built their houses on the riverbanks (Hugh-Jones, 1979, p. 307).

In addition to serving as venues for religious ceremonies and rituals, *malocas* functioned as spaces for daily activities, work, food storage, and social gatherings. The internal organization of malocas reflected a hierarchy and spatial distribution that valued both practical use and traditional cultural norms. Objects found within these structures, such as hammocks, benches, and cooking utensils, attest to the rich daily life that unfolded inside them. The deepest part of *malocas* typically housed the chief, while preceding areas were reserved for visitors, illustrating a clear spatial division and respect for hierarchy (Figure 1).

Source: Instituto Socioambiental Collection(2019).
Figure 1. *Tukano maloca*, Caruru community, Tiquié River, Alto Rio Negro Indigenous Territory, Amazonas.

> The dancers who used to dance the *oko wewo* dance now go out to dance *hia basa*, which starts and ends outside the house in the square. The dance continues throughout the night and into the next day. At noon, a singing session is held to pour out the beer. Hosts and senior guests walk to the

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female end of the house. The singer carries a long spear rattle (*murucu besuu*). This spear is decorated at one end with engraved designs, white tufts, and feather plumes. At the other end, there is a swelling filled with small quartz stones. Standing between the two shamans, the singer holds the spear in one hand and strikes it with the other, causing it to rattle with a rapidly increasing rhythm (Hugh-Jones, 1979, p. 98).

With the population growth of the *Tukano* people and the proliferation of *malocas*, there was an evolution in materials and the crafting of ceremonial instruments. Historically, items like benches were adorned with small stones (quartz), similar to other ceremonial instruments. However, over time, they transitioned to being primarily made of wood, with sizes varying according to the user's status within the community. For example, benches measured four palms in size for a *baya* (dance master) and three ones for their companions. These benches served both ceremonial purposes and were utilized in everyday household activities.

There may be more than thirty subdivisions among the *Tukano*, each with its own name and ideally forming a hierarchical set. Currently, with all the dispersions that have occurred over the past centuries, hierarchical positions are a source of controversy and varying interpretations. The *Tukano* are traditional makers of the ritual bench made of wood (*sorva*) and painted on the seat with geometric motifs similar to those of woven patterns. It is a highly valued object, mandatory at ceremonies and rituals where they sit (Cabalzar; Ricardo, 2006, p. 42) (Figure 2).

Contact with colonizers and missionaries led to the destruction of malocas, which were replaced by villages and communities along the rivers. This process increased population density and altered territorial organization. Despite these

Source: Instituto Socioambiental Collection (2019).
Figure 2. Itacoatiara Mirim *Maloca*, peri-urban region of São Gabriel da Cachoeira.

changes, there was resistance, and the *maloca* tradition was maintained and adapted to new social contexts, becoming a symbol of cultural preservation over the centuries.

"There was a large *maloca* and several small houses. The Indians of this village, who have already traveled with traders from the Rio Negro, try to imitate their customs and thus are getting used to living in separate houses" (Wallace, 1979).

Aloisio Cabalzar (2006), along with Carlos Alberto Ricardo, in their work Indigenous Peoples of the Rio Negro: An Introduction to the Socio-Environmental Context of the Northwest of the Brazilian Amazon (*Povos indígenas do Rio Negro: uma introdução à socioambiental do noroeste da Amazônia Brasileira*), emphasizes the diversity and complexity of indigenous cultures in the Rio Negro (AM) region, underscoring the importance of *malocas* as central elements of these civilizations. In another work, "The Profane Temple: Salesian Missionaries and the Transformation of *Maloca Tuyuka*" (*O Templo Profano: missionários salesianos e a transformação da maloca tuyuka*), Cabalzar (1999) analyzes how the arrival of Salesian missionaries and the resulting religious conversion impacted the structure and significance of *malocas* for indigenous peoples, highlighting the tension between internal customs and external influences.

These works highlight how *malocas* have been impacted by external factors, such as colonization and religious conversion, over time. They also demonstrate how indigenous peoples have resisted and adapted traditions to preserve their identities. Thus, *malocas* go beyond being a mere physical structure; they are a symbol of the cultural resilience of indigenous peoples in the face of historical and social transformations.

"The Salesians also insisted a lot and eventually succeeded in convincing the Indians to abandon their *malocas* and settle in villages composed of separate houses for each family under the false pretexts of sexual promiscuity" (Cabalzar; Ricardo, 2006).

For Almir de Oliveira (2014), indigenous houses represent complexity and diversity, challenging the common perception that they are all the same. Oliveira (2014) emphasizes the connection between the architecture of these houses and the worldview of different cultures, where construction reflects both material and spiritual properties, social organization, and kinship relationships. The author also discusses the negative impact of colonization, which aimed to destroy longhouses and alter habits, breaking traditions and separating families. However, there is a movement to revive and reclaim these customs by reconstructing *malocas* as spaces of memory, ritual, and education, highlighting the ongoing effort to preserve indigenous culture amidst contemporary challenges.

The social, cultural, and political organization of *malocas*, with their new spatial configuration, continues to strengthen the identity of the indigenous people, their knowledge, and their epistemologies, which have often been devalued by the West. The upper Rio Negro microregion, rich in civilizational and immemorial heritage, exemplifies this significance.

It is important to highlight the contemporary nature of indigenous constructions in the Amazon. The deconstruction of the colonialist idea of primitivism, tied to a pre-Columbian past, is materialized through the modernity of biodegradable and sustainable solutions adapted to new times, using the means and materials available over the centuries. The formal resumption by AI of these communal houses provides a new perspective for students from native peoples, who have been present in public universities since 2012 with the implementation of quotas (Law 12.711 of 2012), and opens a positive scenario of cultural visibility.

Malocas and communal houses as buildings

The architecture of *malocas* is both functional and symbolic. Each family group, as described by Rezende (2006), organizes its own housing, which serves as the center for socializing and learning cultural values. These structures are fundamental to the organization of the indigenous way of life, and their disruption has had a profound impact on these customs.

Wallace (1979), during his visit to Jauarité in the region of the Uaupés River (AM), described a *maloca* as a large house measuring about 150 feet (approx. 46 m) in length, 75 feet (22.86 m) in width, and 30 feet (9.1 m) in height, capable of housing approximately a dozen families or about a hundred people. These structures follow a distinctive architectural plan, generally in the shape of a parallelogram with semicircular ends, indicating a design that is both functional and aesthetically significant.

> Their houses are the common domicile of numerous families, sometimes of an entire tribe. In plan, the house is a parallelogram with a semicircle at one end. The dimensions of one I saw in Jauarité were 150 feet in length, 75 feet in width, and about 3 feet in height. This house accommodated about twelve families, approximately one hundred individuals. During times of festivals and dances, it can shelter between 300 and 400 people (Wallace, 1979, p. 589).

Construction follows a hierarchy of shamans and chiefs, with each community building their *maloca* according to their origin and level of hierarchy. For instance, the *Tukano* people construct structures symbolizing the body of the creator father, the Moon God *Yepá Õakhë*, and adorn them with animal symbols and other significant elements.

The roofs of *malocas* typically featured steeply sloped gables. *Caraná* straw was predominantly used for roofing due to its effectiveness in providing protection against rain and its durability. Additionally, other materials like braided or sewn *buçu* were commonly employed. The walls were often constructed from woven palm, with lengths varying from 2 to 3 m (Figure 3).

The main walls of *malocas* are typically constructed using tree bark up to a certain height, with the upper portions complemented by *açaí* palm. In some regions, *paxiúba* trunks are also used. These structures served not only as residences but also as places where knowledge, rituals, and traditions were passed on and reinforced.

Source: Instituto Socioambiental Collection (2019).
Figure 3. São Pedro Community *Maloca*, Alto Rio Negro Indigenous Territory (AM).

Furthermore, the paintings on these walls, often simple charcoal traces, and the supporting pillars had special significance. Beksta (1988) highlights that the pillars were named after Desana ancestors, with each side of the *maloca* representing different hierarchies within the community.

Sá and Corrêa (1979) state that the construction and use of a traditional house in Alto Xingu (MT) is presented as a process that incorporates specific technical knowledge and deep integration with the environment. This process begins with the careful selection of materials, which must be gathered sustainably, respecting seasonality and natural resource regeneration. The organization of the house's internal space follows patterns that reflect the social structure and ritual functions of the community, illustrating how indigenous architecture is inherently linked to the cultural and spiritual aspects of the Upper Xingu people. The construction process itself is collective, involving labor and the transmission of knowledge across generations, thereby strengthening community bonds and cultural identity.

These architectural details of *malocas* illustrate the complexity and richness of indigenous traditions and practices, showcasing a deep connection between physical, spiritual, social, and individual spaces.

GENERATIVE ARTIFICIAL INTELLIGENCE AND CREATIVE ECONOMY

The emergence of the generative AI tool Stable Diffusion, an image-generating artificial intelligence used in various applications such as MidJourney and DALL-E, in 2022, disrupted established practices in the art world. This led to debates about the validity of "AI Art" and sparked the emergence of a new market for non-fungible tokens (NFTs) (Hutson; Harper-Nichols, 2023).

Such generative tools utilize machine learning algorithms and neural networks to create complex and intricate works. These AIs undergo training sessions where they are exposed to images paired with textual descriptions to learn contextual understanding, textures, shapes, and colors (Hutson; Harper-Nichols, 2023).

A distinctive feature of AI-generated art is its capability to work with large datasets, enabling artists to create highly diverse and expressive works that incorporate a wide range of visual elements.

The ability to generate images via text prompts democratizes access to artistic creation, as it does not necessarily require creators to possess traditional artistic skills. However, it also sparks debates about the distinction between genuine art and mere pixel reproductions produced by a machine.

Open-source[1] options like Stable Diffusion highlight the increasing integration of AI in contemporary art, despite initial resistance from traditionally trained artists, primarily over copyright concerns (Delsignore, 2022; Hazucha, 2022).

Generative AI has revolutionized creative economy by introducing new methods for producing and distributing cultural content. As emphasized by Davenport and Bean (2023), the entertainment industry, particularly in Hollywood, has undergone substantial transformations owing to these systems' capability to automate the creation of scripts, storyboards, and images. This has enhanced efficiency and reduced costs. Moreover, this technology's ability to adapt existing content to new contexts further underscores its value in fields requiring ongoing innovation in creative materials (Davenport; Bean, 2023).

The discourse surrounding AI in the creative sector extends beyond operational enhancements to encompass ethical and cultural implications. The deployment of intelligent algorithms challenges conventional norms of authorship and originality, prompting debates about the authenticity of AI-generated content. Content production heavily reliant on historical and pre-existing data can result in works that lack innovation, potentially perpetuating stereotypes and established forms rather than fostering creativity (Davenport; Bean, 2023).

Furthermore, the integration of this tool into creative and productive practices reflects shifts in working relationships within cultural and creative industries. The automation of tasks traditionally performed by humans has necessitated a re-evaluation of professional roles. For instance, the Writers Guild of America strike underscored concerns about job security and working conditions amid technological innovations (Davenport; Bean, 2023).

Despite the challenges, there are promising prospects for AI in creative economy. According to Trevisan and Braga (2022), these technologies offer unprecedented opportunities for experimentation and the development of new forms of artistic expression. Scholars argue that AI can serve as a tool for exploring uncharted artistic

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1   It refers to software whose source code is publicly available for use, modification, and sharing by anyone. This code is developed collaboratively and distributed under licenses that allow its use, modification, and redistribution, typically at no cost to users.

territories and expanding the frontiers of human creativity through innovative collaborations between humans and machines.

The evolution of these algorithms in the creative market indicates that future generations of creators will need to adjust to an environment where technology plays a central role. Effectively integrating AI into creative practices will be crucial for defining success in the upcoming era of cultural and artistic production. The adaptation to these tools will showcase the technical skills of those involved and their capacity to shape and influence the cultural trajectory of their works (Heaven, 2023).

METHODOLOGY: GENERATIVE ARTIFICIAL INTELLIGENCE IN THE RECONSTRUCTION OF *MALOCAS*

Adopting the methodology outlined by Hutson and Harper-Nichols (2023) in their study *Generative AI and Algorithmic Art: Disrupting the Framing of Meaning and Rethinking the Subject-Object Dilemma*, this study initiates with the creation of an image repository of *malocas*, utilizing a photo collection sourced from *Instituto Socioambiental* as primary dataset.

Initially, 73 records of *malocas* were selected and subjected to analysis with stringent image quality criteria, mandating a minimum resolution of 300 dpi to ensure clear capture of fine details.

The images must include frontal, side, and aerial angles to provide a comprehensive, three-dimensional view of the structures. The scenes should be unobstructed, without visual obstacles in front of or near the structures, to avoid distortion in the generated images. Various focal lengths are explored, including detailed close-ups of decorative and textural elements, as well as general views that illustrate how *malocas* are integrated into their surroundings.

In addition to technical aspects, it is crucial that the images authentically portray the architecture and cultural elements of *malocas*. Special attention is given to distinct characteristics such as the shape, construction materials used, paint, straw, and wood.

After the selection process, 33 photographs were discarded, resulting in 40 images that met the necessary requirements for AI training (Figures 4 and 5).

Subsequently, the "Automatic1111 / Stable Diffusion web UI" [2] interface was installed on a Ryzen 7 5700x computer with 32 gigabytes of RAM and a dedicated RTX 3070 graphics processor, using GitHub to run it locally via Python. This setup enables the training of generative models offline, disconnected from the internet. The next step involved uploading the images to the Astria.ai platform, where they were resized to a 1:1 ratio at 512 px for standardization.

Astria.ai is a tool within the field of generative art where users can upload images to train AI models. These models learn and incorporate the style and characteristics of the uploaded artworks through a training process. Once trained, these

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2   User interface for generative AI tools like Stable Diffusion.
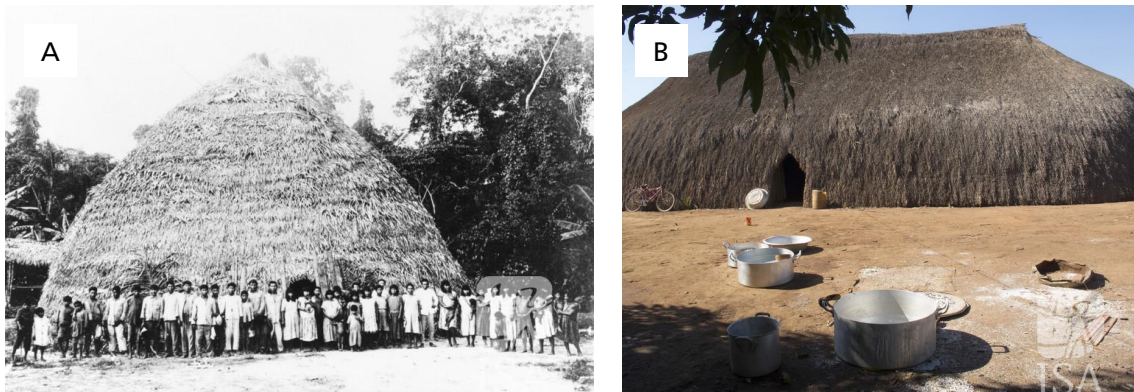
Source: Instituto Socioambiental Collection (2019).
Figure 4. Samples of images discarded in the selection.

Source: Instituto Socioambiental Collection (2019).
Figure 5. Samples of images qualified for training.

models can generate new pieces of art that reflect the original style while incorporating unique elements generated by AI. Additionally, the tool allows users to export these trained models as checkpoint files, which are compatible with other platforms such as Automatic 1111.

Checkpoint files, often denoted as .CKPT, serve as save points for AI models, preserving the model's state at specific intervals during training. These files store crucial information such as the model's weights, parameters, configurations, and architecture. They are particularly valuable in scenarios where training may be interrupted, enabling users to resume from the last saved point without losing progress.

After uploading the images to Astria.ai, a wait of 32 minutes was required for the generation of a model. This model was subsequently converted into a checkpoint (.CKPT) file for use in Stable Diffusion. These models are referred to as fine-tunes, and users have the option to assign each model a unique name. An example of such a token would be "sks malocas." (Figure 6)

A token functions as an identifier representing a particular model or a set of parameters used in generating new images. For instance, when training a model to create specific images, a token is assigned to denote that trained model. This token can subsequently be used to generate new artworks based on the trained model, ensuring consistency with the predefined style or criteria established during training.

Each token, as an AI-generated reference image, serves as a specific checkpoint in the training process, marking progress and serving as a reference for image
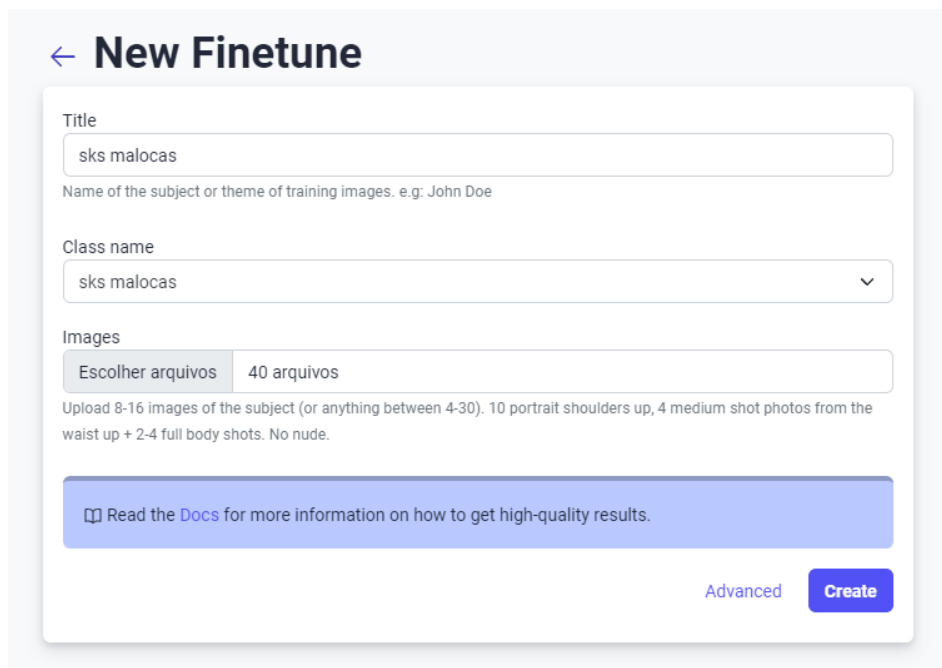
Source: Own authorship (2023).
Figure 6. Using Astria.ai to create the model.

generation. These tokens are crucial for fine-tuning the accuracy and quality of generated images, enabling users to explore various states of the model to achieve optimal results. Through these files, Automatic1111 successfully generated images based on the original photos provided, transforming them into new visual interpretations that preserve the essence and cultural richness of indigenous *malocas*.

After completing the training of the generative AI model, the next step was to export and integrate the checkpoint file (CKPT) into the production environment for image generation.

Integrating the model into Automatic1111 first required placing the file in the model folder within the corresponding directory in the interface. This integration process is essential to enable the software to recognize and utilize the custom model for imaging (Figure 7).
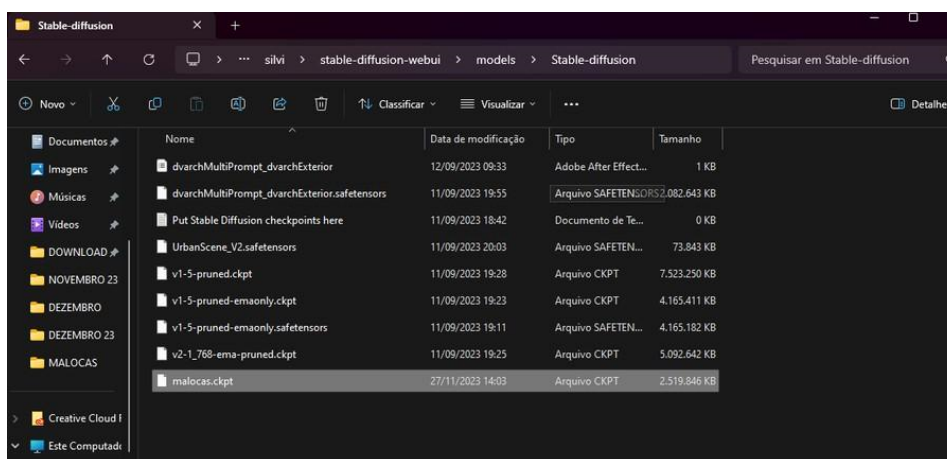
Source: Own authorship (2023).
Figure 7. Integration of the model into the Automatic1111 interface.

With the infrastructure properly configured and the model integrated into the Automatic1111 "Models" folder, the image generation phase commenced. This process starts by executing lines of text corresponding to the selected token. Each generated image serves as a test, an experiment that allows observation and analysis of the model's capability to interpret and visualize the concepts and architectural characteristics of indigenous malocas with fidelity and creativity (Figure 8).
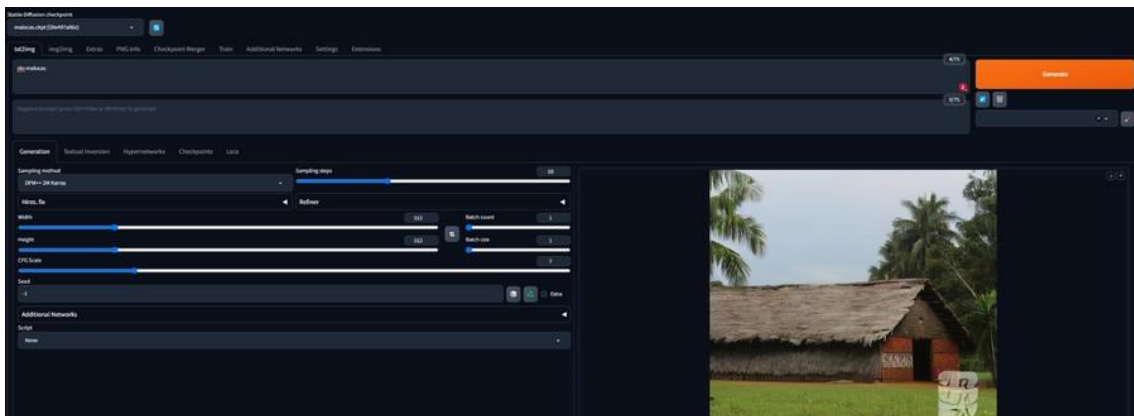
Source: Own authorship (2023).
Figure 8. Generation of images through the custom model.

The AI-generated representation of *malocas* demonstrates fidelity in architectural and aesthetic aspects, particularly notable in the accurate reproduction of straw roof textures and precise rendering of geometric patterns on the walls, crucial for maintaining cultural authenticity. The application of colors features strong contrasts that effectively accentuate decorative elements, thereby respecting cultural practices associated with these structures.

Adjustments in lighting to better capture the interplay of light and shadow could greatly enhance the three-dimensional perception of *malocas*. These refinements are crucial for advancing the application of AI technologies in digital reconstructions of cultural heritage. They ensure not only technical precision but also deepen the contextual and cultural authenticity required for scientific and educational purposes (Figure 9).

However, it is noted that while the texture of the walls is well represented, greater variation could enhance fidelity to the use of natural materials and manual construction techniques. Additionally, adjusting the color palette to more accurately reflect the natural lighting conditions typical of these buildings' environments could further accentuate the *malocas*' integration into cultural and geographic contexts, both functionally and aesthetically.

At the conclusion of the project, 30 digital representations of *malocas* were generated. Each image reflects a fusion of AI technology with a deep appreciation for the cultural significance of these iconic structures, following a methodical approach that guided the process from data selection to the final stages of image generation.

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Source: Own authorship (2023).
Figure 9. Sample of images generated by artificial intelligence.

The digital reconstructions faithfully reflect the original collection, showcasing the technical prowess of the AI model in capturing and conveying the cultural richness and architectural diversity of *malocas*. This outcome is pivotal as it validates the adopted methodological approach, affirming that using original images as a training database is effective for achieving precise and culturally respectful visual representations.

Additionally, the process outlined in the preceding steps provides a practical and comprehensive guide for researchers and creatives interested in exploring the potential of generative AI in digital preservation and interpretation of cultural heritage. The detailed steps, from preparing the image bank to integrating and utilizing models in AI tools, and finally to generating and evaluating images, form a replicable methodology adaptable to diverse contexts.

This project not only achieved its goal of creating visual representations of *malocas* but also paved the way for future investigations and applications of generative AI in the field of cultural heritage. The faithfully generated images provide a new perspective on indigenous architecture, fostering a deeper appreciation of its complexity and beauty, and underscore the role of technology in preserving and celebrating cultural richness (Figure 10).

Architects and designers can leverage tools like Astria.ai and Stable Diffusion to methodically generate representations that honor the historical legacy of *malocas*. While these generative AI tools can extract data from social media platforms like Instagram, their true potential lies in transcending current social media frameworks

Source: Own authorship (2023).
Figure 10. Samples of images generated by artificial intelligence.

and drawing inspiration directly from historical collections. This process can be likened to an artist's "signature brushstroke," enabling architects to continually refine their techniques and workflows for creating increasingly sophisticated and personalized generative content. As the field of generative imaging evolves, this guide aims to empower professionals with the knowledge and skills to push boundaries, unlocking the full potential of this innovative approach.

When assessing the generated images, the meticulous attention to detail in representing the materials used in these constructions stands out, particularly in the texture and arrangement of straw, a crucial element in indigenous architecture. The careful treatment of straw details — including its natural color and weaving pattern — demonstrates a profound understanding of traditional construction techniques.

Moreover, the endeavor to include iconographic representations and illustrations on the walls of longhouses demonstrates a deliberate effort to capture the intrinsic art of these spaces. While the images may not replicate every detail of traditional paintings and adornments with absolute precision, they provide a visual interpretation that aligns with the symbology and themes frequently found in these structures. The variations in patterns and colors seen in the illustrations, for instance, underscore an appreciation for the essential narratives and symbolism within the culture that constructs and inhabits *malocas*.

On the other hand, the challenge of completely and accurately reproducing these intricate illustrations highlights the current constraints of AI tools in capturing the subtleties and depth inherent in manual art. This underscores an area for future advancement in imaging technology, where increased emphasis on the precision of artistic and cultural details could potentially be achieved.

In summary, while the generated images effectively depict the physical structures of *malocas*, there remains an opportunity for enhancement in capturing and reproducing the nuanced and symbolic aspects of the art and decorations that adorn these spaces. Striking a balance between technical precision and cultural expression is crucial for an authentic and respectful representation of *malocas* in their entirety.

This experiment showcased the potential of AI in art creation, highlighting its capacity for innovation and customization in digital imaging. Continued exploration of these techniques promises to further expand the horizons of digital art and design.

CONCLUSIONS

The advent of generative AI tools has revolutionized the realms of art and design, providing professionals with innovative avenues to express creativity. These tools' capability to generate intricate representations of *malocas*, bolstered by extensive image databases, has fostered a new era of exploration and experimentation. The process outlined in this article, focusing on generating AI images of indigenous communal houses using an original art database, offers a comprehensive guide for those aiming to delve deeply into the potential of these cutting-edge tools.

However, as these technologies advance, further research and development to establish standardized processes for creating generative images of *malocas* becomes essential. This evolution may necessitate a shift in art and design curricula, moving beyond conventional technical construction to place greater emphasis on the conceptual framework of creativity.

Additionally, properly exploring and teaching the use of text prompts for AI-generated art is crucial to understanding and anticipating the outcomes of different creative processes. As the boundaries between art and science become increasingly blurred, artists must take a leadership role in developing the algorithms and technologies that support these generative AI tools to fully achieve their creative potential.

These representations offer a new window into understanding these architectural structures, emphasizing their significance as cultural heritage. This work proves the effectiveness of the approach adopted, ensuring that the content generated is original and aligned with the creators' artistic vision, rather than merely replicating content already published on social media.

In summary, the research highlights the transformative potential of generative AI as a tool for the preservation and interpretation of the architectural heritage of indigenous peoples. It expands knowledge about the cultural role of *malocas* in the indigenous context and paves the way for future research on the application of this technology in other forms of digital preservation. These results represent a milestone at the intersection of technology, art, and preservation, opening up exciting possibilities for creative exploration and safeguarding indigenous identity.

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3D Printing for Social Innovation: analysis of case studies from a Design perspective to define guidelines

Impressão 3D para Inovação Social: análise de estudos de caso sob a ótica do Design para a definição de diretrizes

José Victor dos Santos Araújo[I] 🆔, Pablo Marcel de Arruda Torres[I] 🆔

ABSTRACT

This work is derived from research that establishes the relationship between Additive Manufacturing (AM) and Social Innovation, from Design perspective, and aims to propose guidelines for inserting 3D Printing in socially beneficial projects/businesses, especially in interior communities. It is characterized as applied in nature, with a qualitative approach, exploratory in objectives terms and bibliographical. Its procedures include case studies, these being multiple, selected for generating 3D printed products and causing social impact in a given context, which are presented and analyzed, and research documentary. As preliminary results, the advancement of AM Industry was verified, the increase in 3D printed prototypes, the increase in demands regarding co-design, Design presence in the cases analyzed and the emphasis on disadvantaged contexts.

Keywords: Design. Social Innovation. 3D Printing. Additive manufacturing.

RESUMO

O presente trabalho é derivado de uma pesquisa que estabelece a relação entre Manufatura Aditiva (AM) e Inovação Social, sob a perspectiva do Design, e objetivou propor diretrizes para inserir a impressão 3D em projetos/negócios socialmente benéficos, especialmente em comunidades interioranas. É caracterizada como de natureza aplicada, de abordagem qualitativa, exploratória quanto aos objetivos e bibliográfica. Seus procedimentos incluem estudos de caso, sendo estes múltiplos, selecionados por gerarem produtos impressos em 3D e causarem impacto social em determinado contexto, que são apresentados e analisados, bem como pesquisa documental. Como resultados preliminares, verificou-se o avanço da indústria AM, a crescente de protótipos impressos em 3D, o aumento de demandas referentes ao codesign, a presença do Design nos casos analisados e a ênfase em contextos desfavorecidos.

Palavras-chave: *Design. Inovação social. Impressão 3D. Manufatura aditiva.*

INTRODUCTION

The world has been plagued by social problems such as hunger, violence, inequality, inadequate housing, water scarcity, and lack of basic sanitation, among others. Despite being widely reported, these issues often do not receive the necessary attention. In this context, it is essential to promote practices that aim for the common good, combining knowledge and skills.

The United Nations (UN) estimated that, in the first half of 2023, 360 million people worldwide needed humanitarian aid — 30% more compared to the same period the previous year — which equates to one in every 22 inhabitants of the planet. The UN also highlighted that the causes of this increase include unresolved conflicts, global economic problems exacerbated by COVID-19, and the impact of the Russian invasion of Ukraine (UN, 2023).

In this context, Social Innovation emerges to generate new ideas (products, services, and models) developed and implemented to satisfy social needs and create new relationships or collaborations. It addresses the urgent demands of society by influencing the dynamics of collective interactions. Therefore, it aims to improve human well-being (Hahn; Andor, 2013).

From this perspective, designer and educator Victor Papanek (1971) is known as a pioneer of the thought advocating environmental and social responsibility. He asserted that designers must make their skills accessible to the world and work to solve community problems. In contemporary times, Manzini (2017) relates Social Innovation to Technological Innovation, noting that this collaboration helps identify new solutions to specific problems. This union has transformed infrastructure, production, and consumption systems.

That said, one of the technologies gaining notoriety is 3D printing. This production process, operated by a computer, adds material in layers and is part of the new technologies capable of causing global transformations. It is emerging and revolutionary, with the potential to alter the last two centuries of design and manufacturing approaches, leading to economic, geopolitical, demographic, social, environmental, and security consequences (Campbell *et al.*, 2011).

According to The Future of Jobs Report by the World Economic Forum in 2020, 51% of companies worldwide could be using 3D printing by 2025. The 2023 edition indicates that the sectors expected to adopt 3D printing the most by 2027 are: automotive and aerospace (61%), manufacturing (55%), infrastructure (52%), media, entertainment, and sports (52%), care, personal services, and well-being (48%), and education and training (47%) (Figure 1).

The sectors most impacted in terms of jobs will be: real estate (57%), government and public sector (50%), education and training (46%), automotive and aerospace (44%), consumer goods retail and wholesale (44%), and care, personal services, and well-being (40%) (World Economic Forum, 2023) (Figure 2).

The Additive Manufacturing (AM) market value surged from 3.1 billion to approximately 18 billion between 2013 and 2022 (Figure 3). The 2023 Wohlers Associates report highlights this growth, noting the involvement of more than 400 organizations from ten industry sectors. These organizations consequently impact various groups of people and address a wide range of needs.
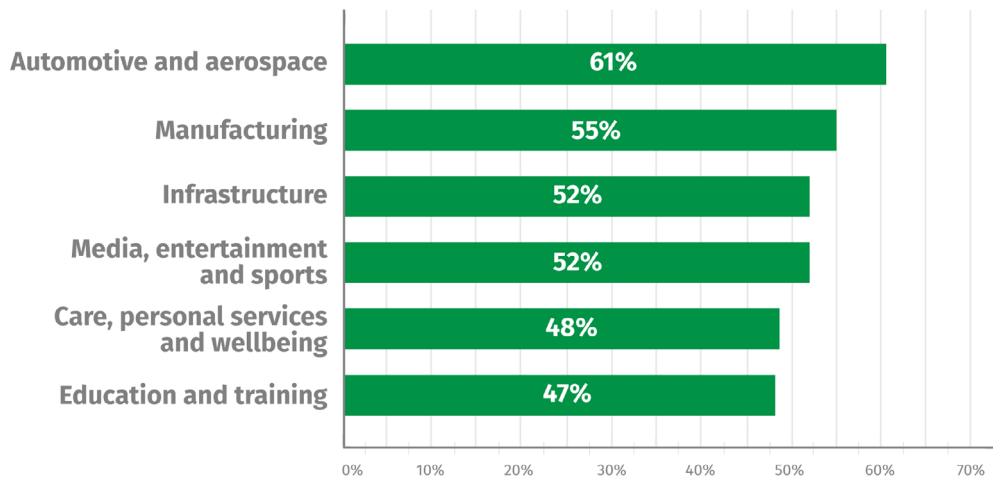
Source: Adapted from World Economic Forum (2023).
Figure 1. Sectors with highest adoption of 3D Printing [2023–2027].
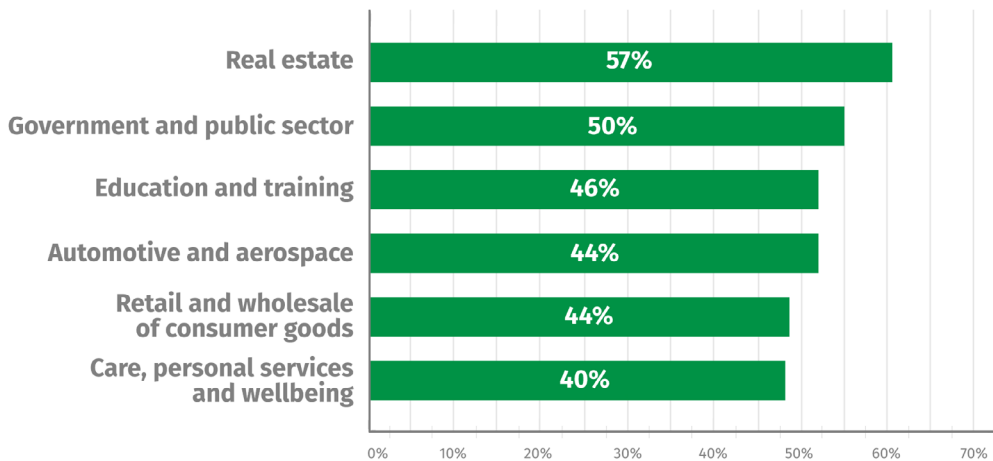
Source: Adapted from World Economic Forum (2023).
Figure 2. Sectors most impacted by 3D printing on jobs [2023–2027].

In the field of Design, 3D printing has revolutionized the industry, particularly in prototyping. This phase involves representing the selected solution and checking control points and fundamental issues. The physical models produced through 3D printing can closely resemble the final product in terms of detail, fit, and finish (Prado; Sogabe, 2022). Moreover, 3D printing is now also capable of producing fully finished objects.

Given the presented panorama, 3D printing can be an important technological vector for Social Innovation. It can be used to assist communities disadvantaged by various problems, thereby addressing their urgent needs.

Thus, this research is applied in nature, utilizing a qualitative, exploratory approach. It involves bibliographical methods and procedures, including case studies with multiple cases presented and analyzed. These cases are selected based on their generation of 3D-printed products and their social impact in a specific context, supplemented by documentary research.

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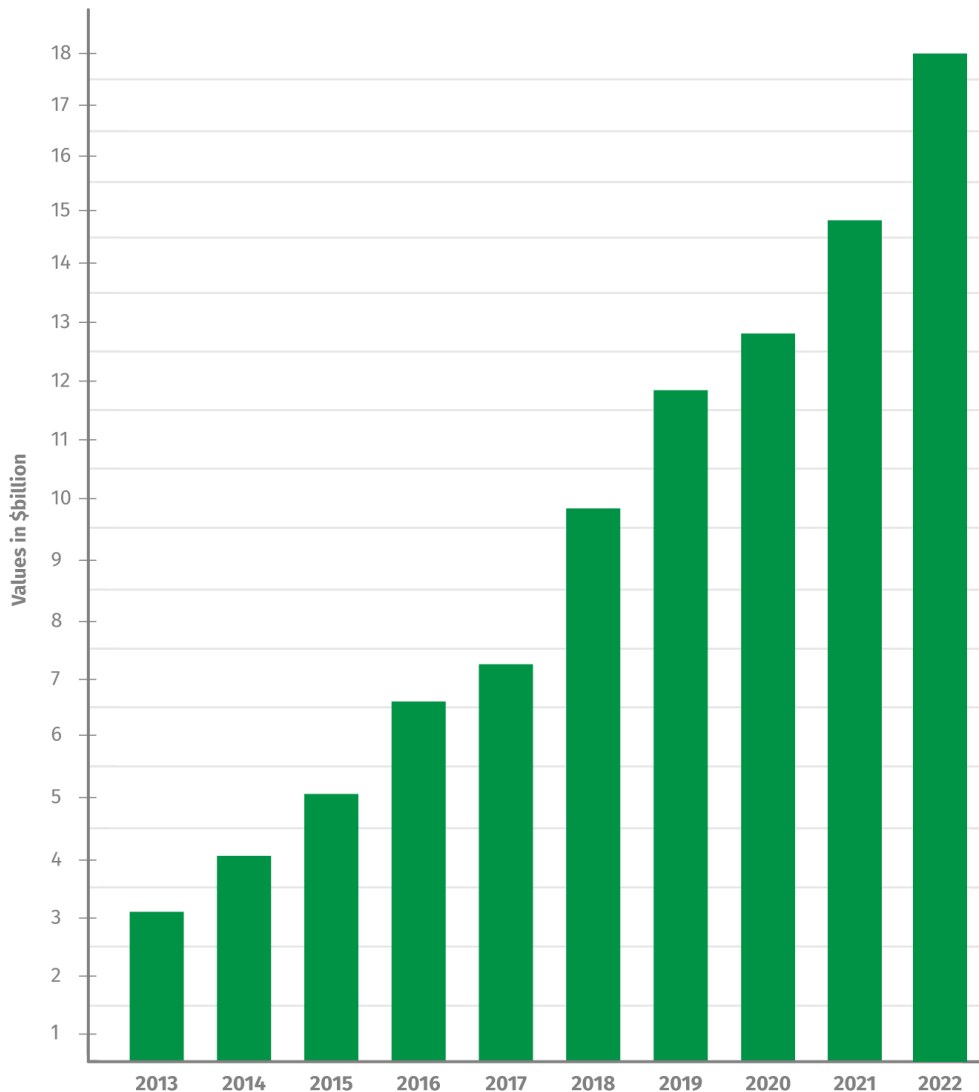
Source: adapted from Wohlers Associates (2023).
Figure 3. Market value of the Additive Manufacturing Industry.

SOCIAL INNOVATION

Social Innovation is a term that was first used in the early 1970s, in an academic publication by Taylor (1970) focusing on learning from people at risk. Later in the same year, Gabor (1970) published a study addressing social innovations aimed at territorial development, emphasizing the local nature of these initiatives.

From this perspective, the concept of Social Innovation is related to changes in how individuals or communities address their own problems or create opportunities (Manzini, 2008).

Social Innovation can be divided into six stages, which range from the formation of ideas to the impact they produce. These stages do not necessarily follow a linear sequence, as some innovations may focus directly on "practice" or "scaling," and feedback cycles can occur throughout the stages. The stages are: requests, inspirations, and diagnoses; proposals and ideas; prototyping and pilots; sustainability; scaling and diffusion; and systemic change (Murray; Caulier-Grice; Mulgan, 2010).

Considering the local context, Bacon, Mulgan, and Woodcraft (2008) propose a model for integrating innovation into communities, which involves three axes: authority, organizational capacity, and value (Figure 4).

Source: Adapted from Bacon, Mulgan, and Woodcraft (2008).
Figure 4. Strategic model for local Social Innovation.

ADDITIVE MANUFACTURE/THREE DIMENSIONAL PRINTING

The principle of manufacturing by adding material, known as AM or 3D printing, emerged at the end of the 1980s. This process involves the gradual addition of material in layers, based on data from a computational 3D geometric model of the object (Carvalho; Volpato, 2017).

The patent application for a rapid prototyping system by Japanese doctor Hideo Kodama, from the Nagoya Municipal Institute of Industrial Research, in May 1980, marks the beginning of AM equipment. The technology was described as a "vat of photopolymer material (a type of resin), exposed to UV light, which makes the part rigid and produces layer-by-layer models" (Figure 5). However, the registration was not successful (Lonjon, 2017).

Currently, the stages of this productive environment, as described by Carvalho and Volpato (2017), are:
• three-dimensional modeling;
• conversion of the 3D geometric model to a format suitable for AM;

- process planning for layer-by-layer production: slicing and delimiting support structures and material deposition techniques;
- manufacturing the object using AM equipment (3D printer);
- post-processing.

Figure 6 illustrates each of the steps.
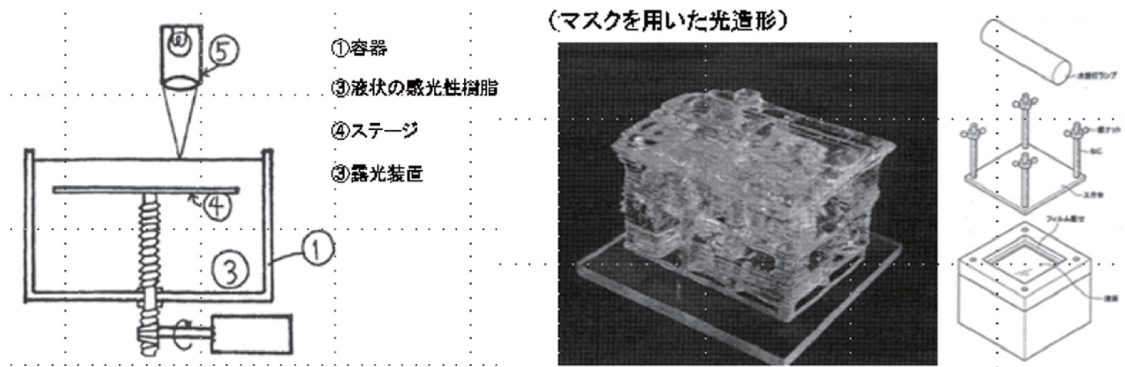
Source: Institute of Electronics, Information and Communication Engineers (2014).
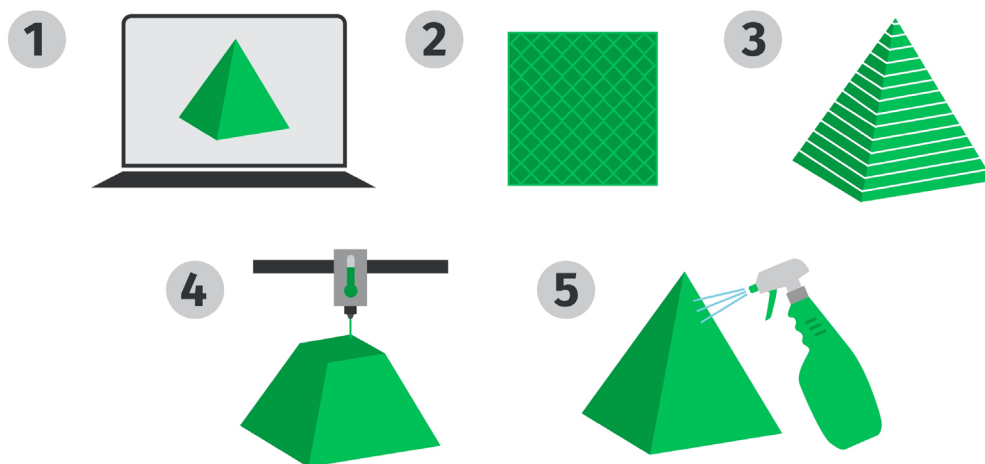Figure 5. Photopolymer vat with ultraviolet light exposure.

Figure 6. Stages of 3D Printing.

DESIGN FOR SOCIAL AND TECHNOLOGICAL INNOVATION

Design focused on Social Innovation is not a new discipline. It leverages skills and capabilities in various combinations to promote and support socially positive actions, facilitating, sustaining, and guiding paths of social change aimed at sustainability (Manzini, 2017).

In this field of Design, the objective is to develop products, services, processes, and policies that more effectively meet the needs of social groups. The focus is on solutions that enhance the use of existing but underutilized resources (Niemeyer, 2017). It is important to highlight the scope and relevance of Design beyond products and services, as it can also foster new processes and influence the political sphere.

In terms of approach, co-design is commonly adopted to guide socially innovative projects. Designers act as facilitators and members of multidisciplinary teams, involving various stakeholders such as recipients, investors, whether from public or private sectors, communities, and others (Niemeyer, 2017).

It is also worth noting that innovations reflect and originate from various activities and technological capabilities, including experiments, creative models, and solutions based on Engineering, Design, and Research and Development (R&D). Technological Innovation, defined as process and product innovation, that is, new features implemented by production sectors — through research or investments — enhances the efficiency of the production system (Leal; Figueiredo, 2021), which may be related to Design.

In this context, design is viewed as an activity within the broad field of Technological Innovation. It is involved in the stages of product development, addressing aspects such as use, utility, function, production, and formal/aesthetic quality (Hsuan-An, 2017). Design contributes to improving techniques, reducing resource use, and creating new possibilities for developing products and services, among other benefits.

When examining the relationship between the two types of innovation, it is noted that Social Innovation often relies on technology as a key vector, while Technological Innovation has the potential to create social impact by reaching various segments of society. In this way, both types of innovation can collaborate to rethink systems and devices, moving away from marketing logic and focusing on benefiting society.

Case studies

To investigate and demonstrate the use of AM in projects promoting Social Innovation, case studies were employed. This research method involves collecting and analyzing information about individuals, families, groups, or communities. It examines various aspects of life with an emphasis on rigor, objectivity, originality, and coherence as fundamental requirements (Prodanov; Freitas, 2013).

The selection was based on several pre-established criteria, including: generating social impact, producing tangible products through 3D printing, operating globally regardless of the area, and having been active for at least three years. For the search, only reliable sources were considered, such as official project pages on the internet and scientific articles found in institutional repositories or journals. The search terms used were: "3D Printing and Social Innovation" and "*Impressão 3D e Inovação Social.*"

Five cases were selected, prioritizing diversity in geographic, social, and cultural contexts, with each case representing a different country and segment. Additionally, the cases address urgent needs of the communities involved, aligning with the future objectives of the research.

The cases were structured into the following topics (Torres, 2016):

- Context: definition of the condition in which the community was found during the initial phase of the project's team intervention, which later points out strategies to address identified problems;
- Actors (stakeholders): Identification of the agents involved in the innovative process;
- Description of the development: Detailing the stages of the adopted process, encompassing the codesign approach, methods, and tools used;
- Results: Presentation of the project's outcomes, which were delivered and implemented for the benefit of the community;
- Impact: Verification and measurement, when possible, of the impact caused by implementing the results, demonstrating the transformation in the local reality. This understanding of the benefits brought about by Social Impact Design contributes to its appreciation by the population.

Case 1: AcuaLab Filter

Background

The AcuaLab filter is a project by FabLab Nariño, a digital manufacturing laboratory located in the coastal community of Nariño, Colombia, which has around 1.6 million inhabitants according to the 2018 Census (Gobernación de Nariño, 2020). The project aims to treat water from sources that are difficult to access, assisting in finding potable water in the Pacific region. It promotes cocreation and collective participation in the development of prototypes and customized manufacturing tailored to the specific context or need (Sec.Tic, 2018).

Actors

FabLab Nariño was established by the Secretariat of Information Technology, Communications, Innovation, and Open Government (Sec.Tic) of the Government of Nariño. It is an open space that provides free services, including monitoring and advice on digital manufacturing, supporting projects, enterprises, and social needs (Sec.Tic, 2018) (Figure 7).

The laboratory provides society with access to emerging technologies in a sustainable manner through training, collaboration, and the development of AM projects. It also operates on an itinerant basis to extend its reach and enhance participation in local regions (Sec.Tic, 2018).
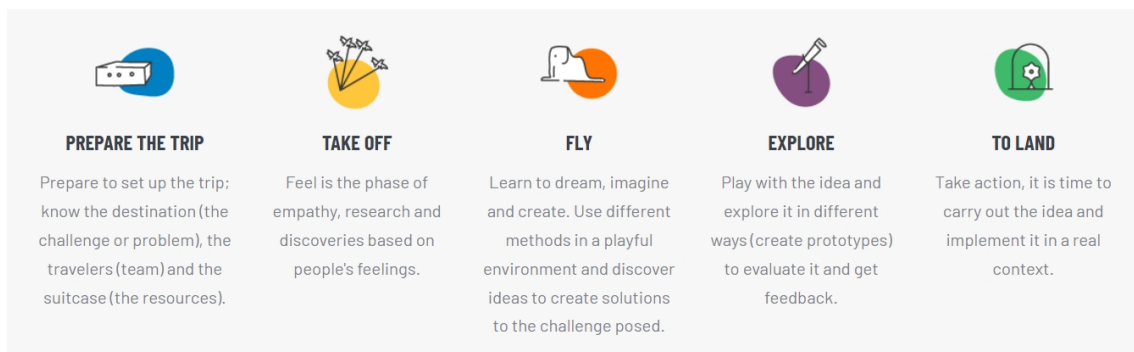
Development description

Designed for user-specific manufacturing, the AcuaLab personal filter aims to empower communities through maker and Do It Yourself (DIY) trends. These trends involve users making, repairing, or altering objects themselves, using specific techniques and tools for each case. The filter was developed using the Feeling method, an open-source social technology originating in Latin America. This method is divided into five phases: "Prepare for the Trip," "Take Off," "Fly," "Explore," and "Land" (Feeling, 2023).

The description of each of them is presented in Figure 8.

Source: Social Innovation Center (2019).
Figure 7. AcuaLab Filter Manufacturing Workshop

PREPARE THE TRIP

Prepare to set up the trip; know the destination (the challenge or problem), the travelers (team) and the suitcase (the resources).

TAKE OFF

Feel is the phase of empathy, research and discoveries based on people's feelings.

FLY

Learn to dream, imagine and create. Use different methods in a playful environment and discover ideas to create solutions to the challenge posed.

EXPLORE

Play with the idea and explore it in different ways (create prototypes) to evaluate it and get feedback.

TO LAND

Take action, it is time to carry out the idea and implement it in a real context.

Source: Feeling (2023).
Figure 8. Steps of the Feeling Method.

Results

The developed product is divided into parts (FabLab Nariño, 2019) (Figure 9):

- Spout: allows the use of the filter in polyethylene terephthalate (PET) containers, giving a new use to plastic that would otherwise be discarded, and provides a personal water container;

- Part A: assembled with a paper filter to retain impurities and particles, with the cylindrical part distinguishing it from the others;

- Part B: contains activated carbon filter, a particulate material encapsulated within the container, and should be accompanied by two paper filters, one above and one below;

- Part C: contains treated sand filter that is encapsulated and should be accompanied by two paper filters, one above and one below;

Source: FabLab Nariño (2019).
Figure 9. Parts of the AcuaLab Filter.

- Part D: it is a straw, the end of the filter, designed to be connected to a type of hose, facilitating the product's access to the water source.

And, for the filter to be used, the following steps must be followed (FabLab Nariño, 2019) (Figure 10):

- Step 1: cut a strip of filter paper to the appropriate size (2.3x2.3cm), roll it into a cylinder, and insert it into Part A;
- Step 2: place a sheet of filter paper at the bottom of the container, pour in the activated charcoal, and add another sheet of filter paper on top of it;
- Step 3: place a sheet of filter paper at the bottom of the container, pour in treated coarse sand, and add another sheet of filter paper on top of it;
- Step 4: cover pieces A, B, and C with Teflon tape and assemble them following the alphabetical order;
- Step 5: determine the necessary length to cut the tube and install it into Piece D, and if needed, use Teflon tape;
- Step 6: attach Piece D to complete the filtration system;

Source: FabLab Nariño (2019).
Figure 10. Steps for Assembling the AcuaLab Filter.

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- Final Step A: if the personal spout is attached, drink the water directly from a source, paying attention to its condition;
- Final Step B: use the punch to make an opening in the PET bottle cap, turning it until it cuts through. Attach the spout to the other filter pieces and insert it into the bottle to complete the assembly.

The filter can be produced in two formats, as shown in Figure 11.

The assembled filter and its components can be seen in Figure 12.

To use it, hold the filter with your hands and suck the water from a container or source, as shown in Figure 13.

Impact

Providing clean water in unhealthy contexts and granting the community autonomy to manufacture the filter, the AcuaLab project has already achieved the following results (Cátedra Futuro, 2019):
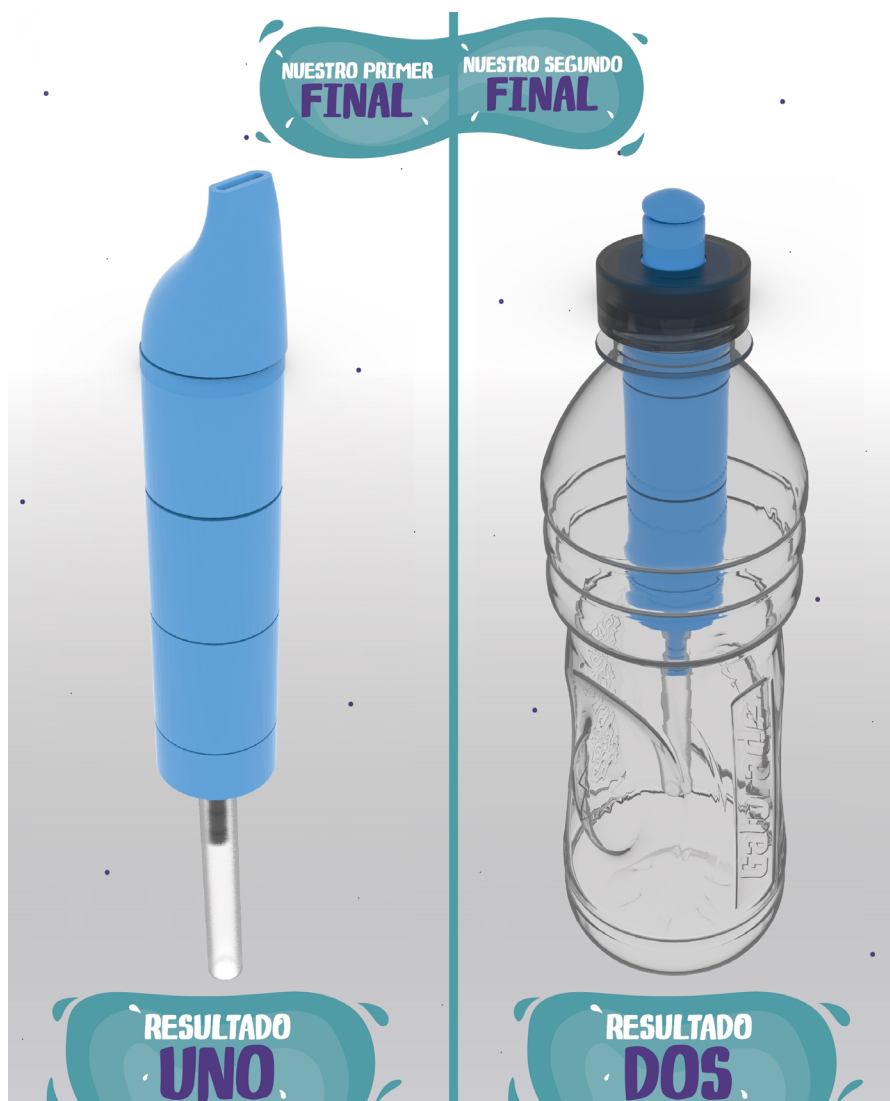
Source: FabLab Nariño (2019).
Figure 11. Options for the AcuaLab Filter Results.

Source: Social Innovation Center (2019).
Figure 12. Details of the AcuaLab Filter.

Source: Social Innovation Center (2019).
Figure 13. Use of the AcuaLab Filter.

- 7 visited municipalities: Roberto Payán, La Tola, Guachucal, Guaitarilla, Sandoná, Buesaco, and Obonuco (Pasto);
- 12 maker training workshops;
- 210 people benefited;
- More than 300 filters assembled by the communities.

Case 2: Field Ready

Background

Field Ready is a group of non-governmental, non-profit organizations with partners around the world, including regions such as Syria, the South Pacific, Türkiye, and the Philippines (Field Ready, 2023).

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Syria is experiencing a massive humanitarian catastrophe due to armed conflicts that have resulted in over 570,000 deaths. Currently, 16 million people need assistance, over 7 million are displaced within the country, and nearly 6 million are refugees. Consequently, many Syrians lack basic necessities such as food, shelter, and clothing (Field Ready, 2023).

The South Pacific, comprising various island nations, is susceptible to violent storms, volcanoes, tsunamis, and earthquakes. Despite strong local preparedness and response efforts, the long-term impact and consequences of these natural disasters can be severe (Field Ready, 2023).

Turkey continues to deal with the devastation from the deadly earthquake in early 2023, in addition to ongoing conflicts in the region. In the Philippines, climate disasters — cyclones, floods, landslides, and droughts — destroy homes, jeopardize health, exacerbate economic difficulties, and increase poverty. The country's geographical complexities make emergency response actions challenging and costly (Field Ready, 2023).

Actors

The organization's team consists of humanitarian workers and technologists who are experts in their fields, possessing the necessary qualifications and experience (Field Ready, 2023).

Development description

The Field Ready way of working is organized into five stages (Field Ready, 2023):

1. Assess: see, listen, and understand — comprehension of the situation and people involved, with great empathy, in a collaborative effort aimed at practical and sustainable solutions;
2. Design: idealize and develop concepts — focus on technology and the benefits of proper use, utilizing a process with interactions;
3. Make: manufacture useful things — rapid involvement of people with experience and appropriate technology to meet needs in various sectors and challenges, moving from the specific to the general;
4. Share: test, distribute, and train others — sharing repaired or manufactured items and knowledge from extensive experience through training and other forms of education;
5. Lead: replicate where needed — serve as a role model for others, taking into account being a pioneer in this type of approach.

Figure 14 illustrates the complete process.

Results

Among the extensive catalog of products developed, several made using 3D printing can be highlighted (Field Ready, 2020):

• Atena Duoband Yagi (Figure 15): custom part for the antenna structure that captures radio waves, radar, or Wi-Fi, facilitating its assembly;

Source: Field Ready (2023).
Figure 14. Field Ready's Work Stages.

Source: Field Ready (2020).
Figure 15. Duoband Yagi Antenna.

- Ground Stake (Figure 16): it is driven into the ground for securing tents, shelters, and canopies;
- Bag Hook IV (Figure 17): designed for hanging intravenous bags;
- Otoscope (Figure 18): device for examining the external ear canal and the eardrum;
- Adherence Piece (Figure 19): designed to tighten threaded snouts on a water inlet hose for a compressor.

Impact

By enabling the production of items locally and teaching methods to groups, positive effects include (Field Ready, 2023):
- 90% reduction in the price of some essential humanitarian supplies to save lives;
- speed in delivery, reducing the time to hours instead of weeks or months, as usually happens with traditional aid logistics;

Source: Field Ready (2020).
Figure 16. Ground Stake.

Source: Field Ready (2020).
Figure 17. Bag hook IV.

Source: Field Ready (2020).
Figure 18. Otoscope.

Source: Field Ready (2020).
Figure 19. Grip tool.

- increased community resilience and preparedness by enabling local production and other means of recovery;
- training a large number of people and open, widespread sharing of projects, knowledge, and approaches.

Case 3: Proximity Designs

Context

Considered a country with a high rate of poverty, Myanmar has around 6 million inhabitants, a large proportion of whom work in agriculture, with rice production accounting for 60% of the agricultural areas (Proximity Designs, 2023).

Due to scarce resources and limited technological advances, acquiring agricultural equipment is challenging in this Southeast Asian country. In response, Proximity Designs implemented 3D printing to create prototypes for engineering projects (Proximity Designs, 2023).

Actors

Proximity Designs was founded by Jim Taylor and Debbie Aung Din in 2004 with the aim of creating a social business to support needy families in rural Mianmar. They recognized the significant needs of farmers who were not receiving assistance from the government or private sectors (Proximity Designs, 2023).

Currently, the social enterprise has four core areas, each managed by a dedicated team (Proximity Designs, 2023):
- agricultural technology: approximately 130 people;
- agronomic services: 225 members, including agronomists, soil scientists, farmers, and technologists;
- agricultural finance: more than 450 members;
- design (Labs): 10 designers.

Development description

To address Mianmar's challenges, the Design Thinking method is employed, emphasizing creativity and empathy. The team of designers, engineers, and researchers works locally to listen to people, create prototypes, and obtain direct feedback (Proximity Designs, 2023) (Figure 20).

The products are designed in a personalized manner using software designs and undergo rigorous testing with prototypes to simulate use on rough terrain. These prototypes are then sent to users for evaluation (Proximity Designs, 2023).

After confirming viability, the teams responsible for manufacturing and assembly begin production using advanced technology, computer-aided design (CAD) software, and 3D printers. They consider important factors such as accessibility, usability, and durability (Proximity Designs, 2023).

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Results

By introducing 3D printing in the prototyping phase, the production time for specific parts used in machines was reduced from weeks or months to just days. Printed items help test assembly, improve designs, and avoid ordering aluminum parts from abroad, thus reducing costs (Clarke, 2017).

Some of the printed pieces include (Harimoto, 2016):

• sprinkler components (Figure 21);
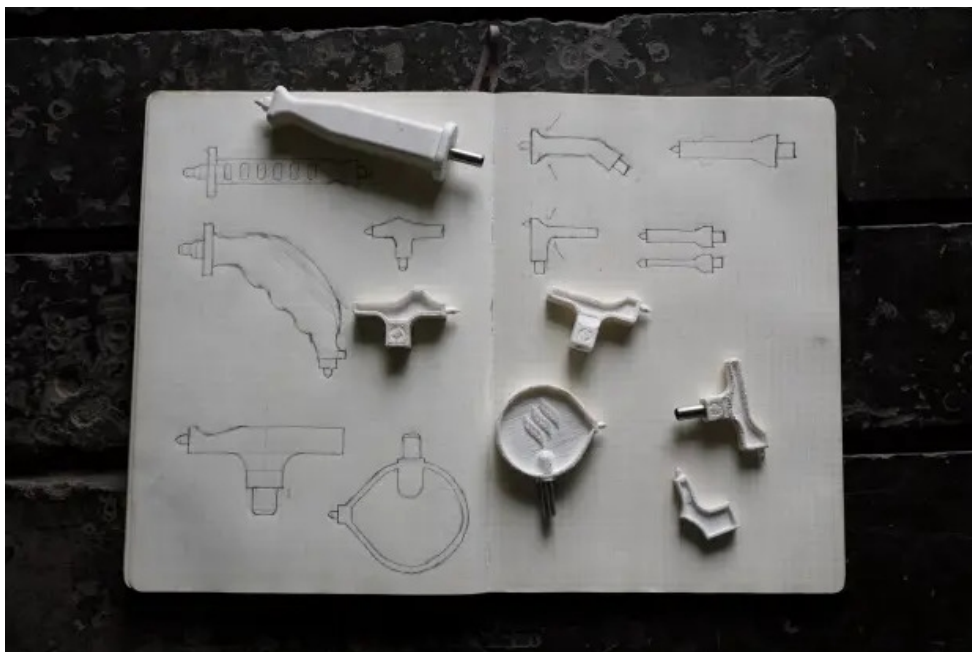• water pump components (Figure 21);
• spacer rings (Figure 22).

Impact

The scope and scale of Proximity Designs' impact can be demonstrated by the following numbers (Proximity Designs, 2023):
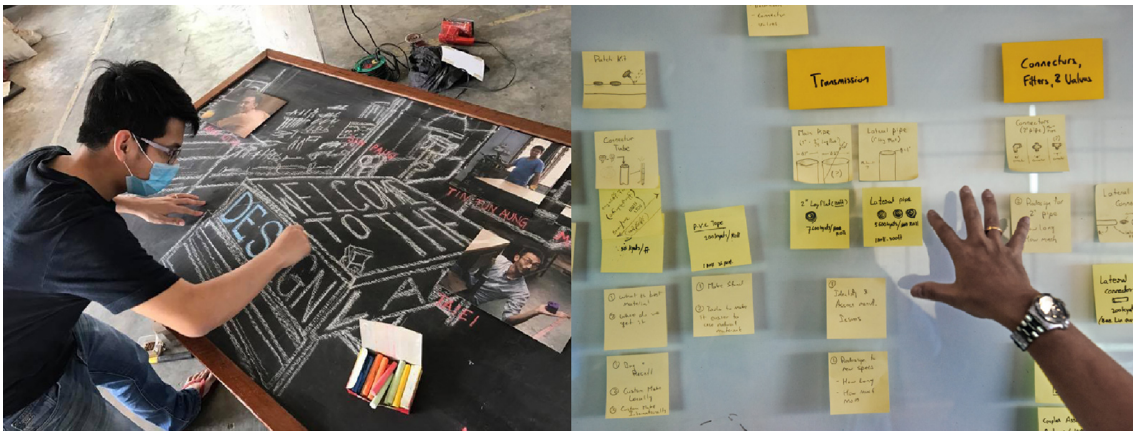
Source: Proximity Designs (2023).
Figure 20. Design tools from Proximity Designs.

Source: Harimoto (2016).
Figure 21. 3D-printed prototypes for Proximity Designs.

Source: Harimoto (2016).
Figure 22. 3D-printed spacer rings for Proximity Designs.

- Scale: over 250,000 agricultural clients benefited annually, approximately more than 1,300,000 families;
- Reach: 17,000 villages, 227 municipalities, about 75% of the agricultural population;
- Average: $275 annual net gain per farmer's income;
- Efficiency: six times (net profit gain/delivery cost);
- Cumulative impact: $725,000,000 over the last 19 years;
- Sustainability: 20% of the budget is from earned revenue, with a 98% repayment rate on agricultural loans.

Case 4: 3D Africa

Context

Due to the lack of an established industrial sector, most inhabitants of the African continent rely on imports, which involve high costs, for items such as machine parts, consumables, household goods, tools, and construction materials (3D Africa, 2023).

3D printing offers a viable option for manufacturing products domestically, eliminating the need for factories and requiring minimal machinery, reduced labor, and low capital. The direct and indirect savings can help individuals escape poverty (3D Africa, 2023).

Actors

3D Africa is an education and training program from the Youth for Technology Foundation (YTF) focused on 3D printing. It integrates product sales with business/career creation. The leaders of its segments come from various parts of the world and have experience in academic, philanthropic, public, and private sectors. This includes engineers, doctors, CAD modelers, and administrators (3D Africa, 2023).

The program also collaborates with partner companies/institutions that provide support through volunteer employees, student internships, financing, mentors, financial resources, speakers, and online participation (3D Africa, 2023).

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Development description

3D Africa's education system targets high school and university students, job seekers, women, and young entrepreneurs. All programs combine an online curriculum (Massive Open Online Course — MOOC) with in-person training (3D Africa, 2023).

The contents cover technical and commercial aspects of 3D printing, organized as follows (3D Africa, 2023):

• learning software, hardware, and digital modeling programs;

• team laboratory work, focusing on planning, invention, innovation, presentation and review of 3D printing models intended for real-world solutions;

• mentorship for developing online entrepreneurship opportunities with 3D-printed products;

• work in a maker space for individual projects or entrepreneurial business creation.

Results

The program has already amassed several successful cases, including (3D Africa, 2023):

• Afrocentric Afrique (Akwa Ibom, Nigeria): owned by Maureen, offers the creation of furniture, beads, bags, interior decoration, and fabrics with prints related to African culture. They have added 3D-printed jewelry to their catalog, designed and printed custom for each client, ranging from individuals to hotels, restaurants, and construction companies (Figure 23);

• 3D Printing Center (Lagos, Nigeria): focused on entrepreneurs, founded and coordinated by Tochukwu, who created a booth to attract Nigerian students to reading. This project earned her a nomination for the American Society of Mechanical Engineers (ASME) Social Innovation Award in the capital of Kenya (Figure 24);

• Drone (Nigeria): developed by Emmanuel, an engineer who learned about the program at his school and, after completing the training, saw new opportunities with the application of 3D printing (Figure 25).
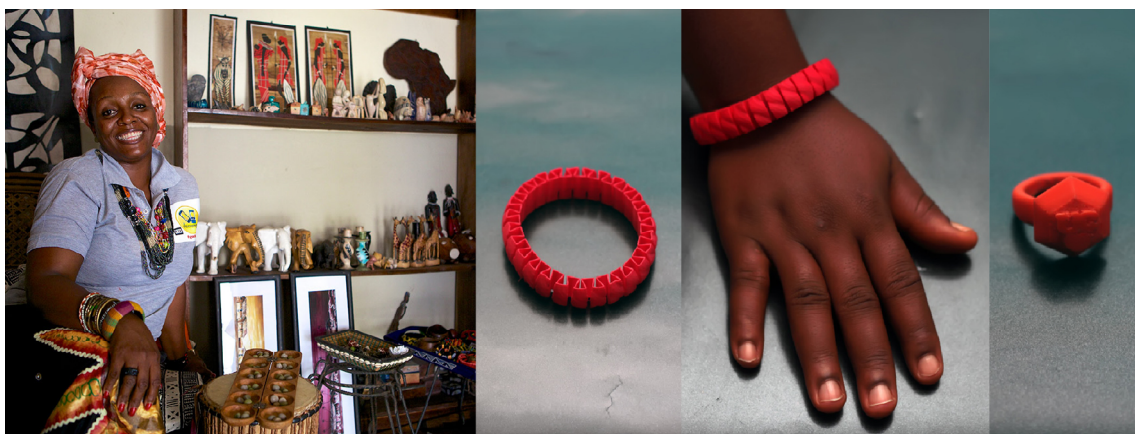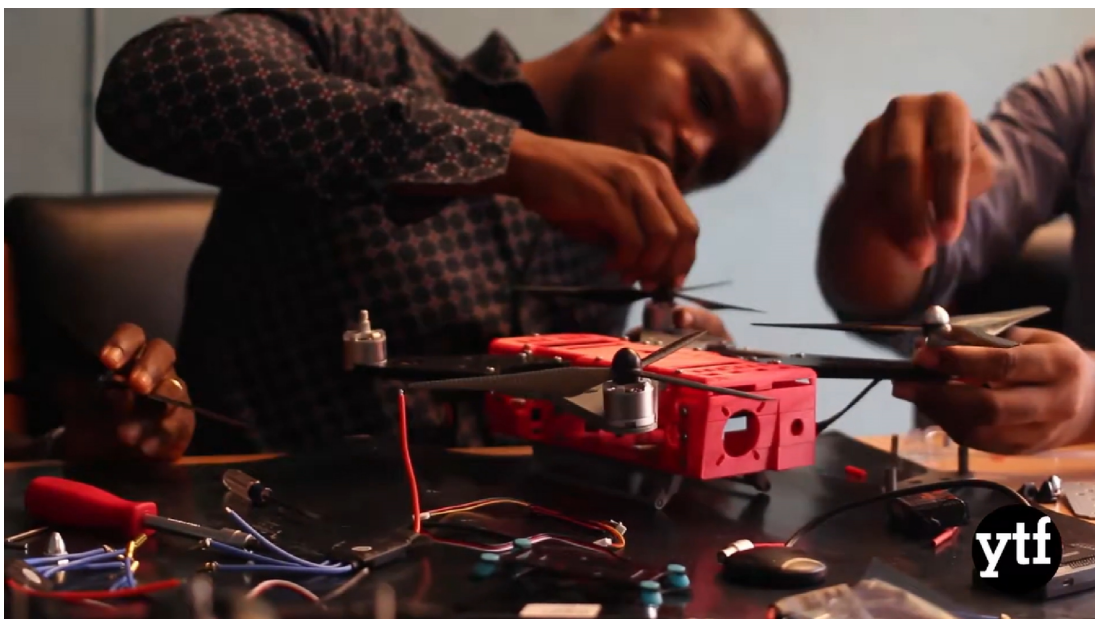

Source: 3D Africa (2023).
Figure 23. Owner and products of Afrocentric Afrique.

Source: 3D Africa (2023).
Figure 24. 3D Printing Center in Nigeria.

Source: Youth for Technology Foundation (2016).
Figure 25. 3D-printed drone.

Impact

According to data from the Youth for Technology Foundation (YTF, 2015), the educational program has already reached 500 young people, girls and women entrepreneurs in Nigeria, Kenya and the United States, indicating other income options and employment possibilities.

Therefore, marginalized and vulnerable young people gain access to learning and work in the digital era by connecting new and traditional technologies to sustainable means of survival, initial revenue streams, and significant business growth (YTF, 2015).

Case 5: Face Shields (UH - UEL)

Context

The COVID-19 pandemic has presented numerous challenges for public hospitals worldwide, including issues related to protecting healthcare

professionals and a shortage of essential equipment such as ventilators, aspiration probes, bacterial filters, nasal swabs, etc. (Corsini; Dammicco; Moultrie, 2021).

In this case, the project was conducted at the University Hospital of Londrina (HU) of the State University of Londrina (UEL) in Paraná, Brazil. It is administratively linked to the Rectory and academically to the Health Sciences Center, recognized by the Ministry of Education (MEC) and the Ministry of Health (MS) (Interministerial Ordinance MEC/MS No. 1.213 of 05/30/2014). The hospital is the second largest public hospital in the state and serves as a reference center for medium and high complexity, part of the Brazilian Unified Health System (*Sistema Único de Saúde* – SUS). It has 307 beds and serves around 250 municipalities in Paraná and more than a hundred cities in neighboring states. Additionally, it functions as a teaching hospital and a research facility for both *Stricto sensu* and *Lato sensu* studies (Sampaio; Luiz, 2021).

To address issues related to obtaining Personal Protective Equipment (PPE), such as the importation process, higher costs from national suppliers due to insufficient inputs to meet high demand, and the lack of adaptability and flexibility of solutions for the given context, the initiative employs digital manufacturing, specifically 3D printing, to produce face shields. This approach has been implemented in various locations worldwide (Sampaio; Luiz, 2021).

Actors

To produce face shields for the UEL UH, a collaborative group of approximately 40 people, along with several companies in the city of Londrina, Paraná, was formed (Sampaio; Luiz, 2021) (Figure 26).

Source: Sampaio and Luiz (2021).
Figure 26. Project team for the production of face shields.

Development description

The steps followed the Design for Social Sustainability (DfSS) method, proposed by Corsini and Moultrie (2019). This method is designed to support humanitarian and development projects that utilize digital manufacturing, aiming to enhance initial decision-making and conduct a final assessment of the sustainability of the products.

The framework (Figure 27) is composed of three levels of evaluation, each with its own aspects: product (1. need, 2. suitability, 3. access, 4. usability, 5. quality, 6. adjustability, 7. inclusivity, 8. complementarity, 12. transparency, 13. Scalability, and 16. systemicity); process (9. local production, 10. local control and repair, and 11. Collaboration); and paradigm (14. advancement and 15. empowerment) (Corsini; Moultrie, 2019).

Paradigm	**14. Advancement** – does it create jobs in country? Does it build on existing skills? Does it develop new skills?		**15. Empowerment** – does it reduce dependency? Does it empower people to own and develop the solution?	
Process	**9. Local manufacture** – can it be manufactured locally?	**10. Local control and repair** – can it be controlled, maintained and repaired locally?	**11. Collaborative** – does it consider and engage with all stakeholders?	
Product	**1. Need** – does the user or community need it? Does it support human dignity?	**5. Quality** – is it robust and long lasting? Does it meet the necessary standards?	**12. Transparent** – is there supporting documentation? Is information shared?	**16. Systemic** – is the solution insular or does it trigger wider social change?
	2. Suitability – is it socially, culturally and environmentally appropriate?	**6. Adjustability** – is it flexible and adaptive to changing circumstances?		
	3. Access – is it accessible and affordable now and in the future?	**7. Inclusive** – is it inclusive of marginalised groups or does it prioritise specific user groups?	**13. Scalable** – is the production process replicable and scalable?	
	4. Usability – is it the solution easily understood and easy to use?	**8. Complementary** – does it support existing solutions and avoid unnecessary redundancy?		

Source: Corsini and Moultrie (2019).
Figure 27. Framework of Design for Social Sustainability (DfSS).

At the product level, the face shields addressed four aspects satisfactorily (13,6,6, and 7), five aspects were covered partially (2, 4, 12, and 13), and only one aspect was addressed unsatisfactorily (16). At the process level, all aspects were covered satisfactorily. At the paradigm level, one aspect was covered partially (15) while the other was unsatisfactory (14) (Sampaio; Luiz, 2021).

Results

The equipment features a 3D-printed support that holds a transparent, flexible sheet of PET plastic. This configuration acts as a microbiological barrier, offering protection to healthcare professionals from contamination while treating infected patients (Figure 28). Production occurred between April and May 2020, resulting in approximately 2,000 masks being supplied to UH/UEL (Sampaio; Luiz, 2021).

Source: Sampaio and Luiz (2021).
Figure 28. 3D printer used and support for the face shields.

As a result of this initiative, there was the creation and implementation of a digital manufacturing and innovation center, Fab.i HU, at the University Hospital of Londrina, Paraná. This interdisciplinary environment focuses on research, development, production, and supply of personalized hospital solutions and equipment tailored for various professionals and sectors within the hospital. It aims to enhance service effectiveness and efficiency, while reducing dependence on external suppliers (Sampaio; Luiz, 2021).

Impact

Among the benefits of introducing 3D printing is the significant reduction in the cost of locally manufactured equipment, which can reach about 35% of the sales price of imported products. This underscores the economic and technical viability of 3D printing in public healthcare environments (Sampaio; Luiz, 2021).

CROSS-CASE ANALYSIS

After detailing the selected cases and examining their aspects, a comparative analysis is conducted to identify similarities and patterns, as well as differences. This analysis aimed to validate and refine the points found in the literature review.

When analyzing the case studies, it is possible to observe how design tools are utilized in the development of projects and how these tools influence their storytelling.

Following Torres' proposal (2016), the analysis followed the topics below:

- Phases: 1) immersion/analysis, 2) opportunities and challenges, 3) idea generation + creative lab, 4) prototype and testing + evaluation and feedback, 5) delivery and implementation + action plan, 6) impact/growth and scaling;
- Management style: participatory, valuing the effective involvement of all project stakeholders; experimental, focusing on prototyping and testing stages; and centralized, involving direct and centralized collaboration from government bodies, companies, institutions, etc.;

- Results profile: product-centered system/transformation, product-service, and socio-technical solution system;
- Approach: local-global, implementing in the local reality with the potential to increase impact by reaching other parts of the world; systemic, where all elements of the system have equal weight and importance in providing a specific service; artisanal, encompassing manual manufacturing techniques; and functional adaptation, adapting an existing solution for implementation in a new context.

AcuaLab addresses all stages from immersion to impact/growth, though it remains localized. The management style is both participatory, involving community action at various stages, and centralized, with direct involvement from the Government of Nariño. The outcome is a product-focused transformation: a filter that provides clean water in contaminated environments, reflecting both local and global approaches.

Field Ready encompasses all phases and employs participatory management, involving agents from various fields. It results in a product-service centered on humanitarian aid, with a local-global approach.

Proximity Designs also encompasses all phases, utilizing experimental management focused on prototypes and field tests in agriculture, resulting in a product-centered system with a systemic approach.

3D Africa includes five phases: immersion/analysis, opportunities and challenges, idea generation + creative laboratory, prototyping and testing + evaluation and feedback, and delivery and implementation + action plan. It is participatory, primarily involving students and entrepreneurs, and centered on product-service solutions, as products arise from the education system, and it is systemic.

The Face Shields case (UH/UEL) encompasses four phases: immersion/analysis, opportunities and challenges, delivery and implementation + action plan, and impact/growth and scaling. It is centered on collaboration among companies, universities, and hospitals, resulting in a product-centric transformation that addresses a major health crisis. The approach includes functional adaptation, adjusting the manufacturing of an existing product to improve access and reduce costs.

The entire analysis is summarized in Figure 29.

FINAL CONSIDERATIONS

Using the collected data, an overview was developed to understand and demonstrate how 3D printing can drive social innovation, even with limited resources, particularly financial. The potential of this technology and its contributions to the field of Design were highlighted, emphasizing the importance of analyzing cases to reinforce concepts and generate insights for future stages.

The studies led to several findings: the exponential advancement of the AM industry; the growing incorporation of 3D printing in prototyping stages of Design projects; an increase in demands related to codesign; the presence of design in the development stages of the analyzed cases; and a focus on disadvantaged contexts in the presented projects.

	PHASES	MANAGEMENT STYLE	RESULT PROFILE	APPROACH
ACUALAB	All	Participative/ Centralized	Product-Centered Transformation	Local-global
	Only 4	Centralized	Product-Centered Transformation	Functional Adaptation
FIELD READY	All	Participative	Product-Service	Local-global
proximity	All	Experimental	Product-Centered System	Systemic
3D Africa	Only 5	Participative/ Centralized	Product-Service	Systemic

Figure 29. Classification resulting from the case studies analysis.

To continue the research, the steps and some tools of the Human-Centered Design (HCD) method will be followed — a design process aimed to generate new solutions on a global scale, covering products, services, environments, organizations, and modes of interaction. It is segmented into three lenses: Desirability, Practicability, and Feasibility, and three phases: Hear, Create, and Deliver (IDEO, 2015).

The expected results include outlining guidelines for the necessary capabilities for implementation, covering both technical and social factors, specifically aimed at socially beneficial projects/businesses in rural areas. Additionally, the goal was to verify these guidelines in practice by developing a 3D-printed product and evaluating the social impact generated in a community in the interior of Paraíba, Brazil.

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