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CLIMATE CHANGE: SOCIAL AND CULTURAL CHALLENGES
ALTERAÇÕES CLIMÁTICAS: DESAFIOS SOCIAIS E CULTURAIS

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Alice Dutra Balbé
Edson Capoano
Alejandro Barranquero

Directors | Diretoras
Rita Ribeiro
Isabel Macedo

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centro de estudos
de comunicação
e sociedade
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Rita Ribeiro, Centro de Estudos de Comunicação e Sociedade, Universidade do Minho, Portugal
Isabel Macedo, Centro de Estudos de Comunicação e Sociedade, Universidade do Minho, Portugal

Thematic Editors | *Editores Temáticas*
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Edson Capoano, Escola Superior de Propaganda e Marketing, São Paulo, Brasil
Alejandro Barranquero, Departamento de Comunicação, Universidade Carlos III de Madrid, Madrid, Spain

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Climate Change: Social and Cultural Challenges
Alterações Climáticas: Desafios Sociais e Culturais

Alice Balbé
Centro de Estudos de Comunicação e Sociedade, Instituto de Ciências Sociais, Universidade do Minho, Braga, Portugal

Edson Capoano
Escola Superior de Propaganda e Marketing, São Paulo, Brazil

Alejandro Barranquero
Departamento de Comunicação, Universidade Carlos III de Madrid, Madrid, Spain

Climate change is one of the foremost global challenges. It is global because shifts in climate patterns impact people differently, but ultimately, everyone will be affected. Recent reports from the Intergovernmental Panel on Climate Change (IPCC), including the sixth assessment (Intergovernmental Panel on Climate Change, 2023), underscore the interplay between geographical location and economic, political, and socio-cultural factors. That means that factors such as social class, race, ethnicity, gender and age, which are associated with different levels of social vulnerability, influence the likelihood of suffering from the impacts of the phenomenon and complicate the ability to cope with them, highlighting the social challenges related to climate action and climate justice.

This intersection between the climate emergency and other contemporary social issues makes it ever more important to bring social and cultural challenges into public debate. Historian Dipesh Chakrabarty, a leading figure in post-colonial studies, has highlighted the distinctions and dichotomies between 'natural', 'human', planetary, and global history. He argues that for many years, the environmental issue has been largely absent from historical discourse, particularly regarding human impact on Earth's history. In Chakrabarty's (2021) view, these concepts are interconnected; the human condition has evolved to become increasingly planetary. According to the author, 'planetary' refers to the connection between the Earth's system, species, and human society on the planet, while 'global' pertains to interactions, consumption, capitalism, and extractivism.

Recently, Afghanistan, Argentina, Brazil, Burundi, China, the United States of America, Indonesia, Kenya, Tanzania and Uruguay experienced heavy rains in just the first half of the year. According to the US agency National Oceanic and Atmospheric Administration (NOAA), January had already recorded a high global average rainfall, along with the highest average temperature in much of the world (National Oceanic and Atmospheric Administration /National Centers for Environmental Information, 2024). Predictions indicate that 2024 will be the hottest year on record since data collection began 174 years ago. In Europe, the ten hottest years on record have all occurred since 2007, with the three hottest years since 2020 (Copernicus Climate Change Service & World Meteorological Organization, 2023).

In Brazil, the most significant climate catastrophe ever recorded took place in the South, underscoring the severity of the correlation between climate and social challenges.

In 2024, the state of Rio Grande do Sul (RS), the southernmost in the country, experienced intense rainfall and flooding, impacting 2,100,000 people and around 90% of the state — an area larger than the United Kingdom. Some regions saw rainfall equivalent to the average for three months in just ten days, and 390 towns declared a state of public calamity. According to a report by the Defesa Civil – RS (Civil Defence – RS; 2024), 450 out of 497 towns were affected, disrupting electricity distribution and water supply. The death toll exceeds one hundred, with a similar number of people missing and 500,000 people displaced. More than 11,000 animals are believed to have been affected. Roads have also been damaged, making travel difficult. Many of these municipalities had already been hit by heavy rains in September 2023. Many towns are expected to require rebuilding in alternative regions (Guimarães, 2024).

The media are beginning to categorise the victims of this phenomenon as "climate displaced persons", and government officials have adopted the expressions "extreme weather events" and "heavy and persistent rainfall" within "force of nature" narratives to sidestep political accountability for preventative measures. Reports indicate that disaster risk management has been neglected in the state since 2017. Environmental agencies have issued numerous warnings about the impacts of the climate crisis and the urgent need for disaster prevention and response (Marcuzzo, 2024). In another part of Brazil, the Northeast region, the State of Maranhão faced flooding due to continuous rains in April, leading to over 30 cities declaring a state of emergency (Nascimento, 2024).

Meanwhile, in Spain, the Catalan Water Agency (ACA) has decreed water distribution restrictions because reserves have fallen to less than a quarter of their capacity in 2023 and early 2024 in more than 200 locations, including Barcelona. In recent years, 55% of Spain's territory has been at very extreme risk from fires, and forecasts of increasingly frequent emergency circumstances throughout the Mediterranean include: "more intense and prolonged heatwaves, longer droughts and very low relative humidities" (World Wide Fund for Nature, 2023). Moreover, the report on the State of Spain's climate (Agencia Estatal de Meteorología, 2023) confirms a record number of heatwave days. Historic sites such as the Doñana marshes in Andalusia have reached maximum levels of drought, aggravated by the over-exploitation of aquifers to irrigate large estates.

Various international agreements, such as the United Nations Framework Convention on Climate Change, known through the annual Conferences of the Parties, the United Nations Convention on Biological Diversity, the Paris Agreement, and the United Nations Sustainable Development Goals, have called for political responses and effective local action to prevent the rise in planetary temperatures. Baldwin-Cantello et al. (2023) discuss the triple challenge of limiting the temperature rise to below 2°C, promoting well-being for all, halting and reversing biodiversity loss, and preventing even more severe consequences of climate change. Having a clean, healthy, and sustainable environment is also considered a human right, recognised by the United Nations Human Rights Council (United Nations, 2022).

The proposal to discuss the social and cultural challenges of climate change within the framework of cultural studies aims to incorporate diverse perspectives on this reality,

which are often focused primarily on the physical and technical aspects of the phenomenon. The large number of contributions for this special edition of the journal reflects both the relevance of the topic and the importance of the interdisciplinary approach required to address climate change. Several studies have demonstrated that cultural dimensions influence the interpretation of information, knowledge acquisition, perception of problems and risks, as well as forms of action and reaction. The historical and cultural context shapes the consumption of information, its translation into public and political issues, and the perception of agency (Carvalho, 2010), as cognitive and affective aspects influence behaviour (Lázaro et al., 2011).

Media coverage has been the focus of several studies because of its crucial role in mediating scientific discourse. Communication plays a significant role in political engagement (Carvalho et al., 2017), which becomes even more critical in the present context of polarisation (Falkenberg et al., 2022), disinformation (Lewandowsky, 2021), and the prevalence of social networks (Balbé & Carvalho, 2017; León et al., 2022). Recent studies have also investigated strategies for communicating climate change (Balbé & Loose, 2020; Loose & Carvalho, 2023), as well as the psychological effects associated with it, such as eco-anxiety (Clayton, 2020). Youth climate activist movements have garnered significant attention from researchers, particularly since 2019, when protests surged with the emergence of the Fridays for Future movement, led by Greta Thunberg, among others (Amondarain et al., 2022; Santos et al., 2024).

Youth engagement has also been analysed from a moral standpoint. The research project Youth Engagement with Sustainable Development Goals: The Choice of Moral Arguments in News for Use in Debate focused on examining the connection between moral reasoning and the consumption of news related to climate change. This study involved young people from Brazil and Portugal who participated in a psychometric questionnaire (Costa et al., 2022; Costa & Capoano, 2023) and the classification of environmental news comments on ex-Twitter (X; Capoano, Costa & Balbé, 2024). News analyses were conducted to examine how moral attributes are used in environmental media coverage and their influence on news consumption (Capoano & Balbé, 2023). The findings indicate a strong adherence to moral principles such as harm/care and justice/betrayal in discussions about climate change and engagement (Capoano, Balbé & Costa, 2024), underscoring the socio-cultural impact of the issue. The experience of the project fuelled the idea of broadening the debate.

In this context, this thematic volume on Climate Change: Social and Cultural Challenges addresses aspects related to communication, journalism, engagement, activism, digital platforms, art and artistic and eco-activist approaches, cinema, decoloniality, public perception of climate change and socio-environmental vulnerabilities related to health and housing.

One collection of articles focuses directly on activists and different forms of activism. The article "The Hybridisation of Journalism in Fostering Engagement with the Climate Cause: A Reception Study with Brazilian Activists" presents the findings of focus groups involving 60 activists from Brazil's five regions. The authors, Caroline Jacobi,

Débora Steigleder, Eliege Fante and Eloisa Loose, focus their analysis on the challenges of communicating climate change in the current scenario of climate emergency and the dissemination of information through online platforms such as social networks, emphasising the need for journalism to adapt to engagement.

The article "Climate Emergency and Youth Activism: A Case Study in Lisbon", authored by Mariana Castro, analyses youth activism and the actions undertaken by four organised activist movements in Portugal. The author explores the concept of the Anthropocene and examines how current activist movements are responding to the climate emergency. This response is reshaping public and political participation, where young people seek to have a voice and agency in discussions about their futures.

In the article "Young Activists and Climate Justice: An Analysis of the Articulations of Txai Suruí and Amanda Costa", authors Criselli Montipó and Myrian Del Vecchio-Lima analyse the profiles and posts of the two young Brazilian activists on the social network Instagram. Txai Suruí and Amanda Costa are members of the United Nations Global Compact Youth Committee and the Engajamundo network, a youth leadership network for young Brazilians. Txai Suruí belongs to the Paiter Suruí indigenous community in Rondônia, while Amanda Costa is from the outskirts of São Paulo. Both activists use their Instagram profiles to promote and advocate for socio-environmental rights through educational and explanatory content. They share video resources to address the environment, human rights, citizenship, social participation and climate justice.

Within the scope of artistic approaches, two articles examine the production of meaning, processes of education, perception, action and awareness of the world through cultural production, activist art, ecological art, and audiovisual art. The article "Activist Art and Ecological Art: Exploring the Interplay of Culture, Environment, and Society, Artistic Approaches, and Cultural Production Contexts" discusses the political identity of art and the relationship between cultural practices and the environment. The author, Tatiana Vargas, reflects on the role of ecological art and cultural practices in the production of knowledge, education, and critical thinking and provides examples of activist practices and artists in Portugal.

In the article "The Contributions of Two Latin American Documentaries to an Expanded Perception of Climate Change from a Decolonial Perspective", author Denise Tavares examines female protagonism and the struggles of indigenous and marginalised populations. She analyses the documentaries *Hija de la Laguna* (Daughter of the Lake; 2015), directed by Peruvian Ernesto Cabellos, and *A Mãe de Todas as Lutas* (The Mother of all Fights; 2021), directed by Brazilian Susanna Lira. This paper, based on film analysis, discusses the scenic and rhetorical construction of the protagonists, as well as social justice, colonialism, and decolonial theory.

Three other articles explore the theme of narratives and vulnerabilities, either through public perception or theoretical proposals. The article "Composing Worlds: Exploring the Metamorphosis of the World in the Age of Climate Change and Its Implications for Health" discusses the global challenges of climate change from the transdisciplinary project Composing Worlds: Humanities, Well-Being and Health, which includes specialists

from the humanities, social sciences, and health fields. Authors Diogo Vidal, Marina Prieto Afonso Lencastre, Hélder Silva Lopes, Susana Magalhães, and Rui Estrada build upon the idea of the metamorphosis of life and the social and environmental application of Beck's concept (2016) to reflect on integrating climate change risks into human and non-human health, sustainability, and well-being. They also explore strategies for addressing the climate emergency through adaptation and mitigation, taking into account different socio-cultural contexts. The authors propose thematic clusters for tackling the challenges and risks of climate change on health and well-being, reflecting on the need for new ways of being, living and thinking about the world.

The article "Climate Change Narratives in TikTok Brazil: From Diagnosis to Despair" centres on the public perception of climate change on this platform, which has gained significant popularity in Brazil in recent years. The authors, Simone Evangelista and Marcelo Garcia, analyse posts related to climate change in Portuguese. In the posted videos, they realised that, despite the consensus on the problem and its urgency, some aspects related to the complexity of the issue ultimately receive less attention, possibly due to the characteristics of the social network where alarmist narratives prevail and few sources of scientific information are identified.

Finally, in the article "Probing Climate Change Perceptions in Vulnerable Enclaves: Resilient Realities in the Buffalo City Municipality, South Africa", author Natal Buthelezi analyses the challenges of coping with climate change in informal settlements. The research focuses on the perceptions of climate change risks among the population of the Duncan Village settlements in the Buffalo City Municipality, South Africa. Applying the climate change hazard and risk perception conceptual model, the author analyses the education and economic status, knowledge about the phenomenon, sources of information and personal experiences with risk based on information collected through questionnaires, interviews and focus groups. Cross-referencing this information with the housing building typologies and the lack of housing maintenance demonstrates that economic constraints, assigning responsibility to the State and the need to raise awareness about climate change jeopardise mitigation and adaptation actions. Historical local political dynamics and gender disparities, with women experiencing deeper layers of vulnerability than men, also shape risk perceptions. The author recommends education, communication, and outreach strategies that involve various agents from the local community and government.

Translation: Anabela Delgado

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Biographical Notes

Alice Dutra Balbé holds a PhD in Communication Sciences from the University of Minho. She is a member of the SOPCOM – Associação Portuguesa de Ciências de Comunicação (Portuguese Association of Communication Sciences) and a researcher at

the Communication and Society Research Centre. Her research focuses on environmental communication, climate change, science communication, intercultural relations, and digital social networks.

ORCID: https://orcid.org/0000-0002-9584-1966

Email: alicedb.jornal@gmail.com

Address: Centro de Estudos de Comunicação e Sociedade, Universidade do Minho, 4710-057, Braga, Portugal

Edson Capoano holds a PhD in Latin American Studies from the University of São Paulo, specialising in communication and culture. He is currently a professor at the Escola Superior de Propaganda e Marketing in São Paulo. He is the producer of the microMACRO series (TV Cultura de São Paulo/TVE London) on sustainable development in Latin America, author of the book *A Natureza na TV* (Nature on TV; 2015) and was the principal investigator of the project *Youth Engagement with Sustainable Development Goals: The Choice of Moral Arguments in News for Use in Debate* (FCT/EXPL/COM-JOR/1534/2021), conducted at the Communication and Society Research Centre. His research focuses on journalism, participation, and digital media.

ORCID: https://orcid.org/0000-0001-6766-802X

Email: edson.capoano@espm.br

Address: Rua Álvaro Alvim, 123, Escola Superior de Propaganda e Marketing, São Paulo, Brasil

Alejandro Barranquero holds a PhD in Journalism from the Universidad de Málaga. He currently serves as a professor in the Department of Communication at the Universidad Carlos III de Madrid. He is the author and co-author of several texts on communication for development and social change, community, alternative and citizen media, environmental communication, and critical theory. Additionally, he is the president of the RICCAP Network (www.riccap.org) and the principal investigator of the *Sostenibilidad del Tercer Sector de la Comunicación. Diseño y Aplicación de Indicadores*(SOSCom) project.

ORCID: https://orcid.org/0000-0002-9264-9389

Email: abarranq@hum.uc3m.es

Address: Facultad de Humanidades, Comunicación y Documentación, Calle Madrid, 128, Campus Getafe, Madrid, Espanha

Thematic articles | *Artigos temáticos*

The Hybridisation of Journalism in Fostering Engagement with the Climate Cause: A Reception Study with Brazilian Activists

Caroline Jacobi
Postgraduate Program in Communication and Culture, Communication Faculty, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil
Conceptualization, data curation, formal analysis, investigation, methodology, writing – review & editing

Débora Steigleder
Faculty of Librarianship and Communication, Federal University of Rio Grande do Sul, Porto Alegre, Brazil
Conceptualization, data curation, formal analysis, investigation, methodology, writing – review & editing

Eliege Fante
Faculty of Librarianship and Communication, Federal University of Rio Grande do Sul, Porto Alegre, Brazil
Conceptualization, data curation, formal analysis, investigation, methodology, writing – review & editing

Eloisa Loose
Faculty of Librarianship and Communication, Federal University of Rio Grande do Sul, Porto Alegre, Brazil
Conceptualization, data curation, formal analysis, investigation, methodology, acquisition of financing, project administration, supervision, writing – original draft, writing – review & editing

Abstract

Temperature records and extreme weather events are increasingly frequent in Brazil, where the protection of biomes and, mainly, the Amazon, is a central point in this debate. However governments and large corporations have not made efforts to meet these global demands. To reverse the situation, journalism (which, in this article, can be understood as journalisms) stands as an important aspect of visibility in public debate and, mainly, as a lever for engagement on the part of civil society, pointing out causes, responsibilities and possible solutions in order to encourage everyone's involvement in solving the identified problems. This article explores the boundaries of journalism and its potential new hybrid configurations regarding engagement in the climate cause, as perceived by Brazilian activists from different themes and causes. From the perspective of cultural studies, a reception study was conducted in 2022, using online focus groups with activists aged 18 to 35 across Brazil's five regions. The discourse was categorised through content analysis, considering the emergence of recurring themes and their alignment with the theoretical framework. The research findings indicated a permeability in the boundaries between journalism and other communication genres within the discourse of participants. Additionally, activists suggested the potential for journalism to incorporate additional practices and characteristics from various genres to enhance engagement with climate issues.

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The Hybridisation of Journalism in Fostering Engagement with the Climate Cause... · Caroline Jacobi, Débora Steigleder, Eliege Fante & Eloisa Loose

A Hibridização do Jornalismo no Engajamento da Causa Climática: Um Estudo de Recepção com Ativistas Brasileiros

Resumo

Recordes de temperatura e eventos climáticos extremos estão cada vez mais frequentes no Brasil, sendo a proteção de biomas e, especialmente, da Amazônia um dos pontos centrais nesse debate. Ainda assim, governos e grandes corporações não têm enviado esforços à altura dessas demandas globais. Para reverter a situação, o jornalismo (que, neste artigo, pode ser entendido como jornalismos) coloca-se como um aspecto importante de visibilidade do debate público e, principalmente, como alavancador do engajamento por parte da sociedade civil, apontando causas, responsabilidades e possíveis soluções a fim de encorajar o envolvimento de todos na resolução dos problemas identificados. Desde o olhar de ativistas brasileiros de diferentes temas ou causas, este artigo discute as fronteiras do jornalismo e suas novas possíveis configurações híbridas na relação com o engajamento na causa climática. A partir da perspectiva dos estudos culturais, foi realizado um estudo de recepção, no ano de 2022, com aplicação de grupos focais online, com ativistas, de 18 até 35 anos, das cinco regiões do Brasil. A categorização das falas, feita a partir da análise de conteúdo, levou em consideração a irrupção de temas recorrentes e sua relação com o aporte teórico. Dentre os resultados de pesquisa, evidenciou-se, na fala dos participantes, uma permeabilidade de fronteiras entre jornalismo e outros gêneros comunicacionais, sendo que os ativistas também instigaram a possibilidade de o jornalismo adotar mais práticas e características de outros gêneros para propiciar mais engajamento em relação às questões climáticas.

Palavras-chave

jornalismo, jornalismo de comunicação, hibridização, estudo de recepção, mudanças climáticas

1. Introduction

The escalating climate crisis demands immediate structural interventions on a global scale. In Brazil, safeguarding the Amazon stands as a pivotal issue, albeit one rife with paradoxical notions of both solution and threat. Land use change, particularly linked to deforestation and the expansion of agricultural frontiers, remains the primary driver of greenhouse gas emissions. However, during Jair Bolsonaro's administration (2019–2022), there was a marked relaxation of public environmental policies (Fearnside, 2019), characterised by climate denialism, impunity for ecological offences, neglect of indigenous concerns, and promotion of mining activities in the Amazon. These recent developments have posed significant challenges to effective climate governance efforts. The Law Enforcement Dashboard (Mapbiomas Alerta, 2022) highlights that 98% of the deforestation alerts registered since January 2019 have not received authorisation or have not been subject to federal enforcement. Three-quarters (149,631) of these alerts are concentrated in the Amazon, underscoring the alarming trend of facilitating the destruction of the world's largest rainforest.

Despite temperatures soaring to unprecedented levels and the increasing frequency of extreme weather events, there has been a noticeable lack of substantial commitment

from governments and major corporations during this period. Conversely, there has been a growth in mobilisation and civic pressure advocating for the planet's climate health. An assessment of Brazilians' perception of the issue conducted in 2022 revealed that 90% of respondents believed environmental disasters are occurring more frequently, and 52% expressed concern about the environment. However, only 22% claimed to have extensive knowledge about climate change or global warming (ITS-Rio, 2023). Hence, strategies are essential to bridge the knowledge gap regarding a topic that profoundly affects the daily lives of the population across various sectors.

Among the many possible approaches to fostering engagement[1], journalism (or various forms of journalism as addressed in this article) emerges as a significant element due to its credibility and ubiquitous presence in daily life, permeating different social classes to varying degrees. Appelgren and Jönsson (2021) define engagement as the extent to which the citizens care about an issue and are willing and able to take action. They suggest that journalism can foster engagement with climate issues by communicating the causes, impacts, and possible solutions in order to encourage public engagement in solving the problems identified.

Furthermore, the emphasis on journalistic production is justified by the ethical and deontological principles inherent to this domain, such as factual accuracy, timeliness, objectivity, fact-checking, and commitment to the public interest (Temer, 2015; Traquina, 2005). These principles entail a distinct process of generating media content compared to other forms of communication. However, as journalism evolves alongside the society it serves, it is natural that new media, content and even types of journalism emerge, particularly with the advent of new channels and platforms resulting from technological innovations. Consequently, journalism is expanding towards other communication genres and adapting to new formats and narrative resources valued today. Charron and Bonville (2016) advocate a form of communication-centric journalism that aligns closely with the public. This type of journalism is already mobilized by influencers on the internet. This reflects a blurring of boundaries, as some authors address using concepts like hybridity, hybridism or hybridisation[2], which can introduce innovation and broaden the scope of fields while also amplifying the prevalence of media products in cultural subjectivity for marketing purposes (Canclini, 2011/1997; Machado, 2007).

In our pursuit of aligning with the climate cause, we look to environmental journalism, which, at its core, advocates for sustainability and criticises the capitalist system, colonialism, and climate injustices perpetrated by major economic powers. However, this journalism is not monolithic, and each variant possesses specific values and

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[1] In order to distinguish it from terms associated with engagement derived from social network metrics, this research adopts the notion of engagement related to public and political participation.

[2] Authors in the field commonly refer to this blend of communicational characteristics using terms such as hybridity (Canclini, 2011/1997), hybridism (Charron & Bonville, 2016), and hybridisation (Machado, 2007). The overarching concept revolves around the expansion or permeability of boundaries between communication genres, which previously had more clearly defined characteristics. To maintain consistency, we opted for the term most widely used by authors and translators, hybridisation.

characteristics (Loose, 2021). It may manifest through independent or alternative outlets or within mainstream newspapers (often associated with economic interests and practical perspectives on nature), with more or less critical approaches.

Coverage of climate change tends to focus on its effects and has only recently begun to connect local aspects with the global situation. According to Loose (2019), studies on journalism/communication and climate in the Global South are scarce, suggesting that coverage should be tailored to the specific realities of each country and should emphasise potential solutions. The state-of-the-art research relating journalism and engagement with the climate cause still has many gaps, particularly in terms of effectively reaching diverse audiences with journalistic messages. Nonetheless, some scholars, like Moser (2010), emphasise the crucial role of journalism in addressing the climate crisis. Moser identifies four directions in which this subfield holds potential: information and education about climate-related issues; engaging citizens in active participation; promoting individual actions for change, including and extending beyond political pressure; and influencing norms, ideas and values prevalent in culture.

To understand the reception of climate coverage — an area that remains understudied despite the critical importance of fostering a transformative relationship with nature — this research adopts a cultural studies perspective. Drawing on the insights of reception studies, which explore the socially constructed meanings attributed by receivers and their everyday contexts and socio-political frameworks (Escosteguy & Jacks, 2005; Jacks et al., 2008). In this scenario, the debate on the hybrid boundaries of journalism, leveraging data obtained from a more comprehensive survey, is particularly valued (Modefica, 2022).

For this investigation, conducted in 2022, data was collected through virtual focus groups (Gatti, 2005) held across the five regions of Brazil. These sessions involved introductory questions and conversations, complemented by the presentation of two audiovisual products embodying traditional journalistic characteristics, eliciting impressions and interpretations from participants (Modefica, 2022). Participants were recruited using an online questionnaire promoted through the researchers' and Instituto Modefica's networks, employing the "snowball" technique. The collected data was analysed using content analysis methods (Bardin, 1979).

This study focuses on a specific theme: the hybridisation of journalism, an area that has not been thoroughly explored in previous literature (Modefica, 2022; Loose et al., 2022). This reflection aims to examine the boundaries and transformations within journalism from the perspective of Brazilian activists (self-declared activists for some cause, aged between 18 and 35) within the context of the interplay between journalism and climate engagement. To structure the text, we first provide a theoretical background on journalism and its interface with the climate issue, followed by an exploration of hybridisation and its implications for journalism. Subsequently, we present the methodological approach, analyse the findings, and discuss the results obtained.

2. Journalism and Climate Engagement

The social role of journalism primarily involves the construction and dissemination of information. However, beyond its informative role, journalism also contributes to non-formal education and social action. Bueno (2007), when dealing with environmental journalism, highlights its informative, pedagogical and political functions. The political function involves "mobilising citizens to address the interests that exacerbate the environmental issue" (p. 36), including vigilance and action against the interests of sectors and companies that prioritise profit at the expense of the environment, as well as governments that are omissive and lack efficient public policies.

Gentilli (2002) underscores the importance of information in fostering active citizenship. In response to the climate crisis, journalism plays a vital role in environmental education and raising awareness. Within this context, civil society movements advocating for social and environmental justice challenge the power dynamics inherent in globalisation, which often prioritise market interests over human rights. Consequently, education aimed at fostering global and planetary citizenship becomes crucial for cultivating a culture of sustainability (Torres & Gadotti, 2018).

By narrowing the focus to the climate crisis, it becomes evident that news coverage on this topic transcends pragmatic communication aimed solely at alerting, educating, or persuading the public. Journalism also plays a role in shaping world views and values — a concept referred to as constitutive bias by Cox (2010). According to Hannigan (1995), it is through journalistic production that environmental events gain visibility in society, setting the agenda for public debate and enabling citizen engagement in collective issues. Journalism is recognised as a pivotal arena for amplifying discussions, articulating meanings, and presenting arguments, values, and world views related to climate change (Loose & Carvalho, 2017; Hulme, 2009).

While journalistic communication plays a crucial role in fostering social articulation due to its wide reach and legitimacy, it is essential to acknowledge its limitations. Individuals do not solely rely on journalistic content, and there are various approaches and possibilities for developing such content. Moreover, beyond information, social, cultural, and economic factors, along with personal experiences and future expectations, contribute to the complex sphere of social practices concerning the climate cause.

Despite the recent rise in the influence of pro-climate organisations and civil society discourses in this debate — highlighted by movements featuring prominent young leaders such as Txai Suruí, an activist who represented Brazil at COP-26 (2021), and Greta Thunberg, the Swedish activist behind the school climate strikes (2018) — the concept of engagement itself can carry varied meanings. Carvalho et al. (2016) underscore the need for political engagement that extends beyond individual actions.

Similarly, environmental coverage often revolves around climate solutions centred on individuals (particularly as consumers), thereby overlooking critical scrutiny of large economic interests that primarily benefit a small portion of the population. While externalities are shared, especially harming the most vulnerable populations, profits are concentrated in the hands of a few. Furthermore, depoliticisation occurs when the issue

is framed solely within the discourse of models and numbers, where matters seemingly distant from citizens take precedence, as observed when the focus narrows to the functioning of the carbon market, for instance (Carvalho et al., 2016).

3. The Hybridisation Phenomenon

Canclini (2011/1997) explored the phenomenon of hybridisation at the close of the 20th century, closely tied to technological advancements and globalisation. He defined it as "sociocultural processes in which discrete structures or practices, which existed separately, combine to generate new structures, objects, and practices" (p. 19). Machado (2007) highlights an idea of expansion: "as if the defining circles of all arts and media were threatening to merge into a single circle the size of the entire field of culture" (p. 67), taking on new public functions and experiencing permeable boundaries.

Canclini (2011/1997) stresses the importance of maintaining a critical perspective on the phenomenon: "a non-naive theory of hybridisation is inseparable from a critical awareness of its limits, of what is not allowed, or unwilling or unable to be hybridised" (p. 27). He highlights the necessity for political reflections on the tensions between media that, when converging or being compelled to converge, may not always synchronise harmoniously. Machado (2007) observes that while hybridisation fosters complexity and innovation, it also gives rise to asymmetries in the cultural elements it amalgamates. Consequently, there is pressure for media and techniques to converge, leading both receivers and producers to blend and transgress the typical characteristics of their respective media for marketing purposes. This rapid adaptation often occurs without allowing sufficient time for each field to mature, potentially resulting in aesthetic and functional fireworks.

Although hybridisation is associated with an expansion in the possibilities of individualised consumption and the very possibility of media production by receivers within the so-called cyberculture (Santaella, 2003; Lévy, 1999), the participatory culture (Jenkins, 2009) that emerged from these processes still exhibits significant power asymmetry in relation to the media. This is because they can filter or direct receiver participation. On the other hand, there are always small pockets of agency that offer some degree of opposition or contestation. According to Martín-Barbero's map of mediations (2003/1987), the cultural practices of reception are tactical, occurring within the mediations of everyday sociality and rituals, generally outside the institutional sphere. Consequently, in response to media hegemony, receiver resistance strategies, such as oppositional readings or argumentative appropriations, use these loopholes. While the media outlets have ample resources, such as media space, technological infrastructure and specialised professionals, often operating within institutional and technical mediations, receivers rely on their limited resources, such as personal networks, employing almost "guerrilla" tactics to enact satirical or protest-driven resignification or reinsertion in contexts that alter their meanings.

4. The Intensification of Journalistic Hybridisation

As a social practice, journalism is a form of interaction that undergoes continual transformation over time. Although the characteristics Otto Groth (2011; as cited in Xavier & Pontes, 2019) attributed to journalism in the early days of the activity, such as periodicity, universality, timeliness and publicity, persist, the evolving context has imbued new rhythms and new guises to what was traditionally understood as journalism. Groth's perspective of newspapers as "cultural works" suggests that the elements shaping their production are reflective of the community and era in which they operate. Xavier and Pontes (2019) echo this sentiment, stating: "it therefore consolidates the notion that newspapers are products shaped by socially constructed meanings that change historically" (p. 48).

Charron and Bonville (2016) outline a historical trajectory based on four journalistic paradigms aligned with "a specific and unique way of conceiving and practising journalism" (p. 28). The journey begins with the emergence of the first newspapers in North America in the 17th century, focusing on disseminating information, marking the era of broadcast journalism. Subsequently, in the early 19th century, newspapers became instruments in political struggles, ushering in the era of opinion journalism. With the massification of newspapers in the late 19th century, the focus shifted towards increasing content that could raise public interest and, consequently, drive profits, leading to the dominance of information journalism from the 1920s onwards. Finally, from the 1970s and 1980s onward, with the proliferation and diversification of supply, communication journalism emerged, which seems to be gaining new proportions with digital advances.

The authors' proposition underscores the notion that journalism undergoes permanent mutation in its operational methods, even as previous typologies persist to some extent. The paradigm referred to as communication journalism can be associated with increased hybridisation processes, a more receptive approach to professional subjectivities, and the inclusion of additional commentary in news coverage. As stated by Charron and Bonville (2016):

> hybridism between press discourse and other forms of media discourse is not only tolerated but also encouraged: fiction intertwines with reality; minor news stories assume the status of major events; information becomes entertainment and readily adopts a humorous or conversational tone; expressions of sentiment and emotion supplant detailed explanations; and the tone and style of promotional discourse permeate press discourse. (p. 30)

On a daily basis, changes within established reference journalism tend to be more gradual, influenced by their consolidation and political-economic connections that bolster their hegemony. Concurrently, the rise of social media platforms and the ease of creating low-cost content have facilitated the emergence of new alternatives to mass-produced content. Temer (2015, p. 30) highlights how the integration of technologies shapes new behaviours and cultural expressions, impacting even more traditional forms of journalistic production:

new social dynamics have increasingly heightened the demand for information, creating opportunities for specialised or niche outlets focused on specific themes or approaches. Such outlets require the use of distinct languages tailored to particular conditions and recipients.

These transformations, extending beyond technical aspects, are fostering a growing trend of journalism integrating with other communication genres, particularly those associated with entertainment. Hybrid products are gaining ground, blending content that at times diverges and other times aligns with a more traditional conceptualisation of journalism.

One origin and cause of this fusion is the proliferation of blogs, websites, and social media profiles popularised in the last two decades, disseminating relevant information that the hegemonic media may not cover. However, as Jorge Filho (2021) warns, when the author is not a journalist, it is not always possible to identify verification procedures, which can undermine the accuracy of the reports. The features and forms of mediation facilitated by social networks contribute to the "blurring of the boundaries between journalism and other forms of communication", giving rise to a new communication reference (p. 99).

Practices such as non-formal language and approximations or exchanges between regional and global perspectives have become possible through the work of communicators, whether they are journalists or not, who embrace the trend of hybridisation. One sphere where this convergence can be seen is community communication, which involves the mobilisation of the residents of the territories themselves, aiming to generate content that serves the interests of their communities (Peruzzo, 2006). This practice stems from the systematic exclusion by hegemonic communication and the financial difficulty of paying for access to traditional media, seeking to circulate the information they need for their social integration and organisation.

Another facet of hybridisation is evident in the heightened skill set demanded for journalistic production. Lima (2018) scrutinised the advent of data journalism concerning the professional identity of journalists, who have increasingly embraced and integrated IT and computer techniques into their reporting. The proliferation of infographics in the news, for instance, underscores journalists' rapid acquisition of these and other technical skills.

Convergence with other communication genres may raise concerns. The articulation with advertising aspects can be a problem, given that advertising's primary function is persuasion, wielding considerable influence in disseminating social values economically beneficial to advertisers (Rocha, 2010/1985). In this sense, the rise of so-called branded content, which originates from private interests but resembles journalistic content and can be perceived as a result of public interest, underscores the boundaries of this phenomenon. Covaleski (2010) notes that, in order to engage recipients who want to disseminate content, advertising communication products tend to look less and less like their traditional formats. While the objective of persuasion persists, it

takes on a different guise, employing formats and messages designed to bypass recipients' defences against advertising and provide pleasure or benefits during consumption. As a result, recipients are encouraged to share such content as it enhances their social status and extends their media reach while also providing information, entertainment, and well-being to others.

Drawing from the insights of Charron and Bonville (2016), we understand that the language and strategies inherent to advertising and other forms of communication that prioritise entertainment and emotional engagement are interwoven into journalism in the search to resonate with public interest. This hybridisation is reinforced by the advent of new media and platforms that compete with traditional outlets for people's attention and affect particularly younger demographics.

In a survey on the consumption patterns of journalistic products, Wunderlich et al. (2022) observe that adult generations tend to adhere to established routines for accessing news, favouring professional journalism outlets that align with their preferences. Conversely, individuals under 24 come across news serendipitously, such as when influencers share the news, through comments, on social networks such as Instagram. Despite the possibility of customising access to information according to personal interests, these young individuals report struggling to discern what is reliable from what is not, developing different strategies to verify the accuracy of information, such as cross-referencing multiple sources. In this way, although hybridisation may render content more attractive to specific segments of the population, it can also contribute to an ecosystem of disinformation that undermines democracy by misleading citizens and interfering with their decision-making.

5. Methodological Strategies

According to Jacks et al. (2008), cultural studies trace their roots to Clifford Geertz's sociology of culture and emphasise the symbolic nature of culture, the social construction of meaning and its historical transformation. They are a complex analysis of the culture and communication phenomena within their historical and social contexts, considering the influence of political and economic structures at micro and macro levels. In order to accomplish this ambitious sociocultural project, cultural studies have moved closer to anthropological research practices, notably ethnography.

Within the field of communication, cultural studies have excelled in investigating cultural practices of consumption and reception. As Martín-Barbero (2003/1987) asserts, these practices encompass the use, interpretation and appropriation of the daily routine and sociocultural context of audiences. In this sense, cultural studies emphasise the moment of decoding (Hall, 2003/1973), highlighting the agency of the receiver who, in spite of an unequal power dynamic, has a certain choice to produce their own interpretations of the messages offered by the media, transforming or replicating them in the culture.

Despite their potential contribution, reception studies remain relatively rare in Brazil, particularly in the realms of journalism and climate change research. A search conducted on the SciELO and Google Scholar platforms between 2017 and 2022, the

period encompassing the reported study, using terms such as "environmental journalism," "reception," "media," and "climate change", yielded only seven relevant studies, only one was conducted in Brazil, and none involved the use of focus groups.

According to Jensen and Rosengren (1990), reception analysis facilitates the adoption of multiple techniques in empirical research, employing methodological craftsmanship to blend research methods that closely align with the recipient and their moment of consumption and integrating methodological triangulations that can compare data derived from one method with another. In our study, data was collected using a survey (Calado, 2012) and virtual focus groups (Gatti, 2005). The first technique aimed to ascertain participants' socio-demographic profiles and provide a brief overview of their media consumption patterns and interactions with media outlets and climate-related messages. Meanwhile, virtual focus groups served to delve deeper into the debate about engagement and journalism regarding climate change. Although this method is well suited to qualitative research, yielding a wealth of data on the meanings produced by messages and the media, it is impossible to generalise the data obtained through the method proposed (Kind, 2004).

The virtual focus groups were conducted on the Zoom platform in June and July 2022. Initially, the conversation centred around the engagement fostered by journalism based on a semi-structured script. Subsequently, two reports were presented, both representative of mainstream journalism: the first highlighted the root causes of the climate crisis, with a specific focus on deforestation, while the second emphasised potential solutions and issues of climate injustice. Following a pre-test research group, a total of 10 focus groups were conducted, with two groups held for each region of Brazil. Each group comprised approximately six participants, totalling 60 activist participants aged up to 35 years old (11 from the Southeast and Centre-West, 13 from the Northeast and North, and 12 from the South). The sessions were facilitated by a moderator tasked with time management and guiding the discussion. Each group spanned two hours and featured a rapporteur responsible for recording participant contributions in real time.

After transcribing the data, it was categorised using content analysis techniques (Bardin, 1979). This involved identifying recurring and dissenting statements pertaining to frequently cited topics or those of theoretical interest. The categories encompass the activists' perspectives on individual and collective engagement, journalism's approaches to climate change, the role of journalism in climate engagement, the relationship between deforestation, climate change and the Amazon, and alternative forms of communication beyond journalism. Based on these definitions, subcategories were also created, which are detailed in the full research report (Modefica, 2022) and include considerations such as activists' perceptions of how climate change causes and consequences are addressed and the use of sources in journalism. For this article, these categorisations were re-analysed, with a focus on selecting statements pertaining to the hybridisation of journalism and the expansion of its boundaries.

Analysing the collective profile of the focus group participants, we observe a diverse group of activists aged between 18 and 35 from various regions of Brazil, engaged in a

range of agendas[3], predominantly environmental but also encompassing causes such as feminism, food, popular sovereignty, etc. The age range of the participants aligns with research indicating heightened environmental concern among individuals from Generation Y (born between 1980 and 1995) and Generation Z (born between 1995 and 2010; Deloitte, 2021). Slightly over half of the participants were female, followed by male, with some identifying as non-binary or preferring not to disclose. Regarding racial or ethnic identity, the majority identified as white (28), followed by brown (14), black (11), indigenous (three), yellow (one) and opting not to declare (one). Most participants reported a monthly income ranging from three to five minimum wages or one to five minimum wages. Half of the participants hold a higher education degree. In terms of media consumption habits, participants primarily access journalism through websites, blogs, or internet portals, followed by social networks, radio and podcasts, and video platforms. Fewer participants rely on television, messaging apps, or print media for news consumption. The majority prefer alternative and independent media outlets, including channels managed by non-governmental organisations (NGOs) and social movements, as well as specialised media such as *O Eco*, *Amazônia Real* and *O Joio e o Trigo*, along with individual journalists' profiles like Paulina Chamorro and André Trigueiro.

6. Journalism Boundaries Through the Lens of Brazilian Activists

When discussing how journalism can enhance audience engagement with the climate agenda, participants frequently scrutinised mainstream journalistic practices, revealing the flexibility of journalism's boundaries and its intersection with other communication genres. Moreover, there was significant mention of communication initiatives led by non-journalists or by journalists broadening the conventional practices of traditional journalism, aiming to heighten public awareness of the climate cause.

Below, we underscore the key insights gleaned from activists regarding how journalism can better contribute to raising awareness and fostering action against climate change. The first subsection highlights the activists' scepticism toward traditional models and their aspirations for more mobilising journalism. Subsequently, we compile data on activists' yearning for greater integration, encompassing strategies and approaches stemming from non-journalistic communication, with a heightened focus on local voices and alternative formats, echoing the concept of communication journalism coined by Charron and Bonville (2016). Lastly, we outline the challenges associated with the lack of professional journalism and the proliferation of disinformation.

It should be noted that in this study, the age, social, economic and cultural backgrounds of the activists did not direct the focus of the analysis, given the relatively small

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[3] The participants' engagement in various causes was broadly considered, encompassing both individual initiatives and collective involvement with NGOs or independent activist groups. While some participants' activism was linked to their professions, the selection criteria did not specifically target individuals based on their professional background or practice. However, certain focus groups did include activists with communication-related expertise. Overall, this audience was deemed suitable for discussions on engagement due to their existing awareness of social issues and their identification as active agents in processes of social change.

sample size characteristic of qualitative study. Therefore, participants will be identified solely by their geographical location (primarily to facilitate comparison by region that guided the first stage of the study) and also to ensure anonymity as stipulated in the research protocol. As previously mentioned, our primary analytical goal was to examine activists' interpretations of the various forms and dynamics of journalism and its interaction with climate engagement.

6.1. What Activists Expect From Journalism

Many participants stressed that for journalism to stimulate engagement, journalists themselves need to be engaged, distancing themselves from a perceived impartiality that is sometimes advocated in journalism seeking to stick to a supposed narrative objectivity: "the journalist himself does not come across as 'look, I have to be impartial', and all that" (activist from the Centre-West, focus group, July 22, 2022). The same activist from the Centre-West expressed a desire for journalists to be more engaged: "I think it's about bringing journalism back and fostering greater engagement on the part of journalists themselves so that we can have a shift towards encouraging popular action" (activist from the Centre-West, focus group, July 22, 2022).

The statements made by research participants suggest that journalists should convey more emotion and even issue explicit calls to their audiences to support efforts in tackling climate change. This practice resonates with the concept of advocacy journalism (Laws & Chojnicka, 2020), which involves journalism that takes a stance in support of collective interests:

> for what you're doing now, listen to this: we need to do something together. It's urgent. It's urgent, and you have to do something in your day-to-day life, right? (...). Each person you're talking to, you're listening to them, you're talking to them directly, as if you were looking them in the eye, referring to each individual, not so much in a general informative context, that the world is going through this, but that you have this responsibility. (Activist from the South, focus group, June 25, 2022)

> I think things always add up. One thing I kept thinking about here is that journalism could play a role in raising people's awareness in the sense that they can help exert pressure on decision-makers when confronted with these issues, you know? (Activist from the Centre-West, focus group, July 2, 2022)

Activists also expect journalism to be didactic, exposing the contexts of the narrated facts with socio-political analyses and examining environmental issues and extreme weather events within the broader global context of the climate crisis rather than as isolated incidents. This expectation aligns with the combination of informative, political and pedagogical functions that characterise environmental journalism (Bueno,

2007). It also reflects the activists' perception of the urgency of the climate change issue, consistent with the perspective of Loose and Carvalho (2017), who underscore journalism as a central forum for citizens to become aware of global challenges:

> at least in the more specialised environmental journalism, we can establish this connection between the facts, right? It's not something as punctual as in newsroom journalism, you know, you can make a connection between the fact and where it's coming from, right? In this case, applied to climate change, you see that it's not a punctual fact; there's a reason why; there's a whole connection at a global level, and I believe that journalism, especially scientific, environmental journalism, can make this connection between cause and effect as well. (Activist from the Centre-West, focus group, July 22, 2022)

> show who is the agent of things. So: the agent of deforestation, the agent of warming. And not just use these names as if they were enough on their own as if they were entities that act in the world. Deforestation is not an entity that operates in the world; it is produced by something, by someone, or by some agent. (Activist from the Centre-West, focus group, July 22, 2022)

On the other hand, many activists mentioned the existence of journalistic outlets (specialised, activist-driven, or community-based) that do work that aligns more with advancing the climate cause and that mainstream outlets should take note of their practices. Overall, there was strong agreement among the participants that hegemonic practices need to converge with non-hegemonic ones in order to address the objectives related to engagement effectively. The principles outlined in environmental journalism (Bueno, 2007) are viewed as essential for all forms of journalism to halt the ongoing crisis.

6.2. Communication Journalism: New Formats and Languages

The activists involved in the study voiced a preference for journalism that mirrors the approach of digital influencers, engaging in dialogue with these stakeholders and/or adopting some of their practices. They cited journalist André Trigueiro, who, in addition to being a prominent figure in environmental journalism within a traditional media outlet, communicates in a very close and relatable manner on his social networks. The communication style of Dr. Drauzio Varella was also brought up as an example:

> when Drauzio Varella says something, I think: 'this is serious'. Me, at least. I miss authority (…). I miss someone who's from here and who can guide us, someone we can trust. Because when it becomes too impersonal... there's data, there's images, there's lots of things, but there's no individual, no figure here, no person who's there talking and perhaps has a trajectory that we can follow. (Activist from the South East, focus group, June 18, 2022)

The activists reported seeking information beyond journalism, citing the work of artists or social media influencers — highlighting the potential for blending these languages with journalism. This observation is linked to Temer's (2015) insights into the expanded possibilities for content sharing facilitated by the widespread adoption of technology.

> There's a profile called Árvore Ser Tecnológico (Tree Technological Being). He's a cartoonist and an illustrator who creates incredible drawings like this, and he translates things into a very cool language, which is the language of drawing. (...) so I believe that considering this is always important when it comes to demystifying scientific language and translating it into other forms because it's often complex. (Activist from the South, focus group, June 25, 2022)

> Yesterday, there was an indigenous speech on Instagram (...) I think even by Célia Xakriabá, an activist, right, saying, "You need to start looking at the Amazon from the perspective of those who are inside the Amazon, the people who preserve the forest, because it's not about looking at the Amazon through satellites". (Activist from the South East, focus group, June 18, 2022)

These statements underscore a media landscape that is increasingly hybridised. Still, they also highlight the recognition that traditional coverage often makes editorial decisions that can alienate audiences or dehumanise environmental issues. There is a recurring emphasis on the need to amplify the voices of local leaders who have first-hand experience with these issues. In line with this perspective, activists cite the importance of the media and community communicators in providing a platform for local stakeholders to have a voice. Peruzzo (2006) points out the importance of producing content by and for the community as a way of raising awareness about problems and solutions not covered by traditional media.

> It's not only about directing communication from a top-down approach but also about empowering communicators to emerge from within the communities we want to talk to. (...) to inspire other people to see themselves as communicators for their communities, to be able to adapt news in the language in the format that best serves the community that is part of it. I think that's very cool, a network. (Activist from the South East, focus group, June 29, 2022)

> I follow São Paulo's community media a lot, and they've been doing an incredible job by bringing these discussions that were once restricted to a different audience. They've made these discussions more accessible and easier to understand. When you look at these media outlets, they're discussing environmental racism, they're discussing heat islands, they're discussing

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what climate justice is in a way that everyone can understand. (Activist from
the South East, focus group, June 18, 2022)

Thus, besides indicating that they can serve as journalistic sources by focusing on the issue, they underscore their agency in fostering a more inclusive, grassroots communication that seeks engagement with the climate cause. This form of journalism tends to adopt a repertoire and a way of saying things that resonate with its audience, fostering identification and potentially sparking greater interest. However, it is not always possible to see the marks of the investigative processes typical of journalism, which are revealed in the blurring of boundaries mentioned by Jorge Filho (2021).

Furthermore, regarding formats, the manner of content presentation is highlighted, with a plea for a more didactic portrayal of data, which is related to the training of professionals capable of translating scientific data attractively. According to an activist from the Northeast, journalistic coverage should integrate these aspects by incorporating "fewer graphics, more images, bring it into the field of art. Make it visual, make it more understandable. (...) facilitate the language used in the audiovisual story. Integrate more narrated illustrations" (focus group, June 13, 2022).

In addition to citing the need to consult information they consider reliable through channels and languages that are not necessarily journalistic, the activists go further and suggest the need for an ecosystem that facilitates the circulation of information beyond hegemonic vehicles. On the other hand, this poses challenges, such as ensuring the adherence to suitable ethical procedures in content production and dissemination. This underscores Canclini's (2011/1997) observation regarding the tensions of hybridising communication practices that have different ethical guidelines and objectives, such as journalism and advertising, and which, therefore, can become distorted when hybridized in the production of content for social networks, for example.

6.3. Challenges in Accessing and Recognising Journalism

The activists mentioned that, due to the country's size and regional diversities, the unique realities of each place deserve tailored attention. In several focus groups, concerns were raised about the lack of investment or willingness within regional journalistic products, which could make the connection between the climate crisis and local events, to address environmental issues, which are often overshadowed by economic interests.

In Tocantins, there's a notable deficiency in accessing and analysing data and a limited interest in covering certain topics. The insufficient investment in regional journalism results in heavy reliance on press releases, sidelining investigative reporting and leading to a dominance of narrative driven by the media. (Activist from the North, focus group, July 20, 2022)

This context results in climate information being disseminated from the São Paulo–Brasília axis, often overlooking local dimensions. The geographical distance between

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these centres and people's daily lives diminishes their interest and hinders their comprehension of how a global phenomenon impacts the local sphere (Loose, 2020).

In addition to the lack of journalism that could contribute to the climate cause, the consumption of fake news was also mentioned by the activists. The persistent circulation of information that appears to be news but is not built on the epistemological and deontological criteria of the subfield represents one of the major challenges in this era of intense hybridisation. While technological resources are important for engaging with the public, as noted by an activist from the North (focus group, July 20, 2022), the convergence of communication genres can confuse individuals, especially with the proliferation of messaging groups and social networks. These messages, which do not follow journalistic precepts and are designed for persuasion, are detrimental to understanding reality, as Jorge Filho (2021) warns.

> Apart from television and mobile phones, there are territories where mobile phone signals are unavailable, and some people may not even own a mobile phone. Therefore, we ensure accessibility through radio broadcasts, WhatsApp, and online platforms as well. (Activist from the North, focus group, July 20, 2022)

> The challenge of accessing information results in many individuals being unable to reach journalistic content disseminated through various channels that are available to us (...) many of them are learning about it through WhatsApp, through the spread of fake news, and we observe that many of them believe and propagate it, thinking it to be true. (...) journalism's commitment lies precisely in considering how we can deliver this information to those who lack access to the kind of quality information available to us here. (Activist from the North East, focus group, June 13, 2022)

In this landscape of information abundance, branded content, adopting the formal traits of journalism, emerges as yet another obstacle. Indeed, it harbours interests that frequently clash with environmental advocacy or merely offer a palliative discourse regarding the crises stemming from overexploitation.

The remarks made by the activists underscore the importance of understanding journalism's integration into emerging media consumption practices. It is crucial to explore how this integration can occur without journalism relinquishing its fundamental procedures, all while embracing an educational role aimed at fostering society's engagement with pressing issues, including human survival on a planet increasingly inhospitable to the species that degrade it.

7. Final Considerations

The research findings uncover the demands of young Brazilian activists for alterations within mainstream journalism, particularly concerning the mobilisation of audiences to respond more decisively to the climate crisis. They advocate for journalism to

leverage the strategies employed by influencers and to align its media agenda with that of grassroots communicators, indigenous communities, black women, and other regional stakeholders. This underscores a push for greater inclusion of grassroots communication and a departure from the distant and objective stance traditionally adopted by journalism professionals.

This indicates that audiences across the five regions of the country have a comprehensive understanding of journalistic communication, referencing aspects of both traditional and alternative journalism alongside productions derived from environmental organisations, which may not strictly adhere to journalistic principles but align with the concept of "communication journalism" (Charron & Bonville, 2016) and the idea of hybridisation (Canclini, 2011/1997). Rather than suggesting a blending of different forms of journalism, activists introduced elements from various communication genres as ways to enhance public engagement with the climate discourse. However, they acknowledge the challenges associated with this intense hybridisation, such as the proliferation of misinformation.

Recognising the importance of mass journalism for its wide audience reach, activists also acknowledge that certain interests render the beneficiaries of environmental destruction invisible and that media frameworks often obscure the problem. In addition to information, the recipients demand journalism with a political stance, as suggested by Carvalho et al. (2016), and commitment to education, encouraging citizen action (Bueno, 2007; Torres & Gadotti, 2018). There is a call to challenge and expose the normalised predatory narratives perpetuated by market interests, akin to Moser's (2010) proposal for journalism to amplify the climate agenda. In this sense, they have already diversified or complemented their information consumption with other sources, particularly content produced by NGOs, social movements, and digital influencers addressing climate issues and local contexts.

The format and language of news journalism have been criticised for the need to be less formal to avoid technical and/or scientific terminology. Instead, there is a push for the use of art and a more intimate connection with people's everyday experiences. It is noteworthy, however, that the activists do not mention a limitation to the practice of journalism, projecting various demands on the profession. This aligns with Lima's (2018) observation of journalists accruing new responsibilities in their roles due to advancements in information technologies.

Viewing reception through the lens of cultural studies authors, it becomes evident that activists possess the ability to discern the underlying interests driving media production activities (Martín-Barbero, 2003/1987). Consequently, they maintain a critical stance, engaging in the negotiation of meanings (Hall, 2003/1973) even amidst a multitude of media and an overwhelming flow of information. In a way, they recognise the forces of hybridisation at play in media production, often driven by institutional frameworks for marketing or persuasion purposes. Moreover, activists understand that the hybridisation of journalism's boundaries can also be strategically used in everyday social interactions (Martín-Barbero, 2003/1987) through practices such as community

communication (Peruzzo, 2006). They emphasise the discrepancy in critical capacity among individuals, acknowledging that many are swayed by fake content circulated through messaging apps, often at the expense of mainstream news lacking mass appeal. Hence, they stress the importance of engaging audiences in a straightforward manner and across various formats that can circulate through mainstream journalism, social networks, and alternative media platforms.

The analyses of how 60 activists perceive the interaction between journalism and climate engagement are one of the main contributions of this research. These findings have the potential to inform more effective strategies aimed at fostering engagement and addressing the climate crisis. The focus on hybridisation underscores the need to consider the array of communication formats in reimagining approaches to journalism, all while grappling with the challenge of preserving its unique characteristics and values, closely tied to a traditional model.

This study represents one of the initial endeavours to delve into the reception of climate communication on a national scale, albeit with a focus on a perceived qualified audience. However, given its qualitative nature, it is imperative to highlight that the findings cannot be universally applied. Brazil is a continental country with a vast and diverse landscape that encompasses varying degrees of access to information and consumption patterns of journalism across different regions.

Furthermore, the limited time frame allocated for data collection (two months) required strategies such as referrals and the use of "snowballing" techniques, which may have inadvertently led to a certain level of homogeneity within the study's participant pool. This homogeneity is evident in the predominance of activists with higher education and postgraduate qualifications, likely influenced by the dissemination of the survey through the networks of the Instituto Modefica and the researchers themselves. Despite efforts to include indigenous voices, their low participation in the focus groups underscores the challenges faced during this stage of the study.

Another limitation of this work is the absence of questions specifically targeting hybridisation. The semi-structured research script did not incorporate discussions, which was only recognised by the researchers after data collection. The traditional format of the presented videos encouraged critique and the proposition of alternative approaches. There is a clear gap in Brazilian research focusing on climate engagement through the lens of hybridisation, suggesting a promising avenue for future investigation.

In terms of recommendations for further research, it is essential to include perspectives from other audience demographics, as well as different age groups and specific socio-economic backgrounds. Moreover, given the lack of studies in this area, it is advisable to replicate this study in the future to enable longitudinal comparisons of climate communication reception.

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Translation: Anabela Delgado

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Biographical Notes

Caroline Jacobi has a PhD in Communication and Culture from the Federal University of Rio de Janeiro. Member of the Photography, Image, and Thought research group at the Federal University of Rio de Janeiro, affiliated with the National Council for Scientific and Technological Development. A dedicated researcher with a career focused on environmental communication, reception studies, and the analysis of images.

ORCID: https://orcid.org/0000-0002-2657-936X

E-mail: carolinemjacobi@gmail.com

Address: Faculdade de Biblioteconomia e Comunicação da Universidade Federal do Rio de Janeiro, Av. Pasteur, 250, 21941-90, Rio de Janeiro, Brasil

Débora Steigleder is a journalist with a PhD in Communication and Information from the Federal University of Rio Grande do Sul. She is an active member of the Environmental Journalism research group at the Federal University of Rio Grande do Sul, affiliated with the National Council for Scientific and Technological Development. Her work and research focus on the intersection of communication, education, the environment, and science, with a special interest in fostering dialogue in these areas.

ORCID: https://orcid.org/0000-0001-6030-5728

E-mail: deborasteigleder@gmail.com

Address: Faculdade de Biblioteconomia e Comunicação da Universidade Federal do Rio Grande do Sul | Rua Ramiro Barcelos, 2777, 90035-007, Porto Alegre | Brasil

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The Hybridisation of Journalism in Fostering Engagement with the Climate Cause... · Caroline Jacobi, Débora Steigleder, Eliege Fante & Eloisa Loose

Eliege Fante is a journalist with a PhD in Communication and Information from the Federal University of Rio Grande do Sul. She is an active member of the Environmental Journalism research group at the Federal University of Rio Grande do Sul, affiliated with the National Council for Scientific and Technological Development. She is engaged in both journalism and environmental activism, conducting research on the intersection of journalism with ecology, education, and science.

ORCID: https://orcid.org/0000-0002-0527-4364

E-mail: gippcom@gmail.com

Address: Faculdade de Biblioteconomia e Comunicação da Universidade Federal do Rio Grande do Sul | Rua Ramiro Barcelos, 2777, 90035-007, Porto Alegre | Brasil

Eloisa Loose is a journalist with a PhD in Communication from the Federal University of Rio Grande do Sul (UFRGS) and a PhD in Environment and Development from the Federal University of Paraná. She serves as the vice leader of the Environmental Journalism research group at UFRGS, which is affiliated with the National Council for Scientific and Technological Development. Additionally, she is a professor at the Faculty of Library Science and Communication at UFRGS, focusing her research on climate communication.

ORCID: https://orcid.org/0000-0002-4755-3046

E-mail: eloisa.beling@gmail.com

Address: Faculdade de Biblioteconomia e Comunicação da Universidade Federal do Rio Grande do Sul | Rua Ramiro Barcelos, 2777, 90035-007, Porto Alegre | Brasil

Climate Change Narratives in TikTok Brazil: From Diagnosis to Despair

Simone Evangelista
Programa de Pós-Graduação em Comunicação, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil
Conceptualisation, formal analysis, writing - original draft, writing - review & editing

Marcelo Garcia
Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, Fundação Oswaldo Cruz, Rio de Janeiro, Brazil
Data curation, formal analysis, methodology, writing - original draft, writing - review & editing

Abstract

The objective of this exploratory study is to chart the discourses circulating on the TikTok social network concerning climate change in Brazil. It investigates the predominant narratives on Brazilian TikTok regarding climate change and the implications of these narratives. Using a methodology based on Basch et al. (2022) tailored for the Brazilian context, this study analyses 50 videos indicated as the most relevant by the platform using the hashtag #mudancaclimatica (#climatechange). Key aspects investigated include language patterns, the use of sources and strategies for addressing climate change. The videos were categorised based on various criteria, including their stance on the truth of climate change, the environmental issues highlighted, the social and ecological impacts mentioned, and the extreme weather events described. Given TikTok's immense popularity in Brazil, the prevalence of disinformation on digital platforms in the country, and the lack of awareness among Brazilians about climate change, this study aims to assess the potentially harmful effects of narrative circulation on the platform on understanding the issue. The findings indicate a relative consensus on the reality and severity of climate change. However, aspects pertaining to the complexity of the problem often receive less attention. Prominent in the analysed narratives are those with an alarmist tone, amplified by the platform's features. Moreover, the sources and channels behind these productions often lack clear identification, even when they are directly linked to scientific dissemination. This ambiguity could pose challenges in using these materials to counter climate denialism.

Narrativas Sobre Mudanças Climáticas no TikTok Brasil: Entre o Diagnóstico e a Desesperança

Resumo

O objetivo deste estudo exploratório é realizar um mapeamento dos discursos em circulação na rede social TikTok ligados à temática das mudanças climáticas no Brasil. Investiga-se, portanto, que narrativas predominam no TikTok brasileiro quando se trata de mudanças climáticas e que sentidos essas narrativas engendram. A partir de metodologia baseada em Basch et al. (2022) com adaptações para o contexto brasileiro, 50 vídeos indicados como os mais relevantes pela plataforma a partir da hashtag #mudancaclimatica foram analisados. Investigamos

aspectos como linguagens utilizadas, uso de fontes e estratégias de enfrentamento às mudanças climáticas. Os vídeos foram classificados segundo diversos critérios, como seu posicionamento em relação à veracidade, ou não, das mudanças climáticas, os temas ambientais abordados, impactos sociais e ambientais citados e os eventos climáticos extremos referenciados. Em um contexto de grande popularidade do TikTok no Brasil, disseminação de desinformação em plataformas digitais no país e brasileiros pouco informados sobre as mudanças climáticas, a pesquisa busca compreender em que medida a circulação de narrativas na plataforma pode ser nociva à compreensão do problema. Concluímos que, por um lado, existe relativo consenso em relação à veracidade e gravidade das mudanças climáticas. Por outro, aspectos relacionados à complexidade da questão ficam em segundo plano. Narrativas em tom alarmista, reforçadas pelas *affordances* da plataforma, aparecem em proeminência. Além disso, fontes utilizadas e canais responsáveis pelas produções são pouco identificáveis, mesmo quando relacionados diretamente à divulgação científica, o que pode representar um problema para o uso desses materiais no enfrentamento ao negacionismo climático.

Palavras-chave
mudanças climáticas, TikTok, plataformas digitais, divulgação científica, Brasil

1. Introduction

While climate change had already been a prominent topic of discussion before the COVID-19 pandemic, the public health crisis seems to have hastened global awareness of the issues stemming from this phenomenon. Organisations like the United Nations (UN) underscore this correlation, cautioning that the next pandemic could manifest as drought (United Nations Convention to Combat Desertification, 2023). In Brazil, the perception that the climate emergency poses a serious threat with the potential to profoundly affect the lives of thousands of individuals has increased between 2020 and 2021. According to a survey commissioned by the Institute for Technology & Society, 96% of respondents in 2021 acknowledged the reality of global warming. Furthermore, eight out of 10 respondents considered it a major problem (Ipec Inteligência, 2022).

However, the same survey highlights a widespread lack of knowledge among the Brazilian population regarding the subject. Only two out of 10 respondents consider themselves well-informed about global warming. Despite consistent efforts by traditional media outlets to cover the issue, Nisbet (2009) notes that likely only a portion of the public — those already informed and engaged in the discussion — will be reached. The author emphasises that scientific facts alone are not persuasive; in a context where the audience is fragmented and disengaged with global warming, it becomes increasingly important to explore strategies for crafting and mobilising messages tailored to specific media and audiences (Nisbet, 2009).

This article seeks to analyse the discourses surrounding climate change on the social network TikTok, whose popularity has increased notably in Brazil (Ecwid, 2023). In essence, our objective is to address the following question: what are the predominant narratives about climate change on Brazilian TikTok, and what interpretations do these narratives foster? To accomplish this, we scrutinised elements such as language patterns, use of sources, and approaches to addressing climate change. We aimed to

provide a brief overview of the symbolic debates associated with the issue. We collected 50 videos using the hashtag #mudancaclimatica, as suggested by the platform's search algorithms. These videos were then categorised based on several criteria, including their position on whether climate change is true or not, the environmental concerns highlighted, the social and environmental impacts mentioned, and the extreme weather events described, among other factors. The methodology employed in this study drew inspiration from an article authored by Basch et al. (2022), with necessary adaptations made to suit the Brazilian context, as outlined in the methodological procedures section.

Launched in 2016 by the Chinese company ByteDance, TikTok is a platform designed for sharing short videos. It gained popularity in Brazil in 2019 and swiftly rose to become one of the most accessed digital social networks in the country — currently trailing only behind YouTube, Instagram, and Facebook (Comscore Brasil, 2023). As of 2023, Brazil had approximately 84,100,000 active TikTok users, trailing behind only Indonesia (113,000,000 users) and the United States (116,500,000 users; DataReportal, 2023). Despite its reputation for content centred around humour, music, and dance, the platform has evolved into a forum for discussions spanning beyond mere entertainment. Its popularity, particularly among younger demographics, has catalysed the proliferation of debates on "serious" topics, such as mental health (McCashin & Murphy, 2023) and politics (Herrman, 2020), on the platform.

The absence of knowledge about the causes, consequences, and debates about the climate emergency, a complex issue intertwining various dimensions beyond the environmental realm, encompassing health, economics, and politics, takes on heightened concern within today's informational landscape. In recent years, Brazil has garnered attention for the proliferation of misinformation across various digital platforms (d'Andréa & Henn, 2021; Oliveira et al., 2021). However, there is still little research specifically addressing communication and the climate emergency in the country. Nevertheless, notable initiatives are emerging, focusing on investigating the production and public perception of environmental journalism and its discourse regarding climate change (Aguiar & Schaun, 2019; Horn & Del Vecchio De Lima, 2019; Loose, 2016; 2021; Loose & Girardi, 2017; Rodas & Di Giulio, 2017; Winch, 2017). These include coverage of climate catastrophes (Bueno, 2017) and reports on issues directly or indirectly related to the climate emergency, such as fires (Pinto & Zanetti, 2021), drought (Farias, 2022), and deforestation (De Campos et al., 2021). Additionally, there are investigations into public communication (Quinteros, 2023) and scientific communication concerning the subject (Colatusso, 2022).

Therefore, by focusing on the narratives surrounding climate change on TikTok in Brazil, we hope to contribute to the debate regarding the significance and challenges of digital communication in shaping public perception of the issue.

2. Public Arenas and Science Communication on Digital Platforms

With the advent of digital content-sharing platforms, the potential for engagement in the communication of scientific subjects within these digital spaces has been

underscored (O'Neill & Boykoff, 2011). However, alongside this potential, there are numerous challenges to the dissemination of scientific information and communication within the public arena of the Internet (Patel et al., 2020; Sloane et al., 2015; Wicke & Taddicken, 2020).

Ines Lörcher and Monika Taddicken (2017) contend that the formation of public arenas on the Internet facilitates the involvement of a diverse array of public players engaging in online communication, spanning a wide spectrum of topics and opinions related to science, including sceptics. Alongside the rise of scepticism (Engels et al., 2013), science communication has been marked by the confrontation with denialist movements (Reichstadt, 2020), anti-science movements (Biddle, 2018; Szabados, 2019), anti-intellectualism (Merkley, 2020), and science-related populism (Mede & Schäfer, 2020).

By encouraging novel forms of public engagement (Dahlgren, 2005; Papacharissi, 2002), these seemingly decentralised environments, blending characteristics of interpersonal communication and mass media, have reconfigured the landscape of public debate on subjects pertaining to science, health, and the environment within the digital realm (Boykoff & Yulsman, 2013; Bucchi & Saracino, 2016). According to Schmidt (2013), contemporary public arenas can be conceptualised as distinct configurations of agents, encompassing both communicators and the public, who disseminate information according to specific rules for presenting arguments, which may sometimes be contentious. This reshaping of arenas is crucial for comprehending how individuals outside the scientific community have learned to create new categories, hypotheses, and theories, explore causes and test therapies (Cefaï, 2017), thereby challenging the very concept of expertise (Collins & Evans, 2002). Researchers like Van Zoonen (2012) argue that the proliferation of these alternative epistemologies can be interpreted as the popularisation of "I-pistemologies", wherein individuals construct their knowledge based on personal experiences.

In alignment with these scholars, it is possible to argue that digital social media platforms have evolved into conducive environments for communication exchanges mediated by affectivity (Papacharissi, 2015). While this phenomenon is part of a broader process of media reconfiguration (Baym, 2008), the amalgamation of facts and opinions, politics and emotions is notably prominent on these platforms, fostering the mobilisation, connection, and identification of affective audiences (Papacharissi, 2015) on the web. Amplified by unique features of such environments, such as speed, the nearly limitless flow of information, and multiple connections (van Dijck, 2013), this mediation by affectivity becomes particularly conspicuous during public discussions of extreme situations.

While this dynamic did not originate with digital platforms, it is crucial to acknowledge a significant distinction: prior to their emergence, communication of scientific subjects largely involved maintaining a distance between the public and communicators, with science communicators playing a leading role. As highlighted by Massarani et al. (2005), the predominant model of science communication until the early 21st century was the deficit model, wherein the public was viewed as a "group of science illiterates" (p. 63). The emergence of new actors, particularly following the widespread adoption of digital social networking platforms, has bridged the gap between scientific discourse and everyday life.

With increased opportunities for diverse forms of interaction with the public and less formal communication, narratives on scientific topics on the web blend established formats from other media, such as television (Miranda & Guilherme, 2023), with formats unique to each platform.

Driven by strategies geared toward maximising user engagement to gather data and target advertising content, digital platforms encourage and perpetuate emotional exchanges (Papacharissi, 2015). While these dynamics can foster a sense of community and enhance the public's social imagination, potentially strengthening connections between science communicators and their audience, they also facilitate the dissemination of inquiries regarding the role of science — particularly during critical situations.

Natural disasters, decentralised cyberattacks, or public health epidemics reflect the anxieties and insecurities stemming from the ambiguities surrounding scientific practice (Evangelista & Garcia, 2019). The case of climate change epitomises a quintessentially contemporary phenomenon: while the outcomes and advancements of science increasingly permeate all facets of our daily lives (Tucherman & Ribeiro, 2006), science itself operates within the shifting sands of the risk society (Giddens, 1991), navigating complex webs that pose challenges in formulating measures that can actually mitigate the problem. Meanwhile, scientists, activists, journalists, politicians, and the "lay" public, among other stakeholders, are devising different strategies to construct and contest meanings surrounding climate change on digital platforms within a matter of seconds.

3. Social Networking Platforms and Climate Change: Research Horizons

While still emerging in Brazil, the debate on how climate change is addressed on digital social media platforms has garnered increasing attention within international academic circles. In a systematic review of the topic, Pearce et al. (2018) conclude, among other findings, that a predominant focus of published research is on conversations disseminated on the Twitter platform. This preference is attributed, in part, to Twitter's Application Programming Interface being one of the most accessible for academic research, particularly for quantitative studies. However, the authors argue that this excessive emphasis limits more comprehensive examinations of the collective imaginaries surrounding climate change and its impacts on social life. Pearce et al. (2018) also observe a correlation between social media posts and local experiences of temperature anomalies. Nonetheless, they note that the predominant sources and framing of the issue are largely mainstream.

In other words, despite the existence of polarised perspectives and echo chambers surrounding climate change — a phenomenon strongly influenced by political disputes, as argued by Falkenberg et al. (2022) — legitimised views regarding the existence and severity of the issue hold sway. Meanwhile, as noted by Schäfer (2012), the presence of specialised scientists and scientific institutions on digital platforms does not guarantee their prominent involvement in discussions concerning climate change and climate policies. As the effects of phenomena like extreme temperatures become increasingly apparent

on a daily basis, more individuals engage in discussions, underscoring the everyday nature of conversations on digital platforms (Papacharissi, 2015). However, according to Schäfer (2012), this fragmentation of the discourse may be associated with inadequately informed discussions, leading to minimal discernible impact on public perceptions of climate change.

Parry et al. (2022) highlight, in a survey of 16–25-year-olds residing in Madrid, that the proliferation of discussions on the subject has led to a rise in climate anxiety (Hickman et al., 2021), resulting in some experiencing eco-paralysis (Albrecht, 2011). Feelings of guilt, anxiety, helplessness, and hopelessness were associated with exposure to information about climate change on digital social networks. According to the interviewees, more propositional and positive approaches, focussing on possible strategies — even if represented by small individual actions — for mitigating climate change were deemed more useful. Additionally, the young individuals surveyed emphasised the importance of acquiring skills to critically analyse available information, seeking to learn how to use it in decision-making processes. Furthermore, it was concluded that a significant factor in alleviating the distress induced by news about climate change would be to reinforce the notion that these young people possess agency. Supporting Pearce et al.'s (2018) observations, Parry et al. (2022) contend that there is a need for more research encompassing predominantly visual digital social media platforms, which are currently overlooked in studies on the subject. Besides, drawing from interviews with young individuals, Segado-Boj et al. (2019) assert that the most influential emotions driving individuals to share news about climate change on digital social networks are fear and anger — coincidentally, emotions closely associated with climate anxiety.

The correlation between a text's capacity to evoke specific emotions and its likelihood of being shared was also examined by Veltri and Atanasova (2017) in a quantitative study focusing on Twitter. In addition to underscoring the significance of traditional media as a source for such content, the authors emphasise the multidimensionality of discourses surrounding climate change. Another study involving Twitter, conducted by León et al. (2022), explored social engagement pertaining to climate change through images shared on the platform. The authors highlight four guidelines aimed at enhancing interaction with users on Twitter, all related to concepts of "meaningfulness and personification" (León et al., 2022, p. 721).

Research linking climate change denialism to political polarisation has garnered increasing attention in recent years. Williams et al. (2015) assert that, even on Twitter, it is possible to verify the existence of echo chambers associated with activist groups and sceptics regarding the consequences of global warming. More recently, Falkenberg et al. (2022) presented the findings of a study conducted on Twitter from 2014 to 2021, analysing the discussions surrounding UN climate conferences during that period. According to the authors, ideological polarisation significantly escalated from COP26 onwards in 2021, driven by intensified activity among right-wing supporters critical of climate change. The study also reveals that accusations of hypocrisy have emerged as a recurring theme in climate discussions on Twitter since 2019.

In the Ibero-Latin American context, Balbé and Carvalho (2016) presented a survey of Facebook groups focused on the subject. Unlike other studies that have identified the significance of traditional media in sharing information about climate change (Kirilenko & Stepchenkova, 2014; Pearce et al., 2018; Veltri & Atanasova, 2017), the authors concluded that in the Portuguese- or Spanish-speaking groups analysed content published directly on Facebook predominated. However, in a subsequent study focusing on Twitter, the authors encountered a different scenario. In their attempt to identify the key participants in the debate surrounding the "21st UN Climate Conference", COP21, Balbé and Carvalho (2017) highlight the significant role of traditional media as a source of information on that platform. Nevertheless, the authors also note that politicians and ordinary citizens were predominant in generating content on the subject.

Also worth mentioning is the dossier Mudanças Climáticas e Engajamento Digital: Tendências, Hábitos e Dinâmicas nas Plataformas Digitais (Climate Change and Digital Engagement: Trends, Habits, and Dynamics on Digital Platforms) published by *Revista Ciências Humanas* in 2022. Among the seven articles featured, four directly tackle issues related to denialism and fake news concerning global warming, indicating that the issue identified by Falkenberg et al. (2022) has been the focus of more frequent investigations in the country. We would like to particularly highlight the work of Junqueira (2022), who examines the controversies surrounding the hashtag #yes2meat, which has gained popularity as a rebuttal to dietary recommendations for planetary health put forth by scientists. The author scrutinises current discourses surrounding the hashtag on the TikTok platform and, drawing on Treem and Leonardi (2013), delves deeper into the affordances[1] of editing and association. The research reveals a significant use of mixing, cutting, and editing of images and texts "for the production and dissemination of content related to the clash of data from multiple sources, with different levels of credibility" (Junqueira, 2022, p. 45), without fostering incentives for dialogue or debate. The author contends that while TikTok's affordances expand the public space for the emergence of diverse voices, the absence of theoretical and scientific grounding in the videos that garner more visibility through these affordances favours the circulation of climate change-related disinformation (Junqueira, 2022).

In addition to the study above, another research focusing on TikTok, conducted by Basch et al. (2022), offers pertinent insights for this article. After analysing 100 English-language videos under the hashtag #climatechange, the authors concluded that only eight of the videos included information from reliable sources.

4. Methodological Procedures

This study involved a total of 50 Portuguese-language videos related to climate change, sourced from TikTok and available until March 31, 2023. The short video[2] platform

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[1] Affordance refers to an object's inherent qualities, properties, and attributes, enabling the subject to identify its purposes and functionalities intuitively, based on previous experiences or not, without requiring prior guidance or explicit instructions.

[2] In 2024, productions are limited to 10 minutes, although TikTok has become popular for even shorter videos of up to 60 seconds (https://www.tiktok.com/creators/creator-portal/pt-br/product-updates-pt-br/novidades-colecoes-e-videos-de-10-minutos/; accessed in February 2024).

provides various features such as viewing, liking, commenting, sharing, producing, and republishing videos. Users can also follow and interact with others through functionalities like private messaging and creating duets by editing clips. One of the reasons behind TikTok's popularity is its recommendation system, which suggests videos based on user data such as interests, previously created and consumed content, and similar user preferences. This algorithmic approach aims to present videos that are more likely to engage the audience, potentially leading to addictive usage patterns (Brennan, 2020). Additionally, the platform offers the ability to search for videos using categories and keywords, which was used in this research.

The productions were categorised using the platform's organic search function for the hashtag #mudancaclimatica, as it best represented the topic we aimed to explore. Extensive data cleaning was necessary due to the fact that the TikTok search results included videos related to various interpretations of "change," such as relocation or lifestyle changes. Only videos directly related to environmental concerns were selected for analysis. As a precaution, alternative searches were initially conducted using the hashtag #mudancaclimatica within inverted commas ("#mudancaclimatica") and the hashtag #mudançaclimática. However, the results were largely similar, both in terms of the presented videos and the need for data cleaning. Therefore, we decided to proceed with the simple hashtag #mudancaclimatica.

TikTok videos are distinguished by their short duration and the need to promptly captivate the audience, who can effortlessly transition to the next video with a mere swipe of their fingers. The platform is also renowned for providing easy-to-use tools for replicating videos, which frequently incorporate music, voiceovers, dancing, and humour. One of TikTok's key distinguishing features is its powerful algorithm for customised identification of user behaviour through natural language processing and computer vision technology and its high capacity for capturing and retaining users' attention (Stokel-Walker, 2020, 2022).

The classification of the videos was guided by the categories proposed by Basch et al. (2022) in a similar study conducted with TikTok in English. However, certain adaptations were made to highlight specific characteristics of the videos and to adapt the analysis to the Brazilian context. While the original table comprises 29 categories aimed at examining aspects such as the portrayal of climate change (whether it is presented as something real) and the environmental and societal impacts of the phenomenon[3], our study divided the categories into five overarching analytical macro-categories. These include: "the type of content presented," "topics related to climate change," "socio-environmental impacts addressed," "mention of extreme events", and "responsibility for climate change." Table 1 shows the categories within each macro-category. To streamline the classification, two subcategories commonly associated with events in the Northern Hemisphere, "tornadoes" and "hurricanes," were amalgamated. Additionally, the term "cyclones" was included in this subcategory to encompass events more prevalent in Brazil. Furthermore, three additional subcategories were introduced to analyse specific aspects: "qualifies as journalistic content," "deforestation and mining," and "rainfall, lightning, and flooding".

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[3] The full spreadsheet is available at https://link.springer.com/article/10.1007/s10900-021-01031-x/tables/1.

Regarding the type of content presented	Presents climate change as true
	Presents a credible source (public health professionals, environmentalists or relevant organisations)
	Misinterprets climate patterns
	Contains misinformation
	Presents climate change as false
	Induces climate-related anxiety/frustration
	Qualifies as journalistic content
Climate change-related topic	Land and sea pollution/rubbish/plastics
	Carbon dioxide/fossil fuels
	Escalation in greenhouse gas emissions
	Deforestation and mining
	Health inequalities
	Future generations
	Environmental justice (addresses disparities between the global South and North, social inequities, consumption capacity, and/or the correlation between human selfishness, capitalism, and climate change)
Socio-environmental impacts covered	Impacts on human populations (migration, poverty, and homelessness)
	Impacts on human health
	Impacts on wildlife
	Impacts on crops and plant life in general
	Impacts on changing global temperature levels
	Impacts on ocean levels and water temperatures
	Impacts on melting polar ice caps
Extreme events cited	Drought/heatwave/frost/severe cold
	Tornadoes, hurricanes, and cyclones
	Forest fires
	Rainfall, lightning, and flooding
Accountability for climate change	Individual recommendations: reducing carbon footprint and environmental impact/conscious consumption
	Macro-political recommendations: voting for other leaders or parties, lobbying for specific laws or the regulation of certain activities
	Political criticism of countries and government leaders
	Criticising specific brands, companies or industries
	Praises politicians or government leaders
	Praises brands/companies

Table 1. *Categorisation used to classify the videos analysed*

One reviewer (Author 1) viewed all 50 videos and noted whether or not each of these content characteristics was present in that video. A second reviewer (Author 2) observed 10 randomly selected videos (a 20% sample) to determine inter-rater reliability. Basch et al.'s study (2022) conducted validation similarly, with the only distinction being that the second reviewer's sample was 10% of the collected material. Microsoft Excel was used for all data entry, organisation, and analysis.

5. Findings

In total, the 50 videos amassed nearly 20,000,000 views by March 31, 2023, garnering almost 2,500,000 likes, over 70,000 comments, and 130,000 shares. The categorisation based on the impacts of climate change allowed for the formulation of hypotheses regarding the most engaging types of content — either in terms of gaining prominence on TikTok or due to the authors' deliberate focus on these issues.

Out of the total analysed, 15 videos underscored the impacts on populations, such as the need for migration and hunger. At the same time, 13 highlighted the planet's overall temperature levels. Nine emphasised the impacts on animals, particularly with emotionally impactful images (such as bears isolated on ice sheets, marine animals entangled in plastic, and large mammals succumbing to drought, among others). Despite Brazil's extensive coastline, impacts associated with rising sea levels and melting polar ice caps received less attention compared to other examples, with only two and seven videos, respectively. This may be due to these issues being less tangible and more long-term, making them harder to observe than animals in deteriorating habitats directly.

Overall, the videos depict various extreme climatic events that have occurred worldwide — there are at least 22 videos featuring images or references to at least one of these events. The most frequently cited events are droughts and extreme heat or cold waves across the globe (16 videos), followed by forest fires (14 videos), rainfall, lightning, or flooding (13 videos), and tornadoes, hurricanes, and cyclones (four videos).

Examining the issues related to the topic also unveiled significant gaps, notably the absence of a direct link between the environment and health in the presented videos. Despite the manifold threats to public health posed by climate change, such as epidemics and compromised water quality, only one video briefly touches upon issues concerning health disparities among populations of diverse socio-economic classes and regions. Similarly, within another macro-category referencing the impact of climate change on human health — only five videos presented arguments along these lines.

References to pollution were more prevalent. This category included references in the videos to land and water pollution, rubbish and the accumulation of plastic. In total, 17 videos addressed this issue, with particular emphasis on images depicting the sea polluted by plastics. In an effort to align the analysis more closely with the Brazilian context and the prominent themes in the country's environmental discourse, topics related to deforestation (13 videos) and mining (two videos) were added to this macro category. Environmental justice issues were addressed in 11 videos, with most focusing on consumption patterns and advocating for environmentally friendly lifestyles among those who have the means. Other videos delved into the capitalist lifestyle and human selfishness and greed, attributing them significant responsibility for the exploitation of the planet and the global climate crisis.

This finding is closely related to the macro-category of accountability. Among the videos analysed, 11 directly criticised governments for their role in climate change, with most of these criticisms directed at the policies of the Bolsonaro administration. This indicates that Brazil's intense political polarisation in recent years (and the resulting

increase in politicisation surrounding climate change) significantly influenced the content observed in the study. Additionally, within the same category, 14 videos placed blame on large companies and industries (five of them also targeting government policies and rulers). Notably, attacks on agribusiness were prominent, with several videos citing it as the primary polluter and generator of waste (an issue that aligns with criticisms levelled against Jair Bolsonaro's administration and further underscores the politicisation of the climate change discourse). Only three videos among those analysed expressed praise for the actions of politicians, countries, or authorities in any capacity (with one of them being a self-praise by then-President Jair Bolsonaro). Interestingly, none of the videos praised or positively mentioned the actions of companies or industries related to addressing the issue of climate change.

Regarding proposals for tackling the problem, 10 videos offered recommendations for adopting less polluting lifestyles and reducing carbon footprints — particularly emphasising conscious consumption and boycotting polluting companies. Conversely, 10 videos made political recommendations, highlighting the need for political changes to address the climate crisis. These videos often ridiculed calls to adopt "greener" lifestyles without addressing the stances of global leaders and large companies.

Nonetheless, the suggestions tended to be vague, with only four videos proposing concrete actions. Two advocated for the election of socialist politicians to champion environmental causes. The other two encouraged the public to engage in organised civil society initiatives (Amazonia de Pé, which opposes the encroachment on indigenous lands, and the Face of Pollution initiative, advocating for greener attitudes in daily life). Interestingly, only two videos simultaneously offered political and individual recommendations and were classified in both categories.

5.1 Weaving Relationships from Climate Change

When examining the entire sample, we inquired about the sources mentioned in the collected videos. The analysis revealed that despite the smaller sample size compared to the study by Basch et al. (2022), which examined 100 productions, the number of videos citing some form of "reputable source", such as professionals and institutions associated with environmental research and public health policies, was relatively higher. Among the 50 productions surveyed on this empirical study, nine cited information attributed to such sources, whereas Basch et al. (2022) found only eight instances among 100 videos. The UN and the Intergovernmental Panel on Climate Change were the most frequently cited sources, each appearing in three videos. In addition to these, references were made to research conducted by São Paulo State University, representing the sole Brazilian source mentioned in the videos, focusing on the impacts of climate change in the country. Rounding out the list were mentions of warnings issued by two scientists: Peter Kalmus, a researcher at the US Space Agency who was arrested during a protest in April 2022, and Carl Sagan, the renowned science communicator who passed away in 1996. However, it is worth noting that only the videos featuring the scientists' warnings

present the sources in their own voices. In the other productions, references to sources like "the latest report" from the Intergovernmental Panel on Climate Change — IPCC — or the UN are made generically. Furthermore, there is no in-depth analysis of the sources, such as providing links or other forms of validation.

We should also address the role of journalism in the videos analysed. Channels from news outlets appeared only three times in the sample, specifically from G1, iG, and UOL. This observation, combined with the lack of references to "reputable sources", seems to paint a different picture from the review published by Pearce et al. (2018), which suggested that the dominant sources and framing of climate change are predominantly mainstream. This outcome could be attributed to both the limited investment of traditional media and scientific institutions on the platform and the popularity of influencers and other types of users in these spaces. Additionally, it may be influenced by the platform's predominantly youthful audience — over 60% of users are under 34 years old (DataReportal, 2023).

However, the dynamics of TikTok itself, characterised by the rapid consumption of videos suggested in sequence by the platform's algorithms (Stokel-Walker, 2020), facilitate the appropriation of mainstream content for the construction of unique discourses. It is no coincidence that another 15 videos in the sample feature references to mainstream media, often used to illustrate the overall state of the planet or specific environmental catastrophes. Only three of these are reproductions of excerpts from newspapers or TV programmes. The rest are always re-signified with comments, emojis and subtitles. Most of the time, these references are used to legitimise and underscore the urgency of the climate emergency, even if the original articles do not explicitly make this connection. Therefore, these sources hold enough legitimacy to at least serve as a foundation for presenting a comprehensive picture of the crisis.

Similarly, when examining the content of the videos to identify information about the creators of the respective channels, two significant observations can be made: firstly, there is a prevalence of young individuals as the creators of the productions — out of the 24 videos featuring a speaker addressing the camera directly, almost all of them are in their 20s and 30s. The second observation, which complements the first, is the near-total absence of efforts towards scientific legitimisation concerning the creators of the videos. Given the short duration of the productions, it is understandable that presenting a comprehensive CV with each entry on the social network would not be practical. Nonetheless, there is no indication of the authors' "academic" or "institutional" credentials anywhere, whether in the subtitles, captions or even in the video descriptions[4]. The exception was a video from the channel Sua Mente É uma Revolução, in which the author attempts to interview former President Jair Bolsonaro and introduces himself as a student of international relations and climate change (although in this case, he is in an external environment

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[4] When examining the profiles responsible for the videos, an analysis that falls beyond the scope of this article, we observed that certain individuals consistently create content on science communication related to environmental issues. However, despite this, information about their involvement with the subject (such as their roles as researchers) is challenging to access. This topic will be revisited in future research.

and is not depicted as a presenter speaking to the camera; [https://www.tiktok.com/@suamenteeumarevolucao/video/7054247184866233605]), and a video from the channel Pura Física, where the subtitles and description mention that the presenter is a teacher (in this instance, an individual slightly older and from a field not directly related to the discussion; [https://www.tiktok.com/@purafisica/video/6875401236154191110]).

While they typically do not disclose their identities, browsing their channels on the platform reveals that many of these young individuals are frequent creators of videos centred on scientific topics, particularly those related to the environment. In fact, one of the channels even labels itself as an environmental activist. Four of these creators appear multiple times in the studied sample (@andre…francis with four videos, @biafumelli, @camilibrio, and @hanakhalil, each with two videos) and adopt an explanatory format that strongly resembles science communication practices. Regarding language, even in videos where creators adopt a more didactic approach, the prevailing tone is informal, with few technical terms used. From these findings, it is possible to infer that initiatives aimed at disseminating science on these platforms largely stem from the personal endeavours of young students across various fields. There appears to be minimal institutional backing for these initiatives.

Building on Junqueira's study (2022), it becomes evident that TikTok's algorithm tends to prioritise videos based on editing techniques such as mixing and cutting rather than their theoretical or scientific foundation. This observation, coupled with the diverse backgrounds of the video creators, ranging from students to religious individuals, does not necessarily suggest that poorly qualified debates will have little impact on public perceptions of climate change, as highlighted in Schäfer's research (2012).

However, one aspect of this dynamic is reflected in the relationship between the analysed videos and the feelings of climate anxiety/frustration. Echoing the findings of Parry et al. (2022) on the perceptions of young people regarding the consumption of climate change-related content on digital platforms, at least 20 videos in the analysis contribute to such feelings in some way. This perception arises from various elements, such as the use of fast-paced soundtracks, dark colour schemes, and apocalyptic narratives, which contribute little to constructive debate on the issue. In these productions, the environmental crisis is depicted as a dire situation with little hope for meaningful action.

There are no actionable proposals in these videos, only a strong emphasis on the practically irreversible damage already inflicted. Six videos exhibit connections to religious discourse, either by referencing the apocalypse (https://www.tiktok.com/@mrffonseca/video/7196807378401119493) and the purported arrival of the planet Nibiru[5] and the end of the world or by framing the effects of climate change as a form of "karma" for humanity (https://www.tiktok.com/@greenchanges/video/6995017658378898694). For instance, several videos recycle the same images of the protest led by climate

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[5] An old conspiracy theory circulating on the internet surrounding an unidentified celestial body, commonly referred to as Nibiru or Planet X, posits that it will collide with Earth. The impact has already been predicted for the early 2000s, for 2012, and for 2017. This narrative is reminiscent of Zecharia Sitchin's book The 12th Planet, published in 1976, which discusses a planet with an elliptical orbit that enters the Inner Solar System every 3,600 years.

scientist Peter Kalmus in April 2022. In the highlighted excerpts, the authors express their frustration at society's failure to heed their warnings about the climate crisis and emphasise the imminent destruction of the planet, along with the dire consequences for future generations.

Two videos published by the user @favtodoroki include a call to action, albeit vague ("we have to do something"). Nevertheless, this call is overshadowed by exaggerated conclusions drawn from climate change studies. These videos were the only ones classified in the category assessing a misinterpretation of climate patterns presented. The author suggests that a 1.5 °C increase in Earth's temperature spells the end of the human race and asserts that we have only three years to reverse this situation. In these and the other videos that contribute to feelings of climate anxiety/frustration, we observed several comments expressing hopelessness, which were not formally assessed within the scope of our study.

Although further research is necessary, the association between climate change-related content and feelings of climate anxiety/frustration on digital platforms appears to reflect (and potentially reinforce) an existing connection. In a study examining the production of fear in journalistic narratives on climate change, Balbé and Loose (2020) suggest that the issue's impacts are often depicted through a lens of fear in journalism. However, the authors note that "there is no clear evidence that its use can actually generate a massive confrontation" (Balbé & Loose, 2020, pp. 50–51). In other words, while instilling fear may facilitate the dissemination of information regarding the severity of climate change, this awareness does not necessarily translate into actions aimed at mitigating and/or adapting to the reality imposed by the crisis.

Despite numerous studies highlighting the connection between disinformation and climate change (Falkenberg et al., 2022; Pinto & Zanetti, 2021), only three videos in the sample were categorised as disinformation, which entails a deliberate attempt to manipulate the public. In two instances, data regarding the climate crisis were used to suggest that the end of the world is imminent due to the supposed arrival of the planet Nibiru. In another video, then-President Bolsonaro engages in science-related populism (Mede & Schäfer, 2020) by stating, during the 2022 presidential election debate, that global warming is a fabrication designed to vilify agribusiness. Interestingly, this is the sole video that portrays climate change as false. Out of the total, 44 videos depict climate change as a genuine phenomenon. The remaining five address various aspects related to the climate crisis, such as specific impacts on the Earth's gravitational field, without explicitly linking them to climate change as a whole.

6. Final Considerations

While there is consensus on the severity of climate change, our exploratory study has revealed a tendency to prioritise simplified narratives over the complex aspects of the issue, such as climate justice, public health, and environmental racism. This observation aligns with the nature of TikTok, where short-form content prevails, and certain emotional

states, like climate anxiety, may be favoured by the recommendation algorithm. However, further research is needed to establish a definitive link, as our current analysis is insufficient for drawing direct conclusions. Similarly, we underscore the challenges posed by the opacity of TikTok's algorithms and the platform's inherent limitations, which complicate the theoretical and methodological framework for research. Given that information consumption on TikTok is predominantly driven by recommendations rather than active information seeking, it is imperative to broaden the scope of analysis using alternative methodologies such as ethnographic and reception research.

Given the content's simplistic nature and the significant influence of individual actions on shaping social interactions on platforms (d'Andréa, 2020), it becomes pertinent to inquire: why do these videos not provide additional sources to facilitate a deeper understanding of the issue? Is this due to a limitation imposed by the platform, such as restricted access to external links, or is it influenced by algorithmic conditioning based on the consumption patterns of other videos within the platform?

Similar questions arise when considering both the use of credible sources and the identification of video creators. Proportionally, the use of reliable sources was more expressive compared to the findings of the survey conducted by Basch et al. (2022). However, these sources were referenced vaguely. Regarding the profiles, even those identified as channels for science communication, very few provided clear identification. It cannot be discounted that the lack of identification may be intentional — after all, in an environment characterised by informality, institutional credentials may be perceived as a deterrent. However, within a landscape marked by climate denialism (Santini & Barros, 2022), it is crucial to question whether these strategies might undermine the credibility of scientifically accurate content in the battle against disinformation.

In conclusion, the absence of references to formal scientific knowledge steers the discourse towards a certain commonality, where opinions are equated with scientific data. Discussions, where they occur, often centre on acknowledging the crisis, its extreme events, and some local impacts, with minimal reflection on collective or political action measures. Another area for exploration thus pertains to the effects of consuming such content on diverse audiences' perceptions of the climate change issue — particularly videos that evoke feelings of climate anxiety.

Despite the limited sample size and the scope of the analysed aspects, we hope to have provided insights that will spark future research into the numerous gaps surrounding the dissemination of scientific content on digital social media platforms.

Translation: Anabela Delgado

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Biographical Notes

Simone Evangelista is a lecturer in the Postgraduate Programme in Communication and the School of Social Communication at Universidade do Estado do Rio de Janeiro. She also serves as a Fellow of the Prociência Programme at Rio de Janeiro State University. She is a researcher at the Instituto Nacional de Ciência e Tecnologia – Disputas e Soberanias Informacionais and the Instituto Nacional de Administração de Conflitos.

ORCID: https://orcid.org/0000-0002-5457-5737

Email: simone.evangelistacunha@gmail.com

Address: Rua São Francisco Xavier, 524, Maracanã, 20550-900. Rio de Janeiro, RJ, Brasil.

Marcelo Garcia is a journalist with a master's degree from the Postgraduate Programme in Communication and Information in Health at the Oswaldo Cruz Foundation. He is currently working at Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, where he is editor of the Fiocruz Portal and a lecturer in the Specialisation in Dissemination and Popularisation of Science at Museu da Vida, affiliated to Casa de Oswaldo Cruz.

ORCID: https://orcid.org/0000-0001-6183-2343

Email: email.marcelogarcia@gmail.com

Address: Av. Brasil, 4365 - Manguinhos, 21040-900. Rio de Janeiro, RJ. Brazil

Young Activists and Climate Justice: An Analysis of the Articulations of Txai Suruí and Amanda Costa

Criselli Maria Montipó
Programa de Pós-Graduação em Comunicação, Setor de Artes, Comunicação e
Design, Universidade Federal do Paraná, Curitiba, Paraná, Brazil

Conceptualisation, methodology, investigation, formal analysis, writing - original draft, writing - review & editing

Myrian Del Vecchio-Lima
Programa de Pós-Graduação em Comunicação, Setor de Artes, Comunicação e
Design, Universidade Federal do Paraná, Curitiba, Paraná, Brazil

Conceptualisation, methodology, investigation, formal analysis, writing - original draft, writing - review & editing

Abstract

Faced with the imperative to raise awareness to tackle the climate crisis, this article delves into Instagram manifestations of two young Brazilian activists dedicated to climate justice: Txai Suruí, a member of the indigenous youth movement in Rondônia, and Amanda Costa, founder and executive director of the Instituto Perifa Sustentável, selected for their involvement of the United Nations Global Compact Youth Committee. Following the three stages of narrative analysis adopted (event, organisation and conflict), coupled with the theoretical-methodological framework of intersectionality, the findings show that the young women are breaking new ground and promoting discussions surrounding the environment, human rights, citizenship, social participation and climate justice. Using informal and empathetic language, the activists exert pressure on agents (governments, institutions, companies) while establishing a connection with their audiences. As women from the Global South, activists Txai Suruí and Amanda Costa challenge entrenched power dynamics. The findings of the analysis underscore the pivotal role played by these young women in articulating content on the issues. Through advocacy efforts and active engagement on digital social networks, they exhibit a critical and creative approach. Serving as representatives of historically invisible peoples, Txai and Amanda employ narratives of resistance, drawing upon their ancestral heritage in the pursuit of a future with climate justice.

Keywords

activism, climate justice, youth, Txai Suruí, Amanda Costa

Jovens Ativistas e Justiça Climática: Uma Análise das Articulações de Txai Suruí e Amanda Costa

Resumo

Diante da necessidade de sensibilização para o enfrentamento da crise do clima, este artigo analisa as articulações no Instagram de duas jovens ativistas brasileiras sobre justiça climática: Txai Suruí, integrante do movimento da juventude indígena de Rondônia, e Amanda Costa, fundadora e diretora executiva do Instituto Perifa Sustentável, selecionadas por integrarem o Comitê Jovem do Pacto Global da Organização das Nações Unidas. Após as três etapas de análise narrativa adotadas (acontecimento, organização e conflito), vinculadas ao arcabouço teórico-metodológico da interseccionalidade, os resultados apontam que as jovens mulheres

fissuram novos espaços e promovem discussões sobre meio ambiente, direitos humanos, cidadania, participação social e justiça climática. Com linguagem informal e empática, as ativistas realizam pressão aos agentes (governantes, instituições, empresas) e estabelecem conexão com seus públicos. Como mulheres do Sul Global, as ativistas Txai Suruí e Amanda Costa desafiam polos de poder. Conforme os resultados da análise, foi possível verificar que as jovens exercem espaço de protagonismo na articulação de conteúdos sobre os temas ao promover advocacy e ocupar as redes sociais digitais com foco educativo, de modo crítico e criativo. Representantes de povos historicamente invisibilizados, Txai e Amanda praticam narrativas de resistência ao invocar a ancestralidade na luta por um futuro com justiça climática.

Palavras-chave

ativismo, justiça climática, juventude, Txai Suruí, Amanda Costa

1. Introduction

The second half of 2023 laid bare what the global scientific community has been warning about for years: the escalating severity of the climate emergency and the diminishing options available to address it. Rapid changes in the Earth's climate — known as the climate emergency due to the imperative for immediate action — are widely acknowledged as the greatest risk to human survival, marked by a notable rise in temperatures, as highlighted by data from the Painel Intergovernamental sobre Mudanças Climáticas (Intergovernmental Panel on Climate Change; 2023).

The *Relatório Síntese Sobre Mudança Climática 2023* (Synthesis Report on Climate Change 2023) by the Painel Intergovernamental sobre Mudanças Climáticas (Intergovernmental Panel on Climate Change) underscores the significant losses and damages inflicted by global climate change. A direct consequence of the combustion of fossil fuels and the disorderly and unsustainable use of land and energy, the average global temperature has already risen by 1.1°C above pre-industrial levels. This rise has catalysed the escalation in both frequency and intensity of extreme weather events that humanity has been facing more intensely, particularly exacerbated by the occurrence of the super *El Niño* phenomenon.

Since July 2023, the continuous string of record-breaking temperatures on Earth has confirmed earlier projections (Observatório do Clima [Climate Observatory], 2023). The successive heatwaves show that the anticipated timeframe may be shortened: floods, windstorms, hailstorms, landslides and other events are occurring at an increasingly rapid pace. Urgent action is imperative to address this situation. Simultaneously, the violation of human rights aggravated by the climate crisis presents its own set of challenges, particularly the unequal exposure of different social groups to its impacts, which demands an approach from the perspective of climate justice (Nusdeo & De Paula e Silva, 2023).

The increasing emphasis on individual responsibility for environmental issues — to the detriment of governments and companies' responsibility — is proving to have perverse effects in terms of the climate emergency's disproportionate impacts on people's

lives, especially those of socio-environmentally vulnerable populations. In this context of uncertainty and heightened injustice, collaborative communication rooted in community concern can play a pivotal role in raising social awareness and holding public and business agents accountable.

Among young people, particularly those already facing vulnerable circumstances such as black communities and traditional peoples[1], women, older people, and individuals with disabilities, the impact of the climate emergency is particularly acute. Faced with the climate emergency, young people all over the world are experiencing a sense of fear, hopelessness about the future and generalised sadness. This phenomenon is referred to as climate anxiety or eco-anxiety (Grandisoli et al., 2021).

Despite this scenario, young activists have been crucial agents of awareness-raising on digital platforms, whether through social media such as Instagram, Facebook, TikTok, and X[2], video-sharing spaces such as Youtube, or audio consumption platforms such as Spotify and Deezer. Young people engaged in the fight against the effects of the climate crisis have filled gaps in media coverage of environmental issues.

Research conducted in the field of communication indicates a lack of adequate attention from the media towards listening to leaders, non-governmental organisations and social movements that offer diverse perspectives on climate change and its repercussions in the public sphere. In government documents and the mainstream media, there is a prevailing apocalyptic approach. Although there is limited research investigating the effects of negative framing of news on the subject (Balbé & Loose, 2020), there is an understanding that such a perspective tends to foster immobilisation rather than proactivity (Shome & Marx, 2016). Furthermore, there is a perception of insufficient commitment from governments to formulate effective public policies to tackle the climate emergency, resistance or slowness from companies in adopting new socio-environmental practices, and little or general lack of interest from citizens in the issue (Grandisoli et al., 2021).

This article aims to address the problem of communication and raise awareness about the climate crisis from a human rights perspective. It endeavours to analyse the advocacy efforts of young activists on climate justice. It focuses on the use of Instagram and Internet activism by two Brazilian environmental leaders, selected for their involvement in the United Nations (UN)[3] Global Compact Youth Committee: activist Txai Suruí from the indigenous youth movement in the state of Rondônia and a volunteer with *Engajamundo*[4], an organisation dedicated to empowering young individuals; and climate

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[1] In Brazil, traditional peoples refer to culturally distinct groups that rely on knowledge, innovations, and practices generated and passed down through tradition. They maintain their unique forms of social organisation and depend on specific territories and natural resources to preserve their cultural, social, religious, ancestral, and economic heritage. For additional information, refer to the following link: https://www.gov.br/icmbio/pt-br/assuntos/populacoes-tradicionais.

[2] A microblogging platform previously recognised as Twitter underwent a rebranding in 2023 and was subsequently renamed X. Despite the name change, the platform continues to be accessible through its original link: https://twitter.com.

[3] Txai Suruí and Amanda Costa have been members of the United Nations (UN) Global Compact Youth Committee since 2022. Available at: https://www.pactoglobal.org.br/comite-jovem/.

[4] The *Engajamundo* network was established in 2012, following the participation of a group of young individuals in the United Nations Conference on Sustainable Development, Rio+20, held in 2012 in the city of Rio de Janeiro. It is dedicated to mobilising young people to address environmental and social challenges in Brazil and globally. For additional information, refer to the following link: https://engajamundo.org.

activist Amanda Costa, founder and executive director of the Instituto Perifa Sustentável, an organisation based in the Brasilândia neighbourhood of São Paulo, which seeks to mobilise youth from the urban peripheries to build a new development agenda for Brazil, integrating perspectives on race and climate.

This approach stems from the imperative to recognise the relevance of the phenomenon and the need for addressing social inequalities in the public debate through the lens of vulnerable and historically silenced populations, such as indigenous and black women, which are the focal points of this research. Furthermore, it aims to understand the cultural practices and creative strategies adopted by youth activists that highlight themes such as citizenship, human rights, communication and climate justice, among others.

The article is structured into five additional sections: it discusses the interplay between youth and the climate crisis; examines the concept of climate justice and the role of environmental Internet activism; outlines the theoretical-methodological framework of the analysis; provides relevant insights derived from the findings; and concludes with final remarks.

2. Youth and the Climate Crisis

Amidst the accelerating socio-environmental crisis, the upcoming years are crucial for crafting responses to the climate emergency. Innovative solutions are urgently required to ensure that current, new and forthcoming generations can live with dignity. The report published by the United Nations Children's Fund (2021) underscores the heightened vulnerability of children and adolescents to the impacts of the climate crisis. The document indicates that approximately one billion children and adolescents, nearly half of the 2,200,000,000 young people and children worldwide, live in one of the 33 countries identified as facing extremely high risk from the effects of climate change.

Youth protagonism can influence decision-making at different levels, contributing to the collective construction of solutions to real problems (Grandisoli et al., 2021). In this respect, the *Fridays for Future* movement (https://fridaysforfuture.org), also known as *Youth for Climate*, emerges as a significant force for promoting global mobilisation on the climate issue. Launched by young people in 2018 — when Swedish student Greta Thunberg, then 15, started a school climate strike — the movement seeks to compel society to give the climate crisis the attention it deserves. The international movement is led by students who skip school on Fridays to take part in demonstrations demanding action from political leaders on climate change.

While Greta has emerged as a central figure in youth-led pressure for action to contain the climate crisis, beginning her protests in August 2018 outside the Swedish parliament with a sign reading "skolstrejk för klimatet" ("school strike for the climate"), countless young people worldwide have also embraced this role, including individuals

from the so-called Global South[5], which concentrates the most vulnerable populations from a socio-environmental standpoint. Brazilian Txai Suruí and Amanda Costa are notable examples of actively engaging in national and international events and initiatives to raise awareness about the climate crisis.

Young people residing in climate-risk areas have been influential organisers within their communities, particularly in advocating for climate justice. This topic holds unique complexities, which will be further explored below.

3. Climate Justice and the Role of Environmental Internet Activism

Vulnerability to climate change is a multidimensional and dynamic phenomenon shaped by the historical intersection of political, economic and cultural regimes, which has led to contemporary processes of marginalisation (Nusdeo & De Paula e Silva, 2023). Understanding climate justice requires contextualising it within the concepts of environmental racism, environmental justice and intersectionality.

Environmental racism originated in the 1980s and was coined by US activist Benjamin Franklin Chavis Jr., who campaigned against racial discrimination in the United States. The concept emerged in response to protests by the predominantly Black community of Afton, opposing the construction of a toxic waste landfill in Warren County, North Carolina, USA, in 1982 (Acselrad, 2010)[6]. Therefore, environmental racism encompasses a nexus of public policies and industry practices — including necropolitics[7] and real estate exploitation, among other colonialist practices — that benefit the white population while burdening the black and racialised people with the associated costs[8]. Thus, the subsequent environmental justice movement in the US emerged from a convergence of social, territorial, environmental and civil rights struggles. This intersection of themes marked a paradigm shift at the time. It challenged the environmental movement of the 1960s and 1970s, which was strictly focused on environmental conservation and disconnected from social issues (Louback & Lima, 2022).

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[5] Based on decolonial epistemology, the concepts of the Global North and South refer to geopolitical identities, not strictly or territorial. They represent interchangeable positions shaped by colonialism and neoliberal capitalism. According to Ballestrin (2020), the term Global South inherits its connotations from the notion of the "third world," which is now outdated due to its association with poorer and "developing" countries in contrast to wealthier and more developed ones. The knowledge, values and economic and socio-cultural practices emanating from the Global North are imposed on everyone. At the same time, groups and movements from the Global South, sometimes subordinated, represent the construction of a political project advocating for more inclusive pathways.

[6] The protests in Warren County spanned six weeks and involved non-violent street protests and roadblocks to halt waste-carrying trucks from reaching the community. The Warren marches popularised the slogan "not in my back yard". Despite the efforts, waste dumping in Afton persisted, and more than 500 people were arrested, marking the first environmental arrests in US history. In 1980, following nearly a decade of imprisonment and amid international attention, the charges against the prisoners known as the "Wilmington 10" were dropped (Acselrad, 2010; Louback & Lima, 2022).

[7] Cameroonian philosopher Achille Mbembe posits that necropolitics is the process by which the powerful assert control over who is permitted to live and who is condemned to die. Refer to Mbembe, A. (2018). *Necropolítica: Biopoder, soberania, estado de exceção, política da morte* (Necropolitics: Biopower, sovereignty, state of exception, politics of death). N1-Edições.

[8] The ideology of whitening shapes the negotiation of racial classifications through symbolic, historical, sociological, anthropological, and psychosocial lenses. See also Schucman, L. V (2023). *Famílias inter-raciais: Tensões entre cor e amor* (Interracial families: Tensions between colour and love). Fósforo.

The concepts of environmental and climate justice are related to historical and geopolitical factors. Countries predominantly belonging to the Global North have been responsible for emitting higher levels of greenhouse gases, thereby significantly contributing to the climate crisis. Countries in the Global South have contributed less to this crisis but are likely to endure its impacts more swiftly and severely.

In Brazil, Acselrad et al. (2009) and Acselrad (2010) argue that the environmental justice movement endeavours to challenge the narrative that environmental impacts are felt by all people equally. For instance, it is estimated that populations in the Global South face a 99% likelihood of experiencing adverse effects due to climate change (Diffenbaugh & Burke, 2019). Environmental justice and the fight against environmental racism have denaturalised injustices linked to colour or ethnicity. Urgent attention must be given to addressing inequalities in confronting the contemporary crisis. While the repercussions of these changes affect individuals worldwide, certain groups, such as children, adolescents, black women, and indigenous peoples, find themselves in more vulnerable positions and have borne a disproportionate burden of the ongoing crisis.

According to the *Women in Finance Climate Action Group* report (2021), women and girls account for 80% of those displaced by climate change. Furthermore, national, regional and multilateral climate policy frameworks have yet to incorporate consideration of gender, racial, ethnic, class and generational issues into decision-making processes. Feminist epistemology plays a crucial role in developing the theoretical and methodological perspective of intersectionality, which emerges from the experiences of black, Latin, indigenous and Asian women, among others[9]. Climate justice serves as a vital interface between human rights and climate change, particularly for women, children and adolescents in situations of inequality (Louback & Lima, 2022).

These vulnerabilities exacerbated by the climate emergency must be analysed from an intersectional perspective. Persistent colonial legacies and manifestations of institutional and environmental racism hinder access to funding, media exposure, and other resources, rendering the involvement of these groups in the climate movement unattainable. Thus, actions to tackle the climate emergency must adopt a multi-sectoral approach, fostering popular participation and debate, in order to encompass the structural issues of development from the combined perspective of safeguarding human rights and preserving nature (Isaguirre-Torres & Maso, 2023).

However, selective silencing is evident. Communities directly affected by climate change's consequences have yet to be the focus of resilience efforts aimed at securing fundamental aspects of human survival, such as access to water. Instead, prominent business figures are often granted audiences at government meetings worldwide to privatise access to this essential commodity for life on Earth.[10]

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[9] Brazilian intellectual and activist Lélia Gonzalez, who has been involved in social movements since the 1960s, discussed in the 1980s how women's movements discoloured and de-racialised African and Amerindian women. Her insights shed light on the invisibility of intersecting axes of oppression.

[10] In Brazil, the implementation of public policies in this area has neglected to consider the water scarcity resulting from economic and productive activities, particularly the extensive irrigation of commodities such as rice and soy beans. Climate change further exacerbates the water supply challenges in urban and rural areas, "impacted by inadequate infrastructure, rationing, reliance on water delivery by tanker trucks, and the unregulated drilling of artesian wells without proper oversight of water quality" (Fante & Lima, 2023, para. 8).

The asymmetry in listening to social voices impacted by injustice can be traced back to Brazil's own history. Shaped by colonialism, enslavement, genocide, ethnocide and black and indigenous epistemicide (Gonzalez, 2019; Nascimento, 1978), Brazilian society stands as one of the most unequal in the world. Its colonial, elitist, imperialist, patriarchal and neoliberal historical framework has proved to be less than inclusive and highly predatory.

From the standpoint of climate justice[11] (Mira Bohórquez, 2023; Louback & Lima, 2022), tackling the climate crisis requires considerations such as: acknowledging the disparate capabilities of countries and individuals to shield themselves from the impacts of global warming; establishing new legal and institutional structures to ensure the efficacy of rights for vulnerable populations; and prioritising a comprehensive exploration of the factors that render certain groups more susceptible than others within this context.

Communication plays a crucial role in tackling the climate emergency, serving as a pivotal platform for social engagement, innovation and the construction of plural responses to the crisis. However, in journalistic production, specialist, governmental and market sources predominate, underscoring a dearth of diversity of voices in coverage and a lack of encouragement from the media to mobilise affected communities (Horn & Del Vecchio de Lima, 2019).

It falls upon youth activists to seize opportunities for debate, particularly in light of neoliberal capitalism's co-optation of discussion forums[12]. With digital social networks having sizable followings among younger demographics, serving as hubs for aggregating and disseminating spontaneous content, they afford access to news and play a significant role as distribution channels. The platforms play the role of distribution channels and determine the content visible to the public, shaping the allocation of resources for audience engagement and dictating which topics receive prominence, all without bearing responsibility for investigative journalism or content dissemination.

Although these features associated with "platformisation" may impose constraints on content distribution in some respects, activism disrupts the narrative monopoly and democratises and radicalises communication possibilities. In this sense, activists have the opportunity to promote democratic communication despite the scarcity of resources, thus bringing the concept of radical media, initially formulated by John Downing (2001/2002) at the beginning of this century, to contemporary relevance.

Environmental Internet activism has identified loopholes in algorithmic exploitation to bring attention to the climate crisis. Di Felice et al. (2012) define Internet activism as "a new form of digital activism in a network and on the network" (p. 146), emphasising the reciprocal relationship between the network and its participants, wherein the network is both shaped by and shapes its constituents. According to Del Vecchio-Lima et al. (2023), the effectiveness of Internet activism hinges on the individual success of each participant within the network, acting as an information ecosystem and catalyst for collective action and activism.

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[11] Climate justice was only officially recognised in the preamble of the Paris Agreement in 2015 and formally acknowledged by the UN.

[12] For a comprehensive examination of this topic, readers can delve into Srnicek's (2016) book *Capitalismo de Plataforma* (Platform Capitalism), in which the author delves into the mechanisms of value extraction inherent in platform economies and proposes the collectivisation of such platforms.

Expanding on Di Felice et al.'s (2012) concept of Internet activism, it is recognised as a manifestation of activist citizenship. According to the Italian author, Internet activism entails "a productive interaction among individuals, groups and entities with the territory and information technologies, information networks and the various interfaces used" (Di Felice, 2012, p. 146). This collaborative network and interactive social action facilitate transformations across various dimensions of reality. Hence, as the brief discussion presented here illustrates, there is communicative appropriation by potentially vulnerable groups and individuals or by organisations and collectives dedicated to advocating for vulnerable groups.

These new forms of network activism hold particular appeal for young individuals keen on reshaping their realities and advocating for the territories they fight for. Youth activism on digital networks punctures the bubble and, echoing Peruzzo's (1999) sentiments contributes to democratic education by fostering collective creation and disseminating content directly related to local contexts.

4. Analysing Climate Justice: Theoretical and Methodological Approach

Much discussion surrounds the construction or concealment of narratives in the contemporary context. As noted by Rincón (2006), narratives can help impact or surprise, satirise, show the impossible, the unforeseen or the paradoxical in human nature. Narrative analysis, meanwhile, seeks to interpret social relations and the complexities of their interactions. Our theoretical-methodological framework, rooted in the social research paradigm, revolves around understanding social actors within relationships and perspectives. Employing qualitative methods, it seeks to interpret human and social phenomena. One notable aspect of qualitative research valued in adopting this perspective is its inherently critical and potentially emancipatory approach, as emphasised by Bauer et al. (2015).

In this paper, the methodological procedures employ resources from critical narrative analysis (Motta, 2013), intersectionality and climate justice. Our premise is that narratives are argumentative relationships — acts of speech — established within the context of culture, of coexistence between living beings with interests, desires, and wills and under the constraints and social conditions of hierarchy and power, which makes the methodology suitable for analyses within the framework of climate justice.

As Motta (2013) explains, narrative analysis is effective in observing the configuration of plot development and its nuances. It is particularly useful for understanding the canonical values inherent to a culture in action and the symbolic construction of reality. Through critical analysis of narratives, we delve into how individuals understand and represent the world.

In the hybridisation adopted here, the narrative analysis sought to focus on the power of voice and the intersectionalities of two young activists. Following Motta's framework for empirically analysing the power of voice, emphasis is placed on the plurality of interventions, recognising that the narrative generates a multivocal product wherein contradictory voices and interests manifest themselves and overlap. For this reason, narratives are polysemic (a plethora of voices and interests that engender multiple interpretations) and polyphonic (several stories intertwine).

We reconcile the analytical framework with the contribution of intersectionality, as this can serve as a theoretical and methodological tool for studying human experience within interconnected contexts (Collins & Bilge, 2020/2021). Intersectionality offers a lens through which to understand and analyse human experiences, particularly when dealing with unequal social structures linked to the organisation of centralised power (Collins & Bilge, 2020/2021), such as those prevalent in efforts to address climate injustice. Thus, our perspective adheres to feminist epistemology as a critical social theory, enabling us to contemplate how factors like race, gender, social status and generation intersect amidst profound social divisions. By exploring these issues from an intersectional standpoint, we also engage in the epistemological debate of decoloniality, which focuses on subordinated and excluded subjectivities.

The decolonial perspective aims to prompt postures and attitudes of transgression, intervention, emergence, protest and incidence, as outlined by Walsh (2009). It is important to underline decoloniality as a project of intervention in reality, not as an academic fad or label. After all, Bernardino-Costa et al. (2018) point out that decoloniality encompasses the long tradition of resistance by black and indigenous populations. Therefore, decolonial theory examines how colonised individuals experience colonisation while also providing conceptual tools to propel decolonisation, a movement that aligns closely with the praxis of the young activists analysed here.

Thus, the analysis centres on three interpretative movements proposed by Motta (2013): (a) reconstructing the plot or event depicted in the activists' narratives; (b) structuring the narrative; and (c) unveiling conflicts as a foundational framework of the narrative regarding climate justice[13].

A preliminary stage of the analysis focuses on understanding the young activists' places of speech. According to Motta (2013), a thorough and systematic examination of narrative communication within its context can unveil power dynamics, a crucial aspect of climate justice activism.

4.1. Introducing Txai Suruí

Walelasoetxeige Suruí, known as Txai Suruí, belongs to the Paiter Suruí indigenous people. She is a member of the indigenous youth movement in Rondônia, a state in the northern region of Brazil with 12 ethnic groups and more than 1,000 indigenous people aged between 15 and 35. At the age of 25, Txai garnered global attention by being the only Brazilian to speak at the opening of COP-26 (United Nations Conference on Climate Change) in October 2021.

A law student, Txai coordinates the Associação de Defesa Etnoambiental Kanindé[14] (Kanindé Ethno-environmental Defence Association), a public-interest civil society

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[13] Motta (2013) outlines seven interpretative movements for analysis: (a) reconstructing the plot or event; (b) delineating the narrative paradigm, organising the storyline; (c) identifying new episodes (thematic units of the story); (d) uncovering dramatic conflicts (frames); (e) characterising the characters, central figures within the narrative, and their assigned roles; (f) analysing the argumentative strategies employed to shape reality and create aesthetic effects; and (g) exploring the metanarrative, the moral and ethical underpinnings of the story. In our analytical procedure, we have selected three of these movements that are particularly relevant to digital activism.

[14] To know more about the Associação de Defesa Etnoambiental Kanindé refer to: https://kaninde.eco.br/.

organisation founded in 1992 in Porto Velho, the capital of Rondônia state. The association seeks to defend human rights and the environment by proposing solutions that strengthen the identity, culture, economy, education and health of indigenous peoples across various regions of Brazil. Txai has been an advisor to WWF Brazil and the United Nations Global Compact. Since 2022, she has also been a weekly columnist for *Folha de S. Paulo*.

Txai states that the environmental pressures on Rondônia's largest indigenous land, Uru-Eu-Wau-Wau, include land grabbing, invasions and, above all, illegal burning, which has increased by 600% during the COVID-19 pandemic. This context has exacerbated the situation of the indigenous population, who are more vulnerable to respiratory diseases due to the heavy smoke engulfing their villages and towns during the dry season (Louback & Lima, 2022).

In an interview with Ellen Acioli, the young Txai Suruí (2022) expressed her concerns emphatically:

> the world must acknowledge and value traditional wisdom. The solutions exist and are already applied within the community. The world needs to listen to what we say and implement it elsewhere (p. 69).

Honouring her people's ancestral wisdom, Txai has used Instagram (@txaisurui) to amplify her and her kin's voices.

Figure 1. Screenshot of *@txaisurui's profile on Instagram* (https://www.instagram.com/txaisurui)

Note: Indigenous fighter from the Paiter Suruí people.

While initially created for personal purposes during her teenage years, Txai's use of the platform has become increasingly professional. By November 2023, she had garnered approximately 128,000 followers.

4.2. Introducing Amanda Costa

Amanda Costa, a black woman, achieved recognition in 2021 by making *Forbes* magazine's #Under30 list. Holding a degree in International Relations, Amanda contributes as a columnist for *Agência Jovem de Notícias* (Youth News Agency) and *Um Só Planeta* (One Single Planet). She hosts the television show #TemClimaParaIsso?, produced by *Alma Preta Jornalismo* in collaboration with Rede TVT[15], with the aim of amplifying the voices of black, indigenous and quilombola people. In her own words, she seeks to "bring an Afro-diasporic and decolonised perspective of the climate crisis", as stated in an interview with Rafael Ciscati (2023) on the Brasil de Direitos (Brazil of Rights) website.

The activist is the founder and executive director of Instituto Perifa Sustentável[16] (Sustainable Perif Institute), an organisation established in 2019 when Amanda Costa was selected for the UPG *Sustainability Leadership* programme, held in Hurricane Island, Main, USA. The initiative selected young leaders from the Global South with ideas for "making the world a better place". Amanda's idea was to build bridges between the local and the global, finding ways to democratise the climate crisis in the peripheries, favelas and communities.

Currently, the Instituto Perifa Sustentável focuses on climate advocacy, climate adaptation, educommunication and social participation. Through the development of projects, the group calls for the democratisation and representation of young people in decision-making roles. Additionally, the institute actively engages in occupying leadership positions and participating in institutional processes to seek avenues for transforming the lives and territories of those most affected by the climate crisis.

Amanda is also actively involved as a volunteer with *Engajamundo* and identifies herself as a "child" from the "hood", reflecting her roots in a peripheral area of São Paulo. Her activism is driven by the vision of creating a world that prioritises the lives of people and the planet, where justice, equality and freedom are non-negotiable principles.

As part of her engagement, Amanda launched an Instagram page (@souamandacosta) dedicated to sharing content about the 2030 Agenda, specifically focusing on the reduction of inequalities (Sustainable Development Goal 10) and climate action (Sustainable Development Goal 13). This initiative was one of Amanda's initial actions, stemming from her participation in the *UPG Sustainability Leadership* programme. The Sustainable Development Goals (SDGs) became part of the UN agenda in 2015 to be achieved by 2030[17].

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[15] Rede TVT is an educational media programme. It is available via satellite in open HD digital signal or through subscription. It is also available on YouTube and the website https://www.tvt.org.br/web-tvt.

[16] To learn more about the Sustainable Perifa Institute refer to: https://institutoperifasustentavel.com.br.

[17] In total, the UN has established 17 SDGs: https://brasil.un.org/pt-br/sdgs.

Figure 2. Screenshot of @*souamandacosta's profile on Instagram* (https://www.instagram.com/souamandacosta/)

Note: A child of Brasilândia, an internationalist and a climate beauty

Based on the presentation of the places of speech of the activists selected for analysis in the first stage of this research, we tried to trace: (a) the reconstruction of the plot or event of the activists' narratives. According to Motta (2013), this stage involves identifying the structuring axes of the narratives, whether they are political, economic, psychological, familial, or legal, among others. These aspects are what trigger the narratives, their themes and purposes.

In this way, the activists' Instagram profiles underwent analysis, commencing in July 2023, coinciding with the successive record-breaking temperatures in the second half of 2023, serving as a milestone which reinforced the urgency of addressing the climate crisis and, by extension, the issue of climate justice. A total of 119 posts were analysed from July 1 to November 14 2023. For better visualisation, the data obtained from the first stage of analysis was grouped into tables, which provide general information, an overview of the posts' content, as well as the main topics covered, and representativeness, among others.

After this preliminary analysis, detailed in the ensuing sections (Table 1 and Table 2), we also analysed the narratives pertaining to climate justice based on the three interpretative movements proposed by Motta (2013), as discussed above.

5. Reflections on the Findings

This study aims to investigate the methods employed by activists who, from a human rights perspective, address the challenge of communication and awareness-raising regarding the climate crisis. We set out to analyse the articulations of the young activists Txai Suruí and Amanda Costa on climate justice through their engagement on Instagram and Internet activism.

5.1. Reconstructing the Plot or Event in the Narratives

Txai Suruí's posts address socio-environmental, political, gender, ethnic-racial, and personal issues, as outlined in Table 1:

Name	Txai Suruí
Gender and ethnic identification	Indigenous woman
Number of followers	128 thousand followers (as of November 2023)
Total number of posts during the period analysed (July-November 2023)	52
Posts about climate justice or environmental justice during the period analysed (July-November 2023)	23
Post content	
Photo	8
Video	21
Carousel[18]	10
Other	13
Captions	With emojis, hashtags, explanatory, humorous, emphatic, personal
Most used hashtags	#MarcoTemporalNÃO (#MilestoneThesisNO) #Resistência (#Resistance)
Mentions	Partners, media
Post topics	
Main themes	Indigenous rights; resistance against the milestone thesis; climate change; climate justice
Language	Informal, empathetic, urging agents (government officials, institutions, companies)
Visual style	
Colours	Green, red, white, orange
Photograph	Artistic, documentary, nature
Graphics or infographics	None
Representativeness	
Use of representative images	Indigenous women, indigenous peoples, and other social minorities
Diversity among the audience	Comments, tagging people in the same place of speech

Table 1. *Analysis of Txai Suruí's Instagram*

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[18] The Instagram carousel is an image publishing format launched in 2017. It consists of a sequence that enables users to include between two and ten images per post, all grouped with descriptive text.

The most common topics on Txai Suruí's posts are indigenous rights, advocacy against the milestone thesis[19], climate change and climate justice.

Amanda Costa's posts also address socio-environmental, political, gender, ethnic-racial and personal issues, as outlined in Table 2.

Name	Amanda Costa
Gender and ethnic identification	Black woman
Number of followers	26.5 thousand (as of November 14, 2023)
Total number of posts during the period analysed (July-November 2023)	67
Posts about climate justice or environmental justice during the period analysed (July-November 2023)	46
Post content	
Photo	22
Video	33
Carousel	18
Other	9
Captions	With emojis, hashtags, explanatory, humorous, emphatic, personal
Most used hashtags	#Racismoambiental (#Environmentalracism) #Criseclimática (#Climatecrisis) #jovensliderancas (#youngleaderships) #Justicaclimática (#Climatejustice)
Mentions	Partners, media
Post topics	
Main themes	Racial equality, climate change, climate justice
Language	Informal, empathetic, urging agents (government officials, institutions, companies)
Visual style	
Colours	Blue, white, pink, green
Photograph	Artistic, documentary, nature
Graphics or infographics	Absent
Representativeness	
Use of representative images	Black women, and other social minorities
Diversity among the audience	Comments, tagging people in the same place of speech

Table 2. *Analysis of Amanda Costa's Instagram*

Amanda Costa's posts, like Txai Suruí's, are highly articulate on climate justice. They incorporate elements of orality and employ various narrative strategies in videos, texts and photos to foster dialogic and participatory processes. Using informal and empathetic language, the activists exert pressure on agents (governments, institutions, companies) and connect with their audiences using emojis and hashtags. Their narrative tactics are explanatory, humorous, emphatic and personal.

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[19] In Brazil, the legal theory of the milestone thesis deals with the delimitation of indigenous lands. The provision stated that indigenous people could only claim land they occupied before the 1988 Constitution, thus disregarding groups that had already been expelled. On September 21, 2023, the Federal Supreme Court overturned the application of the milestone thesis by nine votes to two.

We have emphasised narrative and qualitative analysis rather than a quantitative approach. Nevertheless, the data presented in the tables helps to illustrate how the plot or event of the activists' narratives on the topic analysed here was reconstructed. It is noteworthy that out of the total number of posts by Txai Suruí during the period under analysis (52 posts) between July and November 2023 (when the research data was collected, outlined in Table 1), 23 posts in some way address climate change or climate justice. Most of Txai's posts revolve around indigenous rights, as they date from the period leading up to the pressure campaigns against the milestone thesis for indigenous lands. The posts addressing the indigenous issue cannot be overlooked within the context of climate justice, given that indigenous peoples are outstanding guardians of the territory. According to UN statistics, demarcated indigenous lands are credited with safeguarding 80% of the planet's biodiversity[20].

Out of the 67 posts by activist Amanda Costa in the period analysed (between July and November 2023 and outlined in Table 2), 46 address climate justice or environmental justice. Most of the posts analysed have an educational, explanatory or advocacy-oriented approach towards climate justice. These three characteristics are particularly evident in Amanda's narratives, as she established the Instagram page aiming to advocate for the fulfilment of the SDGs, particularly the reduction of inequalities (SDG 10) and climate action (SDG 13).

Based on the first stage of the analysis, we identified recurring themes, which will be illustrated below.

5.2. Structuring the Narrative

According to Motta (2013), this stage enables the understanding of how the interaction between narrators and recipients of the narratives unfolds. During this process, one can observe the articulation of actions, surprises, tensions, climaxes, beginnings, developments, and endings aimed at engaging the audience.

Both activists strive to establish connections with their followers while emphasising the explanatory nature of environmental issues. Amanda Costa's video *Racismo ambiental existe?* (Does environmental racism exist?) posted on her profile is an example of how she constructs these narrative resources. For one minute and eight seconds, Amanda explains the concept while also provocatively engaging her audience in a creative, critical, and assertive manner.

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[20] Indigenous people safeguard 80% of the world's biodiversity despite representing only 5% of the global population. Available at: https://agenciabrasil.ebc.com.br/radioagencia-nacional/acervo/direitos-humanos/audio/2017-08/onu-indigenas-preservam-80-da-biodiversidade-mundial-mas-ainda/

Figure 3. *Racismo ambiental existe?* (Does environmental racism exist?)

Source. Screenshot from *O que nunca te contaram sobre racismo ambiental* (What you were never told about environmental racism) [Vídeo], by Amanda Costa [@souamandacosta], 2022, Instagram. (https://www.instagram.com/reel/Cg7COZ1Aejg/?utm_source=ig_web_copy_link&igsh=MzRlODBiNWFlZA%3D%3D)

Note: What you were never told about ENVIRONMENTAL RACISM

As previously discussed, the concept of environmental racism is related to climate justice and was coined by US activist Benjamin Franklin Chavis Jr., who collaborated with Martin Luther King Jr. in the struggle against racial discrimination in the United States. Amanda creatively elucidates the genesis of this term. Here are a few excerpts from her explanation:

> you know, the deal is, black communities were being targeted with toxic waste. But seriously, we don't even have to go all the way to the US to investigate this issue... Indigenous areas that have not been delimited, flooding and landslides, trash dumps, and urban zones without basic sanitation. These are examples of environmental racism. It's time we understood this issue and gave space and visibility to those who are really doing something to confront this system that excludes us!!! Especially because environmental racism mainly affects black, peripheral, indigenous, riverine and quilombola women (Costa, 2022[21]).

Amanda Costa translates an important concept for understanding climate justice into relaxed and accessible language. She speaks in a good-humoured way, using irony. At the end of the video, Amanda gives examples and articulates her narrative in an impactful way. She highlights the Movimento dos Trabalhadores Sem-Teto (Homeless Workers' Movement), which fights for housing, as a great example of a group working together to fight against injustice. She concludes: "You got the picture, right? Before I forget, make a note: Brazil was invaded, and this was our first case of environmental racism!" (Costa, 2022).

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[21] This post is pinned at the top of Amanda Costa's *Instagram* page. Although it was originally published in August 2022, the post was included in the analysis because the activist kept it visible when the data was collected.

As Motta (2013) points out, the stage of organising the narrative allows us to understand the power and persuasive intentions inherent to the construction of the plot by both narrators and recipients. The author emphasises that narrative language has a dramatic essence and a broad and rich rhetoric. "Intentionally or not, they generate countless poetic and symbolic effects of meaning in their recipients. These cathartic effects evoke diverse states of mind: surprise, awe, perplexity, fear, compassion, laughter, mockery, irony, etc." (Motta, 2013, p. 203). Additionally, Amanda's posts are notable for their use of slang and expressions drawn from the oral repertoire of young people. These resources foster audience identification, humanise the facts and promote understanding of human dramas.

Txai Suruí also uses resources that simulate dialogue with her posts' readers, such as questioning, perplexity and disappointment:

Figure 4. *O que estamos fazendo para adiar o nosso fim?* (What are we doing to postpone our end?)

Source. Screenshot from *O que estamos fazendo para adiar o nosso fim?* (What are we doing to postpone our end?) [Vídeo], by Txai Suruí [@txaisurui], 2023a, Instagram. (https://www.instagram.com/p/CxwbLn6tQLb/)

This post by Txai Suruí, featuring a video, evokes a feeling of sadness with the image of dead fish amidst the drought in the Northern Region of Brazil (in the second half of 2023). The accompanying text is transcribed below:

> what are we doing to postpone our end, the end of nature and the ecosystems? We're like fish suffocating without oxygen because it's unbearable to breathe. This catastrophe is happening right now in several municipalities in the state of Amazonas due to the rivers receding, the waters warming up, and the oxygen in the waters diminishing. Climate change is real, and our people are already affected. And human beings are burning to settle cattle. Deforestation for monoculture. Illegal mining. Where will we end up? (Suruí, 2023).

Both examples illustrate that narratives are structured to resonate with their consumers, tapping into emotional elements. Next, we will delve deeper into how conflicts

are disclosed as axes that structure narratives about climate justice.

5.3. Disclosing Conflicts as a Structuring Frame for Climate Justice Narratives

At this stage in the analysis, the indicators of activist action are made explicit, particularly the elements of social advocacy embedded in the posts by Amanda Costa and Txai Suruí. This examination discloses relationships between different world views in the struggle for cultural consensus and the construction of a hegemonic discursive reality. Motta (2013) asks: "who has the power of voice? From what social relations does this power arise? How far do the interests of the various actors involved in a narrative collide or converge to shape the storylines?" (p. 213).

All of these concerns are reflected in the narrative construction of the environmental Internet activism of Txai Suruí and Amanda Costa, as demonstrated below:

Figure 5. *Por que as periferias são as mais afetadas?* (Why are the peripheries most affected?)

Source. Screenshot from *Porque as periferias são as mais afetadas?* (Why are the peripheries most affected?) [Vídeo], by Amanda Costa [@souamandacosta], 2023a, Instagram. (https://www.instagram.com/reel/Cx_e1iuvxlx/)

Through her use of questions, Amanda delves into the heart of the conflict, as illustrated by the text: "Why are the peripheries most affected by climate change? What is Environmental Racism? Can we do something to change it? It's time to discuss climate in the hood!" (Costa, 2023). The post is an invitation to the Instituto Perifa Sustentável new project. As already pointed out, the profile of Amanda Costa, an activist solely dedicated to addressing the climate emergency, features posts concerning climate justice more frequently. Her posts connect intersectional issues and question access to justice and human rights.

As a black woman, Amanda Costa seeks to constitute the space of legitimacy from her place of speech and does not bow to dominant power structures. Through her activist voice, Amanda stands up against the colonisation of bodies, knowledge and

subjectivities. Aware of intersectionalities, she weaves narratives that discuss gender, social class, ethnic-racial issues, and other divides such as age, physical condition and geographical position, which are always connected to socio-historical issues.

Figure 6. *Card palavra do feminismo* (Word of feminism card)

Source: Screenshot from *Você* já ouviu a palavra do feminismo hoje? (Have you heard the word of feminism today?) [Photograph], by Amanda Costa [@souamandacosta], 2023b, Instagram. (https://www.instagram.com/p/CzOaF7cr8ND/)

Note: THE WORD OF FEMINISM

The climate crisis will affect the whole world, but not in the same way. We, women from the periphery, are already feeling the impacts.

Have you heard the word of feminism today?

This Saturday, based on the analysis and trajectory of climate activist Amanda Costa, we reflect on the effects of the climate crisis.

Amanda has a degree in International Relations and aims to mobilise young people to build a sustainable world, promote climate justice, and tackle environmental racism.

In 2017, she represented Brazil at COP23, the UN Climate Conference. "I felt very uncomfortable there because I didn't see people like me addressing this issue. What I saw were people appropriating my place, my narrative."

As a result of this experience, she joined *Engajamundo*, an organisation

Amanda leverages partner posts, expanding her platform's reach. Similarly, Txai also uses the resource of co-posting with partners, who even echo her speech at the COP-26. The post, in collaboration with the Superior Labour Court, on the occasion of the "Gente que Inspira – Jovens" (People Who Inspire – Young People) event, features Txai Suruí and includes the video of the activist's speech, another example of her commitment to addressing the climate crisis by drawing on her heritage.

Figure 7. *COP-26 speech*

Source. Screenshot from *Da etnia Paiter Suruí, Txai Suruí (@txaisurui) é coordenadora da Associação de Defesa Etnoambiental Kanindé, que defende a causa indígena* (From the Paiter Suruí ethnic group, Txai Suruí (@txaisurui) is the coordinator of the Kanindé Ethno-Environmental Defence Association, which defends the indigenous cause), Txai Suruí [@txaisurui], 2023b, Instagram. (https://www.instagram.com/reel/CupGZ97grdK/)

Note: A member of the Paiter Suruí ethnic group, Txai Suruí (@txaisurui) is the coordinator of the Kanindé Ethno-Environmental Defence Association, which defends indigenous and environmental causes, proposing solutions to strengthen the identity of indigenous peoples in various regions of Brazil.

She was the only Brazilian to speak at COP26, the UN Climate Conference, which took place in 2021. She is an advisor to WWF Brazil and the United Nations Global Compact, as well as a columnist for *Folha de São Paulo*.

She is also the founder of the Indigenous Youth Movement of Rondônia, where she denounces the advance of farming on the Uru-Eu-Wau-Wau indigenous land.

Take part in People Who Inspire – Young People. The event will take place as part of the Decent Work Seminar. The registration link is at

During her participation at COP-26, she emphasised that there would be no climate justice without social justice for indigenous peoples. Here is an excerpt:

> the Earth is speaking. She tells us that we have no more time (...). We need a different path with bold and global changes. It's not 2030 or 2050, it's now (...). Indigenous peoples are on the front line of the climate emergency, and we must be at the centre of the decisions happening here. (Suruí, 2021, 00:00:36)

In another post, Txai reminds us that climate change has contributed to unpredictable weather patterns, leading to a devastating drought in the heart of the Amazon rainforest. She points out that action must be taken now to combat climate change and protect the vital balance of rainfall.

Figure 8. *Preserve nossa Amazônia* (Preserve our Amazon rainforest)

Source. Screenshot from *#PreserveNossaAmzônia* ("PreserveOurAmazonRainforest) [Photograph], by Txai Suruí [@txaisurui], 2023c, Instagram. (https://www.instagram.com/p/CyG6REysRTk/)

Note: Coping with Drought, Climate Change and the Magic of Tropical Rains.

Hello, Instagram community! Today, I want to talk about an urgent challenge the Amazon rainforest is facing: drought. This drought is a sad reminder of the climate changes that are impacting our planet.

Climate change has contributed to unpredictable weather patterns, leading to a devastating drought in the heart of our Amazon rainforest. This drought not only affects rivers and the life that depends on them but also directly influences our ability to produce vital rainfall for various regions.

It's fascinating how tropical rainforests, including the Amazon, play a crucial role in rain production. They release water vapour into the atmosphere, forming "flying rivers" that travel to other areas and help create the rainfall essential for life.

As an indigenous woman, Txai Suruí underscores the pressing need to reconnect with environmental preservation and protect our shared home. Txai's voice echoes the call for action against colonialism and racism, which have historically violated bodies and territories but continue to do so today. Her narrative seeks to awaken the understanding that we are a small part of what we call nature, disrupted by human actions.

In this third stage of analysis, the narratives of both activists confront power structures. Txai Suruí and Amanda Costa challenge the Capitalocene[22], showing that urgent

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[22] The term Capitalocene, first mentioned at a seminar in Lund, Sweden, by human ecology scholar Andreas Malm in 2009, and according to Haraway (2016), conceptualises capitalism as a mode of organising nature. In other words, it understands that we are experiencing a multi-species, situated and capitalist global ecology. The terminology has been further developed and popularised by sociologist Jason Moore and feminist theorist Donna Haraway. It is important to note that for nearly 12,000 years, the Earth has been in the geological epoch known as the Holocene, a designation based on fossil evidence. It is a fairly stable period from a climatic point of view. Following the Industrial Revolution, the widespread adoption and intensified development of a production system based on the extraction of natural resources and their industrial transformation to serve ever-larger markets — particularly the energy model based on fossil fuels with high carbon and other gas emissions — altered the planet's natural system and biosphere on a global scale. The scientific community is increasingly suggesting that we are on the cusp of a new geological epoch known as the Anthropocene (Artaxo, 2014). This epoch is defined by significant alterations to the Earth's biosphere, leading to climate change amidst a profound socio-environmental crisis. Rather than signifying a new geological era, the term designates a concept that remains under discussion within the scientific community. However, it indicates the impact of human pressure on natural assets, with varying degrees of impact across different regions and territories. Nevertheless, in this article, we have chosen to use the term Capitalocene to more accurately reflect the historical, economic, political, and cultural contexts shaped by systems of domination and colonisation. The Capitalocene encompasses characteristics extending beyond those included in the Anthropocene concept, particularly indicative of the acceleration of industrial and financial capitalism: monopoly of the means of production, exploitation of the workforce with racial, misogynistic and child labour targeting; profit generation through excessive, superfluous and short-lived production and consumption, which contribute to ecological crises of all kinds; colonisation and expropriation of natural assets from the Global South to the Global North, promotion of economic, social, environmental, productive inequalities in more impoverished regions and fostering a dependent link with richer countries (Borinelli et al., 2021; Steffen et al., 2015). For more details, see also Moore (2022).

transformations to tackle the climate emergency depend on political and economic actions to minimise inequalities in the context of global capitalism. The activists dedicate their knowledge, bodies and subjectivities to mitigating the immense destruction underway (Haraway, 2016).

The young activists, both women and non-white, resonate with Bruno Latour's (2020) question about humanity's direction "where to land?" as a means to navigate politically in an era where "nature has become territory" (p. 17), and communities have been deprived of their territoriality. Philosopher Alyne Costa, commenting on Latour's essay, adapts a phrase from anthropologist Eduardo Viveiros de Castro (2016), stating that in Brazil, amidst the ecological and health catastrophes already unfolding, everyone is, in a sense, becoming indigenous, deterritorialised (Costa, 2020, p. 135).

On the other hand, the analysis of Txai and Amanda's articulations reveals a narrative tapestry that intertwines ancestry with the future. An interesting symbolism links the two activists: both helm environmental organisations whose icons are birds (kanindé and sankofa). They soar freely toward new horizons and, despite the pessimistic debates and discussions surrounding the socio-environmental and climate crisis, they have the potential to spread words of hope rooted in action, experiences and tangible examples of articulation.

6. Final Considerations

Climate justice advocates for addressing climate change by holding accountable those who are primarily responsible for causing the imbalance and who have the resources and capacity to address it effectively. The intersectional matrix cannot be overlooked in this discussion. Patriarchy, pervasive across all cultures, reinforces climate injustice. Women, young people, and black and traditional communities, who are particularly vulnerable to dynamics of violence and inequality, become protagonists by disrupting the structures of domination. They weave new plots and dispute narratives, even in scenarios where the logics of the Capitalocene prevail, such as on digital social networks, especially in the fight for socio-environmental protection, a historically exploited territory.

Based on the stages of critical analysis of the narrative, it is evident that advocacy practices on climate justice are prominently featured in the narratives of the young activists highlighted here, especially as they are both affiliated with the *Engajamundo* youth leadership organisation. In Amanda Costa's case, her narratives are entirely focused on addressing the climate crisis. Txai Suruí conducts her environmental activism advocating for indigenous peoples and, with much of her narratives, emphasises that this advocacy is taking place amidst humanity's greatest challenge: acting against climate change. Although the section covers the months of July to November 2023, the analysis allowed us to understand that Txai Suruí and Amanda Costa's articulations unfold within the field of environmental Internet activism in the pursuit of justice.

In this way, the cracks created by the young women, albeit still somewhat limited, broaden the possibilities for raising awareness in society about climate change and

thereby amplify the channels for social pressure to tackle the crisis. At a time when our shared social responsibility to safeguard our young people is increasingly evident, activists are sounding the urgent call for climate justice with their voices and bodies. Their women's voices echo: the future is ancestral.

Translation: Anabela Delgado

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Biographical Notes

Criselli Maria Montipó is a journalist with a doctorate and a master's degree in Journalism from the Federal University of Santa Catarina. She has a post-doctoral fellowship from the Postgraduate Programme in Communication at the Federal University of Paraná. She is a member of the Grupo de Pesquisa Click – Comunicação e Cultura Ciber (Click - Communication and Cyber Culture Research Group) at the Federal University of Paraná and the Jornalismo e Direitos Humanos (Journalism and Human Rights) research

group at the Federal University of Santa Catarina.

ORCID: https://orcid.org/0000-0003-2697-5685

Email: criselli@gmail.com

Address: Rua Bom Jesus, 650, Juvevê, Curitiba, Paraná, Brasil. CEP: 80035-010

Myrian Regina Del Vecchio-Lima is a journalist with a PhD in Environment and Development from the Federal University of Paraná and a post-doctorate in Digital Journalism from Université Lyon 2 (France). She holds a Master's degree in Communication from the Universidade Metodista de São Paulo. She serves as a professor in the Postgraduate Programme in Communication at the Federal University of Paraná. She leads the Grupo de Pesquisa Click – Comunicação e Cultura Ciber (Click – Communication and Cyber Culture Research Group).

ORCID: https://orcid.org/0000-0002-1833-2332

Email: myriandel@gmail.com

Address: Rua Bom Jesus, 650, Juvevê, Curitiba, Paraná, Brasil. CEP: 80035-010

Composing Worlds: Exploring the Metamorphosis of the World in the Age of Climate Change and Its Implications for Health

Diogo Guedes Vidal
Centro de Ecologia Funcional – Ciência para as Pessoas e para o Planeta, Laboratório Associado TERRA, Departamento de Ciências da Vida, Universidade de Coimbra, Coimbra, Portugal/Departamento de Ciências Sociais e Gestão, Universidade Aberta, Lisboa, Portugal/Rede Compor Mundos, Humanidades, bem-estar e saúde – Fundação Fernando Pessoa, Porto, Portugal
Conceptualization, data curation, formal analysis, investigation, methodology, supervision, writing – original draft, writing – review & editing

Marina Prieto Afonso Lencastre
Instituto de Investigação, Inovação e Desenvolvimento, Universidade Fernando Pessoa, Porto, Portugal/Rede Compor Mundos, Humanidades, bem-estar e saúde – Fundação Fernando Pessoa, Porto, Portugal
Conceptualization, data curation, formal analysis, investigation, methodology, project administration, supervision, writing – original draft, writing – review & editing

Hélder Silva Lopes
Laboratório de Paisagens, Património e Território, Instituto de Ciências Sociais, Universidade do Minho, Braga, Portugal/ Laboratório Associado para a Investigação e Inovação em Património, Artes, Sustentabilidade e Território, Instituto de Ciências Sociais, Universidade do Minho, Braga, Portugal/ Institut de Recerca de l'Aigua, Universidade de Barcelona, Barcelona, Espanha/Rede Compor Mundos, Humanidades, bem-estar e saúde – Fundação Fernando Pessoa, Porto, Portugal
Data curation, formal analysis, investigation, supervision, writing – review & editing

Susana Magalhães
Instituto de Investigação, Inovação e Desenvolvimento, Faculdade de Ciências Humanas e Sociais, Universidade Fernando Pessoa, Porto, Portugal/Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Porto, Portugal/Rede Compor Mundos, Humanidades, bem-estar e saúde – Fundação Fernando Pessoa, Porto, Portugal
Conceptualization, data curation, formal analysis, investigation, methodology, writing – original draft, writing – review & editing

Rui Estrada
Instituto de Investigação, Inovação e Desenvolvimento, Faculdade de Ciências Humanas e Sociais, Universidade Fernando Pessoa, Porto, Portugal/Centro de Investigação Transdisciplinar Cultura, Espaço e Memória, Faculdade de Letras, Universidade do Porto, Porto, Portugal/Rede Compor Mundos, Humanidades, bem-estar e saúde – Fundação Fernando Pessoa, Porto, Portugal
Conceptualization, data curation, formal analysis, investigation, methodology, project administration, supervision, writing – original draft, writing – review & editing

Abstract

Climate change (CC) is the greatest evidence of the "metamorphosis of the world" and is changing the temperature and rainfall patterns, but also the social, cultural and health systems on planet Earth. The unpredictability of climactic phenomena and their multidimensional impacts on human and environmental health contribute to making our understanding of the world increasingly difficult. Moreover, history has proven that technoscience alone is not enough to deal with these problems. A global appeal is now emerging for the humanities and social sciences to also deal with the human and non-human issues raised by CC, notably through their integration with the areas of health and sustainability. The aim of this article is to present and discuss some of the first results of the *Composing Worlds: Humanities, Well-Being and Health* transdisciplinary network, which consists of a network of experts in the humanities, social sciences and health who think about issues of well-being and health in contemporary technological societies. The methodology used in the first phase of the project consisted of an interview with open questions, made by the network of 12 researchers. This was an exploratory study that used thematic analysis to

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identify the original key ideas of each author and corresponding main themes. The themes were then organised into semantic groups or thematic clusters. It is hoped that some of these clusters will contribute to discussing how CC has already altered our ways of being, living and thinking about the world, and will also contribute to dealing with the challenges related to the risks of CC on health and well-being throughout the 21st century.

Compor Mundos: Explorando a Metamorfose do Mundo na Era das Alterações Climáticas e as Suas Implicações Para a Saúde

Resumo

As alterações climáticas (AC) são a maior evidência da "metamorfose do mundo" e estão a mudar os regimes de temperatura e de pluviosidade, mas também os sistemas sociais, culturais e de saúde no planeta Terra. A imprevisibilidade dos fenómenos climáticos e os seus impactes multidimensionais na saúde humana e ambiental contribuem para tornar a nossa compreensão do mundo cada vez mais difícil. Além disso, a história provou que a tecnociência, sozinha, não é suficiente para lidar com estes problemas. Um apelo global está agora a despertar para que as humanidades e as ciências sociais também lidem com as questões humanas e não humanas levantadas pelas AC, nomeadamente através da sua integração com as áreas da saúde e da sustentabilidade. Este artigo tem como objetivo apresentar e discutir alguns dos primeiros resultados da rede transdisciplinar *Compor Mundos: Humanidades, Bem-Estar e Saúde*, que consiste numa rede de especialistas em humanidades, ciências sociais e da saúde que pensam sobre as questões do bem-estar e da saúde nas sociedades tecnológicas contemporâneas. A metodologia usada na primeira fase do projeto consistiu numa entrevista com perguntas abertas, construída de forma participativa pela rede de 12 investigadores. Tratou-se de uma pesquisa exploratória que utilizou a análise temática para identificar as ideias-chave originais de cada autor e a indução dos temas principais correspondentes. Os temas foram então organizados em grupos de correspondência semântica, ou clusters temáticos. Espera-se que alguns destes clusters contribuam para discutir como as AC já alteraram as nossas maneiras de ser, viver e pensar sobre o mundo, e contribuam também para lidar com os desafios relacionados com os riscos das AC na saúde e no bem-estar ao longo do século XXI.

1. Introduction

Climate change (CC) represents a significant threat to human health, encompassing global challenges, influenced by changes in the environment and ecosystems, which have an impact on the health of human populations. In addition, there are also localised problems, such as respiratory or autoimmune disorders, linked to chemical air pollution, an increase in cases of low birth weight and a rise in miscarriages.

Forest fires cause air and water pollution, population migrations, mental health

disorders and deaths; extreme temperatures lead to heat exhaustion, heatstroke and hyperthermia; changes in the distribution patterns of disease-transmitting insects and factors cause new epidemics in previously secure places (Gage et al., 2008).

In addition to these direct impacts, CC has indirect effects on human and non-human health. Food shortages result from changes in agriculture caused by droughts or floods, mediated by changes in social systems that can cause violent conflicts and population movements between different geographical regions. Rising sea levels and their unpredictability affect the functioning of large cities and even their existence (Vidal et al., 2022), contributing to the emergence of "secondary states" inside another nation's territories. It is clear that the most vulnerable socio-economic groups will bear the greatest risks, with disproportionate impacts on the most vulnerable countries, children and the elderly (Costello et al., 2009). These new realities generate a sense of strangeness in the face of a changing world. To understand the fundamental changes we are facing, Beck (2016) described these massive transformations as the "metamorphosis of the world". In this context, Seixas et al. (2021) proposed various descriptions of endangered "critical zones of the anthropocene" and organised them by colour: grey zones, resulting from a process of urbanisation that has devastated nature; blue, where the socio-ecological problems resulting from river pollution are compounded by the rise in the average level of sea water and the threat to infrastructure and equipment; green, where the unbridled exploitation of resources entails various negative impacts on environmental preservation; and brown, sacrificial zones, with impacts generated by mining and waste.

Although there are practical solutions to specific problems, the situation is paradoxical and to change it is complex. The necessary restructuring can't be confined to the concrete, but also exploring new conceptual ideas to implement innovative practices. As psychologist Kurt Lewin said in the 1950s, "nothing is more practical than a good theory" (p. 169): the metamorphosis of the world also implies a metamorphosis of the mind and thought. The aim of this article is therefore to propose theories and practical frameworks that re-examine some conceptual aspects of CC-related health risks. This proposal is based on the results of research carried out by the transdisciplinary network *Composing Worlds: Humanities, Well-being and Health* (Fundação Fernando Pessoa, s.d.). This project brings together experts from the humanities, social sciences and health, and reflects on ideas that can inspire the kind of "worlds" we want to build, promoting global health, strengthening the humanisation of cultures and supporting well-being in our shared living environments. The project began at the Fernando Pessoa University and initially brought together a group of 12 specialists from three different universities. The relevance of this project lies in the growing evidence that most of the problems that the 21st century will face, particularly in the area of health and well-being, are related to how human beings affect the climate and adapt to different environments, interact with other species, use technologies, develop cultures and policies, and promote social inclusion.

In this context, the period in which we live has enormous responsibilities, especially in terms of reconfiguring the relationship between humans and non-humans, the latter commonly associated with the concept of "nature" in our culture (Descola, 2005).

2. Theoretical Framework

This work is based on Beck's (2016) premise that we are experiencing a metamorphosis of social life and environmental dynamics, making it more difficult to understand them. The author states that the world is facing events that challenge stability, such as terrorist attacks, nuclear disasters, economic crises and wars. To a large extent, technoscience controls the technical and economic processes, overriding humanist and democratic values (Lencastre et al., 2023). Beck (2016) explores the social and environmental application of the concept of "metamorphosis", relating it to the need to move beyond "methodological nationalism" towards what he calls "cosmopolitan nationalism", since humanity is pervaded by a global realism that is independent of its own will. Latour (2022) reflects on cosmopolitics as a project that seeks to equivalently navigate a multiplicity of worlds. Based on these authors, we propose a conceptual framework for understanding the complex dynamics between CC and health risks. This framework integrates nature and culture, updating previous work by Lencastre and Leal (2006) and Vidal et al. (2023) and fulfilling the *sociogeobiological* requirements and cosmopolitics of the anthropocene.

The conceptual dimensions presented below were originally devised for the *TERRA* project[1], developed in 2006 by Lencastre and Leal. This project to integrate socio-environmental issues into the curriculum at primary school level incorporated ethical, social and environmental issues, seeking to highlight them in the curricula in the subject areas where they are implicitly contained, or by introducing them through relevant socio-environmental issues worked on at micro, meso or macro level in the schools involved. The *TERRA* project included teacher training in interdisciplinarity and school/year wide project methodology, emphasising local action and a deeper understanding of the importance global environmental literacy (Lencastre & Leal, 2006). Vidal et al. (2023) updated these conceptual dimensions taking into account Beck's (2016) concept of "metamorphosis of the world" and its application to CC's health impacts:

- *Co-evolution, change and metamorphosis of the world* — Earth has always undergone great changes interspersed by long periods of stability, in which species have succeeded each other and transformed habitats and, in general, ecosystems and biomes. Associated with geological and climatic phenomena, these processes have given rise to the current situation, which interacts with anthropogenic effects, giving rise to the anthropocene. Human cultures, in their diversity, contribute in different ways and with different weights to the global co-evolutionary process. Modern societies are confronted with the externalities of their actions and values (more consumption and volatility), and there is increasing evidence of an urgent need to change our ways of life and politics in general. Modern individuals feel that their world is undergoing a fundamental change, a profound metamorphosis of life (Beck, 2016) and this situation affects health and well-being above all.

- *Non-linear complexity and relations between humans and non-humans in "critical zones"* — CC is traditionally described as complex systems involving a large set of variables in non-linear interaction, giving rise to final states described as the "chaotic attractors" of a probabilistic outcome. Realistically and when faced with local socio-environmental problems that require urgent intervention, these systems are best described as relational entanglement of human and non-human beings inhabiting "critical zones" in finite territories. Describing these "critical zones" requires a realistic inventory of the conditions of existence (Latour, 2017), as well as specific scientific knowledge that allows decisions to be made. Returning to the local context is an essential condition for the pragmatic organisation of community cooperation in the face of environmental risks that affect the health and well-being of groups, moving away from exclusive dependence on the decisions of central governments.

- *Uncertainty* — the local entanglements of humans and non-humans imply high levels of uncertainty in scientific, social, cultural and political knowledge about collectives. When the uncertainty of the systems and the risks of the decision are high, controversy over necessary decisions becomes likely. This is the post-normal process of applied science (Funtowicz & Ravetz, 1994), which makes the democratisation and public knowledge of science an obligatory stage. In order to make practical decisions, these authors recommend setting up extensive communities of peers from diverse social and techno-scientific perspectives, who can deal with the high levels of uncertainty inherent in socio-environmental metamorphosis with their plurality of values and legitimate perspectives.

- *Risk, precaution, prevention and reflexivity* — complexity and uncertainty traditionally refer to the capacity of science to identify risks and precautions associated with decision-making. But the clear ideas of causality, temporal retroactivity and independence of variables that characterised the chains of determination of traditional science have now been abandoned. Ignorance often permeates scientific knowledge with the prediction of global physical, biological and social phenomena, which in turn interfere with local ecological, economic and political dynamics. The idea that modern life has lead to and now permeates global and local territorial profiles is generally accepted. Public awareness, personal reflexion and the establishment of means of prevention are the results of the current situation, even if action doesn't immediately follow thought. Despite the relative awareness of the facts, individual and collective action seems insignificant in the face of the magnitude of the externalised natural dangers. However, it should be clear that every cultural decision is inherently natural: we live in techno-natural worlds (Roqueplo, 1993).

- *Regenerative landscaping and modes of coexistence* — the concept of "sustainable development" and its desirable environmental, social and economic integration is one of the main concerns and major challenges of recent years. But sustainability has not lived up to its promises, because its objectives were centred

primarily on satisfying fundamental human needs, trying not to jeopardise the possibility of future generations, a position heavily dependent on economic interests and funding (Piteira et al., 2023). As an alternative, "regenerative landscaping" and "regenerative agriculture" have emerged as new concepts that invest in the restoration and revitalisation of local territories, both urban and non-urban, based on their endogenous sources of energy, materials, climate and local species profile. The idea is to create resilient and equitable ecological communities, and systems that integrate the needs of human and non-human populations. Regenerative design (Wahl, 2016) is inspired by biomimicry and biophilia (Lencastre et al., 2022), the circular economy, as well as ideas of rewilding and restorative justice. Its focus is on mapping relationships between humans and non-humans and promoting harmonious coevolution through a co-creation approach in which people are part of a collective social project.

- *Territories and human and non-human diversity* — in the context of discussions about critical zones and CC's health impacts, it is crucial to also consider local diversity, both human and non-human. Diversity seems to be one of the most important adaptive characteristics of resilient natural and cultural systems, and is an important concept for describing various levels of living beings: molecular, genetic, physiological, ethological, psychological, social, cultural and ecological diversity. The ecological diversity of cultures is evident when associated with local and traditional ways of life. Human miscegenation, based largely on past, current and future migrations, could increase genetic and cultural diversity and constitute one of the most important axes of human demographic dynamics in the 21st century. However, this diversification has an inverse influence, leading to homogenisation as a result of the natural/cultural selection that dominant cultures exert on minority cultures. Local territories are also subject to the mobility of non-human species in search of living conditions. In order to describe the local dynamics of nature/culture, such as water use, food distribution and energy or shelter needs, it is important to look at diversity through an ecological and dynamic lens that allows for a global perception of these different relationships with geographical space.

- *Cosmopolitics and multicultural and multispecies equity* — "equity" consists of a differential concept of justice that distributes wealth and material or symbolic resources in a way that is adapted to the local needs of human groups (Tsing, 2015). In a globalised world with finite resources, where different populations compete for them, there is growing concern about sharing territories with other beings. This concern requires rethinking the "critical zones" of territories, with their human and non-human inhabitants, intertwined in conflicting interests (Latour, 2016). In the anthropocene, the "critical zones", where life unfolds, often seem disorganised, sometimes strange and unpredictable, imperfectly attuned to old or new local narratives, to common politics, practices and social habits, as well as to the mobilities and compromises established with other

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species. Cosmopolitical thought and action aim to address these diverse experiences and histories, using a description of modes of existence in order to understand the relationships at hand and create new strategic possibilities for action (Stenghers, 2005).

- *Modes of action and controversy* - one of the central characteristics of the application of contemporary sciences is its urgent and potentially controversial nature, subject to different rationales from different valid actors. For Latour (2016), when health risks are publicly discussed, such as the adverse effects of industrial chemical food additives, it is important to clearly describe what is at stake, that is, the modes of action of the different agents involved in the controversy. In this case, it's the chemicals, the allergic reactions caused by them, the perceptions, attitudes and behaviour of industrialists, citizens, local government and other interested groups, such as non-human animals or plants. All these entities occupy a common space and have unique ways of relating to other entities and to the other elements that make up the collective. Different facts and values are intertwined and deliberative procedures must first clarify modes of action to allow for discussion that then leads to decision-making.

- *Inventory, diplomacy and action* — decision-making on complex issues in uncertain collectives makes collaborative consensus-building processes one of the essential points of contemporary cosmopolitics. This should be based on "empiricism and radical irreductionism" (Latour & Muecke, 2021, p. 12), opening up the discussion to ontological and disciplinary pluralism. For practical disputes, Latour (2016) proposes a new diplomacy that negotiates in the intermediate space between the players, looking closely at the description of things and avoiding abstract concepts such as "society" or "nature". For this author, the pragmatic inventory of beings must lead to a concrete description before proposing an explanation. Diplomatic mediation between modes of existence aims to lead to the construction of a common world.

As we have seen, the complexity of CC and its multidimensional impacts on the health and well-being of humans and non-humans shows that quantitative approaches can calculate the effects, but cannot deconstruct the meanings and discourses associated with them. Thus, a reflexive approach based on realistic descriptions and participatory methods can contribute to a deeper understanding of this complex phenomenon. The methodological steps of the *Composing Worlds* network, described in the next section, are intended as a contribution to solve this problem.

3. Methodology

The methodology used in this project is based on data obtained from primary sources, using an interview survey with an open response script (see Appendix 1). This script was created by a network of 12 experts from a wide range of disciplines (male — nine; female — three) from three Portuguese universities, including areas such as

bioethics, literature, cinema, psychology, anthropology, sociology, ethology, medicine, communication, geography, landscape architecture and scientific and technological studies. This interview was sent in writing to each of the experts, who also responded in writing, with the recommendation that they answer each of the questions in the most reasoned and personal way possible. The aim of the interview, divided into four dimensions, was to bring to light personal and grounded knowledge and perceptions towards the major issues surrounding the humanities, health and well-being in contemporary societies, including CC and its health risks. The *Composing Worlds: Humanities, Well-Being and Health* network was formed from this founding moment, developing its identity from this initial work of mapping knowledge, perceptions and concerns. The texts collected from the interviews were subjected to thematic analysis and organised by key ideas and themes, which sought to identify semantic correspondences in main groups of meaning (Lencastre & Estrada, 2022).

This research is characterised by being inductive, realistic and semantic; its aim is to identify original themes emerging from each interviewee, not to analyse their historical, critical or psychological contexts. By adopting this approach, the survey questions were formulated in an open and broad way, without a direct link to CC in order to allow for an exploration of the participants' perceptions and experiences, without restricting the dialogue to just one specific topic. Furthermore, the research carried out an in-depth analysis of the words and meanings associated with the topics covered, in order to explore the semantic implications of the issues of health, well-being and humanities in contemporary times, without necessarily addressing CC directly.

This exploratory research uses thematic analysis with various levels of reading and codifying of the text to identify the original key ideas of each author, and the induction of the corresponding main themes, according to the methodological indications developed in Braun and Clarke (2006) regarding thematic analysis. The experts' responses to the interview survey were subjected to six levels of reading, analysis and synthesis:

1. Global reading and familiarisation with each specialist's text;
2. Global reading of each text, underlining the key ideas;
3. Global analysis of each text, coding the key ideas by term;
4. Partial analysis of each text, organising the key ideas into themes;
5. Taking up the overall text, key ideas and themes, reviewing them and synthesising them into nine main themes;
6. Final revision of the corpus of key ideas and main themes by the experts.

The topic types covered included, among others, news and well-being, ecology and relations with non-human animals, the regenerative landscape, social networks and smart digital devices, identities, gender, education, diversity and values, brain health and medical and psychological technologies, evolution and mental health, transdisciplinary research, subjectivity and the place of narrative, aesthetics, ethics and spirituality. Subsequently, they were organised into correspondence groups, or thematic clusters, decided by semantic proximity.

4. Results and Discussion

From this grouping, the following thematic groups were identified: (a) public knowledge and post-normal science; (b) critical thinking and ethics in health; (c) well-being, health, democracy and social justice; (d) holistic (transdisciplinary) approach to health and well-being; (e) health systems, diversity, cultures and nature; (f) technologies, artificial intelligence, health and well-being; (g) environment, health, sustainability and equity; (h) evolution, organisms, time and mental health; (j) health as a proto-value produced in relationships between/with people.

In general, based on these interviews, it became clear that postmodernity seems to have given rise to new narratives and new ethical and even metaphysical questions. Themes such as happiness, love, compassion, kindness and beauty, and universal concepts such as the "anthropocene" and "human rights", associated with local thinking/ personal action, seem to have replaced the relativism of thoughts and practices, the constructivism of feelings, the localism and immanentism of values and community multiculturalism. Based on his work on the image, Descola (Fondation Louis Vuitton, 2018) tells us that we may be witnessing a slow shift from the naturalist paradigm to a more analogist conception of the relationship between humans and non-humans.

Although all the clusters are relevant, we chose five specific clusters to further discuss the risks of CC on human and environmental health. This choice is based on criteria aimed at establishing a direct and substantial connection with this theme. The selection is based on the above theoretical principles, as well as scientific concepts related to the impact of CC on health. The other clusters will be analysed in due course. We present the clusters in the following subsections.

4.1. Public Knowledge and Post-Normal Science

According to Latour's seminal work (1993), the idea of science has been replaced by a more flexible and realistic idea of developing sciences within networks of scientists, technologies, objects, people and interests. In fact, for Latour, science and modernity are mutually tied, leading to the idea of an arrow of time that inevitably leads to progress. But today's environmental situations, particularly CC, show that this idea of progress leads to a confused state of affairs in which the traditionally separate concepts of "science", "nature" and "culture" are intertwined and produce externalities that inevitably affect the "objects" and "subjects" of modernity. CC and its effects on health call for a more flexible and open conception of the sciences, interacting with the collectives of humans and non-humans who are affected by them.

This state of affairs is also recognisable in the context of the transmission of science between experts and laypeople. The linear model of transmitting knowledge has been replaced by a more complex idea of "negotiating meanings" that arise during the collective process of socialising science. These hybrid eco-socio-cultural spaces between sciences and collectives include not only experts from different backgrounds, but also interested parties, non-human beings such as animals, plants, geological elements or

ecosystems, which are represented by human speakers. *Latourian* diplomacy operates in this hybrid space and is based on what Latour calls (a) "radical empiricism", meaning a description that is close to what actually happens, in a real place or territory; also (b) "irreductionism", which is the inclusion of everything relevant to a concrete inventory and explanation of a collective living in a real space (the opposite of scientific reduction, which isolates entities in a laboratory and is interested in simplified causal chains); and finally (c) "consensus", that is the negotiation in the intermediate space between the players, looking closely at the description of things and avoiding abstract concepts. In this hybrid space, critical and ethical thinking find their greatest relevance for applied science. This means that specialised laboratory sciences are incorporated into the real world, where real things operate, where living beings, including humans, strive to inhabit. Diplomacy, in the context of this extensive cosmopolitan conception of earth's living places, represents an endeavour to mediate and reach consensus in order to build a common world that is habitable for all.

Local debates show that there are no right answers or just one application of science in decision-making, and it becomes more complex when we introduce the ecology of other species into considerations about CC, their habitats and their ways of life. The complexity of decision-making increases exponentially. With obvious exceptions, such as indigenous peoples or people living in disadvantaged countries, the modern human way of life is deeply dependent on what needs to change if we want to limit the effects of CC and all its planetary consequences. This search for consensus in plural collectives is very similar to a pre-modern scenario, as Latour (1993) would say, or an extra-modern one, as Descola and Pignocchi (2022) would say.

In contemporary technological societies, which face significant local CC health impacts, a careful survey of local data is as important for the correct exercise of preventive post-normal science as critical and ethical thinking. Nowadays, extended peer communities must also include representatives of non-human animals, as well as natural elements such as fresh water, land and plants. The deeply felt poetic human dimensions, in their relationship with non-human sensibilities, must also be taken into account, because the complexity and novelty of the emerging CC scenarios, and their global impacts, mean that they require new and radical solutions. When these dimensions enter cosmopolitical diplomacy, they can profoundly condition the solutions to new situations. Post-normal science proposes transdisciplinary methodological frameworks and problem-solving strategies that include the uncertainty of natural systems associated with human and non-human interests and values in decision-making in critical areas.

4.2. Critical Thinking and Ethics in Health

Health today is understood as the balance between the different personal dimensions (bio-psycho-social-spiritual), and knowing that this balance interacts with and is affected by other individuals, animals, plants and the shared environment, we consider that healthcare and health management require critical thinking. In today's technological

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world, faced with the risk of depersonalisation and "*Undinge*" (Han, 2021) — a world where objects are replaced by information — "challenge" is a key word. We need to challenge assumptions and contexts and (re)imagine alternative ways of living in and with complexity. Furthermore, health is a continuum between being healthy and being sick, where healthy people can live with diagnosed illnesses for a long time and sick people can feel healthier than the hegemonic narrative understands "healthy" to be. This general binary thinking, the pathology of normality (Weil et al., 2017), must therefore be deconstructed in the context of health, and the two main tools for achieving this goal are critical and ethical thinking, both of which are interrelated.

The plural concepts and contexts imply a critical review of knowledge, of self and of the world, as well as an interdisciplinary reflection on health and education issues, focused on knowing to be and how to be, beyond the traditional ways of knowing what to do and how to think. The ageing of populations requires non-binary and critical approaches to care, given that the ageing process often involves comorbidities for which there is no curative treatment, but rather continuous care capable of healing and reducing the underlying vulnerabilities. Unpredictability and uncertainty seem to be at odds with the search for the correct diagnosis and the best course of action/treatment, based on the best scientific evidence, which is the foundation of evidence-based medicine. There is no person-centred care if the person is not recognised as such, being reduced to a category or a label, without the depth of *being* (which is always rooted in meaningful values, preferences, places and people). Ethical deliberation must therefore be promoted in healthcare, establishing safe spaces for reflection on knowing *to be and how to be,* and not just on knowing *how to do and how to think.*

Considering Paul Ricoeur's definition of "ethics" (Martini, 2016) as aiming for a good life, for all involved, in just institutions, it is precisely the meaning of good and justice that health professionals, patients, carers and policymakers must integrate into their deliberative and decision-making processes. The sustainable development goals, as a guiding map of the values that our communities need to achieve, require each stakeholder to take the long road of ethical reflection, answering the fundamental question: how can each of us be an active agent in building peace and justice (Goal 16) in the different organisational and community contexts in which we operate? Health, as a balance between the bio-psycho-social-spiritual dimensions, can be affirmed as an achievable horizon if it is framed within this broad and thick context of the realisation of ethical values.

4.3. Well-Being, Health, Democracy and Social Justice

A recent study entitled "Climate Anxiety in Children and Young People and Their Beliefs About Government Responses to Climate Change: A Global Survey" (Hickman et al., 2021) shows that young people suffer from anxiety, fear the future and blame governments for this dramatic situation. Children and young people show emotional distress (sadness, fear, helplessness, shame, despair or depression) and their expectations for the future are low and frightening.

The belief that CC is anthropogenic is also not in doubt in the scientific community. As climatologist Filipe Duarte Santos (2017) states: "research published precisely on this subject concludes that 97 per cent of climate scientists share the consensus that the observed global warming is anthropogenic" (para. 10).

So why are we, despite the scientific consensus on the subject, not able to categorically reverse the announced disaster and at the same time restore confidence in the future of the new generations? The answer is complex, because even in democratic societies — societies in which knowledge and the institutions that produce it must be respected, valued and listened to — the rise of populist leaders has made it difficult to clarify and make decisions on the subject. It hasn't been enough, as we mentioned above, to reach the necessary consensus on climate or, more recently, COVID-19, for science to adhere to the new communicational reality. Mediators, or translators of scientific knowledge, can do little when faced with denialist leaders who, in some cases, govern very powerful countries. Take former US President Donald Trump, for example: on 6 November 2012, he said that "the concept of global warming was created by and for the Chinese to make US companies uncompetitive" (Santos, 2017, para. 14).

Summarising this point, we can say that the world today has been facing imminent challenges — for example, CC, the COVID-19 pandemic and now the effects of war. In addition to these challenges, there is also an unfortunately contemporary trend that is jeopardising the existence of a common language between humans and thus undermining the extraordinary democratic experience.

4.4. Holistic (Transdisciplinary) Approach to Health and Well-Being

The 1970s was a time of criticism of the model of teaching and research funded by governments and universities, in which transdisciplinarity emerged associated with ethical concerns related to the direct applications of research to society (Seixas et al., 2020). The problems were too complex to be solved by simply taking laboratory science and applying it to the real world. After 20 years, new and highly complex problems have emerged, including CC and the urgent issues of environmental sustainability, biodiversity loss, pollution and poverty. The relationships between sciences and technologies, social policies, education and the role of the humanities and the arts were being equated in new configurations, and transdisciplinarity seemed to be a new and interesting way of producing theoretical as well as practical knowledge.

A transdisciplinary approach to CC, health and well-being means that teaching, learning or research takes into account different disciplines. Transdisciplinarity is also concerned with the different partners involved in research and action, considering them as "subjects" rather than "objects". In other words, what is sought is the integration of different knowledge and points of view in order to achieve a deeper and more comprehensive understanding of situations, as well as the possibility of developing relevant action.

There are two main trends in the transdisciplinary tradition (Bernstein, 2015). The first is shaped by *The Charter of Transdisciplinarity* (Gibbons et al., 1994), which presents the ideas of Romanian physicist B. Nicolescu: transdisciplinarity recognises the fundamental complexity of the different levels of reality and accepts the "included third party", abandoning the Aristotelian logic that governed Western thought for centuries and advocated the practice, common in science, of separating in order to understand. Nicolescu's approach emphasises the world of human life and lived meanings, in the phenomenological tradition. The second trend is known as "Mode 2" knowledge production: in this conception, transdisciplinarity consists of approaching a concrete situation by integrating the actors concerned, from scientific academia to industry, local governments, nongovernmental organisations, museums, architecture, the humanities and the arts. The approaches are complementary to each other, the first addressing real-world issues, the second identifying the theoretical implications of transdisciplinary knowledge.

Transdisciplinarity is an interesting epistemological framework when it comes to exploring or teaching the health problems associated with CC. For example, transdisciplinary projects in medical or psychology teaching curricula have the potential to show the tacit values of the disciplinary sciences more clearly: in biomedicine, these values are the molecular and causal determination of systemic social situations, the analytical materialism of the impacts of CC on diseases, the categorisation and universality of medical and psychological diagnoses. These are values intrinsic to the biomedical discipline that can be rethought in the light of the values of the humanities.

In order to understand hybrid phenomena such as CC and its impact on health, it is not enough to understand the direct effects isolated in the laboratory or to make use of big data; the findings of the humanities and social sciences are equally important because they address the cultural representation of health and climate, they reconstruct the ways in which CC emerged and how history and economics have shaped the current situation, how epistemology, tradition and ethics have guided our relationships with health and climate regimes.

4.5. Environment, Health, Sustainability and Equity

Equity is a central issue in the question of CC's impact on health. When there is no equity, Whitehead (1992) states that there is an unfair and unequal distribution of health care, translating into a strong association between the socioeconomic positions of individuals and the environmental sustainability of societies (Oliveira et al., 2019; Vidal et al., 2018). Anthropogenic and environmental factors are the main causes of CC, impacting human health and ecosystems and resulting in situations of environmental injustice (Schlosberg, 2007), environmental racism (Salas, 2021) and social injustice (Comim, 2008). In fact, history has shown that vulnerable social groups have been continuously exposed to poor air quality, lack of access to green spaces and, consequently, environmental poverty and deprivation (Roberts et al., 2022). Therefore, along with the impacts

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of CC that worsen their living conditions, these social groups also have the worst health outcomes, generating a cycle that is difficult to break.

Climate projections show that extreme weather events caused by CC, especially extreme heat or cold waves, are expected to increase in the coming years (Johnson et al., 2018). In this sense, it is expected that these waves will have a negative impact on health conditions. However, vulnerable social groups — those with respiratory or circulatory health problems, children and the elderly, and disadvantaged social groups — are likely to be more affected because they will be more exposed to these impacts. This situation is exacerbated when people live in conditions of energy poverty, related to the inability to keep their homes cool during the summer and warm during the winter. Adaptation and mitigation of CC must ensure that it is adapted to the diversity of socio-cultural contexts which can undermine efforts towards sustainability, if ignored.

The five clusters identified by the *Composing Worlds* network, when combined, can help strengthen the role of the humanities and social sciences in dealing with health risks due to CC. Figure 1 shows the relationship between the five clusters identified by broad interdependent axes of analysis that can be applied to health and CC.
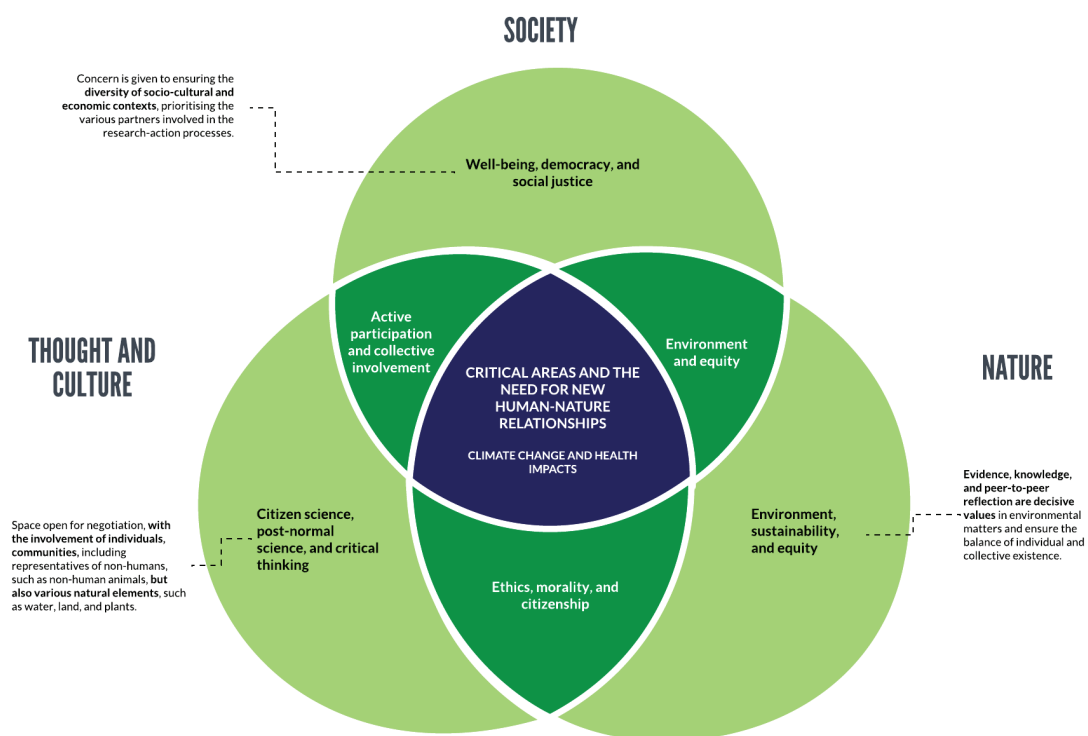
Figure 1. *Clusters emerging from the* Composing Worlds *network that can help address the health risks of climate change from a humanities and social sciences perspective*

The complexity and multidimensionality of CC implies a broad and inclusive community of peers that goes beyond the mere human dimension, taking into account the assumptions that Descola and Pignocchi (2022) refer to in their recent book *Ethnographies*

des Mondes à Venir (Ethnographies of Future Worlds). The authors point to a hybrid society that would see state structures and autonomous territories articulated in a heterogeneous profusion of modes of social organisation, ways of life and cohabitation.

The impacts of CC are transversal to all living beings, so their rights must be respected and taken into account when designing mitigation and adaptation actions. As stated by Beck (2016), human and non-human communities around the world are facing the unpredictable impacts of climate phenomena. The strangeness of the world that Beck describes implies critical thinking about the concepts of "society", "environment" and also health, as well as a revision of the paradigm in which individuals are at the centre.

In this context, the role of the aforementioned "critical zones" stands out, a concept developed in the social sciences by Bruno Latour (2014) and expanded upon by various authors. The idea of the "critical zone" and the practice of "critical zone science" focus attention on geographical analyses centred on interdisciplinarity, large data sets and participatory techno-scientific processes. For Latour (2014), the critical zone documents the properties of all the terrestrials that live there and are necessary for its maintenance. How can all these interests be reconciled? In recent years, we have witnessed the emergence of a profound technological increase in the management of these critical zones, along with new methods for dealing with "living capital" and non-human labour. These practices are described in the book *Critical Zones*: *The Science and Politics of Landing on Earth*, written by Latour and Weibel (2020), which explores the work carried out by humans and non-humans in an environment where technological approaches coexist with traditional approaches necessary for human and non-human evolution.

5. Final Considerations

Technoscience has proved not to be enough to deal with the complexity of the global changes resulting from CC. This article sets out to rethink some aspects of the health effects of CC through the lens of the social sciences and humanities. Framed by a transdisciplinary network of academics, the *Composing Worlds* network explores in depth the powerful connection between social values, democracy, health, well-being and sustainability, considering the need to move towards the integration of multiple voices and knowledge, from humans and non-humans, in order to deal with CC. Anchored in the concept of the "metamorphosis of the world" developed by Beck (2016), we argue that the social sciences and humanities can help deal with the health risks that result from CC, not only theoretically, but also in practice, by deconstructing the common narratives about climate and health, and reconceptualising the complex socio-ecological phenomena that humanity and other living beings face today and in the near future.

The clusters identified by the network can now be explored empirically by the experts who are currently part of the *Composing Worlds* network, or by other interested researchers outside the network, in order to reveal their full potential for driving concrete projects, *composing worlds*. It is important to note the growth of the network, which in 2024 already informally involves 25 experts from five universities, and that the themes

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identified primarily by research are being developed, either in interdisciplinary research projects or through training and dissemination via podcasts and webinars[2]. One of the initial objectives of this project was to act at various levels, from academic to non-academic, involving public and social agents from different fields, since solutions to CC and health issues can be found at very different levels and in very different places. Especially at a time when democratic values, anchored in social justice and the well-being of all, and the actions needed to minimise the effects of CC are being challenged, a new narrative for humanity is needed that promotes imagination about cultures/natures. One of the original features of the *Composing Worlds* network project is that it proposes an integrated set of concepts that allow us to better think about the complexities and strangeness of today's world. On this basis, interdisciplinary areas have been defined that have given rise to published research and podcasts, such as the group on Biophilia and Health, or the group on Socio-ecological Challenges, Health and Citizen Science, among others (https://compormundos.fundacaofernandopessoa.pt/). The humanities and social sciences can pave the way for reinterpreting the meanings of the central concepts of our cultures and help us think about our place on the planet and, more importantly, about the relationships that we, as humans, forge with other living beings.

Translation: Linguaemundi

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[2] See https://compormundos.fundacaofernandopessoa.pt/.

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Appendix 1

Dimension	Question
Personal context	1. What is your subject area of initial training and how does it relate to your current professional activity and what are your main research interests? Please detail your answer. 2. Is your activity as a researcher and as a teacher related to the area of well-being and/or health? If so, how do you approach these areas? If not, what influences have marked your interests in your scientific and academic career? How can they contribute to your understanding of well-being and/or health?
Definition of the concepts and usefulness of the humanities and social sciences	3. This is a project about well-being and health. How do you define these concepts and which areas of the humanities do you think can contribute most to your study? Please state the reason(s). 4. In your experience, and starting from your area of research, what are the big questions that make you think today in the area of well-being and/or health? How can your research contribute to understanding them? 5. Which topics in the area of well-being and/or health do you find most embarrassing or, on the contrary, most promising for the future? Please tell us why.
Technological and ethical issues	6. Technologies for human well-being and/or health are changing rapidly and affecting contemporary societies in different ways. How do you redefine the human's place in this world increasingly marked by technologies? 7. What is your opinion on the role of critical and ethical thinking at a time of great technological advances, environmental transformations, changes in social discourse and dialogues with other non-Western partners? How do you think about the relationship you establish with the search for truth in knowledge?
Research into health and well-being	8. How can your area of expertise participate in interdisciplinary projects related to health and/or well-being? If possible, can you give one or more examples, proposing general research designs? 9. Do you have any other questions or important life events that shape your ideas about well-being and/or human health that you would like to develop?

Table 1. *Dimensions and questions of the interview survey script*

Biographical Notes

Diogo Guedes Vidal is a sociologist with a PhD in Ecology and Environmental Health. He was awarded a research grant for various projects funded by the Energy, Environment and Health Research Unit of the Fernando Pessoa University. Between 2017 and 2022 he was a doctoral fellow with a project funded by the Fundação para a Ciência e a Tecnologia, I.P. (Foundation for Science and Technology), focusing on the socio-ecological understanding of urban public green spaces where he combined innovative and transdisciplinary techniques. He is currently a guest assistant researcher on the European project *PHOENIX: The Rise of Citizens Voices for a Greener Europe* at the Centre for Functional Ecology of the University of Coimbra and visiting assistant professor at the Department of Social Sciences and Management of Universidade Aberta. His research interests are diverse and characterised by a transdisciplinary profile, namely in the field of sociology, climate change and society, possible natures, socio-ecological futures and epistemic alternatives. He is a member of the COST CA21166 — Ciências Sociais e Humanas para a Transformação e Resiliência Climática (Social and Human Sciences for Climate Transformation and Resilience) and of the transdisciplinary network *Composing Worlds: Humanities, Well-Being and Health in the 21st Century*. He is editor of the Ciências Sociais e Antropologia (Social Sciences and Anthropology) section of the journal *PLOS Climate*.

ORCID: https://orcid.org/0000-0002-2777-2372

Email: diogo.vidal@uc.pt

Morada: Rede Compor mundos. Humanidades, bem-estar e saúde. – Fundação Fernando Pessoa, Praça 9 de Abril 249, 4249-004 Porto, Portugal

Marina Prieto Afonso Lencastre is a former full professor at the University of Porto and a full professor at the Fernando Pessoa University. She is a specialist in psychotherapy and a supervisor for the Portuguese Society of Clinical Psychology, and holds a specialisation in Clinical and Health Psychology, as well as an advanced specialisation in Psychotherapy from the Portuguese Psychologists' Association. She is an accredited trainer in Environmental Education. She is also co-ordinator of the transdisciplinary network *Composing Worlds: Humanities, Well-Being and Health in the 21st Century*.

ORCID: https://orcid.org/0000-0003-1879-1077

Email: mlencast@ufp.edu.pt

Morada: Rede Compor mundos. Humanidades, bem-estar e saúde. – Fundação Fernando Pessoa, Praça 9 de Abril 249, 4249-004 Porto, Portugal

Hélder Silva Lopes has a degree in Geography and Planning from the University of Minho, a master's degree in Geography — specialising in Spatial Planning and Management and a PhD in Geography and Regional Planning from the University of Minho and in Geography, Territorial Planning and Environmental Change — specialising

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in Global Change and Natural Systems from the University of Barcelona. He is an assistant professor in the Department of Geography at the University of Minho. He is also a contributor to *Meteored – tempo.pt*, where he writes weekly opinion pieces on climate, the environment and climate change. He is a researcher at the Landscapes, Heritage and Territory Laboratory / Associated Laboratory for Research and Innovation in Heritage, Arts, Sustainability and Territory — Landscapes and Society Group and is a collaborating member of the Climatology Group at the Instituto de l'Aigua. His main research interests are environmental perception; heritage and territory; landscape evaluation; urban tourism; environmental management; citizen science; climate change; and regional and local development. He is a member of the transdisciplinary network *Composing Worlds: Humanities, Well-Being and Health in the 21st Century*.

ORCID: https://orcid.org/0000-0002-2931-5175

Email: helderlopes@geografia.uminho.pt

Morada: Rede Compor mundos. Humanidades, bem-estar e saúde. – Fundação Fernando Pessoa, Praça 9 de Abril 249, 4249-004 Porto, Portugal

Susana Magalhães has a PhD in Bioethics from the Catholic University of Portugal, is a lecturer at the Fernando Pessoa University and head of the Responsible Behaviour in Research Unit at the University of Porto's Institute for Research and Innovation in Health. Her research interests are narrative medicine and research ethics/integrity. She is a certified Virt2UE trainer and a member of the management group of the Portuguese Reproducibility Network. She is the coordinator of a Study and Reflection Group on Narrative Medicine and a member of the European Society for Narrative Medicine. He is a member of the transdisciplinary network *Composing Worlds: Humanities, Well-Being and Health in the 21st Century*.

ORCID: https://orcid.org/0000-0002-3440-4244

Email: susana.magalhaes@i3s.up.pt

Morada: Rede Compor mundos. Humanidades, bem-estar e saúde. – Fundação Fernando Pessoa, Praça 9 de Abril 249, 4249-004 Porto, Portugal

Rui Estrada has a PhD in Literary Theory from the Faculty of Humanities of the University of Lisbon. He is a full professor at the Fernando Pessoa University and a researcher at the Center for Transdisciplinary Research Culture, Space and Memory (Faculty of Humanities, University of Porto). He won the Pen Club Essay Prize in 2002 and has published four books, edited six and is the author of several articles and book chapters (national and international). He is a still co-ordinator of the transdisciplinary network *Composing Worlds: Humanities, Well-Being and Health in the 21st Century*.

ORCID: https://orcid.org/0000-0002-8076-6692

Email: restrada@ufp.edu.pt

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Climate Emergency and Youth Activism: A Case Study in Lisbon

Mariana Castro
Programa de Pós-Graduação em Ciência Política, Instituto de Estudos Sociais e Políticos, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil

Abstract

The present paper is part of ongoing doctoral research in political science in Brazil. It explores the advent of the Anthropocene as an ethical and political phenomenon, highlighting the transformation of humanity into a geological force and its political and epistemological consequences. We address the key role of young people in climate activism, that is in new movements such as End Fossil Occupy, the Student Climate Strike and Climáximo in Lisbon, Portugal. We hypothesise that the Anthropocene requires its own form of politics. Consequently, the narratives of young people in Portugal contribute significantly to establishing this new political paradigm. The article is, therefore, divided into four parts, in addition to the introduction and concluding remarks. First, we analyse the concept of the Anthropocene and its weaknesses, and Latour's views of this reality, commonly referred to as a war of worlds. This is followed by a brief discussion of climate activism in recent decades, and the description of the research methodology. The field experience in Portugal in October 2023 offers an enriching overview of the active involvement of Portuguese youth in the light of the emerging climate crisis. Finally, we share the field experience and the dialogue between these youth movements in the Portuguese capital. The aim is to provide an overview of the intersection between the Anthropocene, climate activism and the prospects of Portuguese youth.

Keywords

climate emergency, activism, youth, climate justice, Portugal

Emergência Climática e Ativismos da Juventude: Um Estudo de Caso em Lisboa

Resumo

Este artigo faz parte de uma pesquisa de doutorado, ainda em andamento, em ciência política no Brasil. O texto explora a emergência do antropoceno como fenômeno ético-político, destacando a transformação da humanidade em uma força geológica e suas implicações políticas e epistemológicas. Abordamos o papel central das juventudes no ativismo climático, como o surgimento de movimentos como End Fossil Occupy, a Greve Climática Estudantil e o Climáximo, em Lisboa, Portugal. Nossa hipótese é que o antropoceno exige um fazer político próprio. Dentro desse cenário, as narrativas das juventudes em Portugal emergem como contribuições significativas para a definição desse novo paradigma político. Portanto, o artigo estrutura-se em quatro partes, além da introdução e das considerações finais. Primeiro, analisamos o conceito de antropoceno, e suas debilidades, e a perspectiva de Latour sobre essa realidade, comumente referida como uma guerra de mundos; depois, abordamos sucintamente o ativismo climático nas últimas décadas; em seguida, apresentamos a metodologia de pesquisa. A vivência de campo em Portugal, durante outubro de 2023, oferece uma perspectiva enriquecedora sobre o envolvimento ativo da juventude portuguesa face à iminente crise climática; por fim, compartilhamos a experiência de campo e o diálogo estabelecido entre aqueles movimentos de juventude

na capital portuguesa. O objetivo é fornecer um panorama da interseção entre o antropoceno, o ativismo climático e as perspectivas das juventudes portuguesas.

Palavras-chave

emergência climática, ativismos, juventude, justiça climática, Portugal

'The epoch has changed'. That is to say of giving this observation the power to make us think, feel, imagine, and act. — Isabelle Stengers, *No Tempo das Catástrofes*, 2015

1. Introduction

The current paper reflects on what we call the Anthropocene and its political and epistemological consequences. The central idea is to address the Anthropocene as an unprecedented ethical-political event, in which human action becomes a geological force that has the power to reshape the planet. This phenomenon is revealing itself through climate change and ecological collapse, and is claiming a political process of its own.

Therefore, assuming the Anthropocene as an event implies acknowledging that the impact of some current facts such as extreme climate events, which we and the other beings with whom we share the earth are enduring, although not unprecedented in the history of the planet, it is certainly new from the point of view of civilisation. As the current crisis becomes visibly more and more severe, the vision of a stable planet is gradually being replaced by the prospect of a future without human presence. Thus, apocalyptic scenes are become increasingly common, such as the flames that devoured Athens in August 2021, or the devastating Pedrógão Grande forest fire in 2017, deemed the largest in Portugal's history, which ended in 60 fatalities and many injured.

We believe we stand before a new conflict area. On one side, there are those who deny or block all policies to tackle climate change and, on the other, those who are fighting to preserve a liveable planet. In this scenario, climate activism is more urgent than ever in view of the global challenges, which the strong voices and actions of young people are raising awareness of. Young climate activists around the world play an important part in challenging the inertia of the international system and demanding concrete measures to combat the climate emergency. Movements such as Fridays for Future, led by Greta Thunberg, and Extinction Rebellion are known for their interesting approaches and mobilising a generation that is actively seeking to shape its own future. They have also inspired several other climate movements, such as End Fossil Occupy, the Student Climate Strike and Climáximo in Portugal.

In this article, we briefly look into how Portuguese youth is responding to the climate crisis, exploring their approaches to understanding the problem, implementing actions and engaging with the government. Our hypothesis is that this movement is a fundamental part of what we call the politics of the Anthropocene. Furthermore, we highlight the importance of the war metaphor that lends urgency to the situation, establishing a duality between "us" (society) and "them" (states, companies), in a narrative

similar to Bruno Latour's (2002/ 2020a/ 2020b) conception of the war of the worlds. The paper is divided into four parts, in addition to the introduction and concluding remarks. We begin by analysing the concept of the Anthropocene and Latour's views on this reality, commonly referred to as a war of the worlds. Then we briefly address climate activism in recent decades, followed by an introduction of the research methodology. Finally, we share the field experience and our dialogue with climate-related youth movements, namely End Fossil Occupy, the Climate Strike and Climáximo in Lisbon.

2. The Anthropocene and the War of the Worlds

In this research, we begin with a critical analysis of the Anthropocene, explaining the reasons for this choice and providing a theoretical framework for the concept. The Anthropocene argument emerged in the 2000s, based on the argument by chemist Paul Crutzen and biologist Eugene Stoermer that we are living in a new geological era, in which humanity has been "a major [acting] geological force for many millennia, maybe millions of years" (Crutzen & Stoermer, 2000, p. 18). In other words, the human being acquires the status of a force of nature. Ever since, the timeline of this era and the *anthropos* responsible for so many changes have been broadly discussed.

There are many clear arguments supporting the transition to a new era, while the scientific community itself explores a range of terminology. Since 2009, researchers have identified the "planetary boundaries", outlining biophysical processes which, if crossed, could trigger non-linear, sometimes abrupt and sensitive changes in environmental systems (Rockström et al., 2009). Climate change, loss of biodiversity, interference in the nitrogen and phosphorus cycles, destruction of stratospheric ozone, acidification of the oceans, global use of fresh water, changes in land use and chemical pollution are critical factors that separate a liveable life from a catastrophic scenario for humanity.

However, recently, after almost 15 years of debate, the International Union of Geological Sciences voted against adding the Anthropocene to the official timeline of Earth's history. According to geologists, one of the obstacles to its approval is the difficulty in establishing an official starting date, since they still have to figure out how and where to set it.

The choice of starting date is not a mere scientific formality, it is intrinsically linked to profound political and moral implications. In other words, "the more remote the date, the less the current forms of capitalism are an issue and thus the more responsibilities are diluted" (Latour, 2015/2020a, p. 183). Therefore, deciding on the beginning of the Anthropocene can reconfigure geopolitical dynamics, accentuating vast inequalities or enabling a new configuration in which more vulnerable groups can develop new strategies of struggle. However, regardless of the decision of the Working Group on the Anthropocene, as Lorimer (2017) points out, "the genie is out of the bottle" (p. 7). The concept of the Anthropocene has spread across the academic, political, media and artistic spheres, giving it meaning for a significant portion of society.

Ever since, various debates have also ensued about the nature of this *anthropos* responsible for so many changes, particularly since the climate emergency was not created, nor is it maintained, by humanity in general. Due to such remarks several intellectuals (for example, Latour, 2015/2020a; Malm & Hornborg, 2014; Tsing et al., 2019) question the use of *anthropos* in the narrative of the Anthropocene and note its analytical fragility, and its capacity to drive collective action. There was therefore an academic-political endeavour to demonstrate such a chasm between humans and non-humans, which triggered many other formulations on how to name this new, post-Holocene era. According to Franciszek Chwałczyk (2020), at least 80 to 90 alternative nomenclatures have been put forward. In a disputed political-semantic arena, the Capitalocene (Moore, 2016/2022), Necrocene (McBrien, 2016/2022), Plantationocene (Haraway, 2016) come up, among others.

The heart of the matter is the excessive emphasis on humanity's impact on the Earth, rooted in an alleged unity of the *anthropos* as a subjective and material community (Yusoff, 2018). However, this indivisible and inseparable humanity can overshadow the dynamics of racial capitalism (Robinson, 2018), climate colonialism (Sultana, 2022), climate apartheid (Tuana, 2019) and the many social inequalities caused by fossil fuels. In our view, this idea of the inseparable "human" is also one way of concealing the role of struggles in the larger field of — epistemological and political — disputes that is the Anthropocene. Such different histories of responsibilities can be erased by establishing a standardised 'we'. Certainly one of the greatest challenges of the Anthropocene is its abstraction, which may also be why activism and movements generally speaking, do not use it.

That is why we are involved in a critical engagement with the Anthropocene, because we see some paths that it may open up. On the one hand, the term allows for an interdisciplinary dialogue between natural scientists and humanists, and beyond. On the other hand, the concept hints at the universality of a homogeneous "Human being", whose universal basis for creation was the white, Christian and heterosexual man. Haraway (2016) and Tsing et al. (2019) teach us that by paying attention to this legacy we can discover what is happening on the planet, especially concerning the unevenness of climate and environmental issues. But also because there are other humanities — and their non-human alliances — that are involved in maintaining the planet liveable for all of us.

It is in this context that Bruno Latour, among many other authors, discusses the political and sociological implications of living in the Anthropocene era. Latour identifies this moment as the new climatic regime, with human beings as the geological agents, and nature, once considered mere scenery, as co-protagonist in the narrative. Under this regime, nature can no longer simply be exploited or protected; a wider range of agents and forms of life beyond the traditional dichotomy between nature and culture must be acknowledged.

In the book *War of the Worlds*: *What About Peace*, published in 2002, Latour discusses how a perceived unity of nature led modern people to the war of the worlds. They

believed the clash could not be seen as a confrontation between worlds, as they defended the existence of a single world. There were two approaches to those who did not share this view: try to persuade them through colonisation, or regard them as others whose beliefs posed no threat to the ruling order.

However, the climate emergency has warned that it is no longer viable to continue with current development policies. Despite this, economic growth at all costs and the accumulation of resources persist as pillars of progress and the well-being of society. The seriousness of the situation takes the dispute between worlds to a new level. In this context, the Anthropocene can be interpreted as a scenario of widespread conflict where many battles will be fought over the configuration of space and climate (Costa, 2017).

By no longer being subject to the unity provided by nature, both sides of the dispute can openly say who they are, what they are fighting for and what the world they want to build looks like, ultimately differentiating between friends and foes. Only after this war between worlds has been acknowledged — that is, when political disputes are no longer governed by the pacifying function of nature — can a truly lasting peace agreement be sought (Latour, 2002).

The new climate regime therefore challenges us politically to abandon the idea of human beings as the epicentre of nature and to learn to coexist with beings that, until recently, we considered only as resources. As Latour points out, on the one hand, humans, the heirs of modernity, who do not find agency in "natural" beings; on the other, earthlings, those who recognise non-humans as political agents actively participating in the construction of the world. Both sides do not share the same territory and define belonging to the Earth differently.

Furthermore, the French philosopher (Latour, 2017/2020b) points out that the perception of the future consequences of climate change, as early as the second half of the 20th century, revealed that there is not enough planet to house modernisation. The elites quickly realised this and embarked on their obscurantist mission to deny and mix up the growing evidence of global warming and its effects on the planet. This is the "they" of the current war of worlds.

The obscurantist elites, as he calls them, have understood all too well that the promises of modernity are not going to be fulfilled, that we are moving at a rapid pace towards a point of no return in environmental catastrophe and that modern utopias will occur in only a few places for a few people, to the detriment of everyone else. This understanding had them consolidate their sovereignty over the resources they needed to preserve their way of life. In other words, they have chosen to double down and continue investing in their political and economic projects, passing on the costs above all to the most vulnerable human and non-human populations.

In this context, political inertia vis-à-vis global warming is not just due to lack of awareness of businesses, government officials and a large part of the population. To assume this would mean believing that there is a humanity that could finally come to an agreement when it realises that nature is in danger. On the contrary, what climate change deniers and the mining industry lobbyists make very clear is that we are facing a project

that instils doubt about the existence of climate change that inhibits social mobilisation around the issue and obstructs the implementation of policies aimed at preventing the problem from getting worse.

It is thus a real war of the worlds, or more precisely, a conflict between those who seek to discover the world — and fight for it — and those who seek to find refuge outside of it. The latter, however, transfers the burden of the "return of the Earth" to everyone else, making others accountable for the relevant costs and challenges.

In this context, according to Latour (2015/2020a), the current limit of the planet implies a fundamental transformation in our approach to "political action", by establishing a new geosocial political arena in which we seek to combine social and environmental struggles. At the same time as the obscurantist elites, climate activists also readily spotted this new conflict zone. It is no coincidence that they adopt the narrative of war as a mobilisation strategy and as a means of interpreting the present moment.

In the field, we see how activists act and react in the same way as Latour's provocative statements: "We're not just facing a global emergency, *we're at war* [emphasis added]. Every year, governments, companies and institutions created to maintain the appearance of peace kill thousands of people around the world in the pursuit of profit" (Climáximo, 2023). "They" (governments, companies, institutions) have declared war on "us" (ordinary people and non-human beings).

So, recognising the warlike nature of the current situation, where the conflicting forces include not only human actors but also the elements of the Earth itself, it is imperative that we turn our gaze to contemporary battlefronts. In this context, new forms of climate activism are emerging that not only respond to imminent threats, but also seek to reset the groundwork for human coexistence with the environment.

3. Climate Activism and Politics in the Anthropocene

Climate change emerged as a global concern in the 1970s, when the international system began fostering conferences and agreements on the matter. International collaboration began with the 1972 Conference on the Human Environment in Stockholm and reached its height two decades later at the 1992 Earth Summit (also known as ECO-92) in Rio de Janeiro. During this period, international institutions and new platforms for political and ecological intervention emerged, including Green parties and many civil society organisations with diverse ideological orientations (Svampa, 2020). In this context a consensus on human action in nature was consolidated and validated by the scientific community (Milani, 2008).

The 1980s featured a growing trend in environmental movements across the globe. In the United States, environmental justice claims were raised in particular by the African-American communities affected by industrial activities, in response to the environmental debate of May 1968. Benjamin Chavis coined the term "environmental racism" for the purposes of the relevant political-theoretical analysis (Chavis cited in Bullard, 2019). The concept "environmentalism of the poor" emerged in Latin America (Martínez-Alier,

2007), and sought to connect environmental struggles on various scales (local, national and global) with social inequality and the reproduction of capital (Milani, 2008; Svampa, 2020).

Svampa (2020) reports that Corporate Watch in the US raised the concept of "climate justice" in 1999 to address the causes of global warming, demanding responsibility from companies, especially oil corporations, and commitment to the energy transition. Meanwhile, several movements, such as those of indigenous peoples, rubber tappers, ecologists, green parties, the Movement of People Affected by Dams and the World Social Forum, organised themselves in different ways against global warming, neoliberal globalisation and the impacts of capitalism in Latin America (Milani, 2008).

In 2012, two decades after the 1992 Earth Summit, Rio de Janeiro hosted the Conference on Sustainable Development, also known as Rio+20, which aimed at upgrading global environmental governance. All the while, the People's Summit, organised by a broad coalition of civil society organisations, social movements and activists, was taking place. Several topics, including social justice, environmental rights, gender equality and criticism of the prevailing economic model, were addressed throughout the parallel event.

In the last decade, the climate issue has gained further momentum as extreme weather events have become more frequent, social media have provided space for public debate and the phenomenon of climate denial has grown since Donald Trump came to power in 2016 as the president of a global power. Trump's announcement of withdrawal from the Paris Agreement spread further frustration. The agreement, which came out of the "21st UN Climate Conference" — COP21 — in Paris in 2015, was a milestone in tackling climate change, as major powers, such as the US, committed to taking concrete action from 2020 onwards, with the aim of keeping global warming below 2 °C.

Svampa (2020) highlights the 2014 People's Climate March in New York as a new stage in ecological-environmental-climate movements around the world. Such "new" movements became the "children of the ecological movements of the 1980s" (p. 286). At the time, slogans such as "there is no planet B", "forests are not for sale", "climate change cannot be stopped without stopping the US war machine", among others, emerged (Svampa, 2020, p. 115). In 2018, Greta Thunberg and Fridays For Future came to the world's attention, as she stopped going to school on Fridays to protest in front of the Swedish parliament. The "Greta effect", as Svampa (2020) calls it, materialises in several "climate strikes", known as the Global Climate Strike, and many other cross-border movements arise, such as the Extinction Rebellion, Jóvenes por el Clima, among others, which demand that governments declare a climate emergency.

4. Method

In October 2023 we went into the field with activists from the Student Climate Strike, Climáximo and End Fossil Occupy in Portugal. Our goal was to understand the mobilisation strategies, the challenges faced and the government's responses to these

movements. We chose participant observation, because it offers an important insight into climate activism in Portugal (Duarte, 2002). Firstly, our choice was inspired by the proximity between activism in Brazil and Portugal, which the language, and the historical and social relations between the two countries can explain. Furthermore, the organic relationship between the occupations in Portugal and the "occupiers" in Brazil in 2015 reinforced this affinity (Medeiros et al., 2019). Secondly, the decision was reinforced by the intensity of European activism, with Lisbon setting the stage for a growing number of demonstrations. During the period of the field research, the movements engaged in calls for civil disobedience, meetings, talks and cultural activities almost daily, in various parts of the city.

During the process, the research faced challenges due to activists' distrust in the beginning, because the government was intensifying persecution. Recently, the Portuguese government has endorsed criticism of climate activists. This was clearly the case when the education minister questioned the democratic content of occupying schools in Lisbon and the Algarve in May 2023 (CNN, 2023b). During the period concerned, the public police force arrested four climate activists who were occupying the University of Lisbon, raising questions about the violence of police action (CNN, 2023a). In May 2023, during the #MayWeOccupy occupations of schools and universities across Europe, Portuguese youth raised awareness for the actions of the movements studied here. These events were marked by significant online and offline mobilisation, reflecting the effervescence of youth activism in Portugal. Against this background researching climate activism in Lisbon is all the more significant. In addition, we seek to strengthen the relationship between movements on both sides of the Atlantic.

Despite the short period, the material gathered in the field includes experiences in training activities for acts of civil disobedience, in-depth interviews and conversations with active participants in social movements. The personal interviews were recorded with the consent of the activists and the questions revolved around the political objectives, visions, motivations and organising strategies of the movements. The other experiences were recorded daily in the field. To complement participant observation, we analysed public statements, social media and website posts, documents and interviews published in news outlets.

We used the technique of content analysis to process data (Bardin, 1977). We developed categories/themes that capture the main aspects of the field research, such as political objectives, activists' motivations, organising strategies, challenges faced by the movements, among others. After coding the data, we were able to perceive emerging patterns, trends and relationships between the movements and the activists.

5. "There will be no Peace Until the Last Winter of Gas": Climate Activism in Lisbon (Portugal)

The youth climate movement in Portugal was sparked by the influential figure Greta Thunberg and leveraged by the 2019 demonstrations that gathered more than 20,000 people.

Our hypothesis is that they challenge the whole system and transcend the street demonstrations, while claiming deeper transformation of the social, political and economic structure (Bringel, 2021). In addition to the dimension of the war of the worlds, which we have also analysed in part two of this article, we believe other four dimensions to these activisms are worth highlighting: a) the relationship between social and climate demands; b) a break with the fossil fuel imaginary (Vindel Gamonal, 2020, p. 3); c) a debate about responsibility for the current crisis; and d) the changes in strategies over this period.

The Student Climate Strike, Climáximo and End Fossil Occupy are distinct but interconnected movements with significant roles in climate activism in Portugal. These movements work together, often collaborating to amplify their messages and raise public awareness of the climate issue. By joining forces, they seek to lobby, foster behavioural changes and hold those who contribute to climate problems accountable. Climate activism in Portugal, driven by these movements, reflects the growing concern of young people about the environment and the search for concrete solutions to global climate issues.

Movements	Details	Key activities	Objectives
Student Climate Strike	Students encouraging young people in schools and universities to protest against the lack of effective action on climate change	Organising student strikes, demonstrations and events	Demand concrete action from government and society to combat climate change and promote more sustainable practices in the education system
Climáximo	Group of activists focussing on climate justice issues	Protests, direct actions and raising public awareness, including criticising polluting industries and lobbying against environmentally damaging policies	Combat the use of fossil fuels, foster sustainable alternatives and press for policies that address environmental inequalities
End Fossil Occupy	Movement to stop funding of fossil fuel projects and promote the transition to cleaner energy sources	Protests, occupations, raising awareness about investments that are harmful to the environment and advocating against institutions that finance fossil fuel industries	Press for divestment from fossil fuels, encourage more sustainable energy practices and hold financial institutions accountable for their environmental impact

Table 1. *Summary of Climate Activism in Lisbon (Portugal)*

Note. Own elaboration based on the analysis of social media and conversations with activists during fieldwork

5.1. The Relationship Between Social and Climate Claims

The separation between these two claims over the course of the 20th century helped to consolidate a political dichotomy between those supposedly concerned with the working class and the development of productive forces, and the environmentalists, who were considered to be less committed to the lives of the poor and more focused on issues of nature, which was seen as external to the world of life.

This separation resulted in two significant historical failures: the environmental movement in the 20th century was unable to generate significant social support for its

agendas and forms of action capable of tackling the effects of climate change; and the left wing parties, both in the geopolitical North and South, were unable to effectively insert the ecological disaster into their political agendas. The environmental and social divide has trapped environmental and socialist movements, where both catastrophism ("it's too late") and the belief in technology as the solution to all problems ("technology will save us") have become obstacles to effective collective action (Latour & Schultz, 2022).

The thinker Bruno Latour (2015/2020a) argues about the separation between science and politics, where science is seen as a sort of authority that dominates facts and evidence, while politics is the sphere of values, opinions, collective agreements and negotiations. However, as we can see, scientific evidence alone is not enough to stop inertia regarding the climate emergency, especially since the interests of large mining companies often clash with the interests of the people and of the main territories affected by climate change. Thus, the traditional view of science separated from politics is proving inadequate, and some effort to connect these two social dimensions is in order. We believe that the Student Climate Strike, Climáximo and End Fossil Occupy movements have been fairly successful in this.

Climáximo, for example, in its "Disarmament Plan", with immediate actions to stop the expansion of the fossil fuel industry, puts forward a measure against the evictions of the poorest population and the deportations of immigrants, highlighting the importance of the fight for housing and countering border security as a central issue in conjunction with the climate issue. This fight is even more important given the resurgence of the extreme right party in Portugal. Which is why, Climáximo activists say "a fundamental strategy for tackling the climate crisis is to guarantee housing and documents for all" (Climáximo, 2023). In one conversation, an activist notes that mobilisation on climate issues has been going down since 2019, which she attributes to the rising cost of living in Lisbon (Miranda, 2024). This decline is interpreted by the movement as a natural response to the immediate priorities of economic challenges, and reinforces the need to relate social-economic and environmental issues as part of the same problem.

Activists from these movements also took part in drawing up the report *Empregos pelo Clima* (Jobs for the Climate), alongside several other organisations, which looks into the creation of jobs that respect environmental standards and help reduce greenhouse gas emissions[1]. Historically, trade unions have fought for decent working conditions, wages, benefits and labour rights. As climate awareness grows and the need to tackle climate change becomes more urgent, trade unions have broadened their agendas to include issues related to sustainable employment and green economic development.

We find that the alliance between young activists and trade unionists is a powerful strategy to connect the struggles for climate justice and that of workers, and to devise effective joint policies against the climate and socio-economic crises in a socially just way.

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1 Find out more at https://www.empregos-clima.pt/, accessed on 23 March 2024.

5.2. The Break with the Fossil Fuel Imaginary

Jaime Vindel Gamonal (2020) argues that there is a fossil fuel aesthetic that plays a fundamental role in shaping the social imaginary, especially in understanding the development of industrial modernity. Such imaginary has played a significant role both in naturalising the capitalist form of production and in promoting the productivist concept that goes with it. At the same time, these processes have made us perceive nature as resources available for human progress. The correlation between energy imaginaries, the capitalist form of production and this perception of nature reveals the complexity of the relationship between society, technology and the environment throughout modern history.

This interests us because imagination, creations and world views should not be considered mere abstract or ideal entities, but an essential part of shaping and organising human societies. Such fossil fuel aesthetic is a fundamental part of the problem we need to face today, in which extractive use is naturalised to the point where much of the discussion on energy transition in the context of climate change is based on the use of fossil fuel energy as being fundamental for sustaining the development of alternative energy sources. These features thus play an active part in the construction of social reality, influencing the way people perceive and interact with the world around them. This view underscores the importance of taking into account both material and objective aspects, together with subjective and symbolic aspects when analysing societies and cultures (Vindel Gamonal, 2020).

We believe that the youth climate movements in Lisbon play a fundamental role in breaking with this imaginary by questioning so profoundly the dependence on fossil fuels and the exorbitant profit they generate: "They are profiting at our expense and destroying the planet", they say. The relationship with inequalities and neoliberalism becomes clear here, since the neoliberal system emerges as "the golden age of greenhouse gas emissions", marked by an exponential increase in these emissions and the escalation of social inequality locally and globally (Vindel Gamonal, 2020, p. 287). The phenomenon reflects not only the expansion of industrial and economic activities, but also policies that prioritise economic growth at any cost, neglecting environmental and social concerns. For this reason, movements such as the Student Climate Strike argue that the Portuguese government, which "should be planning for the end of fossil fuels and a fair energy transition COMPATIBLE with the deadlines of climate science" benefits an economic elite over the collective well-being and environmental balance "because what drives them is profit" (Student Climate Strike, 2023).

Dismantling this subjectivity is a — personal and collective — learning process, which is consolidated through practice and manifests itself in incorporated habits and in the plurality of actions that seek to break with the fossil fuel imaginary, as climate movements have sought to do in Portugal. Such deep transformation of subjectivity requires a continuous commitment to deconstruct the patterns created by the capitalist system, and seeks to build new ways of thinking, feeling and acting that are aligned with a vision of a liveable life on this planet. This is one way of interpreting the political

situation not only as different groups struggle for power, but also as a clash between different concepts of life or different forms of existence.

5.3. Assigning Responsibility for the Climate Emergency

From 2023 onwards, the movements, particularly Climáximo, have toughened their narrative of war and confrontation as part of their strategy. The group emphasises the need to break with its own practices, as it understands that the climate emergency demands a complete makeover of its actions and its collective identities. Climáximo activists believe that this radical change is the only option for preventing civilisation from collapse and to promote peace.

One of the most striking actions of this new approach happened on October 3rd, when Climáximo activists hung themselves with ropes from the pedestrian bridge and blocked the Segunda Circular ring road for two hours, in Lisbon. All the while, the activists held a banner declaring that "the government and companies have declared war on society and the planet".

By doing so, activists held the government and companies accountable for climate change. They underscore that the policies and practices adopted by these entities often prioritise economic interests over the well-being of society and the health of the planet. This suggests that the government and companies take actions that intensify the environmental and social problems.

The war metaphor helps activists to highlight the gravity of the situation and the need to act quickly to prevent such harm. The language of war and confrontation in Climáximo's narrative calls for a more radical and assertive approach to raising awareness regarding the urgency of the climate crisis. By highlighting the idea of declared war, the group seeks to emphasise the gravity of the situation and the need to take immediate action to address the threats to the climate. The new narrative also reflects a change in the strategies of the climate movements, which have gone from more conventional approaches, such as demonstrations, to more direct actions with greater impact. The war metaphor suggests the willingness to confront and challenge the institutional bodies that the activists believe are responsible for the climate crisis.

O'Brien et al. (2018) introduce a typology for understanding youth dissidence of climate activism. The typology divides activism into three types of dissidence, a) obedient, b) disturbing and c) dangerous, as a way to call attention to the different ways youth express political action within and outside traditional political procedures, to challenge power relations and political interests and foster resilient futures in the context of climate emergency. Not all forms of dissidence and climate action are equally challenging of the *status quo*, just as not all forms of dissidence can be interpreted in a positive manner. Naturally these lines are very blurred, but they do help us analyse the complexity of youth activism in relation to the climate issue. We do believe, however, that youth climate action in Portugal can be perceived as dangerous dissidence.

It is no coincidence that the Portuguese government has been challenged by the complex dynamics of dealing with the Student Climate Strike and End Fossil Occupy activist groups in Lisbon. Authorities are adopting different approaches in the face of growing activity and pressure from these movements. On some occasions the government was open to dialogue and established communication channels with the activists to discuss concerns and proposals. This approach apparently sought to build a more collaborative relationship, and acknowledged the importance of activism as an agent of public awareness raising and change.

There is one event that clearly illustrates the tension: eight activists were detained during the marathon sponsored by Energias de Portugal, although apparently, they had not committed any crime. Furthermore, after blocking the roads activists were taken to court and some of them were fined, which stoked the fire between the movements and authorities. Their response to the fines, holding fund-raising parties, highlights the resilience and solidarity within the movement. Such activities both seek to cover the costs incurred and represent creative and collective resistance against the government's restrictions.

The Student Climate Strike, in turn, was involved in a remarkable event together with the then Environment minister, Duarte Cordeiro. During a conference hosted by CNN Portugal dedicated to green energy, the minister was the target of a protest, which involved green paint thrown on him while he was speaking on stage. Three young activists walked on stage to demonstrate and interrupted the minister's speech. Minister Cordeiro was hit in the face and the live broadcast of the event was interrupted.

Both movements do face much criticism and their actions are misunderstood, for example the episode when members of Climáximo threw paint on a Picasso painting, at the Modern Art Museum in Centro Cultural de Belém. The assessment of the impact of such actions varies, but activists realise that the actions that do not affect people directly are regarded more positively. They believe that such strategy is more effective in giving more visibility to the climate agenda, in raising more activists and interrupting what we call, in line with Latour, the new climate regime. The underlying idea is that, by raising awareness of environmental issues through impacting actions, they raise more public awareness and support. Their intention, according to their own words, is ultimately to restore peace in society, since their actions are regarded as the much-needed response to the urgent climate crisis.

Such strategic approach is suggestive of a conscious choice of movements to balance direct actions that draw attention and create a broader movement, with a view to driving significant changes in environmental and climate policies. The ethics issue connected to the impact of their actions on cultural assets or valuable objects is debatable, but activists say that their goal is to awaken minds and drive stronger action against climate change.

5.4. From Protest to Direct Action and Occupation

Donatella della Porta and Louisa Parks (2014) analyse the processes of contextualising climate movements. The authors identify a change in those movements, which act on two different, albeit connected, "fields". According to Della Porta and Parks, on the one side the climate justice movements are guided by direct action, and on the other they join NGOs leading climate change movements. From our work in the field we understand that the Student Climate Strike, Climaximo and End Fossil Occupy are part of the latter.

Generally speaking, differences in concepts and, consequently, actions for guaranteeing effective change can be summarised as follows: "while the climate justice section of the movement sees the root cause of environmental meltdown not merely in humankind, but in capitalist humankind", the climate change movements, "albeit critical of the global economic system, accepts its existence and seeks to encourage changes in it to mitigate climate change" (Della Porta & Parks, 2014, p. 8).

Realising that protests and petitions were not enough, activists adapted their strategies. They allowed themselves to be inspired by the disobedience protests in England and Germany, and diversified their tactics in Portugal, shifting from protests to more direct action. In the beginning they occupied schools, which effectively caught attention and gathered engagement.

We feel that the more disruptive method is both a form of reflection and a strategy for *changing the world* (Friberg, 2022*)*. We thus agree with Anna Friberg (2022) for whom the actions of these activists seek to shake more than to impose projects. Therefore, the occupations and protests of those activist movements must be understood as methods for enhancing the discussion on the issue and opening the debate about the future. In other words, it is intended to encourage governments to implement more drastic measures against climate change (Marquardt, 2020). Or as Kramcsak-Muñoz (2019) argues, such activist protests symbolise change in current environmental discourse, whereby the group adopts a new radical discourse that does not seek friendly solutions for short-term environmental adaptation inside the neoliberal capitalist system, but fosters a long-term mitigation approach to change the *status quo*.

Some actions, such as blockades at the natural gas port of Sines, illustrate the escalation of protest strategies. Besides occupying the port of Sines, in April 2023 activists also occupied schools and universities led by End Fossil Occupy, which showed the movement's willingness to take concrete steps to disrupt fossil fuel infrastructure. While participation in the Global Climate Strikes has been declining since its height, activists' activities remain highly impactful. Recognising the need for more assertive strategies, activists have turned quantity into quality and channel their energy into carrying out actions they consider just as important as mass participation in demonstrations. The changes to the strategies of the climate movement in Portugal reflect on going adaptation needed to address the changing challenges and the need to keep the debate alive in the public sphere. Weaker protest mobilisation does not mean less commitment; it is a change in approach to leverage effectiveness in a complex and dynamic context.

Our experience in the field has taught us that the occupations, led by the End Fossil Occupy movement, are an effective strategy for expanding the climate movement in Portugal. Sharing space for cooking and sleeping together, and taking part in educational activities in schools and universities not only strengthen the bonds between activists, but also contribute to wider awareness-raising and mobilisation. In the occupied schools, activities ranged from lectures and training to moments of relaxation, in addition to daily tasks. The lectures focused on the climate, gathering experts and students engaged in learning about the topic. This educational approach within the occupations reflects a holistic strategy that includes direct resistance and spreading of knowledge and awareness of climate issues.

Lisbon's youth admired the mobilisation of Brazilian high school students in 2015 ("Primavera Secundarista"), which emphasises the international influence on the strategies of the climate movement in Portugal. Portuguese activists express admiration for this Brazilian movement, which was fundamental in bringing me closer to them on the field. They were guided by the Brazilian movement, marked by demonstrations, school occupations and student protests, as they told me themselves. Recognising the strength and impact of this movement serves as an inspiration and example of successful student mobilisation. The screening during meetings and training sessions of the film *Espero Tua (Re)volta* (2019), directed by Elisa Capai, highlights the role of audiovisuals as an educational and inspirational tool. The documentary on the student protest mobilisation in Brazil offers a significant parallel for Portuguese activists. Such is the important role of visual narratives in conveying messages and engaging the public.

Combining direct action, environmental education and references to international experiences contributes to acknowledging young people as key players in tackling climate change, especially in a context where these young people, although most affected by the crisis, are excluded time and again from decision-making and negotiation processes (Malafaia, 2022). Therefore, the occupations and direct actions are an indispensable part of their process of *becoming political subjects*.

6. Concluding Remarks

The present article addresses the concept of the Anthropocene. As the crisis worsens, a wedge between those who deny and obstruct the climate crisis and those who are fighting for a liveable planet widens, a true war of the worlds. Climate activism, especially led by young people, stands out as a mobilising force.

In Portugal, the Student Climate Strike, Climáximo and End Fossil Occupy movements play a key role in raising public awareness and promoting change to tackle the challenges of climate change. Youth insurgence in climate action highlights not only the urgent actions required, but also the search for a fair and sustainable collective vision for the planet, breaking with the fossil fuel and neoliberal imaginary. Such efforts illustrate the vital role of young people in promoting discussions, awareness and concrete measures for tackling the climate emergency. Through their engagement young people

not only claim to be heard and demand agency, but are also determined to actively shape their collective future. This engagement strengthens their political participation and underscores the importance of letting them offer effective solutions to the climate crisis.

Meanwhile, the resistance of some government sectors and the complexity of climate issues demonstrate the continuing need to press for significant changes. We conclude this study by emphasising the importance of continuing to monitor and support climate activism in Portugal. We acknowledge its role in building a more sustainable and resilient future and endeavouring to forge alliances between these movements and Brazilian activists.

Translation: Traversões, Serviços Linguísticos, Lda.

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Biographical Note

Mariana Castro is a PhD student in Political Science at the Institute of Social and Political Studies of the State University of Rio de Janeiro. She is a researcher at the Interdisciplinary Observatory on Climate Change and is a member of the World Political Analysis Laboratory (LABMUNDO).

ORCID: https://orcid.org/0000-0003-0028-5045

E-mail: marianacastro@iesp.uerj.br

Address: Rua da Matriz, 82 - Botafogo, Rio de Janeiro - RJ, 22260-100, Brazil

Activist Art and Ecological Art: Exploring the Interplay of Culture, Environment, and Society, Artistic Approaches, and Cultural Production Contexts

Tatiana Lopes Vargas
Independent researcher, Vila Nova de Gaia, Portugal

Abstract

Environmental activism, expressed through art, prompts an educational process, generating reflections and evoking a sense of vulnerability experienced by human bodies before the reality of the climate emergency (Rodriguez-Labajos, 2022). Because ecological art sparks subjective responses aimed at raising awareness and driving action on socio-environmental concerns, this theoretical, reflective, and interpretive article seeks to explore the concepts of "activist art", "ecological art", and analogous designations in order to analyse the interplay between culture, environment, and society and the conditions shaping cultural production practices. In pursuit of this objective, our inquiry delved into the framework of Félix Guattari's concept of "eco-art" (1989/1990), the nature of ecological art approaches and the primary environmental causes they address, the contextual landscape in which environmental activist art practices unfolds and the dynamics of cultural production. Examples from Portuguese artists and projects were used to elucidate the nuances of creative practices and strategies linked to environmental sustainability, aspects relating to environmental education, ethical issues and cultural policies that align with ecological art. This article aims to contribute to the discussion on ecological art by exploring the political identity of art and emphasising the indispensable and inherent analysis between cultural practices and the environment.

Keywords

ecological art, environmental art activism, culture and environment, political identity of art, cultural production

Arte Ativista e Arte Ecológica: Uma Discussão Sobre a Relação Entre Cultura, Ambiente e Sociedade, Abordagens Artísticas e Contextos de Produção Cultural

Resumo

O ativismo ambiental, através da arte, estimula um processo de educação, ao mesmo tempo que gera reflexões e uma experiência de vulnerabilidade sentida pelos corpos humanos diante da realidade da emergência climática (Rodriguez-Labajos, 2022). Devido às subjetividades desencadeadas pela arte ecológica para a consciência e ação sobre as questões socioambientais, este artigo, de cunho teórico, reflexivo e interpretativo, tem o objetivo de abordar os conceitos de "arte ativismo", "arte ecológica" e outras nomenclaturas análogas, de forma a analisar a relação entre cultura, ambiente e sociedade e as condições por meio das quais as práticas de produção cultural se desenvolvem. Para tanto, procurou-se compreender a perspetiva das três ecologias e

da noção de "ecoarte" de Félix Guattari (1989/1990); a natureza das abordagens de arte ecológica e as principais causas ambientais associadas; o contexto em que ocorrem as práticas artísticas de ativismo ambiental e a atividade de produção cultural. Recorreu-se a exemplos de artistas e projetos portugueses para perceber: as particularidades das práticas e das estratégias criativas ligadas à sustentabilidade ambiental; os aspetos referentes à educação ambiental, às questões éticas e às políticas culturais que se adequam à arte ecológica. Com este artigo, pretende-se contribuir para a discussão sobre a arte ecológica sob a ótica da identidade política da arte e da análise necessária e intrínseca entre práticas culturais e ambiente.

Palavras-chave

arte ecológica, ativismo artístico ambiental, cultura e ambiente, identidade política da arte, produção cultural

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1. Introduction

This article sets out to delve into the concepts of "activist art"[1] and "ecological art" through a theoretical review that considers the interplay between culture, the environment, and society. It invites reflection on the various artistic approaches and the nuances that shape cultural production practices. In the context of activist art, it addresses the relationship between art and resistance, underlining the political role of art. Drawing from Rancière's work (2007), we understand the assertion that politics is a fundamental dimension of art's identity, and the preservation of the tension between these domains (art/politics) is crucial for the effectiveness of resistance. Regarding ecological art, the focus was on presenting the various approaches on which ecological artistic practices develop. Amidst the diverse and non-consensual array of approaches presented (Kagan, 2014; Ribeiro & Almeida, 2021; Rodriguez-Labajos, 2022; Sanz & Rodriguez-Labajos, 2021; Wallen, 2012), one can observe artistic practices that both highlight and inform audiences about environmental issues. These practices also explore the dialogical interplay between multiple areas and themes, shedding light on numerous aspects associated with climate change, including the failure to preserve biodiversity, waste generation, overexploitation and excessive use of fossil fuels, as well as concerns regarding water quality and availability, among others. From the standpoint of the close connection between artistic and cultural practices and socio-environmental struggles, the concept of eco-art was reviewed through the contribution of Félix Guattari (1989/1990), emphasising his three ecologies — mental, social and environmental — and the ethical-aesthetic alignment the philosopher termed as "ecosophy".

Amplifying the environmental dimension in cultural discourse is crucial, especially considering the tendency of political, governmental, and market entities to employ rhetoric accompanied by superficial actions in sustainable development, the disregard or neglect of the concept of coexistence between society and the environment, coupled with the ignorance stemming from a lack of political will to understand environmental issues

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[1] Art activism, also known by the terms "activist art" and "artivism", lacks consensus regarding its terminology. These terms are used interchangeably by different authors, as explained in Section 3. This article opts to use the term "activist art".

within a situational and temporal evolving context. Raymond Williams' (1961) position on culture as a nexus connecting various spheres, in *The Long Revolution*, holds particular significance for this context, allowing the democratic use of the notion of "culture" to advocate for social change (Cevasco, 2003). The notion of "culture" aligned with this integrative perspective upholds Williams' (1998) vision of culture as encompassing a way of life, practices, emotions and articulated thoughts (Ribeiro, 2017).

This article adheres to the theoretical and epistemological principles of cultural studies, adopting a theoretical, reflective, and interpretive approach. The author's perspective — who has 14 years of experience as a cultural producer — also informs the methodological investment. The discussion was contextualised through examples of artists and projects and their practices related to environmental activism, with a particular emphasis on the Portuguese context. In Section 2, this article presents a reflection on the contexts in which the creative processes of ecological art develop, either shaping the creative processes of ecological art, exploring conceptual notions of "culture" and "environment", or mentioning the role of cultural policies and the economy of culture. Sections 3 and 4 provide a theoretical overview of aspects relating to activist art and ecological art. In Section 5, the perspective of cultural goods production is underscored through the lens of professional activity of cultural production to provide examples of Portuguese artists and projects and their potential for fostering education and environmental sustainability.

2. Culture, Environment and Cultural Production

From the standpoint of knowledge production and critical thought inherent in cultural studies, it constitutes an integral component in fostering constant intellectual self-reflection and scrutiny of scientific output concerning societal phenomena (Hall, 1992). To this end, it is essential to contemplate the critical intersection between political and intellectual work and academic work, as delineated by Walsh (2012), to enable broad, dialogical discussions about society and its cultural concerns, a discourse that inherently and urgently encompasses the environmental context. In this paper's case, such a perspective is exemplified by an examination of environmental issues through a cultural analysis, which initiates a process of theorising about artistic practices and socio-environmental struggles. Engaging with environmental issues through artistic critique inevitably involves confronting reality and human responsibility for climate change. Raymond Williams' position, which posits that culture is interwoven with diverse spheres such as the economic, ideological, and historical (Cevasco, 2003), underscores the need to include the environmental dimension into the debate, as it ensures what Williams referred to, according to Cevasco, as a democratic use of the notion of "culture" that holds the potential for fostering social change. In essence, culture remains at the heart of social struggles across various approaches. For Williams (1998), a definition of culture should encompass not only intellectual, educational, and artistic output but also institutional

practices and modes of human behaviour. This requires examining social meanings and values and the entirety of human creative activity.

Considering the multi-relational nature of the array of cultural transformations shaping contemporary human existence (Hall, 1980), it becomes essential to adopt a comprehensive definition of the concept of "environment" that integrates environment, society, and culture into a unified vision. Hence, as noted by Freitas (2008), "the environment is intricately linked to both nature encompassing human and non-human environments, and to the social, cultural, political, and economic dimensions" (p. 26). Furthermore, Gorz (2011) states that the term "ecology" refers to environmental principles and awareness of the consequences that capitalist modes of production have on the environment. The concept of "environment" also relates to the dialogue between public managers, civil society actors, the private sector and academics on issues such as environmental management, sustainable development and the creation of a culture of sustainable responsibility (Nações Unidas, 2023). The notion of the physical environment seems to be as present in this concept as the concern for societal well-being in terms of sustainability and social and political participation and collaboration, which configures a multidimensional view of the concept, as is the case with the definition of "sustainability", according to Jacobi (2003). In this vein, it is important to consider factors such as environmental quality and justice (Nascimento, 2012), which are not always encompassed by multidimensional approaches to the "sustainability" concept.

Guattari (1989/1990) reinforces the idea of integrating culture, environment and society as he discusses the three types of ecologies, which together contribute to an expanded notion of subjectivity. In this sense, tackling contemporary environmental challenges requires reconciling mental, social and environmental ecologies. In other words, comprehending the environmental crisis entails not only understanding the physical degradation of planet Earth but also considering social, socio-environmental, and subjective aspects. This suggests new paradigms for imagining and analysing production and consumption, as well as new approaches to thinking, living, experimenting, and fighting, encapsulated by Guattari's concept of "ecosophy." This fusion of ecology and philosophy would represent a new way of being and thinking about contemporary society and, therefore, contemplates a perspective of subjectivity marked by the singularisation of experiences and a functional multicentrism that diverges from universal societal projects. Regarding eco-art, in a sense analogous to ecological art, we can see Guattari's (1989/1990) view that the enunciation proposed through art forms part of this array of ways of thinking and feeling adapted to interactions with all species and reflection on practices within the molecular realm of existence, encompassing urban, familial, and occupational spaces, among others. Therefore, the production of subjectivity serves as the primary arena for shaping power relations and their resistance.

While Brunner et al. (2013) argue that the interpretation of eco-art in relation to Guattari's three ecologies (1989/1990) can be prone to misinterpretation and may still retain utopian traces of "an identitarian or moralistic projection of a full, complete and uniform community" (p. 10), the authors nonetheless underscore significant aspects

of this perspective. The eco-art referenced by Guattari cannot be reduced to a form of "green" art that neglects the political dimension of art or merely aligns with "green" parties. In contrast, the authors propose questioning the evolution of such ecologies and how they activate their potential for interconnection. They also assert that the ecological crisis must be understood as a political, cultural and social crisis, which calls both for an ecosophy and an eco-art, as a political, social and cultural revolution capable of redirecting production objectives, forms of organisation and ways of being together (Brunner et al., 2013).

Through this article, we aim to provide a brief insight into aspects linked to the production and consumption of cultural goods, supported by Guattari's (1989/1990) vision of eco-art. As such, cultural production, as viewed by Menezes (2018), primarily involves public policies for the arts and their consequences for the economy of culture and the cultivation of audiences. The latter is predicated on several questions: what types of audiences make up cultural product consumers? What do they consume? What do they want to consume? Are they primarily interested in engaging with cultural expressions or seeking entertainment? In the author's reflections, significance is given to analysing the conditions under which cultural production unfolds, particularly the transformations that shape the identity composition of contemporary societies. Menezes (2018) asserts:

> yet, to this unmistakable characteristic of inhabiting a totally globalised world, where the cultural references of a community are experienced (and intermingled) in any corner of the planet, whether due to the constant relocation of people or as a result of access to technologies that have swallowed up spaces and times, another no less relevant is added: that of existing today (in a world that is clearly asymmetrical, in the distribution of wealth) within a society driven by desire, by the relentless pursuit for new intimate and emotional experiences, new ways of living, and new lifestyles. Consumers, or perhaps even, as Lipovetsky argues, hyper-consumers. While the first of these characteristics has had a clear effect on modes of production, circulation, and cultural consumption, the second has certainly been no less impactful, even in the construction of the civilisation of the spectacle. (p. 14)

This context is a parameter for both what defines the public's desire to consume and what drives the producers of cultural goods, including artists, cultural producers, and cultural managers. Here, the notion of "cultural production" is associated with the economy and sociology of culture, forming the complex structure of cultural industries encompassing aesthetic, ethical, financial, and social standards. With regard to the perspective of art related to the economy of culture, Guattari's three ecologies (1989/1990) can be interpreted through the following lens: (a) social ecology — social relations and structures that, in the economy of art, entail examining how economic practices associated with the production, distribution and consumption of art impact social relations.

This would entail considerations regarding access to art, equity in the allocation of resources to artists and the impact of economic structures on artistic production; (b) mental ecology — suggests that economic practices related to art also influence people's perceptions and cognitive understanding of culture, which can pose challenges in contemporary approaches, whether they are more conceptual, participatory or activist. Moreover, the economic system influences the valuation of art, thereby impacting access to different forms of artistic expression; and (c) environmental ecology - although the connection between environmental ecology in the context of the art economy is not explicit, the implications are apparent. It is possible to contemplate the ecological impacts of the production of works of art, the use of materials, exhibition, performance and communication practices and how artists address environmental issues.

Given ecological art's interdisciplinary nature, the diversity of its creative, conceptual, and performative approaches, and its relational capacity, it is imperative to align suitable cultural policies. Cultural policies articulated at local, regional, national (and European, in the case of Portugal) levels, with a funding scheme and the promotion of long-term aesthetic experiences rather than solely one-off acquisitions of cultural goods, are crucial aspects of cultural production practices in ecological art. That is because, through effective cultural policies in terms of approach, timing and funding, it is possible to maintain a consistent process of artistic creation that fosters a wide range of experiences, participation and reflection among diverse audiences. That is a fundamental aspect of the realisation of environmental activist art or even the implementation of environmentally sustainable artistic practices.

3. The Multiple and Flexible Nature of Activist Art

Artistic activism, also known as "activist art" and "artivism," can be compared to public art, political art, or intervention art. There is no universally agreed-upon concept or terminology for artistic activism, and its approach varies widely. According to Vieira (2007), it is a multidimensional practice with interchangeable strands within the context of artistic production. The author further notes that

> some commentators have refrained from using the adjective "activist," opting instead for alternative terms such as interventionist, progressive, oppositional, experimental, critical, or committed art, among other synonyms, including political, politicised, socio-political, confrontational, subversive, or radical art. Some proponents of activist art even eschew the pairing of these two terms, favouring alternatives such as left-wing visual culture, performative activism, activist cultural practice, or cultural activism. The meaning of these terms can sometimes be more positive when emanating from the left and derogatory when originating from the right, connoted with propaganda, which does not mean that these perspectives are shared. (Vieira, 2007, p. 6)

In "Será que a Arte Resiste a Alguma Coisa?" (Does Art Resist Anything?), Rancière (2007) delves into the complex relationship between art and resistance. He contends that art engenders dissent, inquiry, and emancipation, irrespective of its overtly political character. Nevertheless, given art's association with and reliance on the market realm, it is not possible to assert that artists consistently subvert systems and provoke contestation. From this standpoint, Rancière suggests that the connection between art and politics is an essential dimension of art's identity, underscoring the significance of the tension between these domains for effective resistance. In essence, activist art is not conceived as a favour provided by the artist or art to politics but rather embodies an inherent dimension characterised by the permanent tension between art and politics. Therefore, art establishes a tangible and symbolic space that provides a new sensible freedom (Rancière, 2007). For artists, the aesthetic freedom of activist art lies in the interaction among art, the social context, and the public in a space where subaltern voices can be heard and traditional forms of power can be challenged. From the audience's perspective, Rancière introduces the concept of the "emancipated spectator", referring to the active and critical art spectator who is willing to get involved in interpretation and question power structures. The production of meaning itself presents an opportunity to challenge discourses and positions of power.

Among the various approaches to activist art, some manifestations are related to community communication practices, aligning with the perspectives of Homi Bhabha and Grant Kester, or even forms of dialogue with institutions and other public spheres, as explored by Finkelpearl (Vieira, 2007). According to the artist Andrea Fraser, political art is characterised by its conscious commitment to intervening in power dynamics, shaping artistic production with this organising principle in mind, and covering aspects spanning from form and content to methods of production and dissemination (Bordowitz, 2004). Theoretical contributions by Lucy Lippard, an American art critic and curator, suggest a distinction between political art and activist art: political art tends to be socially concerned, and activist art seems to be socially committed. In Simon Sheikh's (2017) critical essay on Lucy Lippard's text "Trojan Horses: Activist Art and Power", published on the website of the activist and cultural network Void Network[2], the metaphor of the "Trojan horse" emerges as an argument to explain the strong activist art movement that has disguised itself inside an alluring aesthetic object since 1980. The critical text states that, unlike the Trojan horse, activist art is not instrumental in the violent overthrow of a regime but works rather by subverting the very idea of an aesthetic object. Particularly in artistic and activist circles, this debate continues as to whether this subversion is merely a masquerade—a purely strategic universalism that pretends to be "art" in order to gain access—or whether we are dealing with a Janus-faced identity at once activist and aesthetic (Sheikh, 2017).

Assuming that politics is part of art's identity, we can conceive of activist art as a collection of creative and artistic practices founded on political performance and the

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[2] Void Network is an activist and cultural network based in Greece that is dedicated to a wide range of activities and projects related to counterculture, radical politics, art, music, and social awareness. It is renowned for its contributions across various domains, encompassing political activism, ecology, art, and alternative culture.

integration of various social agents and fields of knowledge. In the context of art's inter-action with the environment, American writer, art critic, and professor Suzi Gablik (1992) advocates for a transition away from viewing art merely as a commodity or individual expression towards art that is participatory, inclusive, and oriented towards the common good. In this vein, she contends that art must address global environmental challenges through practices that foster sustainability, community, and a connection with nature.

4. Predominant Environmental Approaches and Causes in Ecological Art

Ecological art traces its roots to an art movement that emerged in the late 1960s, spearheaded by pioneering artists like Hans Haacke, Helen and Newton Harrison, Patricia Johanson, Alan Sonfist, and Joseph Beuys (Wallen, 2012). Early artworks included the concept of using the earth as a central creative element, using natural materials and working in remote landscapes. However, Wallen observes that these forms were primarily focused on challenging the conception of art rather than engaging with ecological principles. The term "ecological art" gained recognition in 1990 and, as noted by Kagan (2014), encompassed approaches such as land art, recycling, and the use of natural resources as labels representing (a) collaborative, participatory, and socially engaged practices involving humans and non-humans; (b) reconstructive practices leading to transformative artworks; and (c) artistic practices entailing ethical responsibilities towards communities. On the other hand, ecological art has been studied through the lens of its artistic and scientific roots (Wallen, 2012), its artistic engagement driven by immersion in nature and its potential for environmental education (Vasko, 2016). One of its defining features is its collaborative and multidisciplinary essence. In his production, there is also a broad interdisciplinary knowledge facilitated by the interplay between feeling and thinking, an ecological ethic and a systems theory that addresses a web of connections between the physical, biological, cultural, political and historical facets of ecosystems (Wallen, 2012).

An illustration of both the dialogical potential and the breadth inherent in ecological art is its integration into the broader nexus between art and sustainability, extending beyond its environmental dimension. Lopes et al. (2017) highlight the advantages of artistic intervention in public spaces within the sustainability framework and how participatory artistic endeavours can foster social cohesion. The primary contributions of artistic intervention in public spaces encompass the conservation and protection of the environmental territory, the promotion of sustainable development, the enhancement of physical accessibility (facilities) and environmental quality in the surroundings. Additionally, such interventions promote vitality and vibrancy in public spaces. These benefits align with sustainable development practices advocated by political-governmental entities. Among these contributions is the rehabilitation of spaces, achieved through the reuse of materials and the use of eco-friendly materials. This rehabilitation fosters social and economic revitalisation, spurring activity in the local economy, creating job opportunities, and attracting tourism. It also garners interest from public managers in investing in cultural

sector development plans. In the realm of sustainable development, it is crucial to critically analyse two aspects: (a) artistic interventions in this field are not inherently linked to reducing environmental impact or raising awareness about the climate emergency. Should the artistic approach and the communication of the work (on the part of the public body) fail to facilitate discussions about production and consumption practices or to stimulate introspection regarding leisure and tourism spurred by the artistic intervention, the effectiveness of the environmental discourse subsides. Additionally, (b) approaches to sustainable development should steer clear of simply regurgitating political and institutional narratives to avoid a neutral and ineffective stance on environmental issues (Krieg-Planque, 2010). In this regard, these artistic interventions bear the responsibility of understanding the social and political context within which they operate, thus requiring an analysis of the power dynamics at play.

The absence of consensus on ecological art approaches highlights criticisms of land art projects that solely prioritise "green" ethics by emphasising the connection with nature but fail, for instance, to advocate for or inform the viewer (Ribeiro & Almeida, 2021). From the standpoint of the members of the Ecoart Network (2023) — a network of professionals dedicated to a multidisciplinary practice of community ecological art — the following principles merit consideration: (a) attention to the network of correlations within the environment — the physical, biological, cultural, political and historical aspects of ecological systems; (b) the creation of artworks using natural materials or engaging with environmental forces like wind, water or sunlight; (c) the restoration and preservation of natural environments; (d) the dissemination of information to the public about ecological dynamics and contemporary environmental challenges; and lastly, (e) the quest to rethink ecological relationships and creatively propose innovative approaches to coexistence, sustainability, and healing.

Additionally, Kagan (2014) underscores the interchangeable and superficial treatment of terminology associated with ecological art. The author emphasises that, along with elements like connectivity, ethical and environmental responsibility, dynamic balance, and exploration of life's complexity, there are guiding principles of ecological art, like considering various scales of ecological relationships at local, regional, national, bioregional (example given, river basins), continental, and global levels; balancing perspectives between ecocentrism and egocentrism to acknowledge the need for the development of all life forms; connecting everyday, productive, and scientific activities across different levels, particularly emphasising systemic questioning and critical reflexivity.

Current studies aimed at analysing the environmental purposes and causes reflected by environmental artistic activism, as well as their effects, include Sanz and Rodriguez-Labajos (2021) and Rodriguez-Labajos (2022).

Sanz and Rodriguez-Labajos (2021) explore art as an ally in the movement's strategies against coal exports to understand the contributions of activist artists to environmental movements. The research case study focuses on the iconic resistance against the establishment of a coal export terminal in Oakland, United States. The research revealed the involvement of various artists in public protests organised by the environmental

movement through the creation of visual identity products and materials (posters, banners, T-shirts), music, film, poetry readings and visual arts. The association of art with the environmental movement has yielded several significant effects. These include enhancing media visibility for environmental causes and raising awareness among audiences of various age groups, particularly through emotionally resonant poetry, texts, images, and visually impactful installations. Artists and activists engaged in direct dialogues with decision-makers, particularly concerning the construction of the coal terminal. Furthermore, they organised sharing sessions and workshops within the community to address the consequences of fossil fuel use and transportation. A series of sensory apparatuses were artistically created in order to broaden the scope of the contestation. Sanz and Rodriguez-Labajos conclude by identifying several types of transformations derived from environmental art activism that have the potential to influence environmental justice: (a) material transformations (in the case of Oakland, the city council's ban on coal exports, at least temporarily until the terminal developer filed a federal lawsuit against the council's decision); (b) political transformations involving regulatory changes, public participation in decision-making processes demonstrating local political support for the cause; and (c) socio-cultural transformations characterised by interactions between individuals, identity representation, sharing of values and knowledge.

Rodriguez-Labajos's (2022) study provides a comprehensive review of the environmental claims in the literature on ecological art published between 1991 and 2021. Among the main findings in the research on ecological art projects, Rodriguez-Labajos highlights several contributions, including (a) the application of digital technologies in environmental monitoring, underscoring the interdisciplinary nature of these approaches; (b) the staging of art exhibitions or performances during significant events in the environmental field, providing strategic visibility for socio-environmental issues; (c) the valorisation of the diversity of projects, encompassing literature, visual art and participatory and performative initiatives, as exemplified by the walks or dances of indigenous women in Canada; (d) the exploration of the conflicting relationships between human beings and the environment within the context of the anthropocene, an era that delves into humanity's deep and enduring impact on the environment. The core themes of these environmental activism projects revolve around topics such as climate change, air pollution, and the vulnerability of the non-human world. The activist art discussed in the examined studies spans from criticism and contestation to action with tangible outcomes. Projects that use technologies for environmental monitoring or involve audience participation in the creative process exemplify approaches focused on results or sustainability through art. Conversely, highly performative projects with a strong sensory appeal can align with the opposition approach.

Reflecting on ecological art can extend to the cultural sectors' ability to embrace sustainable practices in creation, production, and communication. One example is the *Recycling Tour*[3] by Manu Delago, an Austrian musician renowned for his hang drum performances. He incorporates electronic music and instruments made from recycled

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[3] Information is available on the *Recycling Tour* project website: https://recyclingtour2023.com.

materials into his artistic endeavours. During his 2023 tour, he travelled by bicycle from Austria to the Netherlands and transported equipment boxes with solar panels to minimise the tour's environmental footprint. The performances, partially acoustic, used the accumulated solar energy, prompting audiences to reconsider the way they travel to concerts and overall consumption habits. In Portugal, the Directorate-General for the Arts has integrated environmental sustainability into its arts funding competitions, requiring project applicants to propose strategies for promoting ecological practices in the arts. Notably, in 2021, it initiated a support program in collaboration with the Portuguese Environment Agency. Since 2022, this partnership has resulted in the approval and implementation of 18 projects focused on the intersection of art and the environment, fostering reflection and intervention in this field[4]. The objective was to encourage artists and cultural professionals to engage in the processes of change and the battle against climate change. By April 2024, the Directorate-General for the Arts has not published any new calls for proposals on this subject. In the next section, this article examines practices within the cultural sector related to environmental sustainability.

5. Cultural Production Activity and Its Unique Aspects in the Context of Environmental Artistic Activism: Some Examples from Portugal

Following an exploration of the contextual backdrop through which cultural production is perceived and embraced as a fundamental human right (Section 1), this section proposes a reflection on the intricacies involved in the practice of artistic output. Cultural production and management encompass various tasks in the execution of creative projects. When aiming to secure funding for a project, the process typically commences with conceptualisation, involving discussions with the artist about the project's concept or idea. Depending on the type of funding application, conceptualisation entails writing (argumentation, justification, description, specific artistic objectives, public interest objectives, compliance with guidelines and regulations, activity schedules, among others); budgeting; management, logistics, and communication planning; description of partnerships; and other aspects. In competitions with an environmental focus, these elements need to be carefully planned and articulated to promote environmental sustainability and the adoption of ecological practices within the artistic domain. Hence, every phase of the artistic project presents opportunities for the implementation of environmentally sustainable practices. Furthermore, the artistic object and aesthetic approach can be harmonised with ecological art across its diverse nuances.

In the context of environmental art activism projects, the role of cultural production and management requires a professional who comprehensively understands these aspects and adeptly coordinates and integrates them. In multidisciplinary projects, which are common in ecological art, the role involves not only managing individuals (artists, technicians, activists, scientists, and other professionals) but also coordinating space

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[4] Information on this "Arte e Ambiente" (Art and Environment) support programme was sourced from the website of the Directorate-General for the Arts (DGARTES, 2022).

and time to facilitate dialogue, knowledge sharing, and experimentation with diverse artistic, interpretative, and performative avenues. To further explore this topic, it is crucial to examine how cultural production unfolds across various artistic areas.

Environmental activist art developed from sound art and instrumental music, particularly in its contemporary iteration, exhibits a notable degree of subjectivity, both in creative production and in audience reception. Cláudia Martinho and Luís Bittencourt are two Portuguese artists whose approaches emphasise sound as the primary connecting element between the artwork and the audience. Architect, sound artist, and researcher Cláudia Martinho[5] describes her work as including:

> creating spatial sound installations, compositions, and performances to reveal through sound what cannot be seen, emphasising the vibratory qualities and essences of places, as well as the presence of water and wildlife in relation to human activities and disturbances. (para. 4)

Additionally, the artist guides groups of people who wish to experience resonance with their bodies and places. She organises field trips, immersive walks, and singing sessions associated with the acoustics of natural landscapes. According to Polli (2012), soundscape[6] experiences enable the creation of a bond with the natural environment. Sound walks, whether formal or informal, are viewed as exercises that foster environmental and social awareness and encourage shifts in social and cultural behaviours. In this case, the production activity associated with artistic residencies, exhibitions, and performances entails tasks such as conducting preliminary spatial assessments (whether in a natural landscape, museum, or gallery), ensuring the preservation of materials used in installations, selecting appropriate sound diffusion materials for the spaces, planning the public's access to the artwork, and ensuring the quality and safety of the aesthetic experience. In her artistic project, Wetland, Cláudia Martinho tackles a theme related to climate change mitigation factors: the preservation of wetland ecosystems, specifically in the Tagus Estuary Nature Reserve region in Portugal. Through a multi-channel audio installation that spatialises environmental sounds, the artist explores a range of bird and water current sounds to create an immersive listening experience. According to the artist, the intention is for "this experience [to] invite us to tune into threatened biodiversity while also being able to perceive the overwhelming pressure of the infrasonic noise of aeroplanes" (para. 8). This location is where possibilities for constructing an airport are being studied[7]. Aesthetic experiences with this artwork can foster a connection with the natural environment, as noted by Polli (2012), while also promoting an understanding of this environment and the associated environmental risks. Regarding the quality of the aesthetic experience to be constructed by the public, the work of cultural production

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[5] Information extracted from Cláudia Martinho's website, available at https://claudiamartinho.net.

[6] "Soundscape" is a term coined by Canadian composer Murray Shaeffer to define a collection of sounds from a given environment (see more in Polli, 2012).

[7] For more information on the environmental impact studies related to the construction of an airport in Montijo, refer to Peixeiro (2024).

not only serves a technical function in promoting a clear appreciation of sound but also a responsibility for the informative function relating to biodiversity, environmental risks and climate change.

For composer, music producer, and multi-instrumentalist Luís Bittencourt, whose artistic identity revolves around experimental instrumental music, attention to detail in production and presentation is also important. Above all, it is important to ensure the sound quality of unconventional objects that will be amplified, as well as the sound, light, and auxiliary equipment (racks, tables, and other devices).

Throughout his career as an artist-researcher, he has developed arrangements and compositions using water and everyday objects as primary sound sources. In his project *Sons de Resistência*[8] (Sounds of Resistance), the musician explores a series of sound objects that seek to raise awareness about global consumption, waste production and contemporary lifestyles. One of the concert's pivotal pieces is "Import/Export: Suite for Global Junk" by British composer Gabriel Prokofiev. This work uses a wooden pallet, a metal drum, plastic bags and glass bottles as instruments. Throughout the seven movements of the music, accompanying video imagery depicts human overconsumption and waste production.

In another project by the artist, titled *Memórias Líquidas*[9] (Liquid Memories), water serves as the primary source of sound, being percussed using a variety of creative and interpretive techniques. Here, prioritising the minimal use of water and ensuring its re-use must be a fundamental production principle. In *Memórias Líquidas*, the artist has also delved into performances in which both he and the audience engage in commentary and reflections during the presentations. This can be valuable in contributing to a reflection on the water issue, its scarcity, quality, and sustainability. These two projects by Luís Bittencourt entail a longer preparation time for assembling the concerts, as various objects and musical instruments are amplified and sometimes interact with electronic sounds (such as soundscapes and other synthesised sounds) and images that relate to and complement the senses of the musical proposal. It is also fair to say that the experimental music created by the artist seeks to blur the conventional boundaries between sound, music, and noise, challenging societal norms regarding what constitutes a musical instrument. It could be likened to creating music with whatever resources are available, emphasising a sustainable approach, as he highlights himself in promotional materials for his concerts[10].

In plastic arts approaches, there is often a hands-on aspect involving the selection and collection of materials, and larger projects may require the assistance of artisans or specialised technical professionals. In ecological artworks, aside from the conceptualisation, the choice of materials and the scale of the piece significantly influence the environmental footprint. Artist Bordalo II — Artur Bordalo — is recognised worldwide for his

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[8] Information extracted from Luís Bittencourt's website, available at https://www.luisbittencourt.com/projects-1.

[9] Information extracted from Luís Bittencourt's website, available at https://www.luisbittencourt.com/projects-1.

[10] Information extracted from Luís Bittencourt's website, available at https://www.luisbittencourt.com/.

sculptures made from discarded material. He describes his work as centred around "the excessive production and consumption of things, which results in the continuous production of 'rubbish' and consequently the destruction of the Planet"[11]. One of the main motifs of his works is biodiversity, with an emphasis on sculptures of endangered animals. His series of Big Trash Animals sculptures, consisting of types like "Neutral," "Half-Half," "Plastics," and "Floating," establishes a continuous line of reflection. In "Neutral," the artist proposes the total camouflage of objects by using colours closer to those found in nature. These objects, mostly reused plastic, are coated with paint to create a contrasting representation that closely resembles the realistic colour and shape of the chosen animal. In "Half-Half," half of the artwork represents the realism of the colours, while the other half features plastics, metals, and other raw materials with textures and bright colours (see Figure 1). This combination encourages the public to construct and unravel the part of the image that is not obvious at first glance. In the "Plastics" works, the idea of camouflage is lost, giving way to the contradictory beauty of the colours and textures of common rubbish objects recognisable to the public. In the "Floating" series, Bordalo II explores the concept of animals floating entirely made from plastic materials, aiming to raise public awareness of the environmental problem of plastic pollution in the oceans[12].

Figure 1. *Half owl*
Credits. Bordalo II

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[11] Information extracted from Bordalo II's website, available at https://www.bordaloii.com/about.

[12] Information extracted from Bordalo II's website, available at https://www.bordaloii.com/big-trash-animals-series/floating.

These works are publicised through photographic and videographic recordings, as they are removed from the oceans to avoid interference with the natural environment. In 2019, the artist launched the Paris Agreement exhibition in Paris, featuring 30 artworks depicting endangered animals crafted from discarded materials[13].

Xicogaivota — Ricardo Ramos — is another Portuguese artist who uses rubbish found on beaches as the exclusive raw material for his artistic activism. In order not to increase the environmental footprint of the fragments by turning them into works of art, the artist uses them as they were found, without breaking them up or using paints or glues. All the pieces are attached with screws or ropes. The structure is also made from these materials, following the same rules (see Figure 2). This meticulous search for the perfect piece for each sculpture not only reflects the artist's own ideology but also embodies a lifestyle that he imparts through environmental education projects. Art education is a hallmark of his work, as he has held workshops in Portuguese and African companies and schools[14].
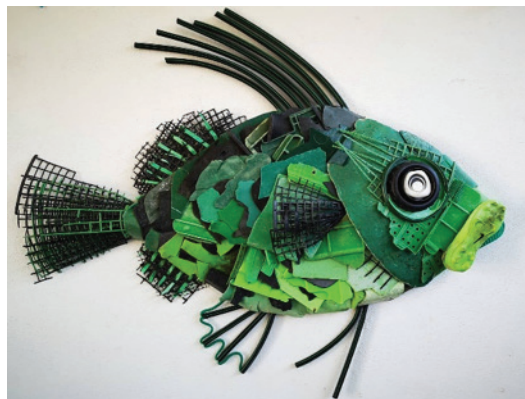
Figure 2. P*eixe golo (Goal fish)*
Credits. Xicogaivota

These two artists' production activity is characterised by the concept of public art, which involves intervention in public spaces and the collection of discarded materials. In the case of Bordalo II, who, in addition to Portugal, has artworks in countries such as Spain, France, Italy, Germany, and the United States, the logistics involves identifying suitable locations and available materials for creating his pieces. Xicogaivota operates primarily from a stationary workshop but engages in material collection activities that can foster community participation and raise awareness about the environment. Bordalo II, known for creating large-scale works that involve paints and glues, requires equipment, machinery, and possibly people to assist with manual tasks.

The cultural production process for audiovisual or cinema projects typically involves establishing institutional partnerships and securing funding from both public and

[13] Browse Exposição de Bordalo II Alerta Para os Perigos da Destruição do Planeta (Bordalo II's exhibition Warning of the Dangers of Planet Destruction; 2019).

[14] Information extracted from Xicogaivota's webiste at, available at https://www.xicogaivota.com.

private sources. That is because it operates in a continuously expanding sector of the cultural industry, which, due to its links with new communication technologies and its potential to portray social problems, fosters audience identification (Prado & Barradas, 2023). Cinema typically entails lengthy pre-production, production, and post-production processes, which often incur significant costs. Similarly, audiovisual productions related to environmental cinema may follow this pattern, but they usually attract support from patrons and institutions dedicated to environmental sustainability. To fully leverage the potential of environmental cinema, it can be associated with a series of initiatives. "Cine-Eco Seia" serves as a prime example, showcasing a comprehensive event with a primary focus on organising an environmental film festival in Seia, which has already hosted 29 editions. The event brings together filmmakers, activists, biologists, and other experts to engage with the public through film screenings, exhibitions, educational materials, concerts, conferences, eco-talks, and more. It represents a collective investment in cultural production, the dissemination of specialised content, and funding, requiring numerous institutional partnerships with organisations and cultural venues hosting event extensions. Additionally, it involves support from investors, including companies aligned with environmental sustainability and the media, as well as backing from national, European, and global entities, such as the United Nations[15]. Indeed, "Cine-Eco Seia" exemplifies an expansive and multidisciplinary cultural production endeavour, highlighting the diverse array of activities involved, each requiring specific equipment, materials, services, and personnel depending on their associated artistic and activist qualities.

Additional examples of artistic endeavours include literature, photography, and the performing arts, all of which possess the capacity to engage in activism and promote sustainability. In addition to rethinking the practice of cultural production within the realm of ecological art, the creative approach significantly shapes the conception of the artwork. Projects that embody a participatory, site-specific, and interdisciplinary nature stand out, as seen in artist residencies and works addressing specific territories and local environmental challenges (examples can be found in other Portuguese projects like *Sustentar*[16] and *Terra Batida*[17]).

The Portuguese examples highlighted in the article serve as a starting point for considering the nuances of cultural production within ecological or environmentally

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[15] Information extracted from the project's website http://www.cineeco.pt.

[16] *Sustentar* — a programme of creative laboratories produced by Ci.CLO — a platform for creation, research, and intervention in the field of photography — which promotes the "development of photographic and videographic projects aimed at providing artistic perspectives on experimental initiatives in the field of sustainability". Sustentar developed projects that delved into themes such as integrating innovative systems for harnessing sunlight, climate change, and the agroecological transition, focusing on local issues. Information extracted from the content made available at https://ciclo.art/pt.

[17] The "Terra Batida" project comprises a network that coordinates residency programs and commissions research, facilitating collaboration among artists, scientists, and activists to address socio-environmental conflicts in different territorial contexts in Portugal. One of its residencies, "Terra no Fundão," delved into the region's century-long mining history and the potential exploitation of lithium under the banner of decarbonisation. During the residency, a range of techniques were developed, encompassing performative, artistic, informative, and research methodologies. Information extracted from the project's website https://terrabatida.org.

sustainable art projects. It is crucial to emphasise that, across all artistic endeavours, careful attention must be paid to the choice of materials, logistics, management, and communication to minimise environmental impact. Ethically speaking, three key points emerge as fundamental: (a) for participatory and site-specific projects, understanding the context and fostering a process of respectful engagement and collaboration with residents and other local stakeholders; (b) ensuring that the community benefits in terms of learning opportunities and increased awareness of local environmental issues; and (c) recognising that activism does not occur in isolation. Thus, respect for different species, ethnicities, cultures, genders, and social diversities is paramount. Additionally, broader issues concerning the rights of artists and cultural professionals, accessibility for audiences, and the facilitation of mediation sessions to share the creative process and educate audiences about the arts are also crucial considerations.

6. Final Considerations

From a broader perspective on ecological art, it is important to highlight the potential for dialogue and joint action among different areas, disciplines, and practices. This collaborative approach also hints at the dissolution of traditional boundaries in knowledge creation. Discussing disciplines or boundaries between knowledge may be at odds with the integrated approach that characterises effective environmental art activism. Activist artists often exhibit sensitivity to various issues, as exemplified by Bordalo II and his provocative pieces that denounce pressing social issues like the housing crisis and economic challenges in Portugal. We might consider activism as inherently intertwined with performance, eliminating the need to delineate between artistic and political dimensions. Instead, art and politics merge, providing audiences with diverse expressions, sensitivities, meanings, and insights within a unified dimension.

This article provides an opportunity to contemplate the potential of ecological art in fostering environmental education processes and actions and communicating about the climate emergency and strategies for its mitigation. Some of the themes explored by Portuguese artists or art projects delve into topics such as overconsumption, reliance on industrialised products and fossil fuels in daily life, and the significant production of waste. The scope of water-related themes is comprehensive, encompassing issues such as scarcity, quality, impacts on aquatic ecosystems, and groundwater resources. As a result, marine biodiversity and debris in freshwater and saltwater environments are implicitly or explicitly addressed. Overall, these artists' examples serve as warnings about environmental risks and, in an effort to avoid contradiction, prompt a reconsideration of their own ecological footprint as stakeholders in the cultural sector. These projects' ability to raise awareness is influenced by the various meanings generated through the diverse, interdisciplinary discourses and perspectives that shape their aesthetic composition, creative approaches, and communication strategies. For the audience, there is a chance to engage in sonic experiences within aquatic environments, prompting reflection

on water's significance in daily life and contemplating its potential future scarcity. There is also an opportunity to consider the profound impact of waste on oceans, urban areas, and the interconnected lives of both humans and non-human inhabitants of the planet, all of which are intricately linked to climate change.

Several specific aspects of the cultural production process define the work's environmentally sustainable nature. However, the aesthetic concept, creative strategy, and underlying environmental cause are crucial in shaping its impact on environmental awareness. Participatory and territorial projects, in this regard, have the potential to mobilise the public, organisations, associations, and local authorities to address local environmental challenges collaboratively.

Ultimately, it is crucial to underscore the necessity for cultural policies that understand the procedural, temporal, and dialogical essence of ecological art, particularly projects aimed at monitoring and spotlighting the effects of climate change through their artworks. Therefore, funding streams and the direction of public policies must be comprehensive enough to recognise the aesthetic experience as fundamentally important in the long term, on par with the consumption of cultural offerings. Public access to creative processes, rather than just the end product, can serve as a productive strategy for raising environmental awareness. This entails adopting more participatory and contextualised approaches for individuals to engage with cultural goods and, above all, involving a spectrum of stakeholders, including the public, governmental bodies, and the private sector. Ecological art projects are tasked with engaging diverse social stakeholders and fostering the development of environmentally sustainable knowledge and practices that contribute to education, awareness, and action in addressing environmental challenges.

Translation: Anabela Delgado

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Biographical Note

Tatiana Vargas holds a PhD in Communication and Culture from the Doctoral Programme in Cultural Studies at the Universities of Aveiro and Minho, Portugal. She has a master's degree in Communication Sciences — Culture, Heritage, and Science from the University of Porto and a bachelor's degree in Social Communication — Public Relations from the Federal University of Santa Maria. She is affiliated with the Communication, Science, and Environment Research Group and the Laboratório Otium de Estudos sobre Trabalho, Lazer, Ócio e Tempo Livre at the University of Fortaleza, Brazil. Her research focuses on exploring the intersections of art, culture, and the environment through the lens of cultural studies.

ORCID: https://orcid.org/0000-0003-4415-2025

Email: tatianavargas.mail@gmail.com

Address: Avenida da República, 1895, 4430-206, Vila Nova de Gaia, Portugal

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The Contributions of Two Latin American Documentaries to an Expanded Perception of Climate Change from a Decolonial Perspective

Denise Tavares
Departamento de Comunicação Social, Instituto de Arte e Comunicação
Social da Universidade Federal Fluminense, Niterói, Brazil

Abstract

Creating a new awareness of the environmental crisis has been on the agendas, either directly or indirectly, of many social actors and media products. These include films and videos focusing on environmental issues, given the current important role of audiovisual culture. Against this backdrop, this paper focuses on the Latin American documentaries *Hija de la Laguna* (Daughter of the Lake; 2015) and *A Mãe de Todas as Lutas* (The Mother of all Fights; 2021), with the aim of discussing their possible contributions to a broader perception of climate action. Based on a film analysis centred on the protagonists, the aesthetic and stylistic choices of each work, we look into how the narratives of the two documentaries intertwine information and subjective knowledge, the individual and the collective, the local and the global, personal memory and public archives, among other argumentative markers. These categorisations are compared to the decolonial perspective, which is taken up in the text in a broad way, that is in the dialogue with authors who embody the struggles of indigenous and/or marginalised people into decolonial theory. Among the results found, we highlight that the documentaries establish counter-narratives that allow us to identify the emergence of female protagonism in the struggles for land and water ownership, the critical stance towards extractivism (and neo-extractivism) and lingering ethnic-racial prejudice. Also worth noting in both films, the documentary language values the subject, without failing to link them with the social context.

Keywords

documentary, counter-narrative, decolonial, climate crisis, Latin America

Contribuições de Dois Documentários Latino-Americanos Para uma Percepção Ampliada das Mudanças Climáticas a Partir de uma Leitura Decolonial

Resumo

A constituição de uma nova sensibilidade em relação à crise ambiental tem sido pauta, direta ou indiretamente, de diversos atores sociais e produtos midiáticos. Destes, destacam-se os filmes e vídeos que focam a temática ambiental, em função do papel relevante que a cultura audiovisual representa hoje. Com essas premissas, este artigo foca os documentários latino--americanos *Hija de la Laguna* (2015) e *A Mãe de Todas as Lutas* (2021), com o propósito de discutir suas possíveis contribuições para uma percepção ampliada das causas climáticas. A partir da análise fílmica centrada nas protagonistas e nas escolhas estéticas e estilísticas de cada obra, este texto investiga como as narrativas dos dois documentários entrelaçam informação e conhecimento subjetivo; indivíduo e coletivo; o local e o global; memória pessoal e arquivos

públicos; entre outros marcadores argumentativos. Essas categorizações são cotejadas ao posicionamento decolonial, assumido no texto de forma ampla, isto é, em diálogo com autores que incorporam as lutas das populações indígenas e/ou marginalizadas à teoria decolonial. Dentre os resultados encontrados, ressaltamos que os documentários estabelecem contranarrativas que permitem identificar a emersão do protagonismo feminino nas lutas pela posse da terra e da água, o posicionamento crítico em relação ao extrativismo (e neoextrativismo) e a permanência dos preconceitos étnico-raciais. Ressalta-se, ainda, nos dois filmes, a constituição de uma linguagem documentária que valoriza o sujeito, sem deixar de articulá-lo ao contexto social.

Palavras-chave

documentário, contranarrativa, decolonial, crise climática, América Latina

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1. Introduction

"Faced with the announcement of the ecological deluge, many are rushing towards a Noah's ark, with little concern for those abandoned on the quay or those enslaved inside the ship itself" (Ferdinand, 2022, p. 22). The author criticises environmentalism that continues to ignore the fact that the destruction of the so-called natural world does not affect everyone in the same way, nor does it include in the debate the social pressure and exclusionary policies that are still in force today in the Caribbean — the author's home territory —, and possibly across the whole of Latin America. They have in common the colonial past with several similar issues, which is why we agree with the author who assumes, as a starting point for devising a new way of tackling the environmental crisis, including the colonial fracture as "the crux of the ecological crisis" (Ferdinand, 2022, p. 201).

Following the argumentative construction of the Caribbean researcher, who sets out to conduct a diagnosis that points to decolonial ecology as an extension of previous criticism of the colonial fracture and which he classifies into four types[1], our goal herein is to discuss the possible contributions of the documentaries *Hija de la Laguna* (2015; by the Peruvian director Ernesto Cabellos) and *A Mãe de Todas as Lutas* (2021; by the Brazilian director Susanna Lira) to raising new awareness of nature, distinct from both the European *logos* and the environmental discourse, which Malcom Ferdinand criticises. This hypothesis is the result of research[2] that recognises both the power of film as capable of constituting a "symbolic repertoire full of cultural meanings" (Bragança, 2011, p. 169) and the intensity of the revival of documentary production "in recent years, once again in tune with its time" (Ramos, 2005, p. 14).

This is in line with the diagnosis of John A. Duvall (2017), who identifies an explosion in film and video production in the first decades of the 21st century that have focused on

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[1] To summarise, actions by pre-Columbian and indigenous peoples who struggle to exist according to their cultures; political ecology resistance of enslaved people from the African continent; political ecology struggles led by women; claims of contemporary colonial situations in both Northern and Southern countries (Ferdinand, 2022, pp. 206–209).

[2] This text is part of a larger research project on environmental documentaries, supported by Faperj (Carlos Chagas Filho Foundation for Research Support in the State of Rio de Janeiro).

the various aspects of the environmental crisis[3], and present broad and varied representations and rhetoric. Addressing such production requires, as we intend to demonstrate here, discussing and debating the struggles against violent processes of expropriation that the peoples and communities that were integrated into the colonial logic undertaken by Europeans continue to endure (Aráoz, 2020; Ferdinand, 2022; Quijano; 2019; Segato, 2021; Zibechi, 2022). It is therefore a question of emphasising the intertwining of resistance and expressive productions: herein we discuss two documentaries that focus on the concrete clashes between the predatory logic of capital and those who do not bow to it.

This is also evoked by the *quilombola* thinker Antônio Bispo dos Santos, who stated almost a decade ago that Afro-Pindoramic peoples (Amerindians and Afro-Brazilians) have always developed counter-colonisation strategies to defend their territories, symbols and ways of life that link them to their memories (Santos, 2015). He feels that words like development or colonisation cover up violent processes, such as deterritorialisation, expropriation and extractivism, which are the basic elements in the destruction of the planet and result in a cosmophobic and cruel world. "The process of naming is an attempt to erase one memory so that another can be composed", says the author (Santos, 2023, p. 12), emphasising that he invests in a game that seeks to contradict colonial words as a tactic to weaken them.

Despite their different paths, both Ferdinand (2022) and Santos (2023) present arguments that reconfigure the way we look at and make sense of the narratives which bring to light the most different strategies for surviving in environments cleverly consolidated by modernity as areas of backwardness, where life is miserable, and the people have no scientific knowledge. In other words, the authors outline territories that are in urgent need of justice and that someone must put an end to barbarism. In this text, the two documentaries are aligned with a critical stance on the use of natural resources in Latin American countries. This focus, as highlighted earlier, is underpinned by the hypothesis that to understand and discuss broad concepts such as "climate change" and the like, there must be cracks through which the multiple and interconnected causes of this moment of environmental crisis circulate. This framework guides the analysis of the selected works.

The narrative axis of the Peruvian documentary is to closely follow the protagonist, Nélida Ayay Chilon, who belongs to the Quechua community of Cajamarca, a town in the north of Peru where Atahualpa[4] was arrested and murdered, and is today still one of the country's tourist centres. Nélida and her companions are fighting to preserve the local lagoons, which are under threat from the *Minas Conga* project. The project involves gold and copper mining by Yanacocha, a consortium made up of the US company Newpont (51% of the shares), the Peruvian company Buenaventura (43%) and Corporación Financiera Internacional (5%), which belongs to the World Bank (André, 2012). The project was put

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[3] The author also points to the investment in formal education (schools and universities) in accessing and discussing these films, and clarifies that activists and organisations have included audiovisuals in their forms of struggle.

[4] He was the 13th and last emperor of the Inca empire, killed in 1532 on the orders of Francisco Pizarro, the Spanish conqueror and invader of the region (Domingues, n.d.).

on standby on 30 November 2011 (Sul 21, 2011), according to Newpont, at the behest of then president Ollanta Humala, after six days of intense protesting by local residents. However, as the film indicates the suspension did not last forever.

The Brazilian film *A Mãe de Todas as Lutas* centres its narrative on two main characters: Shirley Djukumã Krenak, an indigenous activist who lives in the Rio Doce region of Minas Gerais, and Maria Zelzuíta, one of the few survivors of the Eldorado dos Carajás massacre in the south-east of Pará. Here, on 17 April 1996, 21 rural workers were murdered. They were part of a group of just over 1,500 people marching to Belém, as part of the struggle against the expropriation of the Macaxeira farm, occupied at the time by 3,500 landless families. In all, 155 well-armed police officers took part in the massacre. Of these, only the two commanders of the operation were convicted, but are serving their sentences in freedom (Barbosa, 2020).

The story of the two documentaries is about defending water and land, as a circuit that must be included in the effort to ensure a broader perception of the causes of the climate crisis. This is part of the purpose of our research, mentioned above, which considers that the submissions and views defending the separation of environmental struggle from the unrestricted rejection of the colonial process and its consequences that still apply today must be rejected, as proposed by Ferdinand (2022). The challenge, however, is to outline distinctions that counter common sense platitudes, so often fabricated by piles of information that anaesthetise rather than mobilise us to "think in an original way" (Dilger & Pereira Filho, 2016, p. 22). In other words, statements that do not contribute to the debate on Latin America's development models, which still keep the "continent" subordinated to the neoliberal global market (Acosta & Brand, 2018; Aráoz, 2020; Ferreira, 2011, 2012; Svampa, 2019). Thus, in methodological terms, the goal is to trace a path that seeks to demonstrate how the narratives of the two films interweave information and subjective knowledge; the personal and the collective; the local and the global; personal memory and public archives; among other argumentative markers, evoking the emergence of a decolonial ecology, even where it is not designated as such.

It should also be noted that the two films were chosen from the wide range of existing productions, first due to the categorisation previously promoted within the scope of research into environmental documentaries in Latin America, where the struggle for land, especially in the Brazilian context, remains a key issue[5], and that of water can be identified in several countries in this region (Castro et al., 2015). Then acknowledging the importance of their narrative and aesthetic choices, which make them stand out in relation to the proposed analytical keys. For this reason, the film analysis presented in this paper takes into account what Aumont e Marie (2004) emphasise in terms of there being no single, universal analytical method; on the contrary, it depends on the theoretical assumptions underpinning the discourse on the films and the processes of approaching the work and how it is viewed. Thus, as mentioned before, the film material provides the context for engaging in an analytical process that dialogues, in an interdisciplinary way, with the topics and issues that the films bring up through their narratives and images.

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[5] There has been a long history of disputes over land ownership, including the demarcation of indigenous lands and settlements made possible by land reform. See, among others, Linhares e Silva (2021).

With this in mind, we have drawn on a basic conceptual framework that aims to demonstrate how these documentaries expand in a mediatised scenario, amplifying the options of engagement with the environmental cause, to the extent that their narratives echo their struggles and, in a way, summon us to adhere, even if not entirely, to information and/or to empathise. The hypothesis also grants audiovisuals, particularly documentaries, a special place in shaping a new, much needed human sensitivity to nature, which is based on the problematisation of a way of life that is still guided by the colonial process. In other words, it means agreeing with Maldonado-Torres (2023) on the need to invest in a process that, for the author, and just as Franz Fanon (2005), implies considering the struggle for decolonisation as one in which the colonised emerge as a creative, activist and thinker, and where communities understand that decolonisation is an unfinished project. The present paper seeks above all to demonstrate that documentaries make these claims possible.

2. Female Protagonists

The first image we see in *Hija de la Laguna* is of a small woman, standing with her back to the camera, on the edge of a lagoon. She bends down to pick up the water and then dives in, keeping half her body above the water. The long shot isolates the subject, while a female voice off-screen, easily identified as the woman, says:

> water is the blood of the earth, and without its blood the earth has no life, no living being could live on it. And I wonder and say: when they destroy the lagoons, how will the owners of the lagoons be forced to live, not the people. But the elves' shop, because they're there looking after you, mother water, mother now, and they don't ask for anything. They don't ask us for anything, they don't say hey hey, I want you to look after me, they're just there. And if they destroy the lagoons, where will they live? I don't know. (Nélida Ayay Chilón, in *Hija de la Laguna*)

The tone of voice is firm, without inflections, but loaded with painful questioning. The protagonist is Nélida Ayay Chilón, who will be accompanied by the camera for practically the entire documentary, almost always observed from afar as she moves around the large open areas that define the geography of the place where she lives and where she fights against the *Minas Conga* project. Initiated around twelve years ago, the project remains suspended by the current Peruvian government[6]. It has fuelled a significant number of conflicts that have generated a wealth of news stories and short documentaries, before and after Ernesto Cabellos' film. In other words, in thematic terms, and considering for how long these disputes have been taking place, it is very difficult for the Peruvian population in general not to identify the struggle that mobilises the protagonist. We therefore argue that its strength lies precisely in the fact that it is not bound by

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[6] The failure of the *Minas Conga* project and its consequences for Peruvian mining in *El Montonero*, https://elmontonero.pe/economia/el-fracaso-del-proyecto-conga-y-sus-consecuencias-en-la-mineria-peruana

the pamphleteering logic[7] that guides many documentaries on social movements. By choosing Nélida as the central argumentative axis of the narrative, the work thus emulates the counter-coloniality[8] proposed by Santos (2023): "where I was born and raised, we have an organic relationship with all life. All life is necessary, not important" (p. 26). Nélida is not important: she is necessary.

It is not a question of highlighting its leadership, but of understanding, together with Santos, the perceived urgency of reversing the ideas and imaginaries that have drawn the human being away from nature, contrasting the uniqueness of a subject who delicately exposes her intimate world, with her beliefs and values embedded in the space and time in which she lives. Not such an easy goal, even for environmentalists like Enrique Leff, who are open to the need to understand again what the "environment" is. Close to the materialist theoretical field and critical thinking, Leff (2012) identifies the end of the 1960s as a turning point for an epistemological shift in relation to the concepts and reflections that circumscribed environmental knowledge to a single territory. What triggered this shift, according to the author, was the realisation of the great environmental crisis that was already predictable at the time. A situation that reshaped environmental studies, recognising that trans and interdisciplinary approaches were inseparable if the aim was to build new pillars to ensure the sustainability of human life.

While this position is welcome in academia — and it has been — in parallel, other political, ethical and artistic paths have taken shape, originating from unlikely resistance against the defenders of predatory capitalism. The process not only ignored the strategies for disputing knowledge established by the post-Enlightenment scientific *logos*, but also amplified, in an increasingly powerful way, voices such as that of Ailton Krenak, who openly questions scientific knowledge about native (indigenous) peoples, almost entirely classified by this "scientific knowledge" as primitive. "What strategies did these peoples use to get through this nightmare and reach the 21st century still moaning, claiming and happily singing?" (Krenak, 2019, p. 28). The reach of these and other voices in a scenario of strong media presence such as contemporary society, as we know, is linked to a large number of media products starring these voices, as is already the case, for example, of films produced by various indigenous directors through projects such as *Video nas Aldeias* (Video in the Villages)[9].

It is in this context that I emphasise the essential role of audiovisual production in sensitively reshaping what cannot be objectively measured, but is capable of revealing a fabric that is still porous, perhaps frayed and fragile, yet perceptible enough for us to evoke traces and persistence through its narrative and aesthetic choices. In the Peruvian film, the simplicity of the scene and distance of the camera emphasise the

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[7] "Pamphleteering" suggests documentaries that have quick, direct statements and that, because they are linked to certain social causes, favour discourse on these, without incorporating, among other things, moments of reflection, questioning and tension that the events involve.

[8] The word expresses the author's intention to "sow words" as a politics of resistance. For example: "...for *colonisation*, *counter-colonisation*... and so on" (Santos, 2023, p. 14).

[9] Created in Brazil more than 20 years ago by anthropologist Vincent Carelli, the project has produced a significant crop of indigenous film-makers and inspired other similar projects. See: http://www.videonasaldeias.org.br/2009/.

small, reflective Nélida (Figure 1), in the middle of large empty spaces and naturalising her daily life as much as possible, permeated by apparently banal conversations highlighting the emotional ties consolidated by shared problems.

Figure 1. *Nélida's small, delicate body contrasts with the vast territory (image from the film)*

Credits. From *Hija de la Laguna*, 00:14:56, by E.Cabellos, 2015. Copyright 2015 by Guarango.

One of the moments that explores this circumstantial tone is in Nélida's conversation with Máxima[10]. While walking across the open fields, the camera captures a medium distance shot of the silhouettes moving slowly or calmly. The camera shooting from a distance contrasts with the familiarity of the prosaic conversation about animals looking for water, such as ducks. The women's faces are not clear. After a cut, both women are filmed inside of a house where, finally, the frame changes. A close up shows them talking, cutting potatoes and throwing them into pots of boiling water. In this intimate, private and friendly moment, we can finally make out the features of the characters in the scene. However, because these scenes are interspersed with a lorry driving along the road and then stops, the focus is on the contrasts once more.

In this excerpt, it is a question of the filmic materiality expressing the dramatic *plot* of antagonism that sustains an objective look at the work: with a slow, high-pitched soundtrack that announces danger, of negative expectation, a game of shot and counter-shot is created to show the conflict that mobilises the character. The tension has interrupted daily life, which is presented in a soft tone up to that point, and the viewer finally realises the impasse that the community is facing: by not handing over the land to the mining companies that are trying to evict the residents. Nélida supports resistance and outlines her leadership role, which involves the sacrifice of moving to the city of

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[10] Since 2016, Máxima Acuña has caught the attention of the press for her fight against *Minas Conga* and, in 2021, her story is told in the documentary *Máxima (Indie Rights Movies For Free)*.

Cajarmarca to study law. This choice echoes one of the counter-colonial tactics adopted by Santos (2023): "I soon realised that, in order to confront colonialist society, at times 'we must use the weapons of our enemies in our defence'" (p. 13).

On this journey that does not deviate from Nélida's fragility or tenacity, the documentary expresses the ambiguities and sadness involved in fighting for survival when there is no other option. At the same time, it makes the presence of collective demonstrations in the film more fluid and less pamphleteering. The camera highlights posters, marches and slogans that the history of protests on the continent knows all too well. An amalgamation of the subjective power of a protagonist who enters into a dialogue with her "mother water", the lagoon — which welcomes and strengthens her — and the images and sounds that would naturally be found in news reports about social movements is thus created. In these sequences, the protagonist wanders almost anonymously, in a scenic strategy where the collective in the foreground and close-ups appears through clear and well-defined faces, gestures and attitudes. In other words, by singling out the faces of a group of anonymous people, the film declares the local population's involvement in challenging the government and fighting for water.

Besides two other very short narratives further down, this constellation with Nélida engages in a dialogue with Julieta Paredes Carvajal, who, not disqualifying the achievements of Western feminists, proposes community feminism, an umbrella concept that began in Bolivia in 2003 during the uprising of the country's women in the fight against the privatisation of gas and water. "We don't want to think of ourselves as women in relation to men, but as women and men in relation to a community" (Carvajal, 2020, p. 197), reinforcing that the reconceptualisation of *warmi-chacha* (woman-man) has the community as its starting point. This community is both rural and urban, cultural, political, educational, among others. What defines it, in fact, is that it is made up of the woman-man pair as complementary and essential halves, "non-hierarchical, reciprocal and independent, which does not necessarily mean compulsory heterosexuality, because we are not talking about a couple, but a pair of political representation, we are not talking about a family, but a community" (Carvajal, 2020, p. 200).

Belonging to a community is what activist and plastic artist Shirley Krenak, the first protagonist of *A Mãe de Todas as Lutas* clearly acknowledges. Her powerful presence on screen is felt as soon as she appears in the film, director Susanna Lira giving emphasis to some imagery codes that dialogue with the mythical elements of Krenak's narrative. It is a question of opening up gaps in a classic iconography, determined by photography that plays with shapes while following the assertiveness of her narrative in a frame that increasingly closes in on the activist's face: she not only modulates her voice, but also takes on the different roles in her narrative about man's relationship with Mother Earth, interpreting the variations in her speech with her body, in tune with what she is emphasising. Her movements are short and dense, showing no fear of the camera losing her (Figure 2).

Figure 2. *The first time she appears on screen, Shirley Krenak dominates the scene in a dreamlike setting (image from the film)*

Credits. From A Mãe de Todas as Lutas, *00:02:11, by S. Lira, 2021. Copyright 2021 by Modo Operante.*

After the title of the film, the meaning of Krenak is emphasised, on a black canvas with similar graphics: "head of the earth" — kren (head), nak (earth). In this short sequence, the documentary shares with the "other", the non-indigenous person, access to the language that was denied to the ethnic groups of Brazil's original peoples, in accordance with the political project of burying their identity, values, culture and their obvious right to live on the lands they occupied before the invasion of Europeans. The political stance that dialogues with the dimension that the dispute over land has occupied in the country's history since the beginning of the colonial process is brought onto the screen. This then takes us to the violence in recent times of the Eldorado Massacre in Pará, which Maria Zelzuita survived.

Marking what might be the second part of the film, the narrative uses the same strategy of the black screen with a subtitle, highlighting the linguistic and historical significance of the place: "From the Spanish 'El Dorado', a word that has inspired countless legends about a land full of riches". The perception that the white invaders' greed remains is stressed when the massacre is introduced through Zelzuita's body and voice: she appears in full body (Figure 3) in a clearly arid landscape, with parched crops, after a scene of her private daily life: in the kitchen of a very modest house she peels manioc with firm and precise, but also risky movements because of the sharp machete.

Figure 3. *Maria Zelzuita, on the curve of the "s", where the massacre ended in a bloodbath, in her words (image from the film)*
Credits. From A Mãe de Todas as Lutas, *00:32:12, by S. Lira, 2021. Copyright 2021 by Modo Operante.*

The close-up emphasises her natural gestures, common to many housewives who cook every day and make up the majority of the country's lower-income population. Such natural and simple gestures contrast powerfully with the views of the members of the Landless Movement, to which Zelzuita belongs. This political movement, today probably the longest-running in the country, continues to be persistently presented by the hegemonic media as a group of criminals who invade land that does not belong to them. To counter this, the documentary uses footage from archive films that recover several moments in the struggle of the Agrarian Reform in Brazil, from the 1960s to the Carajás massacre. It thus builds a bridge with what is happening today, as growing agrobusiness, especially in the Amazon rainforest, is contributing to the worsening of the climate crisis through fires and extensive livestock farming (Pompeii, 2021).

Nélida, Shirley and Maria's trajectories highlight the struggle for social change that also takes place from a female perspective, one that resounds in Lélia Gonzalez (2020) who on the historical reality of resistance in Latin America, which has deviated from ethnic and gender issues, says: "it is worth noting that even the left absorbed the thesis of 'racial democracy', to the extent that their analyses of our social reality never managed to glimpse anything beyond class contradictions" (p. 45). María Lugones (2020), in discussing Aníbal Quijano's concept of coloniality of power, presents a similar view on gender, pointing out that in the framework drawn up by the latter "there is a description of gender that is not questioned, and that is too narrow and hyperbiologised – since it is based on the assumptions of sexual dimorphism, heterosexuality, the patriarchal distribution of power and other similar ideas" (pp. 60–61).

Both positions emphasize that in the current context there is the "political and strategic potentiation of the voices of the various intersectional feminist segments and the multiple identity configurations and the demand for their places from where they speak" (Hollanda, 2020, p. 12). Against this backdrop and without directly including these thoughts in their narratives, the two documentaries that are based on the stories of these protagonists are also part of the movements that project the recognition of women as partners. In other words, by promoting a shift away from male centrality in the fight for social, economic and cultural rights, they widen the gaps that shake truths crystallised by a historical knowledge that has hardly ever recognised the female gender as being capable of playing such roles.

3. Struggles Against Extractivism

After introducing Nélida in the opening scene of the film, in which she reveals her relationship with "mother water", in *Hija de la Laguna* we hear a loud explosion (Figure 4) that dramatically takes over the screen and occupies both sound and picture of the diegesis for a few seconds. The events that will be shown during the narrative are still not clear. So anyone who does not have any references outside of the film searches for bridges to connect one scene to another, to understand what these spaces are, to try to establish the links that Nélida's rhetoric hinted at in the beginning. However, the explosion in the beginning of the Peruvian film will only gain full meaning later in the film when it can be understood as the main axis of the story for establishing its counter-narrative. Consequently, the insertion of the image in the initial sequence complements the prologue by highlighting an antagonist (the mining company) whose material participation in the narrative is symbolically achieved through the explosion or when mentioned in Nélida's rhetoric.

Figure 4. *The explosion occupies the full screen in the opening scene of Hija de la Laguna (image from the film)*

Credits. From *Hija de la Laguna*, 00:02:58, by E.Cabellos, 2015. Copyright 2015 by Guarango.

Such symbolic configuration takes place in a different way in *A Mãe de Todas as Lutas,* which also has an explosion that is visually very similar (Figure 5) to the pictures in the Peruvian film. Although both occur in the beginning of the films, in the case of the Brazilian documentary the time marks place the pictures in a different time than that when the film was produced. In other words, the sequence contains information from news reel made in 1975. Another striking difference is in the audio. In the Peruvian film the soundtrack amplifies the explosion. In the Brazilian film, the explosion is muffled by the male voice who praises the ore mining in the state of Minas Gerais, in the southeast of the country, and the positive role of the Vale do Rio Doce company, which at the time belonged to the federal government and was responsible for the mining of ore. In other words, the use of archive material here and in other moments of the Brazilian documentary creates two layers in the narrative, linking on screen the past and the present of the two regions where its protagonists live. The explosion is a reference to the geology of Minas Gerais, where in recent years there were two of the largest environmental catastrophes in Brazilian history, caused by endless predatory extractivism which, at this point, is praised by the dictatorial government in power when the film was shot: "thanks to Minas, Brazil exports more than 125 million tonnes of ore a year", says the male voice of the narrator.
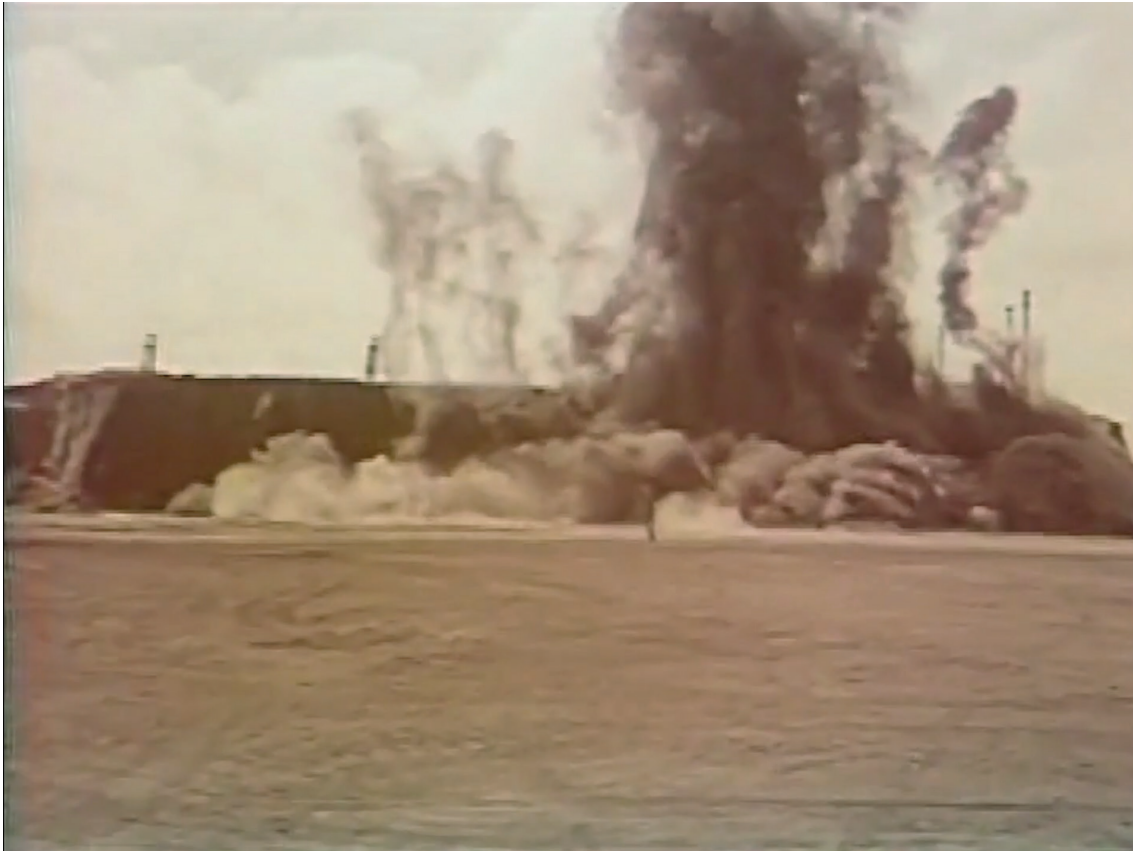
Figure 5. *The explosion is part of a news story in A Mãe de Todas as Lutas produced in 1975, in the midst of Brazil's military dictatorship. It praises ore mining in Minas Gerais by the Vale do Rio Doce company, which generates wealth for the Brazilian state (film pictures)*

Credits. From *A Mãe de Todas as Lutas*, 00:12:49, by S. Lira, 2021. Copyright 2021 by Modo Operante.

Filmed at different times and places, the explosions circumscribe yesterday's extractivism (Acosta, 2016; Aráoz, 2020) persisting in the neo-extractivism of the present, which, according to Maristella Svampa (2019), conceals the lingering logic of coloniality in Latin America. The author feels the biggest challenge of neo-extractivism is that the ideology of development often confuses politicians of different and antagonistic ideological hues. In recent times, this was due to economic conditions in 2000–2003 arising from a consensus around the commodities, that is the "high international commodity prices, which had an impact on trade balances and the fiscal surplus" (Svampa, 2019, p. 36).

Acosta and Brand (2018) have the same diagnosis. They point out that until 2014 the Latin American countries had not been hit by the recession, as they were still benefiting from the increase in income from commodity exports. In this scenario contradictions are underlined: countries like Ecuador and Bolivia have recognised in their laws Nature as a subject of rights[11], while maintaining their extractivist policies, thus belonging to a group that has refused to discuss the environmental impact of such investments. On the other hand, as these activities involve intense, continuous and extensive occupation of the territory in different ways (including land grabbing), in order to foster investments

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[11] The thesis on the rights of nature was proposed by Christopher Stone, and was later taken up by environmentalists and used as the basis for some laws, such as Ecuador's 2008 Constitution (Pontes & Barros, 2016).

in monoculture, Svampa (2016, 2019) believes they have also amplified resistance, even by those who were allies of centre-left governments and whose ideas about agribusiness were ambiguous.

This analysis is supported by the struggle undertaken explicitly in *Hija de la Laguna*, particularly where the documentary looks at the protests to protect the lagoons and in Nélida's dialogues with Father Marco, when she opens up to him, fragile and tired of the endless struggle. These confrontations support Svampa's (2019) thesis of the "ecoterritorial shift" (p. 147), which originated, according to her, in the concepts of environmental justice in the 1980s in black communities in the United States and which have spread to other countries. Generally speaking, the underlying proposition is the right to life in a safe environment for all, especially the indigenous peoples. In Latin America, one of the concepts that supports this shift is *good living*, which is presented as a strategy with a global reach and seeks to position itself as a radical antagonist of the Western way of life, strongly criticising Eurocentrism and its concept of economic and social development.

Presented by its followers as an idea in the making, broad and with fluid conceptual boundaries, the *good living* political proposal has gained momentum on the Latin American continent, because it takes inspiration from and reveres the knowledge of its ancestral peoples who "even though they were ruled out, marginalised or openly confronted, their values, experiences and practices spanned across the Conquest, the Colony and the Republic. And they exist, with renewed strength", points out Alberto Acosta (2016, p. 73). In a similar vein, Svampa (2019) argues that there is now a common framework of meanings in Latin America combining the struggles of the indigenous people with new territorial/ecological and feminist activism, which, according to the author, points to the expansion of the frontiers of law, in marked opposition against the dominant model. This is reflected in the pictures and narrative of *Hija de la Laguna* and *A Mãe de Todas as Lutas,* whose *mise-en-scène* demarcates different rhythms in terms of creating bridges between what is happening on screen and the environmental crisis described by the media in broad topics, as was the case of the nuclear arms control protests in the 1980s and now the climate crisis, massively disseminated by the Oscar winning lecture film, *An Inconvenient Truth* (Guggenheim, 2006) by Al Gore.

Rightly criticised for simplifying matters, the latter has the undeniable merit of popularising the issue. However, making the individual responsible and highlighting the fight against global warming as a moral rather than political imperative, the documentary does not question "consumption, development patterns, the current economic paradigm" (Dias, 2007, p. 3), sustaining the narrative that continues to legitimise modern Western empires, such as the United States. "In short, raising the issue of colonialism disturbs the tranquillity and security of the modern citizen-subject and modern institutions", Maldonado-Torres (2023, p. 33) points out. In view of the likelihood of currently concealing colonialism and decolonisation, the author believes it is necessary to underscore that

> colonialism can be understood as the historical making of colonial territo-
> ries; modern colonialism can be understood as the specific ways in which
> Western empires have colonised most of the world since the 'discovery';
> and coloniality can be understood as a global logic of dehumanisation that
> is capable of existing even in the absence of formal colonies. (pp. 35–36)

Such is the approach that the narrative of *Hija de la Laguna* adopts by embarking on a narrative journey that connects the rural community of Cajamarca and Totorola, in the Andean region of Bolivia, to Amsterdam in the Netherlands. The link between these places, which have different screen times depending on Nélida's role, is the relationship with gold, since both Latin American countries experience the consequences of its exploitation. In other words, the arid, contaminated land in Bolivia makes it practically impossible to produce potatoes, the region's main food product. In Cajamarca, besides the land that has been lost, the fish are dying, water is scarce and the air has been poisoned by regular high winds in the highlands, which lift the waste that is thrown on the ground (Alier, 2018, pp. 147–148). Amsterdam, on the other hand, is introduced through the jewellery designer in her workplace and in her private space, playing affectionately with her baby son. The predominant medium shots highlight space and adopt an emotional view, especially of the contrasts between the women in Peru and Bolivia, and the one living in Amsterdam; while the daily lives of the former involve the struggles for survival, the latter lives in Europe in a clean place adorned with works of art, where there seems to be no conflict between work and motherhood, which is almost impossible for low-income Latin American women.

4. The Relationship With the "Other"

While the Peruvian documentary highlights the marks of coloniality that remain in the present time through several situations showing, for example, how the native people treat the natural world differently to governments which support big businesses, in *A Mãe de Todas as Lutas* such continuity is revealed through the materials recovered from the aforementioned archives, both photos and clippings from institutional films. This facilitates a narrative that reinforces the decolonial stance by guaranteeing the presence of indigenous epistemes, which in this sequence of the film consist of ten photographs. They represent different situations and at the same time express how white people observed and treated the native peoples in other times, which is still the case today, according to Shirley Krenak's rhetoric in the film. Consequently, including not only portrait photos of the indigenous people looking directly into the camera lens, but also shots of everyday life, corroborates historically perpetuated imagery that emphasises the distance between cultures, in a process of downgrading the indigenous culture, if we consider how the idea of urban and scientific development has been linearly valued. No wonder that this sequence shows a couple bearing a bow and arrow, a woman carrying a child on her back, a small group of people rubbing wooden sticks together to make a fire (Figure 6). The last photo is actually the only one with a caption that identifies the people as

botocudos, a generic name which colonisers called different indigenous groups belonging to the macro-Jê trunk, also called aymorés.

Figure 6. *After the prologue, with an almost ghostly appearance of Krenak, the film begins with a sequence of ten photos of indigenous people from the macro-jê trunk (image from the film)*
Credits. From *A Mãe de Todas as Lutas*, 00:04:43, by S. Lira, 2021. Copyright 2021 by Modo Operante.

The photos slide slowly across the screen to the sound of the rattles of the indigenous peoples. The slow pace, the absence of any explanatory rhetoric and the distant time that the black and white pictures suggest, create a very poignant dramatic effect, especially due to the visible physical fragility of the indigenous children who appear in some of the photos and evoke the recent situation of the starving and sick Yanomami, in pictures that were widely circulated at the beginning of 2023. Past and present inexorably linked, modernity and coloniality intertwined by the visual material that was recorded in the coloniser's style, that is, as a museum archive, and which is even more powerful in the narrative flow as the script and editing show the voice and face of power that continues to use tricks to deny the rights of the original peoples.

The narrative ingeniously uses one of the most striking symbols of modernity — a train — which is still laden with minerals. The documentary thus transitions from indigenous representation to the exaltation of colonial discourse, amplified by the narrative that praises the French ensign Guido Manieri, introduced in the documentary through the original soundtrack[12] as someone "who accompanied King João VI on his trip to Brazil, and later became the protector of all against the Brazilian savages, especially the infamous *botocudos* of Rio Doce". This and other excerpts of the film which was integrated into the documentary's narrative praise the achievements of the white man, emphasising

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[12] Film from the collection of the Indian Museum (Funai), undated, but presumably produced between the 1960s and 1970s.

that "where the jaguar used to rampage, the zebu grazes quietly; where the despicable Indian savage once lived there is now an infirmary and a school; and the Indian, under the aegis of the law, is a citizen". This contrasts vividly with Shirley Krenak's oral memory that hints at conflicting values and requires the viewer to take a stand on the right of indigenous peoples to keep their land and their culture. In other words, the comparison in the film brings to light the way in which each people relates to nature and a moment in Brazilian history that does not hide how it viewed the "other", the indigenous people.

The more obvious contrast between indigenous and non-indigenous cultures, which includes a series of cultural marks such as Shirley Krenak's body paintings and Nélida's clothes and certain props and ways of doing her hair, are not as visible in Maria. In this case, the social differences come up on screen, translated especially through the direct reference to the Landless People's Movement, mentioned earlier: the "other" who is almost hegemonically treated by the media as a criminal, living on the fringes of a society in which property ownership rights are above the right to life. Considering the choices in the narrative, the biographical uniqueness of Nélida, Shirley and Maria visibly confirm their lucid awareness of their inner self, about the reality of the world and the environmental, cultural and historical conditions restricting their existence, including how the "other" recognises them. This is because, although not disconnecting from the complexity of the world, the two documentaries avoid social typologies, reversing the disjunction between the object and the subject of knowledge, undeniable foundation of Eurocentric modernity. Investing in subjectivities shaped by the persisting violence of the colonial process, the works reveal the emancipatory experiences of each protagonist and the people around them.

The fact is that addressing narratives that seek to unveil other links with a nature that is distant from the majority of the Latin American population — since around 81% of the population lives in cities — also means observing and monitoring the ramifications that these works unfold both in their filmic materiality and in the media crossings that they allow us to undertake. In our opinion, this is because in the discursive game of these projects, adherence to the causes is, as always, established through a dialectic relationship, in other words, without the mythical-prophetic experience of emotional interaction and the meaning of life in nature — we are part of it, and we are not animals apart from nature. There will always be room for ambiguities that cause oppression and the desire for extermination to endure, as some moments in these works reveal quite explicitly. These are for example the scenes of confrontation between social movements and the police in both documentaries, the Brazilian film, as we have seen, recalling the Carajá massacre.

5. Concluding Remarks

The article sets out to discuss the possible contributions of the documentaries *Hija de la Laguna* (Cabellos, 2015) and *A Mãe de Todas as Lutas* (Lira, 2021) raising a new awareness of nature that is distinct from both the European *logos* and the environmental

discourses which Malcom Ferdinand (2022) refers to negatively, in his assessment that these tend to erase the social and political gaps created by the destruction of the planet. From this perspective and based on film analysis, the text compares the message of the decolonial movement and the narratives of documentary films, observed not only from the subjects they address, but also for the aesthetic and stylistic strategies they use. To that effect, this paper highlights the scenic and rhetorical construction of the protagonists, locating them in the context of community feminism, one of the theories that is integrated into the decolonial struggle; it points out extractivism and neo-extractivism as regarded by different authors (Acosta & Brand, 2018; Aráoz, 2020; Svampa, 2016, 2019), as fundamental to the preservation of relations that originated in the colonial period, and also stresses a process of differentiation maintained to differentiate the marginal "other", be it an indigenous person or a landless rural worker, a situation that almost always normalises relations of oppression and lack of rights, justifying actions of explicit or invisible violence.

Considering that the current audiovisual culture contributes significantly to the production of world views and meanings, the analysis intended not only to foster enhanced appreciation of the works, but also to locate them in a context of struggles and resistance to predatory activities which affect the protagonists and their communities, but that can also be replicated through inferences. One such inference, which both documentaries also focused on, is the acknowledgement that the climate crisis must be addressed within a broad scope, incorporating the struggle for land ownership and the way humans relate to it — for example, not turning it into large pastures — and the struggle to maintain water sources, which for now may not be an issue, but if they disappear desertification will have devastating consequences.

Of course, as pointed out elsewhere, these works have to be seen as cultural products that are part of a larger group, in this case, the intensive production of documentaries (Ramos, 2008) and, among them, those that focus on environmental issues (Duvall, 2017). This is against the backdrop of growing environmentalist movements and the focus on a milestone that is the construction of "a militant anti-colonialist cinema in the form of documentaries" (Shohat & Stam, 2006, p. 373), which began in the mid-1960s. Since then, there have obviously been many changes and criticisms. Consequently, we highlight herein, in line with Julieta Paredes Carvajal (2020) and Lélia Gonzalez (2020), the criticism of a political stance taken on the left-wing spectrum that was based exclusively on social and economic issues, ignoring gender and ethnic oppressive differences and inequalities. This is why we have highlighted in our analyses the contributions of the two documentaries to this diagnosis.

We also think it is necessary to point out how the decolonial movement or theory — both concepts are appropriate — call for approaches and proposals that are crossed by criticism of persisting colonisation in various dimensions, despite the end of formal colonisation and the achievement of economic and political independence for Latin American countries, as Maldonado-Torres (2023) warns about. From this perspective, the legacies of colonialism continue to exist at different levels of social organisation,

which places decoloniality as "a living struggle in the midst of competing visions and ways of experiencing time, space and other basic coordinates of human subjectivity and sociability" (Maldonado-Torres, 2023, p. 29). This process that allows us to align ourselves with the *good living* policy proposal, which recognises, as mentioned in the text, its matrix linked (but not exclusive) to native peoples: their visions of the cosmos, the relationships they establish with the natural world, the way they preserve their traditions and knowledge. In other words, a position that is present in both films, even if it is not spelled out.

Finally, acknowledging that academia must analyse the expressive and cultural products of our time, recognising the extent to which they integrate everyday imaginaries in a mediatised society, we have committed to this investigative-analytical process that reinforces, in short, the integration of some struggles in the environmental urgencies. This position also implies, in line with the films, the search for social justice. In other words, without social justice, no ecological crisis can be overcome. Social and historical justice is what Shirley Krenak is claiming. Through her solar presence on screen she demands the return of what belongs to her and her people, exposing the genocide against the indigenous people that never ended in Brazil. Seldom are those who have had to live with promises of land ownership and access that are fulfilled at a slow pace and with on-going battling, heard. Brazilian landless people are so often regarded as criminals because of what they are fairly claiming, as happened to Maria Zelzuita, who survived the massacre and has not given up. To conclude, the right to water, without which there is no life, is what Nélida, the lunar and resilient character, continues to fight for. That is perhaps why the most powerful moment of communion in the film is the scene where she pays tribute to the five campaigners murdered by the police force of Peru during the Protest for Water. Slowly Nélida casts their pictures into the lagoon, and then flowers which float with the current, just like the images.

Translation: Traversões, Serviços Linguísticos, Lda.

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Biographical Note

Denise Tavares is a professor and researcher at the Postgraduate Programme in Media and Everyday Life and the Department of Social Communication at Fluminense Federal University. She has a PhD in Latin American Integration (Postgraduate Program in Latin American Integration /University of São Paulo), researches Latin American documentaries and has written several papers on the subject. She is jointly responsible for

publishing the works *Protagonismo Midiático e Pandemia — Atravessar Ruínas, Reencantar o Mundo* (2023), *Mídia e Cotidiano no Ensino Básico — Letramento Midiático: Desafios, Propostas* (2023) e *Emoções e Razões Midiáticas — Narrativas e Imagens nas Redes Sociais e Audiovisual* (2023). She is also a writer and poet, the author of *Encontro — Quase Poesia* and the children's book *O Gata da Clara*.

ORCID: https://orcid.org/0000-0001-5692-7356

E-mail: denisetavares51@gmail.com

Address: Campus Gragoatá, prédio IACS Novo. Rua Professor Marcos Waldemar de Freitas Reis, São Domingos, CEP 24210–201, Niterói — Rio de Janeiro, Brasil.

Probing Climate Change Perceptions in Vulnerable Enclaves: Resilient Realities in the Buffalo City Municipality, South Africa

Natal Buthelezi
Department of Urban and Regional Planning, University of the Free State, Bloemfontein, South Africa

Abstract

Under the turbulent environment of the 21st century, climate change emerges as a menacing and urgent crisis, especially in urban poverty-stricken areas, where its impacts are most acutely felt. Despite the importance of understanding public perceptions to foster effective climate change resilience, there still exists a notable gap in nuanced scholarship within the informal settlements of South Africa. This study employs a mixed-method approach to explore how cognitive, emotional, motivational and cultural factors affect these communities' resilience or vulnerability to climate-related hazards. The prevailing consensus in the literature suggests a general underestimation of climate change risks among residents. However, this paper contends that innovative, resource-constrained strategies observed in these communities suggest a significant degree of agency and preparedness to confront these challenges. This study sheds light on the interplay between individual actions, social networks, information channels, cultural practices, and power dynamics in shaping climate change perceptions. It recommends integrating local, cost-effective adaptation measures into wider policy frameworks. In conclusion, the study emphasises the importance of educating informal settlement residents, harnessing community participation and utilising local adaptation knowledge and sustainable development techniques to forge a resilient and equitable future for the inhabitants of Buffalo City Municipality.

Keywords

traditional knowledge, informal settlements, vulnerability, public perception, adaptation

Sondar as Perceções das Alterações Climáticas em Enclaves Vulneráveis: Realidades Resilientes no Município de Buffalo City, África do Sul

Resumo

Num cenário marcado pela turbulência do século XXI, as alterações climáticas surgem como uma crise iminente e urgente, particularmente acentuada nas áreas urbanas afetadas pela pobreza, onde os seus impactos se manifestam de forma mais severa. Apesar da importância de compreender as perceções públicas para promover uma resiliência eficaz às alterações climáticas, há ainda uma lacuna considerável no que toca a investigação diferenciada nos aglomerados populacionais informais da África do Sul. Este estudo emprega uma abordagem de métodos mistos para explorar como os fatores cognitivos, emocionais, motivacionais e culturais influenciam a resiliência ou vulnerabilidade dessas comunidades aos riscos associados às alterações climáticas. O consenso predominante na literatura sugere uma tendência geral de subestimação dos riscos das alterações climáticas entre os residentes. No entanto, este artigo defende que as estratégias inovadoras e com recursos limitados observados nessas comunidades sugerem um grau significativo de capacidade de ação e preparação para enfrentar esses desafios. Este estudo revela a interação entre iniciativas individuais, redes sociais, canais de informação, práticas

culturais e dinâmicas de poder na formação das perceções das alterações climáticas. É recomendada a integração de medidas de adaptação locais e económicas em enquadramentos políticos mais amplos. Em conclusão, o estudo sublinha a importância de educar os residentes de aglomerados populacionais informais, de promover a participação da comunidade e de utilizar os conhecimentos locais de adaptação e as técnicas de desenvolvimento sustentável para construir um futuro resiliente e equitativo para os habitantes do município de Buffalo City.

Palavras-chave

conhecimento tradicional, aglomerados populacionais informais,
vulnerabilidade, perceção pública, adaptação

1. Introduction

The escalating climate change crisis, marked by more frequent and severe global climate events, presents a major challenge, especially in Sub-Saharan Africa's urban areas (Intergovernmental Panel on Climate Change, 2022). In these areas, the poor are increasingly vulnerable to rising extreme weather events like floods, heatwaves and droughts, compounded by a clear lack of preparedness for these impacts (van der Walt & Fitchett, 2021). Their vulnerability is further exacerbated by limited access to essential infrastructure and the precarious locations of their homes within urban settings, making these households highly susceptible to even minor climate shocks that can severely impact their livelihoods (Chirisa & Nel, 2022). South Africa has not been spared from this impasse, as evidenced by the increasing frequency and intensity of extreme weather events over the past decade (Drivdal, 2016; Williams et al., 2019). These conditions have resulted in significant infrastructure damage and loss of life, particularly in informal settlements. Recent significant events include the floods in Durban, Cape Town and Buffalo City in 2018, 2022 and 2023 (Grab & Nash, 2023).

This inherent vulnerability has attracted a pressing need to develop adaptation strategies for averting, mitigating, preparing for and recovering from the repercussions of climate change hazards (Mahl et al., 2020). Leiserowitz (2006) contends that public perception, understanding and attitude towards climate change are widely recognised as a crucial factor in tackling this global phenomenon. Consequently, over three decades of extensive research have focused on this topic, with the majority of these studies inclined to the Global North context (Bamberg et al., 2015; Bord et al., 1998; Sullivan & White, 2019). This trend persists despite the sixth assessment report of the Intergovernmental Panel on Climate Change, which states that the impacts of climate change are particularly severe in the Global South, highlighting the urgency of directing greater attention towards this region.

The South African government has undertaken commendable initiatives in its endeavours to mitigate the challenges presented by climate change (Godsmark et al., 2019). However, a significant research gap concerning public perceptions of climate change exists, particularly within the Buffalo City Municipality (BCM) study area and the broader

urban South Africa (Dobson et al., 2015). The consensus in the research community underscores the importance of comprehending public perspectives on climate change and their implications for developing low-cost adaptive intervention strategies (van Valkengoed & Steg, 2019). Notably, BCM presents a fragmented and racially splintered urban landscape characterised by stark inequalities, contributing to the disproportionate vulnerability of the poor to climate change hazards (Buffalo City Metropolitan Municipality, 2022; Seethal et al., 2021). This vulnerability, in turn, influences the behavioural inclinations of these groups and shapes their perceptions of the positive or negative consequences associated with climate change hazards (Ballantyne & Oelofse, 1999). Therefore, an imperative exists to elevate public consciousness regarding climate change, leveraging familiarity with pertinent terms and concepts. This stresses the crucial requirement to establish local relevance for climate change by highlighting the intricate links between global climate patterns, behavioural patterns and socioeconomic consequences.

The purpose of the study is to investigate how socioeconomic disparities, the application of localised traditional knowledge systems and cultural norms shape the perceptions of climate change risks among residents of informal settlements and influence their strategies for adaptation. The research explores a complex environment, intricately entwined with beliefs in climate change existence, human influence, awareness of its causes and impact, diverse interpretations of the risks it poses and varying opinions on the community's role in adapting to its impact. Through a mixed methods approach, the paper delineates the multifaceted nature of public perceptions, documents the range of actions taken in response to climate change, and evaluates their effectiveness. The study aims to provide evidence-based recommendations for policy intervention to assist vulnerable communities. In order to achieve its goals, the research is guided by four principal questions: (a) how do sociocultural, cognitive, motivational and value-based factors influence the perceptions of climate change risks among residents of informal settlements?; (b) what adaptation strategies are employed by residents of informal settlements to mitigate the effects of climate change?; (c) what obstacles hinder effective adaptation in informal settlements?; and (d) what policies could the State enact to enhance support for climate change adaptation in these areas?

The study employs an integrated theoretical framework to achieve a holistic and multidimensional understanding of behaviours related to climate change. This approach explores the intricate interplay between perceptions and actions in the context of climate change impacts within informal settlements. The subsequent sections of this paper are organised as follows: Section 2 delves into the existing literature concerning the interconnectedness of climate change and inequality, the application of localised knowledge in climate change resilience and the socioeconomic factors influencing climate change awareness. Section 3 gives an account of the contextual setting of the case study in BCM; Section 4 delineates the theoretical framework shaping this study; Section 5 explains the research methodology employed; and Section 6 elaborates on the primary findings. Finally, Sections 7 and 8 provide future research recommendations and conclusions.

2. Literature Review

2.1. The Intersection of Climate Change and Inequality Disparities

Social inequality denotes relational processes within society that result in uneven distribution of rewards or access to opportunities either within or between groups (Gradín et al., 2021; World Bank, 2018). In its diverse manifestation across spatial scales, inequality profoundly impacts human well-being (O'Donnell et al., 2015). In the South African context, spatial inequality is intricately entwined with historical racial legacies, particularly stemming from the apartheid era, and persists as a daunting challenge (Todes & Turok, 2018). This enduring inequality is evident in the entrenched disparities determined by the geographical location of their housing, the provision of infrastructure services, and the presence or absence of economic opportunities (Turok, 2018). Despite the ongoing demographic shifts within the middle class, the impoverished majority often find themselves marginalised in these areas (Kovacevic & Calderon, 2014).

The interconnections between climate change and social inequality are intricate, and a comprehensive understanding of these linkages is still evolving (Singer, 2018). However, Bosetti et al. (2021) contend that the cumulative insights from existing studies indicate that climate change plays a pivotal role in shaping the trajectory of human societies, with its prevalence and intensity contingent upon geographical and socioeconomic factors. Climate change is hastening environmental degradation, marked by an escalating frequency of natural disasters (Nadeau et al., 2022). The repercussions of both gradual environmental deterioration and abrupt shocks disproportionately impact vulnerable populations (Donadelli et al., 2017) and amplify inequality within and between communities (Hsiang et al., 2019). Islam and Winkel (2017) propose three mechanisms by which inequality exacerbates the plight of marginalised groups in the context of climate change. These mechanisms encompass heightened exposure to climate change, heightened vulnerability to the impacts of climate hazards and diminishing capacity to cope with and rebound from such damage.

Following the democratic elections of 1994, the post-apartheid government pledged to diminish inequality, promote economic inclusivity and enhance overall living standards for the average South African citizen (Hundenborn et al., 2018). Despite notable strides in social equity, a lingering truth persists nearly three decades after independence: inequality remains a prominent feature of our society, placing the country among the most unequal globally with a Gini coefficient of 0.67 (World Bank, 2018).

2.2. Utilising Traditional Knowledge for Climate Change Resilience

At the heart of climate change adaptation lies the invaluable resource of Traditional Knowledge Systems (TKS). Embedded within Indigenous practices and local wisdom, TKS encapsulates the collective skills, building practices, myths, beliefs and deep understanding cultivated within specific experiential and dynamic contexts (Ajayi & Mafongoya, 2017;

United Nations Educational, Scientific and Cultural Organization, 2017). This reservoir of knowledge plays a pivotal role in shaping residents' perceptions and awareness of climate change and environmental risks. The intergenerational transfer of TKS fosters a profound connection between people and their natural environment (Leal Filho et al., 2022). Traditional knowledge, passed down from one generation to another, is a repository of adaptive strategies tailored to cope with variable and evolving ecological and social conditions (Mutambisi et al., 2020). In the cognitive realm, TKS frequently offer invaluable insights into local weather patterns, seasonal changes and sustainable adaptive practices in response to climate hazards (Makondo & Thomas, 2018). These insights, honed over time through direct experiences and observations, enhance individuals' understanding and recognition of environmental dynamics. This knowledge forms a foundation for community resilience in the face of climate challenges (Mbah et al., 2021). In the event of shocks or threats, local communities apply this information, often transmitted orally, to adapt to environmental challenges (Mugambiwa & Makhubele, 2021). This suggests a high level of informality in the transmission of knowledge, which is predominantly oral, largely undocumented and rooted in everyday experimentations, adaptations and innovations driven by the pragmatic demands of daily life (Ajayi & Mafongoya, 2017). The multifaceted nature of traditional knowledge systems thus emerges as a dynamic and adaptive resource, deeply ingrained in the cultural fabric of communities and playing a crucial role in fostering resilience and sustainability in the midst of environmental uncertainties.

Petzold et al. (2020) contend that the essential role of local and traditional knowledge in climate change adaptation within informal settlements is often overlooked, leading to government disaster mitigation measures that do not adequately reflect local nuances or integrate community practices and knowledge (Audefroy & Sánchez, 2017). This oversight affects both formal and informal local mechanisms shaping social norms and individual behaviours, thereby reducing the efficacy, impact and value of these traditional systems (Briggs, 2005). Recognising the role of TKS is crucial for enhancing climate change adaptation and resilience, which is vital for achieving the objectives of Agenda 2030 and the Paris Agreement.

2.3. Exploring the Sociocultural Dimensions of Climate Change Perception and Awareness

Climate change has permeated the spaces of everyday life, with society's response intricately intertwined with sociocultural dimensions (Adger et al., 2013). Although culture lacks a single definition, it is commonly conceived as comprising identity, values, practices, taboos, worldviews, norms and objects, collectively establishing shared meanings across different contexts (Faulkner et al., 2006; Katrini, 2018). These cultural components significantly influence individuals' understanding, perception and responses to climate change risks, impacting how they interpret, prioritise, act upon, and perceive their role in addressing the phenomenon (Roncoli et al., 2016; Quandt, 2019). Sociocultural norms represent shared societal expectations and behaviours that

guide actions across different situations. Therefore, understanding and leveraging these norms related to risk tolerance, trust in information sources, action prioritisation, and response acceptance are essential for promoting adaptive and sustainable practices at both individual and community levels (Few et al., 2020).

Moreover, culture is pivotal in shaping society's interaction with natural and environmental systems (Price et al., 2014). However, Bennoune (2020) emphasises the dynamic nature of cultural values, which are constantly evolving and influenced by factors such as class, gender, health, social status, and ethnicity, rather than being static. Within local contexts, cultural aspects are generated and sustained through formal and informal institutions, which strongly influence opportunities for action (Thomalla et al., 2015). Consequently, communities must continuously adapt by reassessing and adjusting their value systems to mitigate and prepare for climate change risks, identifying barriers and facilitators to effective risk management (Davies et al., 2019). O'Brien and Wolf (2010) contend that deviations from established norms may be perceived as threatening, impacting decisions to adopt new variables based on individuals' or groups' cultural and social permission or opportunities to access available options. This dynamism may sometimes foster resistance to change (Antwi-Agyei et al., 2015), perpetuating a cycle of outcomes and exacerbating the risk exposure of individuals and communities.

Nonetheless, cultural norms should not solely be perceived as obstacles to adaptation as they can also facilitate or offer pathways for livelihood diversification as adaptive measures (Burch, 2011). Recognising and navigating these complexities of cultural influence is crucial for achieving more equitable and sustainable efforts (Curry et al., 2015). These perspectives shed light on the diverse responses observed within the case study in BCM, highlighting the importance of understanding the causal relationship between culture and climate change perceptions and awareness.

3. Study Context

BCM is situated in South Africa's Eastern Cape province and obtained metropolitan status in 2011 by amalgamating small towns of King Williams' Town, Bisho, East London and surrounding hinterlands. The metropolitan area consists of an impoverished population where approximately 25% of its residents live in informal settlements, representing 40% of the total households in the province (Buffalo City Metropolitan Municipality, 2022). Informal settlements are rapidly growing in areas once designated as "buffer zones", which are largely unsuitable for development and susceptible to severe weather events. Consequently, places like Duncan Village (DV), Mzamomhle and Nompumelelo informal settlements face ongoing climate-related risks such as floods, rising temperatures, fires, strong winds and water shortages (Busayo et al., 2019). DV, located 5 km from the East London CBD, is the municipality's most densely populated informal settlement (Buffalo City Metropolitan Municipality, 2022). The area was selected purposefully for its unique geographical, spatial, political and historical significance that predates the 1880s, marked by Black labour resistance against government attempts to

relocate residents to designated Black townships (Seethal et al., 2021). The area is also recognised as a major disaster hotspot due to its unique topography, characterised by undulating terrain, resulting in diverse landscapes of riverbanks and steep valleys. These features divide the area into three distinct districts with varying altitudes (Kienest, 2019).

4. Conceptual Framework of Study

Climate change hazard and risk perceptions do not necessarily follow linear progression but emerge from a complex interplay of cognitive, sociocultural, motivational and value-based factors (Lee et al., 2015). This understanding is vital for formulating impactful and efficient responses to climate change, particularly in informal settlements where socioeconomic vulnerabilities intersect with environmental risks, necessitating the creation of contextually appropriate intervention strategies. The study combines four theoretical models: the comprehensive climate change risk perception model (CCCRPM), the theory of planned behaviour, the protection motivation theory and the value belief norm theory, which are briefly discussed in the following section.

4.1. Comprehensive Climate Change Risk Perception Model

The theoretical model is an integrative social-psychological model that integrates three core dimensions of risk, including cognitive factors, experiential factors and sociocultural factors (van der Linden, 2017). The cognitive dimensions comprise knowledge about the causes, impacts and responses to address climate change. The experiential processing dimension includes affect and personal experience with extreme weather events. Lastly, the sociocultural influences include social norms and value orientations. This model serves as an overarching framework that can incorporate elements from other theories.

4.2. Theory of Planned Behaviour

The theory focuses on predicting and understanding individual social actions by emphasising the roles of attitudes toward the behaviours, subjective norms and perceived behavioural control (Ajzen, 1985). Subjective norm refers to the perceived social pressure to perform a behaviour shaped by others' expectations and an individual's access to resources like time, money and knowledge (Manstead & Parker, 1995). Integrating the theory of planned behaviour into the comprehensive model will enhance understanding of behavioural intentions related to climate change adaptation in informal settlements by assessing attitudes, subjective norms and perceived behavioural control.

4.3. Protection Motivation Theory

The theory provides a framework for understanding how fear appeals drive behavioural change (Rogers, 1975), positing that individuals' responses to perceived threats

involve two cognitive processes: coping and threat appraisal. Threat appraisal considers the severity and susceptibility of the threat and the benefits of maladaptive responses (Norman et al., 2015), while coping appraisal evaluates the effectiveness of adaptive responses based on self-efficacy and response costs (Prentice-Dunn & Rogers, 1986). Incorporating protection motivation theory into the analysis offers motivational insights into how individuals in informal settlements perceive climate change risks and their effectiveness in implementing protective measures.

4.4. Value Belief Norm Theory

The theory outlines how human values dictate action choices through a sequential causal pathway that connects beliefs, norms, values and behaviours (Stern et al., 1999). It defines values as fundamental principles that guide behaviour, prioritised by their importance across situations (Schwartz, 1992). Key variables include understanding consequences, assigning personal responsibility and personal norms, altruistic, biospheric, egoistic, and openness to change, which are identified as essential components. By integrating value belief norm theory, one can analyse how personal values and beliefs shape attitudes and behaviours towards climate change. This offers a framework that accounts for the impact of underlying values on individuals' perceptions and responses, thus enhancing the understanding of their climate-related attitudes and actions.

By integrating these frameworks, illustrated by Figure 1, the conceptual model provides a comprehensive approach to understanding the multifaceted nature of climate change perceptions and behaviours in informal settlements. It considers cognitive, emotional, motivational and cultural factors, which in turn influence the resilience or vulnerability of these communities to climate change hazards. The proposed conceptual model will be the foundational framework guiding the research design and methods in the following section.
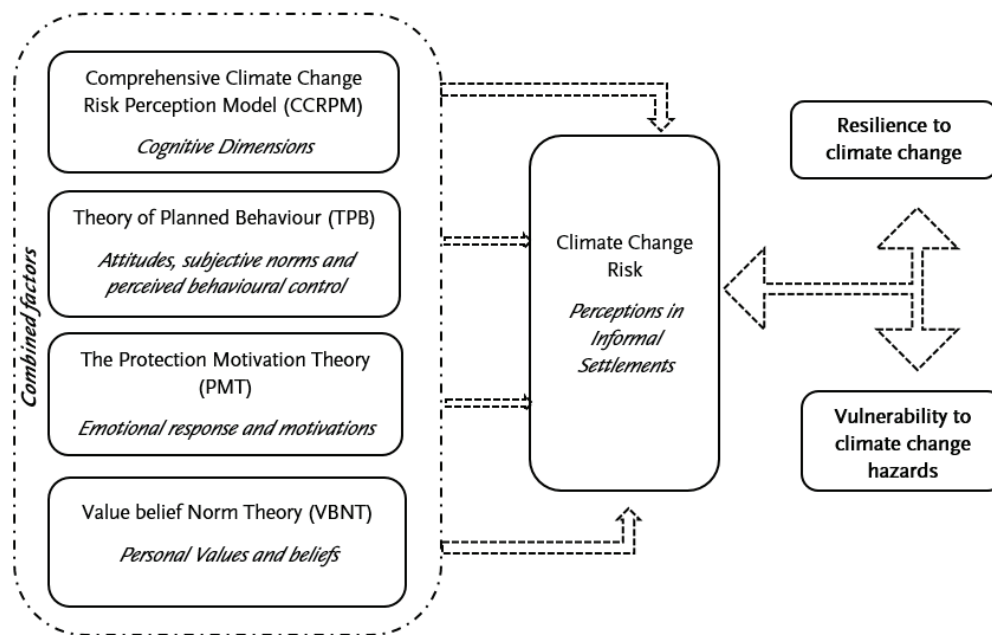
Figure 1. *Climate change hazard and risk perception conceptual model*

5. Research Design and Methods

The study employed a mixed-method approach during data collection in BCM, spanning from January 2022 to March 2023. Guided by the climate change hazard and risk perception (CCHRP) conceptual model, the study delineated specific objectives for each conceptual element, guiding the selection of research instruments that included participant observations, photo voice, semi-structured interviews, questionnaire interviews and a focus group as illustrated in Table 1. The study began with an initial observation of the study setting to analyse factors influencing susceptibility to climate change hazards, such as infrastructure, environmental conditions and community dynamics. These observations informed the design of data collection instruments, enabling local residents to participate and share their experiences and knowledge regarding climate change and coping mechanisms.

Concept Element	Measured objective	Instruments
Comprehensive climate change risk perception model	Cognitive dimensions: examining residents' climate change knowledge	Interviews, surveys, photo voice, and participant observations
	Experiential processing dimensions: collecting data on individuals' personal experiences with extreme weather events	
	Sociocultural influence: exploring the influence of sociocultural factors on climate change-related behaviours	
Theory of planned behaviour	Attitude towards behaviour: assessing individuals' attitudes towards specific climate change adaptation actions such as installing flood-resistant infrastructure	Interviews, surveys, photo voice, and participant observations
	Subjective norms: exploring individuals' perception of social pressure or expectations from peers, family or community leaders regarding involvement in climate change adaption behaviours	
	Perceived behavioural control: evaluating the perceived control individuals in the area have over participating in engaging in climate change adaptation actions	
Protection motivation theory	Threat appraisal: exploring how individuals perceive the severity and likelihood of climate change risks	Surveys, questionnaires, interviews
	Coping appraisal: examining individuals' perceptions of their capacity to enact protective measures against climate change impacts, encompassing financial constraints, technical knowledge and social support networks	
Value belief norm theory	Personal values and beliefs: exploring the role of personal values in shaping attitude and behaviour towards climate change	Survey questionnaires, interviews, observations
	Change values: exploring how diverse values impact people's sense of responsibility in tackling climate change risks and their readiness to adopt adaptive measures	

Table 1. *Data collection design*

The survey utilised 249 structured household questionnaires, employing both purposive and random sampling techniques to ensure diverse demographic representation. This approach included age groups of 18–30 years (25%), 31–45 years (30%), 46–60 years (32%), and 61+ years (13%), along with a gender distribution of 47% female and 53% male participants. It also accounted for variations in socioeconomic status and educational background, thereby capturing a broad spectrum of viewpoints. Following an evaluation of current conditions in the case study area, semi-structured interviews were conducted with various stakeholders, including community leaders, BCM city planners, disaster management units and non-governmental organisations. These interviews aimed to gather stakeholders' insights regarding the area's observed realities. Secondary data sources from State institutions, such as StatsSA, BCM and the Department of Cooperate Governance and Traditional Affairs, were also utilised to ensure a well-rounded understanding of the complex factors influencing residents' perceptions, attitudes, beliefs and behavioural intentions towards climate change. Thematic analysis was employed to discern patterns and narratives within the survey data, specifically concentrated on socioeconomic conditions, settlement and building typology and the impact of the political landscape on vulnerability to climate change hazards.

6. Findings and Discussions

6.1. Education Status

The intersection of educational attainment and climate change risk perception in DV highlights the dynamics of knowledge, behaviour and vulnerability as conceptualised

by the CCHRP model. The survey reveals that a significant portion of respondents lack formal education, with 4% (*n*=10) having no structured education and 27% (*n*=67) only completing primary school. This educational gap limits their ability to perceive and evaluate climate risks accurately, thus constraining their engagement in proactive behaviours, a finding that resonates with the cognitive dimensions of the CCCRPM framework and the theory of planned behaviour. This aligns with Adger et al. (2013), who noted that cognitive knowledge plays a critical role in how individuals assess climate risks and their subsequent vulnerability.

Conversely, respondents with secondary education 42% (*n*=102) and tertiary education 19% (*n*=47) are more likely to have a comprehensive understanding of climate issues, enhancing their capacity to engage in decision-making and resilience-building activities. This observation is supported by Satterthwaite et al. (2020), who highlight the significant role that higher education plays in empowering individuals to contribute to climate change mitigation and adaptation efforts effectively. Moreover, the theory of planned behaviour suggests that education can profoundly influence attitudes and perceived behavioural control, fostering positive climate actions. Nonetheless, the protection motivation theory and the value belief norm theory introduce a broader perspective, indicating that while education enhances threat and coping appraisals, experiential and contextual factors are vital in shaping perceptions and adopting protective actions against climate change hazards. Therefore, while addressing educational disparities is crucial, it is equally important to incorporate experiential and contextual factors into climate change adaptation strategies.

6.2. Economic Status

The exploration of income status among DV residents reveals a nuanced socioeconomic landscape that deeply impacts their vulnerability and resilience, as outlined by the CCCHRP model. A striking 71% of respondents are not formally employed, underscoring a severe economic vulnerability that hampers access to resources and information critical for adopting climate-resilient practices (Donadelli et al., 2017; Islam & Winkel, 2017). The planned behaviour theory helps explain how economic instability affects residents' intentions and perceived control over climate-related actions, with many relying on inconsistent income sources like government grants or informal jobs. This compels them to prioritise immediate daily needs over long-term climate resilience investments, a scenario supported by the protection motivation theory, which suggests that financial limitations constrain proactive climate strategies.

Moreover, the value belief norm theory sheds light on how entrenched socioeconomic disparities, a legacy of apartheid-era planning in DV, shape community norms and influence attitudes towards climate change adaptation. These historical and structural inequalities skew residents' perceptions and behaviours under economic pressures, illuminating the intricate relationship between economic status, vulnerability and climate change perceptions. Singer (2018) highlights that socioeconomic factors significantly

influence the capacity to adapt to environmental changes, underscoring the importance of considering these factors in climate adaptation planning. Consequently, findings from DV suggest the need for targeted efforts to bridge socioeconomic gaps in climate resilience strategies to ensure they are inclusive and effective.

6.3. Climate Change Knowledge and Information Sources

Exploring climate change knowledge among DV residents reveals critical gaps and opportunities for enhancing community engagement and understanding. Despite 38% of respondents claiming some knowledge of climate change, there remains a substantial lack of comprehension of its causes and impacts. This points to a crucial need for targeted educational initiatives aligned with the CCCRPM framework, designed to address prevalent misconceptions such as attributing climate change solely to high temperatures, Western nations or corruption. This finding aligns with van der Linden et al. (2017), who explored how public misinformation affects individual and group behaviours, emphasising the necessity for accurate threat appraisals as advocated by the protection motivation theory to foster protection behaviours.

Moreover, integrating IKS could significantly enrich educational content, providing insights into local environmental conditions and adaptive strategies. This approach aligns with the value belief norm theory, highlighting the importance of culturally embedded norms and beliefs in shaping environmental behaviours (Leal Filho et al., 2022; Makondo & Thomas, 2018). The predominant use of social media by 52% of respondents points to digital platforms like Twitter, Facebook, WhatsApp and TikTok as effective tools for disseminating climate knowledge, resonating with the theory of planned behaviour, which posits that accessible information sources can influence attitudes and perceived behavioural control. However, the underutilisation of traditional media sources such as radio (15%), television (26%), campaigns (2%) and schools (4%), illustrated in Figure 2, highlight a gap in utilising diverse communication strategies that combine digital and traditional media to maximise outreach and engagement effectively.

Climate change information sources
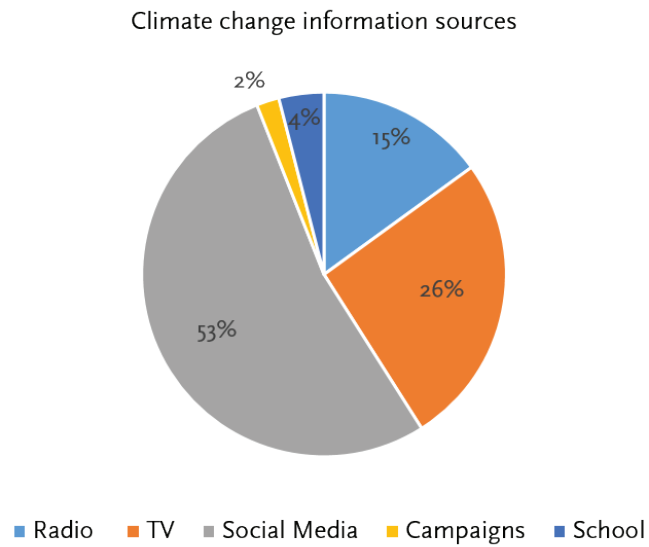
Figure 2. *Climate change information source*

The high levels of community participation (76%) and willingness to learn about climate change (82%) in DV present a fertile ground for community-driven educational programs that blend scientific facts with IKS. Such initiatives could profoundly enhance understanding, foster a sense of ownership and empower the community effectively.

6.4. Climate Change Hazards Personal Experiences

Participants from the DV informal settlement have had varying degrees of exposure to climate hazards. Based on their personal experiences, the respondents were asked the following question: "on a rating of 1–4, where 1 is the least, and 4 is the most. Have you experienced damage to property or ill health issues due to heavy rains, floods, heat waves and any other climate change hazard? Please explain what happened".

The varying degree of exposure to climate change hazards among participants, illustrated by Figure 3, reveals a broad spectrum of impacts and perceptions, aligning with the CCCRPM. This variation profoundly shapes individuals' and collective understanding and responses to climate risks. For instance, 10% of participants who reported the least impact may view climate change as minimally disruptive, potentially due to effective adaptation measures or simply a lack of awareness, aligning with the theory of planned behaviours, which suggests that perceptions can shape behavioural responses.

Climate change hazards rating scale (1-4)

Figure 3. *Climate change hazard rating*

Conversely, 15% of participants who have experienced moderate impacts are likely more conscious of their vulnerability, experiencing disruptions that affect their everyday lives. This heightened awareness may trigger protective behaviours as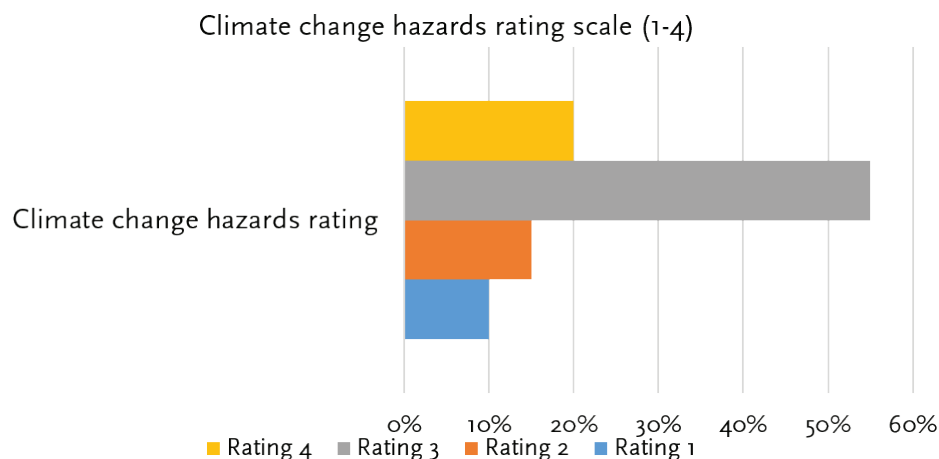 outlined in the protection motivation theory, emphasising the role of perceived severity and susceptibility in motivating adaptive actions. The largest segment, comprising 55% of respondents, reports significant impacts, which likely enhances their risk awareness and drives a community-wide acknowledgement of climate threats, reflective of the shared social norms and beliefs highlighted in the value belief norm theory. This shared experience can promote stronger community norms towards proactive climate risk management. Moreover, the 20% of respondents experiencing the most severe impacts, including substantial personal or property losses, represent the most risk-aware group. Their dire circumstances may catalyse active mitigation efforts, corroborated by the protection motivation theory, in order to enhance community cohesion and deepen commitment to collective action during disaster recovery phases.

6.5. Building Typology

DV residents' building typologies and techniques, illustrated in Figure 4, Figure 5 and Figure 6, provide a multifaceted adaptation strategy highlighting valuable insights into climate change risk and community vulnerability. Utilising zinc and cardboard/ plank structures, employed by 78% of respondents, reflects a cognitive acknowledgement of the community's economic limitations and the need for rapid reconstruction post-disaster. Such reliance on readily available and inexpensive materials reflects a practical response to DV's contextual realities and aligns with findings in similar economically constrained settings (Satterthwaite et al., 2020; Williams et al., 2019) and underscores the community's vulnerability due to limited protection against extreme weather events.

Figure 4. *Street view of Duncan Village*

Credits. Natal Buthelezi

Figure 5. *Typical arial view block of Duncan Village*

Credits. Natal Buthelezi

Figure 6. *Typical block view of Duncan Village*

Credits. Natal Buthelezi

By incorporating the theory of planned behaviour, it becomes apparent that construction choices in DV are influenced not just by practicality but also by communal norms and perceived constraints around more resilient building options. Additionally, the protection motivation theory sheds light on residents' threat and coping appraisals; the prevalent use of quick-to-assemble materials reflects a coping mechanism aimed at addressing immediate shelter needs post-disaster, which, while practical, may not substantially mitigate long-term vulnerabilities. This points to a protective motivation driven more by necessity than optimal choice, favouring immediate practical solutions over more sustainable but less accessible alternatives.

The community's involvement in building activities reflects the value belief norm theory, highlighting how social norms influence resilience enhancement practices (Aldunce et al., 2016). However, notable gender disparities in construction roles, with 85% of male respondents personally building their shelters compared to 90% of females relying on external help, highlight a divergence from inclusive community involvement. This discrepancy could hinder the community's overall ability to recover swiftly from disasters, indicating a crucial area for intervention.

Overall, the building techniques in DV not only reflect responses to economic and physical challenges but also embody deeper community values concerning self-reliance, resilience and gender roles. These normative beliefs shape the community's collective responses to climate hazards, determining participation in construction and potentially reinforcing existing vulnerabilities, particularly among women.

6.6. Shelter Upgrade as a Climate Change Adaptation Strategy

The housing maintenance observed in DV offers insightful reflections on the community's knowledge of climate change risks and their perceptions of vulnerability. Analysis reveals that 41% of respondents neglect maintenance or alterations to their residences,

indicating a notable gap in threat appraisal and pointing to a general unawareness of the importance of regular upkeep in adapting to changing climate conditions. This neglect could potentially compromise building integrity and increase vulnerability to damage during severe weather events, underscoring a critical area for intervention. Conversely, those residents who actively maintain their homes exhibit a proactive approach to safety, aligning with the protection motivation theory, which suggests that individuals who recognise potential risks are more likely to take preventive actions against them. This behaviour contrasts sharply with the broader trend of maintenance neglect and highlights the community's varying levels of risk awareness.

Economic and social factors significantly impact housing modifications in DV, where financial limitations and perceptions of temporary housing hinder climate-resilient upgrades (Mthembu & Hlophe, 2020). These challenges, common in other regions, must also be addressed to enhance DV's climate resilience. Additionally, some DV residents view housing improvements as a responsibility of the State, reflecting broader social norms and the impact of government policy on individual actions, as explained by the value belief norm theory. There exists a concern that personal investments in housing might jeopardise eligibility for government schemes, highlighting a unique tension between personal action and public policy that could contribute to social justice and equity challenges. This issue is sparsely reflected in existing literature, marking a distinct aspect of the DV context where fear of losing benefits may inhibit proactive climate adaptation measures.

Furthermore, the minimal involvement in external maintenance tasks like drainage, often perceived as a municipal duty, suggests a trend of passivity in personal contributions to adaptation. This stands in contrast to literature that emphasises the importance of community and individual engagement in enhancing resilience to climate impacts.

Overall, the housing maintenance behaviours in DV reflect a complex interplay of economic constraints, government expectations and varying levels of awareness regarding the necessity for climate change-resilient housing upgrades. While some residents demonstrate an understanding of and responses to these needs, illustrated by Figure 7 and Figure 8, others face significant barriers that impede their ability to implement substantial improvements.

Figure 7. *Housing modification applied by residents over time*

Credits. Natal Buthelezi

Figure 8. *Raised housing modification to prevent flooding of structure*

Credits. Natal Buthelezi

6.7. Political Dynamics in Shaping Risk Perceptions

In exploring the intricate relationship between political dynamics and climate change risk perceptions in DV, we delve into a complex tapestry where historical, social and political factors converge, profoundly shaping the community's vulnerability to climate hazards.

The enduring legacy of apartheid spatial planning continues to profoundly affect BCM, perpetuating segregation and exclusion that shape urban development (Seethal et al., 2021). This historical context has led to a considerable housing shortage and heightened social tensions (Siyongwana & Chanza, 2017), driving vulnerable communities in DV into hazard-prone areas where risks are intensifying, as observed during data collection. Such conditions have deepened residents' awareness of their historical and current environmental situations, influencing how they perceive and react to climate

risks. Lacking access to formal housing, DV residents are forced to settle in economically strategic areas, yet densely populated and lacking essential services. Respondent 1 (interview, February 5, 2022) narrated her experience of living in DV without essential services as follows:

> I have lived in DV for over five years and consistently faced challenges accessing clean water. My house lacks electricity; hence, I use paraffin for cooking, and I use a communal toilet situated more than 100 m from my home. Garbage collection in the area is random. These living conditions are quite traumatic for me and my family, but due to our limited options, we will stay.

Satterthwaite et al. (2020) highlight how such settings are ripe for both health and climate hazards, further exacerbating the residents' susceptibility to climate impacts. Moreover, settling on land without secure tenure further compounds their vulnerability and reflects the protection motivation theory, where the perceived lack of support from authorities fosters a sense of helplessness, diminishing the drive to pursue climate-resilient housing modifications. Respondent 2 (interview, February 5, 2022) explained:

> I cannot upgrade this shelter because I would be wasting money on repairs to a temporary structure that could be destroyed by fire or rain at any time. I should save my money so that when I finally receive my house from the government, I can extend it to accommodate my large family comfortably. However, I am disappointed by the slow pace of the government in building houses, as I have been on the waiting list for more than ten years; it almost feels like an empty promise.

Political competition for low-income housing introduces another layer of complexity. Promises made by political parties regarding infrastructure development frequently go unfulfilled, leading to various strategies such as "jumping the queue" for housing, typically involving land invasions in areas designated for key city infrastructure development (Buffalo City Municipality town planner, interview, April 11, 2022). These tactical strategies, often orchestrated by political figures, compel the government to arrange alternative housing for the displaced occupants to continue with development plans (local- non-governmental organisation respondent, interview, May 16, 22).

Political interference in land administration is prevalent, with allegations of councillors exploiting unemployed youths for personal gain, contributing to irregular land allocations and private sales (Duncan Village community leader 1, interview, October 17, 2022). This disadvantages long-standing residents and benefits newcomers, and as a result, such practices undermine community cohesion and foster tensions and distrust among residents. According to the theory of planned behaviour, such political instability and unreliable governance profoundly influence residents' intentions to engage in housing modifications. Prominent political figures redirect resources to favour their allies, and corruption allegations

within the municipality strain relations between councillors and ward committee members (Duncan Village community leader 2, interview, October 17, 2022). This can impede effective disaster management initiatives, reflecting the influence of social norms and trust in institutions, as outlined in the value belief norm theory. Residents may perceive corruption as a barrier to accessing resources and support for climate resilience efforts, leading to a sense of vulnerability and mistrust. Political infighting and corruption can divert resources from crucial climate resilience and disaster preparedness efforts.

In summary, the political dynamics within BCM areas significantly shape the knowledge of climate change risk and perceptions of vulnerability within DV. Addressing these issues requires a nuanced understanding of the interplay between historical legacies, socioeconomic challenges and political integrity, all of which are vital for fostering a resilient and informed community capable of confronting the challenges posed by climate change.

7. Recommendations and Conclusion

Addressing climate change perceptions and enhancing resilience in vulnerable enclaves like DV in BCM, South Africa, requires a multifaceted approach. This community, shaped by a complex interplay of socioeconomic vulnerabilities, historical legacies and political dynamics, faces unique challenges that demand tailored interventions. Through the comprehensive study of these dynamics, several strategies are recommended to mitigate the impacts of climate change hazards and promote sustainable development.

Social media platforms like Twitter, Facebook, WhatsApp and TikTok are pivotal in disseminating climate change information and fostering community engagement. Recognising the role of these platforms as primary information sources in DV, targeted climate change awareness campaigns can be designed to broadcast information in the local native language to engage users interactively. By positively influencing attitudes and behaviours towards climate change, these initiatives harness the planned behaviour theory, emphasising the importance of accessible communication channels in shaping public perception and driving proactive engagement. Moreover, integrating IKS into climate change education presents a significant opportunity to enhance the cultural relevance and impact of learning initiatives. This approach taps into the value belief norm theory by organising community-led workshops and storytelling sessions and incorporating indigenous practice into school curricula. It recognises the deep-seated cultural dimensions of climate change perceptions and behaviours, making education more meaningful and effective for DV residents. This strategy respects and revitalises local knowledge and also strengthens community resilience by aligning traditional practices with scientific climate adaptation strategies.

Another critical area of focus is addressing gender disparities in climate resilience. By initiating training programs specifically designed for women in construction skills, the community can promote gender equity and empower women to actively participate in building climate-resilient infrastructures. This initiative aligns with the principles of both the protection motivation theory, which focuses on enhancing individual capacity to respond to

perceived threats and the value belief norm theory, which underscores the role of societal values and norms in motivating environmentally beneficial behaviour. To further bolster resilience in DV, government agencies like the National and Provincial Department of Human Settlement, local non-governmental organisations and the private sector are encouraged to facilitate access to climate-resilient housing. Supporting programs that upgrade and retrofit shelters in the area is essential in reducing economic vulnerabilities. This can be achieved by providing subsidised circular building materials, technical assistance in construction and promoting climate-resilient building practices. These steps are crucial in aligning with the CCCHRP model, highlighting the importance of addressing cognitive and material capacities to cope with climate risks.

In conclusion, this study has rigorously analysed the influence of socioeconomic disparities, IKS and cultural norms on the perceptions and adaptive responses to climate change among residents of DV's informal settlements. The findings highlight the profound impact these factors exert on residents' understanding of climate change, its causes and the roles they perceive as pertinent to their community's mitigation efforts. Employing a mixed methods approach to explore the complex interplay of sociocultural, cognitive, motivational and value-based factors that shape these perceptions, guided by the CCCHRP theoretical framework. The study records various adaptive practices and assesses their effectiveness, revealing that while some strategies are beneficial, numerous barriers such as economic constraints, limited access to technology, inadequate educational resources and political challenges impede successful adaptation. These findings inform targeted interventions aimed at bridging knowledge gaps and enhancing adaptive capacities in informal settlements.

Consequently, the study recommends contextually appropriate policy measures that enhance educational outreach to improve climate literacy, seamlessly integrate IKS into climate adaptation planning and improve infrastructure support. These measures are pivotal in diminishing vulnerabilities and enhancing the adaptive capacities of informal settlement residents. The recommended strategies adopt a holistic approach, which is essential for developing interventions that tackle immediate climate risks and aim for long-term sustainability and resilience.

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Biographical Note

Natal Buthelezi is a professional architect and a researcher within the Eastern Cape Department of Public Works and Infrastructure, South Africa. He also holds a PhD in Urban and Regional Planning from the University of the Free State, South Africa. Drawing from broad experience in the built environment, spanning both private and public sectors. His research interests encompass various domains, including urban resilience, environmental systems, sustainable architecture, spatial planning and governance within the built environment. Natal has presented his work at national and international conferences and is committed to exploring transformative pathways, amplifying the voices of vulnerable communities, and advancing forward resilient urbanisation initiatives.

ORCID: https://orcid.org/0000-0002-5775-6920

Email: natbuthelezi@gmail.com

Address: University of the Free State, 205 Nelson Mandela Drive, Park West, Bloemfontein, 9301, South Africa

Varia | *Varia*

The Black Diaspora Disproving the Single Chorus: Imaginaries of Time, History and Gender in the Rebellions of the Black People through Brazilian Popular Music

Rosimeire Barboza da Silva
Programa de doutoramento em Governação, Conhecimento e Inovação, Centro de Estudos Sociais, Universidade de Coimbra, Coimbra, Portugal
Investigation, methodology, conceptualization, writing – original draft, writing – review & editing

Lennita Oliveira Ruggi
Docente do Departamento de Teoria e Fundamentos da Educação, Setor de Educação, Universidade Federal do Paraná, Curitiba, Brasil
Investigation, methodology, conceptualization, writing – original draft, writing – review & editing

Abstract

Inspired by Paul Gilroy's *O Atlântico Negro* (The Black Atlantic; 1993/2001), this study sets out to interpret four renowned Brazilian popular music (MPB) lyrics: "Chico Rei" (Jarbas Soares, Djalma de Oliveira Costa e Geraldo Soares de Carvalho, 1964); "Zumbi" (Jorge Ben, 1974); "Mestre Sala dos Mares" (João Bosco & Aldir Blanc, 1975) and "Morena de Angola" (Chico Buarque, 1980). By examining the songs within the intellectual framework of *The Black Atlantic*, the analysis focuses on two main perspectives for interpretation: (a) the imaginary of time/history and (b) the gendered principles of enunciation. Following the methodological approach proposed by Gilroy (1993/2001), music emerges as a public space for articulating and disseminating memories of the black diaspora. Informed by the historical struggles waged by black people, the lyrics reclaim narratives insistently invisible and challenge the supposed place of political "non-agency" of enslaved populations or those living under authoritarian regimes. These compositions, confronting the urgency to break free from the tiresome chorus of a single history, provide privileged access to memories of uprisings against enslavement and colonialism, spreading decolonial knowledge in the contemporary context. The production and inscription of an oppositional memory — one that claims space and place while contesting sedimented versions — is a constant endeavour that is closely related to the establishment of new horizons for struggle in the present.

Keywords

The Black Atlantic, black diaspora, imaginaries of time and history, decolonisation of knowledge

Diáspora Negra e a Desautorização do Refrão Único: Imaginários de Tempo, História e Gênero nas Revoltas do Povo Negro Através da Música Popular Brasileira

Resumo

Tendo como inspiração *O Atlântico Negro* de Paul Gilroy (1993/2001), propomos realizar um exercício de interpretação de quatro letras consagradas da música popular brasileira (MPB). São elas: "Chico Rei" (Jarbas Soares, Djalma de Oliveira Costa e Geraldo Soares de Carvalho, 1964); "Zumbi" (Jorge Ben, 1974); "Mestre Sala dos Mares" (João Bosco & Aldir Blanc, 1975) e

"Morena de Angola" (Chico Buarque, 1980). Ao tomarmos as canções como parte do arcabouço intelectual d'*O Atlântico Negro*, focaremos duas principais chaves de leitura: (a) o imaginário de tempo/história e (b) os princípios generificados de enunciação. Seguindo a trilha metodológica proposta por Gilroy (1993/2001), identificamos a música como espaço público de elaboração e difusão de memórias sobre a diáspora negra. Informadas por lutas históricas travadas pelo povo negro, as canções recuperam narrativas insistentemente invisibilizadas e questionam o suposto lugar de "não-agência" política das populações escravizadas ou vivendo sob regimes autoritários. Frente à urgência em interromper o cansativo refrão da história única, encontramos nessas obras acesso privilegiado às recordações sobre revoltas contra a escravização e o colonialismo, difundindo no presente saberes decoloniais. A produção e inscrição de uma memória oposicional — aquela que reivindica espaço e lugar ao mesmo tempo em que contesta versões sedimentadas — é um trabalho constante que está intimamente relacionado com o estabelecimento de novos horizontes de luta no presente.

Palavras-chave

O Atlântico Negro, diáspora negra, imaginários de tempo e história, decolonização do saber

1. Introduction

> *Won't you help to sing*
> *These songs of freedom?*
> Bob Marley, *Redemption Song*, 1980

In the preface to the Brazilian edition of *The Black Atlantic*, Paul Gilroy (1993/2001) suggests that anti-racist movements often articulated "strong versions of historical consciousness" (p. 17). Such consciousness blossomed from the memory of collectivities endowed with political and hermeneutic heritage. His approach, refusing the premise of automatic racial solidarity, demands recognition of efforts to formulate subversive interpretations of the past that criticize the world "as it is". The fact that these interpretations emerged outside (and opposed) the official historical versions should not be surprising. Even so, there is something deeply subversive about identifying composers as intellectuals. Likewise, it is crucial to recognize that the fight against racism is a collective political task that involves aesthetic and identity work, part of the long process of "becoming black" (Souza,1983).

Thus, for Gilroy (1993/2001), memory is dynamic, and the fight against racism is also a fight for historical awareness. Long-term power dynamics are reflected in the recounting of the past, evident in the challenges of accessing documentary sources from specific racialized groups. The annihilation of uprisings against enslavement, for example, also entailed the deliberate destruction and erasure of evidence of dissent. Such censorship strategies employed by the colonial project resonate today, upholding the "narcissistic pact" (Bento, 2002, p. 49) and perpetuating the symbolic and material racial privileges of whiteness (Müller & Cardoso, 2017, p. 15). That is also true for narratives about the traumas of enslavement and colonialism. In Seligman-Silva's (2008) terms, denial "precedes the act itself" (p. 75). Like Seligman-Silva, we contend that the "politics

of memory" is complex and that trauma may be formulated in "imaginative" artistic forms capable of collectivising narratives.

To circumvent the monopolisation of the past, we followed Gilroy's (1993/2001) methodological proposal to study the musical repertoire produced on the circuits of *The Black Atlantic*. This non-hegemonic tradition offers an "enhanced mode of communication" (p. 164) for disseminating knowledge censored in the official archives. Within this theoretical matrix, the power of black music in communicating information, and organising anti-racist struggles should be foregrounded. In other words, it is worth exploring how to articulate (and legitimise) the records of the past and the obstinate commitment of music that celebrates the memories and struggles of black people while upholding the promise of a better future. As the author has observed (Gilroy, 1993/2001), these aesthetics and counter-aesthetics embody a "dramaturgy of remembrance" that transcends genealogy and geography, expanding the concept of belonging, where groups acting together generate a more "substantively democratic energy than race will ever allow to exist" (p.13).

This study sets out to interpret four renowned Brazilian popular music (MPB) lyrics: "Chico Rei" (Binha, Djalma Sabiá & Geraldo Babão, 1964); "Zumbi" (Jorge Ben, 1974); "Mestre Sala dos Mares" (João Bosco & Aldir Blanc, 1975) and "Morena de Angola" (Chico Buarque, 1980)[1]. These compositions provide privileged access to memories of rebellions against enslavement and colonialism, spreading decolonial knowledge in the contemporary context. They encapsulate relevant insights into the experience of black communities that strike us as gold nuggets to discover. The metaphor of the mine is premeditated, as these songs rocked the second half of the 20th century in Brazil and are widely known. However, most people are unaware of the political activism implicitly enunciated, like historical resources to be mined[2]. In fact, part of the motivation behind this article is to bring to light some of the meanings implicit in insinuations and suggestions that are not always recognised, even in very famous songs. It is important to emphasise that the selection of the four songs is controversial, as all selections are[3]. It does not aspire to canonise certain works to the detriment of others. It is, above all, the result of a tentative initiative to seek alternative sources beyond the hegemonic narratives. Although the limited scope to Brazilian borders may contradict Gilroy's methodological proposal urging us to transcend national horizons, we hope to make it clear that the compositions themselves

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[1] Due to character limitations, this article does not include all the lyrics. We encourage you to enjoy them with the accompanying melodies.

[2] It does not seem an exaggeration to say that many songs hold meanings often overlooked. We both listened to these songs as children (1980s), and it took us a long time to learn who Dragão do Mar was or to realise that the acronym "MPLA" (Movimento Popular de Libertação de Angola [Popular Movement for the Liberation of Angola]) sounded like "M-P-Lá". This inexhaustible learning process is both the cause and invitation within these pages.

[3] We must acknowledge that our selection is somewhat incoherent because it does not include songs by women composers. It is pertinent to note the ease with which white composers (such as João Bosco, Aldir Blanc, and Chico Buarque) are included in black resistance repertoires. This ambiguity warrants expanded discussions on cultural appropriation, complicity, interdependence, and/or interracial solidarity, aspects not covered in this article. It is also important to stress that, although not explored here in all its breadth and diversity, the black Brazilian songbook holds vital importance not only in the universe of popular music but also in other expressions of the cultural industry such as cinema, theatre, soap operas, and television series. The vigour of black musicians and performers deserves to be highlighted for their dynamic and fresh perspectives on issues dear to contemporary cultural studies. This expansive field merits further exploration in future work.

have already taken this step. Translocal and transtemporal affinities have always been the leitmotif of these melodies.

Informed by the historical struggles of black people, these songs narrate political actions undertaken during the colonial regime and serve as a fertile ground for cultural studies insofar as they retrieve narratives persistently made invisible. They challenge the supposed place of enslaved populations — or those living under authoritarian regimes — as having political "non-agency" while debunking the romanticised idea of a "pure" Africa, portrayed as a passive victim of intense trafficking that devastated and oppressed its populations under Iberian expansion. The songs also highlight the interconnected struggles and experiences of populations on both sides of the Atlantic, elucidating the relationships of exchange, displacement, and collaboration inherent in the construction of black resistance. More recently, this interconnectedness extends to the convergence between groups resisting colonial regimes in countries like Angola and Mozambique and militants who fought against the military dictatorship in Brazil from the 1960s onwards. Furthermore, it is worth highlighting the role of popular culture in expressing — under two very different regimes of exploitation and domination, such as the colonial and the dictatorial — the daily oppressions experienced by those denied their right to freedom. By examining the songs within the intellectual framework of *The Black Atlantic*, the analysis focuses on two main perspectives for interpretation: (a) the imaginary of time/history and (b) the gendered principles of enunciation. Following this introduction, the article is structured into four sections, each dedicated to chronologically analysing one of the selected songs, and concludes with the final considerations.

2. "Chico Rei" (1964)

"Chico Rei" was the *samba-enredo* (samba plot) of Acadêmicos do Salgueiro in 1964, the samba school whose parade won second place in the Rio Carnival competition. The composition was credited to Jarbas Soares, Djalma de Oliveira Costa, and Geraldo Soares de Carvalho, better known by their nicknames Binha, Djalma Sabiá, and Geraldo Babão (all founders of the samba school and residents of Morro do Salgueiro). The song's enduring success was further solidified through re-recordings by Martinho da Vila[4].

According to official history, Acadêmicos do Salgueiro, starting from the mid-1950s, presented "plots that eschewed the patriotic themes imposed by the Estado Novo" (Acadêmicos do Salgueiro, 2014). Instead, they actively promoted "black themes" such as Navio Negreiro in 1957 and Quilombo dos Palmares in 1960. "Chico Rei" is a testament to the school's (and the black movement itself) broader endeavour to bring innovation to the carnival universe by celebrating resistance to enslavement, honouring black heroes and heroines such as

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[4] There is divergent information regarding the year Martinho da Vila recorded "Chico Rei". Gabriel Carin (s/d) mentions the albums *Sambas Enredo* (1980) and *Canta Canta Minha Gente* (1989), but on the artist's official website, the song features only on the album *Voz e Coração* (2002). Cf. http://www.martinhodavila.com.br/discografia7.htm

Aleijadinho, Zumbi, Xica da Silva and Chico Rei himself[5]. The school's contemporary memory demonstrates the deliberate effort to displace hegemonic narratives:

> [in 1963] Salgueiro introduced a new character who was a *stranger to official history* [emphasis added] - Xica da Silva, *a slave who lived in Minas Gerais* [emphasis added]. (...) The impact of Salgueiro's parade proved irresistible, and the cry "you've won!" which echoed from end to end of the avenue, has few times been so unanimous. When the parade ended, the impression lingered that something very important had happened in Rio's carnival. (Acadêmicos de Salgueiro, 2014)

It is notably striking that the mention of Xica da Silva requires a comma followed by an explanation: "a slave who lived in Minas Gerais". The didactic tone adopted by the school is partly explained by the fact that these figures were not readily recognisable because they were "stranger[s] to official history" (Acadêmicos da Salgueiro, 2014). That is evident in the samba "Chico Rei", which mythologically narrates the life of Francisco, assuming the listeners' ignorance. While such "pedagogisation" may seem aesthetically dubious to contemporary sensibilities and even inconsistent with the other compositions analysed below, it makes sense to acknowledge that alternative interpretations lack collectively constructed hermeneutic foundations. In other words: "the ability of excluded communities to decode dominant programming through a perspective of resistance is contingent upon the extent to which their collective life and historical memory provide an alternative approach to understanding" (Shohat & Stam, 1994/2006, p. 465).

Chico Rei is said to have been the Brazilian name for Galanga, an enslaved monarch from the Kingdom of Congo who won his freedom and became the owner of a gold mine, founding the first brotherhood of free blacks and living with great pomp surrounded by his court in Vila Rica (Minas Gerais). There is consensus on the lack of sources validating the character's historical authenticity. However, his fictional existence can be traced back to at least 1904, inspiring a novel by Agripa Vasconcelos (1966) and a film by Walter Lima Jr. (1985) featuring a soundtrack with Clementina de Jesus and Milton Nascimento.

In Acadêmicos de Salgueiro's *samba-enredo*, the starting point for the hero's journey (Vogler, 2006), Chico Rei is the idyllic world from which he was plucked: "vivia no litoral africano / Uma régia tribo ordeira cujo rei era símbolo / De uma terra laboriosa e hospitaleira" (he lived on the African coast / A regal, orderly tribe whose king was a symbol / Of a hard-working and hospitable land; 00:00:02). The choice of adjectives is noteworthy because they relate to the (self-)imagined community (Anderson, 1983/2008) of the Brazilian population: industrious and welcoming. In the romanticised past, the hierarchical dimension is portrayed less as domination and more as the leadership's responsibility towards its subjects: faced with the disgrace of abduction and international human trafficking, Chico Rei "jurou à sua gente que um dia os libertaria" (swore

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[5] Guilherme José Motta Faria (2014) challenges the hegemonic versions of Salgueiro's pioneering role in introducing Afro-Brazilian themes into parades and public spaces, mapping the influences of black movements while acknowledging the significant contribution of Rio de Janeiro's samba schools to discussions about Afro-Brazilian history.

to his people that one day he would free them; 00:01:17). Freedom has always been an ambition and even on the crossing, plans for insurrection begin to circulate in the background: "ao longe, Minas jamais ouvia" (in the distance, Minas never heard; 00:01:09).

Notably, the enunciation avoids using descriptors of colour or race, identifying exploiters and exploited by their nationality: "um dia, essa tranquilidade sucumbiu / Quando os portugueses invadiram / Capturando homens / Para fazê-los escravos no *Brasil*" (one day, this tranquillity collapsed / When the Portuguese invaded / Capturing men / To make them slaves in Brazil; 00:00:21). The horrors of enslavement lead to a chorus bidding farewell to their origins, with the baobab tree and the Bengo region (now a province in the north of Angola, where the Bengo river is also located) symbolising the lost world: "na viagem agonizante / Houve gritos alucinantes / lamentos de dor / Ô, ô, ô adeus, Baobá, ô, ô, ô / Ô, ô, ô adeus, meu Bengo, eu já vou" (on the agonising journey / There were hallucinating cries / wails of pain / Ô, ô, ô goodbye, Baobá, ô, ô, ô / Ô, ô, ô goodbye, my Bengo, I'm going; 00:00:42). The chorus serves as a platform for expressing shared pain, which, as per Gilroy (1993/2001), may be "unspeakable" but not "inexpressible" (p. 158).

The song traces the geography of the slave trade: departing from West Africa, it arrives in Rio de Janeiro, where "no mercado de escravos / Um rico fidalgo os comprou / E para Vila Rica os levou" (in the slave market / A rich nobleman bought them / And took them to Vila Rica; (00:01:27). While working in the gold mines of Minas Gerais, Chico Rei purportedly encouraged "seu pessoal" (his people) to hide gold in their hair to buy their freedom. The reference to the Catholic Church as a place where gold was collected raises numerous questions about the relationship between religious power and economic power concerning the management of the enslaved population. There is ample documentation of enslaved individuals adopting tactics to occupy spaces within religious brotherhoods for activities that, while not overtly political, provided an opportunity for legitimate collective meetings (Lima, 1999).

Salgueiro's samba emphasises faith and narrates Chico Rei's voluntary conversion in the concluding stanzas: "escolheu o nome de Francisco / E ao catolicismo se converteu / No ponto mais alto da cidade, Chico Rei / Com seu espírito de luz / Mandou construir uma igreja / E a denominou / Santa Efigênia do Alto da Cruz" (he chose the name of Francisco / And converted to Catholicism / At the highest point in the city, Chico Rei / With his spirit of light / Had a church built / And named it / Santa Efigênia do Alto da Cruz; 00:03:01). Obviously, it would be simplistic to interpret the declarations of catholicism as something univocal, disregarding the syncretic nature of Brazilian religiosity. A direct effect of colonial edicts that prohibited African religious practices, syncretism emerged as a survival strategy, "merging " deities from different sacred repertoires. The Salgueiro Samba School itself has the orisha Xangô as its protector, identified with different catholic saints (St. George, St. Joseph and St. John).

Once freed, the hero "Sob o sol da liberdade trabalhou / E um pouco de terra ele comprou / Descobrindo ouro enriqueceu" (Under the sun of freedom he worked / And a little land he bought / Discovering gold he became rich; 00:02:50). Chico Rei is portrayed

as the leader who mobilises action, but the collection of gold is shared and so are the benefits of that collection (freedom). The fact that the locus of salvation was in the head, in the hair obsessively called "wicked" by racist repertoires, does not seem random either. However, this is outrightly a male collectivity. We must recognise how this typical narrative silences the existence of a female experience of captivity. From the very first stanzas, the song mentions the capture of "homens" (men) and does not change this ambiguous generalisation: when the king swears to "sua gente / que *os* libertaria" (his people / that he would free them; 00:01:20).

The story of Chico Rei, as presented in the song, follows a classical structure within an evolving timeline: from idyllic tranquillity in Africa to the agonising insult against the hero, which is overcome by his tenacity and cunning, making freedom and wealth possible, crowned by spiritual completeness. The church's construction and the song praising Chico Rei represent the aspiration to immortality. It is also worth noting that the character is not called *Rei* [King] Chico but Chico Rei, as if the title acknowledges his nobility rather than the reverse. The memory woven in this way valorises a form of subversion to enslavement, which leaves not only the structures of power (monarchical) but also the economic hierarchy (supposedly accessible to those gifted with merit) untouched.

3. "Zumbi" (1974)

Zumbi is the most famous figure of resistance to enslavement in Brazil. He lived in the Quilombo dos Palmares, a community of approximately 20,000 people in the Serra da Barriga in the present-day State of Alagoas. This community resisted at least eighteen state attacks and maintained independence for over a century. Zumbi was one of the Quilombo's main leaders until its defeat, after which his head was allegedly displayed as a war trophy in Recife. Despite the limited knowledge about his life, he remains a symbol of the black struggle against the slave system, and his name needs no introduction in the Brazilian world. Although exploring representations of Zumbi in other cultural contexts would be enriching, such an endeavour exceeds the scope of this article.

"Zumbi" is one of Jorge Ben's greatest hits. Initially released on the 1974 record *Tábua das Esmeraldas*, the song was given a new arrangement in 1976's *África Brasil*, with the name "África Brasil (Zumbi)", featuring a more aggressive interpretation (Oliveira, 2012). Since then, it has been re-recorded by countless renowned artists, including Cidade Negra ("Negro no Poder", 1992), Caetano Veloso ("Noites do Norte", 2000), Mariana Baltar ("Uma Dama Também Quer se Divertir", 2006), Maquinado ("Mundialmente Anônimo: O Magnético Sangramento da Existência", 2010) and Ellen Oléria ("Ellen Oléria e Pret.utu", 2013)[6].

As in "Chico Rei", the song starts its narrative in Africa. The first stanzas list the major ports where slaves were traded along the African coast until the mid-19th century: "Angola, Congo, Benguela / Monjolo, Cabinda, Mina / Quiloa, Rebolo" (00:00:05). Collective identity

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[6] The musical group Planet Hemp also refers to "Zumbi" in their hit "Dig Di Dig" (Hempa) from their debut album *Usuário* (1995), reproducing the stanzas "Zumbi é o senhor das trevas, Zumbi é o senhor das demandas / Quando Zumbi chega, é Zumbi quem manda" (Zumbi is the lord of darkness, Zumbi is the lord of demands / When Zumbi arrives, it's Zumbi who commands).

formation involves temporal and spatial contextualisation: "Aqui onde estão os homens / Há um grande leilão" (Here where the men are / There's a big auction; 00:00:17). The term "homens" (men) could be interpreted in different ways: either as a synonym for humanity, masculinity (in contrast to the princess), whiteness (in contrast to the black hands) or even a concentration of interests (they are having a big auction). The multiplicity of meanings is one of the lyrics' assets. Repetition is also a stylistic resource with a strong impact, especially the chorus "eu quero ver" (I want to see; 00:00:43), which expresses the challenge to the *status quo* implicit in memories of resistance.

The lyrics allude to economic activities based on slave labour, particularly the large plantations for export: sugar, coffee and cotton. These crops represent the last strongholds of slavery: sugar production in Cuba, coffee in southwestern Brazil, and cotton in the southern United States (Cooper et al., 2005). The creation of the image contrasting those who carry out and those who watch over the cotton harvest exposes the racial dimension of exploitation by emphasising the masters *sitting and watching* "o algodão branco" (white cotton) being "colhidos por mãos negras" (picked by black hands; 00:01:29). On analysing the second version of "Zumbi", Luciana Xavier Oliveira (2012) relates sound representation tropes to the tune, highlighting the military allusions in the description of Zumbi:

> throughout the track, the vocals adopt figurative contours marked by their declamatory and discursive tone, which deviates from the song's melodic and rhythmic trajectory. Notably, there is a deliberate adherence to rhyme in certain verses, such as the bridge, where grammatical agreement is subverted to facilitate rhyme (...). Thus, the "s" of the word "demandas" (demands) is omitted in pronunciation to harmonise with the ending of the verb "manda" (sends) (...). Meanwhile, the wind instruments, reminiscent of military bands, gain prominence, heralding the hero's arrival. During the chorus' repetition, these wind instruments emerge, calling upon the black people to stand and fight. (pp. 169–170)

It is worth noting that the composition was written during the Brazilian military dictatorship, which promoted racial democracy as a state ideology. In this context, explicitly addressing racial exploitation held particular significance, requiring an understanding of racism's mechanisms. All the more so because Jorge Ben uses the present tense, situating the experience of slavery "aqui" (here) and projecting an uncertain future. This adds weight to the chorus as a threat: "eu quero ver / quando Zumbi chegar / o que vai acontecer" (I want to see / when Zumbi arrives / what will happen; 00:01:55).

The sentence "eu quero ver" (I want to see) takes on a layered meaning, simultaneously conveying anticipation and challenge, launching the possibility of a change in the lifetimes of those who "vê" ([see] amplified by the fact that the chorus is sung collectively in the first version). At the same time, as Seligmann-Silva (2008, p. 69) argues, in trauma testimony, "past time is present time (...). More specifically, trauma encapsulates a memory of the past that does not disappear". Confronted with the outrageous racial inequality of contemporary Brazil, there are multiple interpretations to understand "a past that does not disappear". Hence, the longing for Zumbi resonates powerfully within the tune.

Meanwhile, it is important to acknowledge that the presumed subversive perspective upholds the male ethos of courage and power ("Zumbi é quem manda" [it's Zumbi who commands]) when compared to the portrayal of a "Princesa à venda" (Princess for sale; 00:00:28), which implies a sense of passivity. The romanticisation of aristocratic figures (also evident in "Chico Rei") is deeply paradoxical, as it responds to the injustices of the white elite by claiming a black elite. Furthermore, it seems to suggest that enslavement was harsher for princes and princesses, disregarding the rearrangement required in captivity.

> In spite of occasional mentions of former status distinctions being observed in the case of particular slaves around them – the much romanticized idea of the enslaved prince or princess – it is not at all difficult to perceive why antecedent distinctions of rank would tend to become irrelevant or totally transformed in the plantation setting. (Mintz & Price, 2003, p. 104)

The type of enunciation explored in "Zumbi" differs significantly from the approach of the samba singers in "Chico Rei", who prioritise nationality over racial identity. Jorge Ben has consistently highlighted blackness as a central theme, employing images where colour predominates, like the contrast between white cotton and black hands. This aligns with aesthetic expectations shared by black movements. In this sense, Oliveira (2012) explores Jorge Ben's relationship with American black music, particularly soul and funk.

> The wider circulation of Jorge Ben Jor's early works in the mainstream allowed these fusions between Afro-Brazilian music and American black music, which were never stable or definitive, to become more frequent in the 1960s and gain more visibility. [...] This strategy proved effective, reaching 60,000 records sold upon release, an impressive figure for that era. It confirmed a new marketing strategy, also targeting the international *World Music* market later on, especially by adopting a more danceable and commercially appealing sound. This shift accompanied the Brazilian MPB phonographic market's transition from the late 1970s to the early 1980s. (Oliveira, 2012, p. 160)

Jorge Ben's transition towards a more pop-oriented style and international market alignment coincided with record labels' vested interest in promoting cultural expressions of the black diaspora. The strategies of representation and commercialisation aligned itself with the ethos of "Black is beautiful," partially in response to the entertainment industry's interests, and was able to transform blackness into the business of an aseptic and highly profitable multiculturalism (Gilroy, 2004/2007).

Despite Jorge Ben's production being shaped within the music industry and appropriated by different, potentially exoticising conceptions, it does not exhaust the provocative and subversive dimension that "Zumbi" (re)percusses, especially when it blends temporalities, intertwining the past and present as a time of rebellion, war and demand. The unexpected yet to be seen is an aspiration, a collective call to action.

4. "O Mestre Sala dos Mares" (1975)

Before it was censored, the lyrics of *O Mestre Sala dos Mares*, composed by João Bosco and Aldir Blanc, began with a direct tribute to two pivotal figures in Brazil's black rebellions, the "almirante negro" (black admiral; João Cândido Felisberto) and the "líder jangadeiro e abolicionista" (raftsman and abolitionist leader; Francisco José do Nascimento), known as the Dragão do Mar (Dragon of the Sea). Both figures' stories share common ground. Perhaps this explicit allusion connecting emancipation struggles unsettled censors, referring them to the context of democratic movements against Brazil's military dictatorship in the 1970s. To clear the song of the censors' veto, the lyricists ultimately replaced "bravo marinheiro" (brave sailor) and "Almirante Negro" (black admiral) with "bravo feiticeiro" (brave sorcerer) and "Navegante Negro" (black navigator).

The Dragão do Mar, also known as Chico da Matilde, played a pivotal role in the abolitionist movement, particularly in Ceará. In 1881, he led a collective protest among Fortaleza's raftsmen, refusing to transport enslaved black people to slave ships in the interprovincial trade. This abolitionist struggle contributed significantly to Ceará becoming the first Brazilian province to abolish slavery in 1884. The lyrics of "Mestre Sala dos Mares" pay homage not only to this resistance against slavery but also commemorate the Revolta da Chibata, a popular uprising led by sailor João Cândido Felisberto in 1910, in the then federal capital, Rio de Janeiro. This connection between the struggles for freedom is explicit in the passage that emphasises the need to produce a contemporary *memory* of "todas as lutas inglórias" (all the inglorious struggles; 00:01:27).

During the early 20th century, when the Brazilian elite was struggling between keeping the colonial privileges of European descent white oligarchies intact and projecting abroad an image of an avant-garde country investing in technology, a group of Brazilian sailors was sent on a mission to England. The aim was to retrieve two battleships recently acquired by the Brazilian navy, the *São Paulo* and the *Minas Gerais*, which would guarantee the renewal of the national fleet. The contact between the Brazilians — including João Cândido — and their international counterparts profoundly impacted them. The Brazilian sailors learnt that the harsh disciplinary practices customary in Brazil, including severe corporal punishment for faults and dissent, had been abolished in the British navy. Despite Brazil having officially repealed it in the 19th century, the lash was still part of the punishment repertoire for the military corps, predominantly comprising white admirals and black sailors. However, as the sailors noted through transcontinental dialogues in 1910, the lash had already been banned almost everywhere in the world.

Following Baktin's insights in *The Dialogic Imagination,* Gilroy views the ship as a "chronotope": a unit of analysis that allows access to spatial and temporal categories of representation. He notes that ships were dynamic conduits connecting the points between the Atlantic (and, we might add, the Pacific and the Indian Ocean). The mobility of this "chronotope" represented the transformations between the connected static points. That is why they embodied cultural and political units, extending beyond the transnational trade role:

> they were something more – a means to conduct political dissent and possibly a distinct mode of cultural production. The ship provides a chance to explore the articulations between the discontinuous histories of English's ports, its interfaces with the wider world. (p. 61)

The resonance of micro-political experiences in this dynamic space of tensions between modernisation, colonialism and industrialisation certainly influenced the long journey home. The successful experiences of the international struggles undertaken by English, African[7], Caribbean and Russian sailors who, by organising, had achieved improvements in their working conditions encouraged and strengthened the spirits of the Brazilian sailors. On November 23, 1910, they took the first step in the fight to abolish corporal punishment in the national navy by seizing the battleship *Minas Gerais*.

The end of corporal punishment, improved food quality and amnesty for the mutineers were the main demands of the Revolta da Chibata led by João Cândido (Morel, 2009). Hermes da Fonseca's government had to accept the demands of the mutinous sailors on four ships in Guanabara Bay in full, or they would bomb the federal capital. With the government's opposition bench on the side of the insurgents on November 26, the president accepted the conditions imposed by the sailors, who laid down their arms the same day. However, the government counterstroke four days later: reneged on the surrender agreement, Hermes da Fonseca published both a decree allowing the summary dismissal of the navy for "lack of discipline" and ordering the arrest of the sailors identified as the mutiny leaders, including João Cândido. The two years of imprisonment left indelible consequences for the "black admiral", and after the trial resulting in his acquittal in 1912, he was unable to return to his occupation because, considered a conspirator, he was expelled from the navy[8]. João Cândido lived until 1969, witnessing two dictatorships in Brazil and ultimately passing away as a fishmonger in Rio de Janeiro.

The tone of the lyrics, from the very beginning, conveys the solemn nature of producing *memories* about the black rebellions, which resist the systematic erasure from official history: "há muito tempo nas águas da Guanabara / O Dragão do Mar reapareceu" (a long time ago in the waters of Guanabara / The Dragon of the Sea reappeared; 00:00:08). The homage paid to Chico da Matilde underlines the historical inscription of the Revolta da Chibata, "a quem a história não esqueceu" (whom history has not forgotten; 00:00:22), within the ongoing daily struggles for freedom.

The concept of *memory* referenced here aligns with the perspectives of Brazil's black movements, which actively reinscribe belonging and produce analyses of racial hierarchies. Our position shares the insights of Lélia Gonzalez (1984): "we see memory as *the not-knowing that knows* [emphasis added], that place of inscriptions that restore

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[7] Identifying the ship as a microsystem of linguistic and political hybridity, Gilroy (1993/2001, p.53) notes that at the end of the 18th century, a quarter of the British navy was composed of Africans, for whom the experience of slavery was a powerful orientation to the ideologies of liberty and justice.

[8] João Cândido would never enjoy the amnesty negotiated — and agreed upon — during the Revolta da Chibata. This amnesty (proposed in 2002 by Senator Marina Silva) was granted posthumously in 2008, almost a hundred years after his surrender in Guanabara Bay.

a history that has not been written, *the place where truth emerges* [emphasis added], that truth that is structured as fiction" (p. 226).

While the deliberate acts of concealment and systematic erasure are *conscious* productions of historical agents of whiteness to uphold dominant power structures, the production of *memory*, encapsulated in "the not-knowing that knows", subverts and reverses the context, working as a counterforce, reinstating narratives that should *never be forgotten*, even when unwritten. Thus, the lyrics serve as a powerful strategy for inscribing memory: "conhecido como / Navegante negro / Tinha a dignidade de um / Mestre-sala" (known as / Black navigator / He had the dignity of a / Master of ceremonies; 00:00:27). The struggle dignifies the black sailor bestowing upon him the grace and dignity akin to a master of ceremonies[9] who captivates diverse audiences with warm greetings, as articulated in the song.

However, the stark reality of inequalities persists. It is imperative to remember what must be fought against and cannot be forgotten: "rubras cascatas jorravam / Das costas / Dos santos entre cantos / E chibatas / Inundando o coração, / Do pessoal do porão / Que a exemplo do feiticeiro / Gritava então" (red waterfalls gushed / From the backs / Of the saints between songs / And lashings / Flooding the heart, / Of the people in the hold / Who, like the sorcerer, / Cried out then (00:00:50). The brutal cruelty of corporal punishment, the lash, and the martyrdom endured: it is against this background of degrading torture that the sailors rebel, against the brutal force that sustains exploitation. The hold is also a remembrance of the harrowing experiences aboard slave ships, echoing deeply with Paul Gilroy's (1993/2001) arguments when describing the *Atlântico Negro*. The flow of ideas and people, symbolic struggles over cultural models and subjective, diasporic constructions form a "living intellectual resource" (p. 99), is an expressive political counterculture of its own capable of embodying ethics and politics, dichotomised by modernity that once naturalised racial terror.

How can we not cry out? How can we remain silent to such intense suffering? How can we denounce the tearing apart of these black bodies that, despite newly thrust into wage labour relations, remain sub-citizens, if not through a metaphor that makes the "red waterfalls" less painful? And how can we not make a *memory* of what excess and pain were when these were the catalysts that sparked the black rebellion? Music grants a collective chorus to protest against injustice. A counterculture that offers solace and activates "politics of transfiguration" (Gilroy, 1993/2001, p. 96).

That is how the lyrics of "Mestre Sala dos Mares" can be approached from the perspective of a "politics of transfiguration", in which "the emergence of qualitatively new desires, social relations, and modes of association within the racial community of interpretation and resistance and between that group and its erstwhile oppressors" (Gilroy, 1993/2001, p. 96) are emphasised.

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[9] The figure of the master of ceremonies refers to the carnival character who, alongside the flag bearer, is responsible for carrying the samba school's standard. Many contemporary studies have traced the genesis of this character back to the aristocratic tradition of the Portuguese courts, which appointed a lifetime assistant to the nobleman for bureaucratic advisory work, known as the "Grand Master of Ceremonies".

A direct remembrance of a historical event, the politics of transfiguration within the lyrics deliberately invokes an opaque and subterranean resistance that broadly exalts the diasporic experience — the chronotope of the Black Atlantic — reaffirming its continuity and persistence. This non-naive politics of transfiguration, rekindled with every rendition of the song, is not a counterdiscourse but a powerful critical counterculture that "defiantly reconstructs its own critical, intellectual, and moral genealogy in a partially hidden public sphere of its own" (Gilroy, 1993/2001, p. 96).

The verses "glória aos piratas, às / Mulatas, às sereias / Glória à farofa, à cachaça, / Às baleias" (glory to the pirates, to the / Mulattas, to the mermaids / Glory to farofa, to cachaça, / To the whales; 00:01:09) also express a form of cultural solace (Gilroy, 1993/2001). This stanza abruptly disrupts the pain produced by the memory of the martyrdom recounted in the previous lines. It celebrates a fusion of different codes: pirates, mulattas, mermaids, farofa, cachaça, and whales are blended as elements sharing the same universe of inscription. This ambiguous interplay within the politics of transfiguration aligns with Gonzalez's (1984) notion of the ambivalence between consciousness and memory:

> consciousness excludes what memory includes. Hence, insofar as it is the place of rejection, [consciousness] expresses itself as the dominant discourse (or repercussions of this discourse) in a given culture, concealing memory by imposing what it, consciousness, claims to be true. However, memory has its cunning, its game of wits: that is why it speaks through the manoeuvres of the consciousness discourse. (p. 226)

Thus, while in the previous stanza of the song, the *memory* embraces the suffering and solidarity experienced in the hold, reclaiming these aspects as integral parts of narratives about the struggles of black people, the subsequent stanza takes a more irreverent approach, seemingly exalting symbols associated with the prevailing *consciousness*. By equating whales, pirates, mulattas, mermaids, farofa and cachaça in the same sentence, the authors challenge where the narratives of black resistance are inscribed through fabulation and irony. This poetic and melodic structure, noted by scholars like Gilroy (1993/2001) and Davis (2011), encodes unspeakable elements of the enslaved experience within the tradition of black music. These encoded elements share senses and meanings with diasporic communities in different latitudes. This dominant perspective, which disregards the memory of the rebellions to shape an opportunistic consciousness, attempts to forge a simulacrum that circumscribes black participation — in the construction of Brazilian society — within the folklore of a few 'traditional' dishes and the insidious sexuality of the 'mulatta', a term that has always objectified black women. The mocking tone thus seeks to deconstruct these mentioned symbols, positioning them as products of a prevailing consciousness that opposes the emancipation of black people.

The concluding stanzas of the song, however, pay the most poignant homage, not only to the mutinous sailors of the Revolta da Chibata, but to all who fight: "glórias a todas as lutas inglórias / Que através da nossa história / Não esquecemos jamais"

(Glory to all the inglorious struggles / That throughout our history / We will never forget; 00:01:27). A monument to João Cândido, long demanded by black movement activists and vehemently rejected by government and navy officials, took almost a century to be erected in Rio de Janeiro's Praça XV. Thus, it had not been built when the song was written. However, it seems to us that there is no more powerful way of inscribing a *memory* of struggles than through tangible deeds and active resistance, or as Aldir Blanc and João Bosco would say, the "monumento" (monument) of the "pedras pisadas do cais" (stones trodden on the quay). It symbolises *memory* inscribed in the world through action. The transfiguration of imposed suffering into acts of resistance.

5. "Morena de Angola" (1980)

Luanda, Benguela and Lobito welcomed representatives of the Kalunga Project[10] in 1980. Led by producer Fernando Faro and singer-songwriter Chico Buarque, Brazilian singers and songwriters such as Dona Ivone Lara, Dorival Caymmi, Martinho da Vila, Djavan, Clara Nunes, and Edu Lobo performed in Angola, a country embroiled in civil war five years after the long struggle for national liberation. The Kalunga project's ambition was to (re)affirm the cooperation, collaboration and solidarity that, despite the forces of repression in both countries, were trying to consolidate the bridges of dialogue between the two shores of the Atlantic. The colonial structure severely restricted this dialogue, organised as "triangles without a base" (Cotler, 1969; Rivera Cusicanqui, 2010). Its apex monopolised communication processes and hindered South-South connections. Interestingly, research by Mário Augusto Medeiros da Silva (2012) identifies a "kind of discovery of the African continent" (p. 110) among São Paulo's black movement activists in the early 1960s. These repertoires produced in the Black Atlantic are even more invaluable as they forge bonds of solidarity curtailed by power structures.

In 1980, Brazil was still under the yoke of the military dictatorship marked by state terrorism that aimed to suppress any form of movement or action perceived as "subversive" against the regime. Due to the military forces' acts of terror and permanent surveillance, many composers wrote ciphered songs to bypass official censorship and thus get their message across to the public. At the same time, the regime sought to consolidate a narrative of "unity in diversity", portraying samba and African cultural expressions as a synthesis of successful miscegenation (Bakke, 2007; Meihy, 2004; Soares, 2016). This narrative, projected internationally, sought to hide the severe human rights violations and sell the image of a 'harmonious', egalitarian country devoid of social and racial tensions. The proposal to celebrate miscegenation as a societal model and conceal the country's deep-rooted inequalities had been implemented under Getúlio Vargas in the 1940s. However, the military dictatorship after the 1964 coup reshaped the field of cultural production — production, mediation and reception — based on state policies as a consequence of an "official" Brazilian identity project. This project included

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[10] The Museu Afro in São Paulo (Brazil) showcases an extensive collection related to the Kalunga project on its website: http://museuafrodigitalrio.org/s2/?work=memoria-do-projeto-kalunga.

appropriating elements from Bantu and Yoruba African cultures — rhythms, flavours, history, language — and their dissemination as part of Brazilian popular identity.

"Morena de Angola", composed in the same year as the Kalunga Project, was a gift from Chico Buarque to Clara Nunes, who had just started recording her album *Brasil Mestiço* (1980) after her return from Angola. Bakke (2007), Brügger (2008, 2009) and Soares (2016), who have explored Clara Nunes' phonographic output, unanimously agree that while the singer's artistic career was outlined by Adelzon Alves and emphasised miscegenation as a fundamental symbol, the exalted mestizo Brazil was fundamentally black. This Brazil, which honours ancestry and connections with the black diaspora and African culture, is evident in Nunes' repertoire, her performances, and the public *persona* the artist has created. She openly shared her religious beliefs and active participation in Afro-Brazilian religions, offering a notion of miscegenation that diverged from the prevailing official narrative.

The concept and inspiration for the music took shape in Benguela, particularly on Catumbela Beach, referenced in the lines: "Eu acho que deixei um cacho do meu coração na Catumbela" (I think I left a bunch of my heart in Catumbela; 00:02:14). Despite the evident references to Angola's social, cultural, and political landscapes, Chico Buarque penned rhythmic lyrics that at first glance, seem disconnected from Angola's violent civil war. In fact, the tune emphasises the sounds of "CH" or "X", mimicking a rattle. However, our reading of "Morena de Angola" diverges from interpretations that see it as "alienated" and disengaged from the war[11]. Perhaps it is not irrelevant to recall the Brazilian political context itself, of continuous persecution and surveillance, where any allusion to revolutionary initiatives was immediately identified as a threat to the regime and liable to summary censorship. The ties between Brazilian popular music and Clara Nunes with Angola, however, are well documented (Meihy, 2004; Silva & Oliveira Filho, 1983; Soares, 2016) and reflect the vibrant cultural exchanges across the Black Atlantic over time and how these exchanges influenced the phonographic production of both countries. As Meihy (2004) notes, the "existence of a common language, Portuguese, and the long history that connected the two sides through sophisticated adaptation, represent a journey of mutual influences in which elements of the two manifestations are woven together" (p.122).

"Morena de Angola" is one of the most emblematic sambas in Brazilian popular music and, according to researcher José Carlos Sebe Bom Meihy (2004), it epitomises the affective cultural exchange that birthed this tune. In the text "O Samba é *Morena de Angola*: Oralidade e Música" (Samba is Morena de Angola: Orality and Music), the author revisits the historiography of Brazilian samba to demonstrate that Africanity is its most notable feature and that it is a cultural expression that embodies "a history of black culture which is not solely defined by the painful aspects of black oppression" (Meihy,

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[11] According to Marco Polli (2009), for example, the verses: "será que no meio da mata, na moita, a morena inda chocalha? Será que ela não fica afoita pra dançar na chama da batalha?" (I wonder if the morena in the middle of the forest, in the bushes, still rattle? I wonder if she doesn't get eager to dance in the flame of battle?) do not accurately portray the brutality of the civil war scenes. He suggests these lines could be among the ten worst verses in Brazilian popular music.

2004, p. 139). Brazilian samba and its interconnections with Bantu oral traditions, particularly with the batuque used in religious celebrations in Angola, reflects what Gilroy (1993/2001) called "politics of fulfilment" (p. 95) in another historical-political context. It suggests that beyond the dramatic experience of abduction and enslavement, many samba songs convey a vision of a future society able to fulfil the promise of freedom and justice for all.

The lyrics, initially seeming to tie a "black" woman to the idea of "rattling," suggest an equation of woman-black-body reinforcing an essentialist view. On the other hand, a black feminist perspective reveals that this same woman embodies disorder and leads a female response against prevailing domination. The "Morena de Angola", epitomised in the seemingly incoherent verses, is the working class woman who walks, interacts, loves, fights and resists in the black revolutionary city. Freire and Queiroz (2011) have already highlighted how these seemingly disparate verses introduce an element of disorder:

> Morena de Angola "sai chocalhando pro trabalho" (leaving rattling for work), "batucando na panela" (drumming on the pot), "afoita pra dançar na chama da batalha" (eager to dance in the flame of battle), "faz requebrar a sentinela" (making the sentinel shake), "fazendo buchincho com seus penduricalhos" (making a fuss with her pendants), and "tá no remelexo" (is in a state of turmoil). These verses encapsulate the disruption of order, the mess. That which undoes the predictable customs and agreements belongs to difference, otherness, and strangeness. (p. 689)

Unlike the other songs analysed in this article, "Morena de Angola" does not focus on a specific figure, heroic deeds, or a particular historical event. "Chico Rei", "Zumbi", and "O Mestre Sala dos Mares" all praise leaders for their accomplishments. Even though no social movement is solely driven by leaders or devoid of female involvement, as in other cultural dimensions, popular songs often reflect and perpetuate the structures that prioritise and highlight the accomplishments of men, making most of them visible while actively erasing female contributions. The same way that it hierarchises racially and geographically by readily legitimising the narratives of white heterosexual European men among all the others. However, the disruptive song "Morena de Angola" diverges from this norm by portraying the everyday life of an unnamed woman, someone "ordinary" deeply engaged in actively transforming the world. Like "Zumbi", Morena carries the rattle on her shin in the present: her time is open to possibilities. A horizon that the final stanza celebrates — almost imperceptibly for those who do not have the code — the political engagement of Morena de Angola, with whom the song sympathises: "morena bichinha danada / Minha camarada do MPLA" (naughty *morena* / My comrade from the MPLA; 00:02:31), by using the term "comrade," denoting both a typically communist greeting and support for the armed struggle for independence undertaken by the Movimento Popular de Libertação de Angola (Popular Movement for the Liberation of Angola).

Another dimension often overlooked in these analyses is the indistinction between domestic and public spaces[12] in the lives of black women and how the absence of this dichotomy is represented in the verses. The movements and spaces occupied by Morena de Angola reflect the non-negotiable aspirations for freedom resonating with other Black Atlantic traditions, such as blues singers. It is interesting to note that though it was not written by a black woman[13], the song evokes bonds of solidarity that demand a spatiality free of conventions and determinations. The blues singers, in producing a counterculture that operated "politics of transfiguration" (Gilroy, 1993/2001), used humour, satire, and irony to address taboos, the silence surrounding misogynistic violence, the immobility imposed on black women in the post-emancipation period in the United States, who were not allowed to travel on trains, for example (Barboza et al., 2021). For Angela Davis (2012), the women of the blues "redefined women's 'place'. They forged and memorialized images of tough, resilient and independent women who were afraid neither of their own vulnerability nor of defending their right to be respected as autonomous human beings" (p. 185).

We understand that labour — not described in the lyrics as paid or unpaid, but always subject to someone else's orders — is central to the life of this Angolan *morena* "será que a morena cochila escutando o cochicho do chocalho / Será que desperta gingando e já sai chocalhando pro trabalho" (I wonder if the *morena* naps listening to the rattle / I wonder if she wakes up waddling and leaves to work rattling; 00:00:28). This portrayal depicts an independent *morena*, who even at work maintains her political position — since we consider the "rattle" in the song to be the symbol representing the female political position against the established order. A symbol of disorder, of transformation, which black women insist on imprinting on their space and time, subverting labour relations: "será que ela tá na cozinha guisando a galinha à cabidela / Será que esqueceu da galinha e ficou batucando na panela" (I wonder if she's in the kitchen stewing the chicken / I wonder if she forgot the chicken and kept drumming on the pot; 00:00:44). However, the stanzas carry yet another symbolic weight: while the deterministic and linear version of history expects the *morena*'s place to be in the kitchen — like her enslaved ancestors — performing the duties to which black women were subject, it remains uncertain whether the *morena* is really in the kitchen, conforming to this *role* imposed on her within the logic of capitalist production and power structures. Her feisty personality hints at rebellion when she suggests she has joined a demonstration to drum against the regime.

In *Mulheres, Raça e Classe* (Women, Race and Class), Angela Davis provides a thought-provoking analysis of the constitution of labour's fundamental dimension in the lives of black women. Across the eras of slavery and post-emancipation, the enormous

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[12] Acknowledgements are due to the anonymous reviewer who highlighted this crucial aspect.

[13] The portrayal of a black woman referred to as a "morena" penned by a white composer, holds multifaceted implications that warrant a comprehensive analysis, which unfortunately is beyond the purpose of this text. However, we acknowledge the intricacies within the composer's work, particularly the recurring use of female "lyrical selves". See, for example: Araújo (2018).

space occupied by forced or super-exploited labour "overshadowed every other aspect" (Davis, 2016, p. 17) of women's existence. The detailed study on the integration of black women into the slave mode of production allowed Davis to construct a theoretical framework that articulates central aspects of the conditions experienced by these women. This includes the place of work in their lives, the construction of slavery as a persisting historical force that dictated ways of 'being a woman' and being oppressed within a patriarchal system, and how gender markers operated in the specific condition of being enslaved, ambiguously shifting the repressive content according to the needs of white supremacy: exploiting black women both as labourers in the fields akin to men and as targets of sexual abuse rooted in their gender (Barboza et al., 2021). Although Marxist theories have extensively addressed the subject of work, Davis's ground-breaking contribution lies in claiming the centrality of work in the lives of black women compared to other women.

Although many perspectives of the song remain open to interpretation within black feminisms, by way of conclusion, we can see how the line "passando pelo regimento ela faz requebrar a sentinela" (passing through the regiment she makes the sentinel shake; 00:01:06), reinforces the bonds of complicity forged in the fight against oppression. The "morena", rattling order with her walking feet, transforms the armed struggle into her trench. The sentry's solidarity illustrates one of the great fears of the white city towards the black city, as historian Sidney Chalhoub (1988) pointed out, reminiscent of life in pre-abolition Rio de Janeiro: "and the black city, the hiding city, became definitely threatening even when it was possibly showing solidarity" (p. 101). This fear stemmed from the deep networks of mutual support woven within the black city, horizontal networks rejecting the white codes of kinship and collaboration. These networks fostered affective connections among wage labourers, freed black men and women and those pursuing freedom: "such horizontal network is dense, meticulously woven, giving meaning to these black lives and establishing social places impenetrable to the white city" (Chalhoub, 1988, p. 102), in webs of sociability recently labelled as belonging to the *undercommons* (Moten & Harney, 2004).

The networks of mutual aid in the black diaspora are not closed systems; they are open to the incessant movement of dialogue and exchange, creating lasting resistance and favouring transatlantic connections that challenge ready-made discourses of submission. Unlike Marco Polli (2009), we do not think that referring to Morena de Angola as "bichinha danada" (naughty) and capturing her rattling in tune indicates a misunderstanding of the Angolan civil war context as if the composer had not seen "the rawness of the images in the newspapers". Instead, it seems to be a deliberate affirmation of complicity with the black code, then recently translated, appropriated and incorporated by Chico Buarque and the interpreter Clara Nunes. Subverting the order, challenging the structures of domination, and confronting privilege from a female, black, working-class and fearless voice was a "damned" lesson shared with "the comrades of the MPLA" and explicitly inspired by the ongoing anti-colonial movements of the Black Atlantic (Pacific and Indian).

6. Final Considerations

Although the great black uprisings of history are crucial for retrieving memory menaced by the systematic erasure of official history, which pretends to be the only one, examining the everyday relationships experienced by black populations becomes crucial in understanding how active resistance was, and is, engendered in everyday tasks, ways of life and the appropriation of the city. Observing the relationships of mutual help and affection, cultural productions and leisure of the black population, as in the songs presented here, provides essential insights for deconstructing the narrative often associated with the descendants of those who endured the horrors of slavery.

Producing and inscribing an oppositional *memory* — that claims space and place while challenging established narratives — is a constant endeavour closely related to shaping new avenues for resistance. That is not to say that we should not inscribe our *memories* within the ongoing debates over historical versions; on the contrary, our current struggles drive us to reinterpret the past and re-dimension it. Without the past struggles and resistance, we are certain that our present would be drastically different (and worse). However, these historical struggles must be the starting point for our actions and never the end. As we have seen in the rhythms analysed here, *never forgetting* means making politically situated and explicit decisions, creating links, building networks and, above all, *disrupting structures*, multiplying the records of the past in order to recover the memories of resistance. This also requires an active *engagement* with the world, daily and ongoing, much like the "black admiral" monument's significance lies in the stones trodden on the quayside. In this endeavour, we all hold responsibility: if we have to dance to the music, we must choose the tune carefully. We encourage more investigations of the musical repertoire of the *Black Atlantic*, framing it as an intellectual collection worth *studying* and sharing. A collective initiative would offer the opportunity to delve into fundamental issues that have slipped beyond the scope of this article, such as interracial solidarity tactics, the place of black women in artistic production and the role of black feminism in shaping narratives of protest.

Translation: Anabela Delgado

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Biographical Notes

Rosimeire Barboza da Silva is a PhD candidate in Governance, Knowledge, and Innovation at the Centre for Social Studies of the University of Coimbra in Portugal. She is a lecturer at the Centre for Advanced Multidisciplinary Studies at the University of Brasilia and a researcher at the Centre for Language and Society Studies, the Estudios Críticos para la Justicia Social group at the Technical University of Manabí, Ecuador and the Asociación de Estudios sobre Discurso y Sociedad (EDiSo), where she co-co-ordinates the Discourse and Gender, Violence and Resistance Network. Her research

interests relate to feminist and anti-racist critiques and epistemologies, human rights and transitional justice in Latin America.

ORCID: https://orcid.org/0000-0002-6409-0442

Email: rosebs@ces.uc.pt

Institutional address: Colégio de S. Jerónimo, Apartado 3087, 3000-995 Coimbra, Portugal

Lennita Oliveira Ruggi is a PhD candidate at the Centre for Global Women's Studies at the University of Galway (Ireland) and a member of the Gender Studies Centre at the Federal University of Paraná (Brazil). She is a lecturer at the Federal University of Paraná, working mainly on education, gender, anti-racism, decolonisation, the body, and subjectivities.

ORCID: https://orcid.org/0000-0002-4616-0865

Email: lennita@ufpr.br

Institutional address: Departamento de Teoria e Fundamentos da Educação, Setor de Educação, Rua Rockefeller, 57 Bairro Rebouças, 80.230-130, Curitiba, PR, Brasil