

Poetic images of the end of the world: art, eco-communication and environmental perception

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Abstract: Observing which images of climate collapse emerge in young audiences of environmental cinema is the main objective of this article, which fulfills the dual function of relating art to environmental perception and pointing to new paradigms in environmental education, based on political ecology. These images refer to a field that is both discursive and poetic, since there is the reproduction of poetic images related to the end of the world as it is known today, and simultaneously resonate discursive macro-trends in environmental themes. The concepts of discursive resonance and macro-trends in environmental education are central tools in this observation. Through qualitative data collection and analysis, we identified how these images influence the environmental perception of the group of young Latin Americans considered here.

Keywords: Environmental perception; cinema; eco-communication; end of the world; environmental education.

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Introduction

Collapse, chaos, catastrophe, emergency, crisis, disaster, ecocide, extinction, flooding, deforestation, pandemic, acidification, dead zones, sacrifice zones and point of no return are all terms that have occupied the media and social networks. There are around 20 million new climate refugees a year in the world, living proof of this semantic field, and the World Bank forecasts that between 2021 and 2050, 216 million people will leave their countries because of climate change, loss of biodiversity, scarcity of drinking water, erosion, mining or agribusiness.¹ This lexicon has been disseminated not only in the news, reports from international organizations such as the UN, or academic-scientific studies, but also in prose, verse, performance, visual, and audiovisual arts. Most games, in this moment, depict a scenario of natural resource scarcity and disputes arising from it. Fiction films and documentaries are increasingly depicting what was once just a dystopia — extreme technification, contamination, desertification — as a landscape, indicating that narratives of any kind will never be the same again.

This puts environmental education (EE) at a crossroads once using freely the semantic field of the current environmental and civilizational crisis ends up stabilizing the catastrophic discourse. As a consequence, it tends to generate positions such as “there’s nothing to be done, the process has already started, game over” and, with them, eco-anxiety and anguish about environmental collapse (Lertzman, 2015; Kontchog, 2020). In addition, avoiding this semantic field and centering the discourse on the development of solutions contributes to the belief that technology will “save the Earth”. However, it is unlikely that a planetary solution to climate change will fall on earthlings like a meteor — a celestial object typical of apocalyptic films. More than unlikely, it’s impossible, since the relationship between climate change and capitalism is now evident (Layrargues, 2014; 2020; Klein, 2018; Marques, 2018; Krenak, 2019) and, in the case of Latin America, colonialism (Alimonda, 2011) — the intersection of capitalism and the predatory exploitation of nature. For Merlinsky (2021, p. 10-11),

The actions that would put us in a better position to avoid catastrophe — and which would benefit the vast majority of people — are extremely threatening to a minority elite that maintains control over natural resources, capital flows and the major media outlets.

The aim here is to observe which images of climate collapse emerge among young audiences of environmental cinema and stand out discursively in online screenings in 2021 and 2022. Images of the “end of the world” are observed from selected documentaries and the possible contributions of art — in this case, cinema and audiovisuals — in the communication of environmental themes, with a view to environmental perception. A survey is carried out in this research, with the use of forms with open questions.

This work seeks to collaborate with the paradigmatic shift that has taken shape in

1 - <https://openknowledge.worldbank.org/handle/10986/36248>

environmental education from a critical and post-critical perspective, which goes hand in hand with political ecology and its increasingly frequent dialog with art and communication (Carvalho, 2008; Serafini, 2018; Merlinsky and Serafini, 2020). Political ecology allows for a direct articulation between its two most prominent features, as it is both a field of study and a community of practice, which involves social movements and socio-environmental activists, as well as researchers (Empinotti et al., 2021), along with educators, analysts, legislators, and policy makers.

The images of the end of the world that are of interest here are not those that appear in the films, but those that are aroused in the people who watch them. In the case of environmental cinema, these are usually documentaries, which do not work artistically with the end of the world in the way that fiction does (Guerra, 2020), since they use real data to construct a documentary narrative. But they also contain the presence of the poetic (Lesnovski, 2006). It is interesting to know whether images or allegories of the end of the world emerge in the perception of the young audience watching these documentaries. What kind of image is that, catastrophic or softened by technology? Or, in this hypothesis, are there images that point to a critical or post-critical perception of the environment, one that is neither conservative nor pragmatic? Is there a perception within the scope of political ecology that points to new paradigms for environmental education?

Communicating the incommunicable

The link between art and the environment may not be new, but it has presented a growing number of languages and manifestations, and an increasing concern to communicate environmental collapse, its capital roots, its effects on bodies, identities and landscapes. The works by Serafini (2018) and Merlinsky and Serafini (2020) are emblematic in identifying this relationship. Film and audiovisual festivals and awards, literature, music, theater, performance, folklore and visual arts have been dedicated to the subject, as have academic and non-academic journals.

Dystopias proliferate; and a certain perplexed panic (pejoratively incriminated as “catastrophism”), if not a somewhat macabre enthusiasm (recently popularized under the name of “accelerationism”), seems to hover over the spirit of time. The famous “no future” of the punk movement is suddenly revitalized (Danowski and Viveiros de Castro, 2014, p. 14).

The 2021 edition of Brazil’s most important literary award, the *Jabuti*, had as its big winner *Sagatrisuïnorana*, a children’s book about the environmental disasters in the cities of Mariana and Brumadinho, caused by mining in Brazil in 2015 and 2019. The latter tragedy was also the backdrop for demonstrations by a Brazilian *artist* named Mundano, who used iron oxide from Brumadinho’s toxic sludge to produce the paints for a large graffiti in São Paulo;² in the same approach, a French visual artist named Saype

2 - <https://casavogue.globo.com/LazerCultura/Arte/noticia/2020/01/predio-em-sp-exibe-grafite-feito-com-lama-de-brumadinho.html>

also produced an important piece of work near the disaster site.³ In the same edition of Jabuti, a post-apocalyptic novel was awarded the prize for entertainment, *Corpos Secos* (Dry Bodies), and, in the Arts category, an atlas of images of São Paulo, related to urban-environmental perception, won the prize.⁴

“Literature and the end of the world” was the theme of the 2021 National Literature Research Congress and Literary Studies Seminar at UNESP⁵. In the same year, the Paraty International Literary Festival, FLIP,⁶ for the first time chose a theme for its edition, rather than an honored author: the relationship between literature and plants and forests. There are apocalypse festivals bringing together artists, researchers, and ecologists,⁷ as well as art programming in São Paulo, with the “end of the world agenda”.⁸ And the motto that appears from newspaper columns to book titles or doctoral theses as a paraphrase of the World Social Forum’s insignia is: “another end of the world is possible”. There is even a Doomsday Clock, marking that humanity is one hundred seconds away from the apocalypse. The examples intensified during the Covid-19 pandemic, but many predate it.

In Argentina, the International Environmental Film Festival, Finca, as well as the event *Mostra Ecofalante* in Brazil, have shown films that point out possible paths and the search for the common good, in productions such as *The seeds of Vandana Shiva* (Australia/USA, 2021), and also how close the end of the world is to the territories themselves, gradually transformed into sacrifice zones, in documentaries such as *In the name of lithium* (Argentina, 2021) or *Feeling the Apocalypse* (Canada, 2021).⁹

For Merlinsky and Serafini (2020, p. 18), “the most interesting ecological artistic practices (...) today are those that articulate with spaces, formats and knowledge beyond the gallery or museum, and blend the boundaries in between; for example, art, activism, research, science and pedagogy”. By creating narratives, art that deals with environmental issues facilitates memorialization processes, countering hegemonic discourses by inscribing “certain ideas, narratives and images” in the collective memory (Id., p. 20).

3 - <https://g1.globo.com/jornal-nacional/noticia/2022/07/23/brumadinho-mg-ganha-megapintura-do-artista-plastico-frances-saype.ghtml>

4 - <https://www.cnnbrasil.com.br/entretenimento/veja-os-vencedores-do-premio-jabuti-de-2021/>

5 - <https://www.ibilce.unesp.br/#!/pos-graduacao/programas-de-pos-graduacao/letras/congresso-e-sel-2021/>

6 - <https://www.flip.org.br>

7 - A highlight is the End of the World Festival, “Fest Fim”, organized by Cia. Apocalíptica, with an artistic and educational program, including a workshop on Creating Scripts for the End of the World. Available at: <https://ciaapocaliptica.com/festfim2/>

8 - <https://www.select.art.br/agenda-do-fim-do-mundo-13-a-20-5/>

9 - All three films were shown at Finca in 2022, and the documentary about eco-feminist Vandana Shiva was also shown at the 11th *Mostra Ecofalante*.

Figure 1 – Feature film *In the name of lithium*, by Cartier & Longo



Font: Finca, 2022.

Communicating the incommunicable is not new either. In “Experience and Poverty”, Benjamin (2012 [1933]) observes that the combatants of World War I — when death machines were put into use — returned home unable to communicate what they had experienced at the front. The horror had paralyzed them in their communicative experience: the mass production of corpses provided by the new bombing technologies, with warplanes and tanks. The capacity to destroy and kill had never reached this level. Then came the even greater horrors of World War II, as well as the Cold War, civil wars or wars of independence, wars of domination and for natural resources, in the form of territorial disputes or environmental conflicts. They are all equally narrative wars.

While in the present it is possible to look at the horror of the past and communicate it, it is not always possible to communicate what is happening in the present or what is envisioned for the future. Environmental perception has become central to contemporary narratives. It is part of human capabilities and is present in the most diverse artistic and cultural productions: from lyric to audiovisual, from rhythm and melody to the plastic or poetic representation of the human, time, and space (Tuan, 2012; Fonseca, 2020). With its symbolic and poetic possibilities, art seems to be a privileged locus for environmental perception, for communicating the incommunicable: climate and biodiversity collapse.

Methodology

In order to observe (i) which images stand out among young audiences of environmental cinema, (ii) whether these images refer to the idea of the end of the world, and (iii) the possible contributions of art — in this case, documentary cinema — in communicating environmental themes, aiming at environmental perception, a qualitative survey was carried out, with questionnaires applied to young people¹⁰ attending the *Doc Ambiente* extension project.¹¹

Students from the Federal University of Latin American Integration, UNILA, watched films online and occasionally attended debates in out-of-class activities, and filling in the questionnaire was not conditional on grades being awarded in an academic context. Only university students aged between 17 and 35 from the continent, between August 2021 and March 2022, were considered.

According to Câmara (2013, p. 180):

The use of qualitative research makes it possible (...) to establish factors of a given phenomenon, from the analytical perspective of reality, through the population studied, and is suitable as a tool to (...) deepen and improve the quality of interpretation (...), as it captures the nuances of the interviewees' perception to broaden the understanding of the reality experienced by the respondents and deepens the question of how people perceive the phenomena studied.

The choice of qualitative research relates to the analytical-interpretative perspective, which is necessarily more subjective and more specific. It's about identifying the images that emerge for these young people when they watch documentaries, rather than analyzing the films themselves. The concepts of discursive resonance of meaning, as advocated in the writings of Silvana Serrani, and the concept of macro-trends in environmental education, defined by Layrargues and Lima (2014), are tools for this observation.

The audience was defined as young people because they are generally in the university stage and because they play a leading role in organizations and demonstrations of an ecological nature. Suzuki Severn, who was emblematic of Rio 92 and of the Fridays for Future movement, along with teenage activist Greta Thunberg, speaks to crowds in the northern hemisphere.

The indigenous movement in Brazil, which has used communication techniques to make its socio-environmental causes visible, is made up mainly of teenagers and young people. Since June 2021, indigenous people from different cultures have gathered at the Terra Livre camp in Brasília in favor of demarcation and against bills such as the Temporal Framework, which increases the risk of predatory economic exploitation and illegal activities, such as drug trafficking (Barros, 2021), in their territories. The huge demonstrations by young indigenous people in the federal capital show that the environmental

10 - The masculine plural will be kept in the text to rationalize space, not because of an ideological choice.

11 - <https://docambiente.wordpress.com>.

issue is a political issue and that conflicts are a basic condition of any democratic process (Merlinsky, 2021, p. 11-22). And they show the power of audiovisual articulation. Film and audiovisual workshops have been promoted by filmmakers and organizations on indigenous lands in recent decades. Their productions circulate on social networks, in a process that can be called eco-communication.

And these age groups participate in actions, including performances, of peaceful resistance movements against the extinction of species and in favor of declaring a climate emergency, such as Extinction Rebellion, XR, present on all continents.¹²

Cinema and the environment

Covered by ecocritical studies in literature, the concept of ecocinema has two main demands. The first one concerns films that deal with the end of the world from an apocalyptic perspective, with a moral appeal: a meteor, or alien invasion, bombs, virus or bacteria that turns humans into zombies, something that puts humanity or the Earth at risk (Geal, 2021). The second one presents a dialog between ecosystemic transformations and documentary or fictional cinema, including new ways of producing, with lower carbon emissions, narrating and photographing films, which ends up promoting another type of experience than the excessive consumption of frenetically changing images (MacDonald, 2013, p. 19-20). In this case, environmental perception is an inherent aspect of filmmaking itself.

The films that form the basis of this research maintain with the notion of ecocinema the quest to nurture “a more environmentally progressive mentality”, in the words of MacDonald himself (Id. *ibidem*), creator of the term ecocinema. And, in any case, the construction of the landscape is an aesthetic and political choice, in the cinema and beyond.

Several studies and publications have been devoted to the link between cinema and the environment,¹³ between theater and the environment,¹⁴ and about ecomedia.¹⁵ The first major publication on the subject, *Ecocinema theory and practice*, organized by Rust, Monani and Cubitt, contains “The ecocinema experience” by Scott MacDonald (2013), an updated version of the pioneering essay on the subject, originally published in 2004.

Media outlets have created space for film and audiovisual events on these topics. The international electronic magazine *Emergence* brings together various artistic languages, including audiovisual, around the climate emergency. In 2020 and 2021, *Le*

12 - <https://rebellion.global>

13 - Such as *Environmental ethics* and film, 2016, de Pat Brereton, e Film, environment, comedy: eco-comedies on the screen, 2022, de Robin L. Murray e Joseph K. Heumann.

14 -Such as *Ecomedia literacy: integrating ecology into media education*, 2021, de Antonio Lopez, e *Ecomedia: key issues*, 2015, organizado por Stephen Rust, Salma Monani e Sun Cubitt.

15 -Such as *Earth matters on stage: ecology and environment in American theater*, 2020, de Theresa J. May, co-fundadora do EMOS Ecodrama Playwrights Festival.

Monde Diplomatique Brasil published the Cinema and Environment series, with articles by journalists, researchers and audiovisual directors.¹⁶ In addition to those mentioned above, there are several environmental film festivals and exhibitions, such as the Generation Restoration Film Festival, produced by the UN Environment Program, and the *Le Cinéma pour le Climat* section at the Cannes Film Festival.¹⁷

In academic terms, the highlight in Brazil is the Ecocinema Studies and Practices Group, GEP Ecocine, formed in 2020 at UFSCAR's Laboratory for Research and Realization in Image and Sound, LIRIS. The group is currently starting to create the first magazine dedicated to the subject in the country, *Ecocinema em Revista*.¹⁸

Profile of the documentaries

The documentaries considered here had screenings and debates promoted by the *Doc Ambiente* project with the support of the *Ecofalante Universities Program*, the educational branch of the largest South American socio-environmental film exhibition and one of the largest in the world, *Ecofalante*. Between the first half of 2021 and the first half of 2022, the feature films shown online by *Doc Ambiente* were the following documentaries:

- *The Human Scale* (by A. Dalsgaard, 83', Denmark, 2012)
- *The Wind Knows I'm Coming Back Home* (by J. L. Torres Leiva, 104', Chile, 2016)
- *Frightened: the real price of shipping* (by D. Delestrac, 83', Spain and France, 2016)
- *A sore spot* (by S. Tendler, 90', Brazil, 2017)
- *Toxic beauty* (by P. Ellis, 90', Canada, 2019)
- *The Campaign Against the Climate* (by M. Ellesøe, 58', Denmark, Finland, Norway, Switzerland and Belgium, 2020)

For this research, we considered the questionnaires for three films, due to the number of respondents with the previously defined profile — university students aged between 17 and 35, from the continent, as explained — and themes and languages with greater similarity: the movie *The human scale* (which, focusing on urbanism, discusses the issue of the non-human scale of cities, imposing the use of motor vehicles with a high environmental and social impact); the movie *A sore spot* (which exposes how international financial capital cements any possibility of reducing inequality, imposing lifestyles and increasing the gap between the poor and the rich) and the movie *The campaign against the*

16 - <https://emergencemagazine.org>; e <https://diplomatique.org.br/especial/cinema-meio-ambiente/>.

17 - <https://conference.globallandscapesforum.org/climate-2021/content/film-festival>; and <https://www.festival-cannes.com/fr/infos-communiqués/communiqué/articles/le-cinema-pour-le-climat>

18 - Although it is not registered with the CNPq nor is it an environmental film exhibition, GEP Ecocine stands out as a transnational group for ecocinema studies and productions, as well as for closed activities with filmmakers such as the American Godfrey Reggio, from Koyaanisqatsi and Powaqqatsi.

climate (which shows how large global conglomerates, especially in the fossil fuel sector, influence misinformation about who is most responsible for climate change - themselves).¹⁹ The three documentaries are similar in their vision of the environment as a living space, but also as a place of capital exploitation of human beings and other beings and elements of nature, and in their narrative construction. And they present a documentary language without any great experimentalism.

The films were available for 48 to 72 hours on the *Ecofalante Play* platform. Registrants were given a login and password. The same people were invited to fill in post-screening forms. The audience of *Doc Ambiente* is formed by university students, as well as teachers, environmental educators, and those interested in ecological issues.

Questionnaires

Produced using the Google Forms tool, the questionnaire for each movie contained three blocks. The first contained data from the technical file and a screenshot of the movie. In the second, there was space for personal data: name; age group (between 15 and 21, between 22 and 28, between 29 and 35, and 36 and over); university degree; nationality. And in the third block there were instructions; questions to be answered discursively (the data survey itself); and the following question: “Do you authorize your answers to be used in a data survey for academic research without identifying the respondents?”, with multiple choice, yes and no, and free space answer options.

The documentaries screened, despite following a hegemonic line, without any major innovations in cinematographic language (Guerra, 2020), are not naive films. Instead of describing climate change, the dominant urban planning model, and inequality, they focus on why people are alienated from the real causes of the climate crisis, inhumane territorial planning, and economic inequality.

At least three questions should be chosen from the questionnaire:

1. What did you notice or feel most about the film? [Required]
2. Does the movie in any way alter or complement your perception of the world?
3. Does the movie somehow change your lifestyle or point to something in that direction? In what way?
4. Does the movie make you imagine what the world will be like in future decades? What would it be like?
5. Does the movie make you imagine an ideal world? Is such a world possible? What would it be like?
6. What other facts, information and artistic-cultural productions (cinema, visual arts, literature/poetry, performance, music, etc.) did the movie remind you of?

¹⁹ <https://ecofalante.org.br/filme/a-escala-humana>; <https://ecofalante.org.br/filme/dedo-na-ferida>; <https://ecofalante.org.br/filme/a-campanha-contra-o-clima>

Responses to the forms were discarded if the respondents: i) selected “No” to the data use permission; ii) only answered the first question; and iii) declared that they were 36 years old or older. Responses to question 6 were ignored, as it is a separate set of data that can be studied in the future.

A total of 74 forms were considered in *The campaign against the climate*, 32 in *The human scale* and 31 in *A sore spot*, for a total of 137 valid questionnaires.

The majority of the respondents were between 15 and 21 years old, followed by 22 and 28. Most of them were in the university careers of Cultural Mediation, Architecture & Urbanism, Cinema & Audiovisual, Biotechnology and Collective Health. Their main countries of origin are: Brazil, Colombia and Paraguay, the others being Argentina, Chile, Cuba, Haiti, Nicaragua, Peru and Venezuela.

Results and discussion

The corpus resulted in material that is not exhausted in this work. There are several focal points of interest, and each question is configured as a particular universe. Based on the data, the option was to identify images and perceptions that most resonated with the set of questions from the three films.

With the resonances, the most significant images were identified, because they are repeated and construct meanings, since they are characterized by repetitions, usually via paraphrase, of significant discursive aspects. The notion of discursive resonance was defined based on the principles of paraphrase and metonymy by Silvana Serrani (or Serrani-Infante, as she has signed some works), an Argentinian living in Brazil, on the basis of her study as a researcher and professor at Unicamp since the 1990s, and is used in analyses in various areas within the scope of Discourse Analysis: from language teaching to media studies, translation and political discourse. The notion is useful for identifying that repetitions or constructions of a field of meaning do not always occur through the same elements.

Working with discursive resonance establishes “how, through the effects of mutual semantic vibration between various specific marks, the construction of the predominant representations of meaning in a given discourse takes place” (Serrani, 2001, p. 40).²⁰ The repetitions are not necessarily of the same elements (same words, for example), as they can be repetitions of meanings constructed with different marks. Thus, the notion allows us to work simultaneously with objectivity and subjectivity, elements of the intradiscourse, i.e. the linguistic materiality itself, and the interdiscourse — elements that emerge in the linguistic chain, altering or adding meanings.

20 -“Discourse” is understood here as structure (linguistic) and as event (ritual) - the set of intra and interdiscursive elements that collaborate in the construction of meanings, according to the French Pecheuxian line of Discourse Analysis.

Three types of discourses: the catastrophic, the belief-based and the post-critical

The discursive resonances revealed three major blocks of meaning: I. Catastrophic discourse with the presence of so-called collapsology, and with symptoms of eco-anxiety and inaction/withdrawal from action; II. Discourse of belief in the development of technologies that solve or alleviate the problems already known, and symptoms of apathy and inaction; and III. Post-critical discourse, with an understanding of the processes that result in alienation and inaction — in turn, generally narrative or communicational processes — with perception and action as symptoms. There is obviously an exchange or sharing of images between the blocks, which have been defined separately here to better explain the trends observed.

Below are the three blocks of discourse with the main images that constitute them as they are repeated in the form of discursive resonances. The sentences in quotation marks are verbatim.

I. The first block is made up of catastrophic images, of hopelessness. It is linked to collapsology, to an apocalyptic grand finale of human life on Earth. The terms that most resonate in the construction of these images are related to: fear (of the future, of the chaos that is already on the horizon, of territorial segregation, of individuality, of the growing dominance of money); scarcity (of water, food, natural and economic resources); crisis (ecological, health, financial, transportation); and a hostile future (humanity is increasingly hostage to technology, the increase in technology is proportional to the increase in environmental pollution, “we will surely succumb to environmental problems”, environmental and economic catastrophe, overexploitation of nature, human extinction, chaos, apocalypse, the end of the world; the idea that in the future there will be a lack of resources to sustain life on Earth, “the world will be ten times worse in the future unless a miracle occurs”).

And various resonances relating to illness and powerlessness: “we are exhausted” from so much work and moving around, “isolated, without the strength to interact”; cities are “sick structures”; “sick communities”; private property in the social organism is “a cancer”, “a gangrene”; “a feeling of suffocation”; “a feeling of powerlessness in the face of power relations at a global level” and in the face of the power of capital; “hopelessness”; pandemic; stress; “we feel crushed”; depression; suicide; anxiety.

The symptoms that are evident in the catastrophic discourse block are related to the lack of strength to act or change the situation (therefore, inaction); the inability to fight against such powerful enemies as capitalism, large global corporations and the mainstream media (again, inaction); isolation; despair; eco-anxiety; lack of hope.

II. The second block presents the discourse of belief in technology. Here, the set of images revolves around a pragmatic vision, which believes that research and development can “save the planet” and human beings: a belief that the collapse that has already begun could be halted or mitigated by technology, in a kind of techno-apocalypse. The terms that present a semantic vibration for the construction of images of belief in technique and technology are related to: advances in urban areas (lighting, aesthetics, no “prison

buildings”); transport system (fewer vehicles, more bicycles, and cycle paths, electrified rail system, innovative infrastructures, with fluid access to transport networks, and BRT, VLT, trams and other urban trains); individual actions (separating waste for recycling, using returnable bags, adopting vegetarian diets); reducing emissions (“large companies must reduce greenhouse gases”); and reducing energy consumption (less dependence on electricity, “replacing fossil fuels with renewable energy sources”).

The symptoms that are evident in the discourse of belief in technology are related to inaction, since technological solutions are developed by companies and research centers, leaving society to take smaller-scale, and therefore incipient, actions. Although they collaborate with the process of environmental perception and education, they are individual and local actions, while large corporations and multimedia conglomerates act on a global level. It is the ant against the dragon.

III. The third and final block of meaning presents a post-critical discourse — a term borrowed from curriculum theories based on Cultural Studies.²¹ It contains elements in common with the previous two, but goes further, considering them as starting points for greater perceptions and actions. The process of realizing that there are distractions and attempts to hide environmental problems is often a sore point. Becoming aware of one’s own alienation and the processes of manipulation, domination, and detour of attention to which one is subjected mobilizes pain and negative affections. Images of this pain were more frequent in the forms for *The campaign against the climate*.

Figure 2 – Poster for Mads Ellesøe’s documentary



Source: One Earth Film Festival, 2021.

21 - The choice to name this discourse “post-critical” was based on the perception that it not only identifies some of the major causes of environmental collapse - in which case it would be named “critical” - but that it also indicates actions of resistance and confrontation.

The terms that resonate for the construction of images related to post-critical discourse are: going beyond pragmatic actions (they have failed to cope with environmental and civilizational complexities, “no idea or technology would supplant nature”, “as globalization and technology have modified human life, we must create new models of development”); territorial planning (there must be more common spaces, with strengthening and improvement of peripheral areas, infrastructure for education, art, culture, leisure, the right to housing and redistribution of the territory, “not completely isolating the individual from their environment”); domination of capital (big business and corporations hold power and dominion over nature, “misery is programmed”, “a mafia dominates the world”, “big conglomerates step on us”, “climate change has become a business”, the industry that causes the most global warming is the one that invests the most to delay public policies to replace fossil energy, “we need to tax the richest”, fight exclusion and inequality, better control of banks, there is a war between profit and social and ecological well-being); manipulation of information (“we are deceived by capital, the media are used for this purpose”, “at the same time as there is a lack of quality information, there is an excess of information”, “capital is linked to the right, to conservatives, to a lack of knowledge”, capital has produced alienation through the media and social networks”, “we are increasingly dependent on the internet”, there is false information about climate change, “we have to check information all the time so as not to fall for denialist discourse”).

The post-critical discourse highlights: a) awareness of one’s own alienation and the processes of domination, massification and control to which one is subjected; b) awareness of the capital as the driving force behind inequality, predatory exploitation of nature, manipulation, violence against humans and non-humans; and c) awareness that it is possible to transform this situation, promoting social and ecosystem regeneration by removing the supreme power of capital and building a common life, with more integration between humans and between humans and other beings and elements. The means to achieve this are, on the one hand, to weaken individualism, inequality, consumerism, dependence on capital, the frenetic pace (we need to “slow down the pace of the world”), and, on the other hand, to strengthen what is common to all, such as social and popular movements, education, provide more equitable and ecological territorial planning, open-air meetings, art, culture, the autonomy of peoples.

The symptoms that are evident in the post-critical discourse are based on the drive to action: knowledge and awareness of the processes of domination are an invitation to action, to resistance; “the energy of discontent” must be used to drive action; actions need to be collective and systemic; “there is still time to change”.

Macrotrends

It is possible to relate these three types of discourse – catastrophic, belief in technology, and post-critical – to the macro-trends of Environmental Education, with environmental perception as the most important pedagogical instrument. According to Layrargues and Lima (2014, p. 23), who identified the political-pedagogical macro-trends of environmental education in Brazil:

At the end of the 1970s, Political Ecology brought the contribution of the humanities and social sciences to the ecological debate, which, until then, had been guided by a biological and depoliticized approach to environmental problems (...). It incorporated into the debate those elements that disciplinary views omitted, such as development models, class conflicts, cultural and ideological patterns, the dominant political injunctions in society, relations between the state, society and the market.

The work has become a reference in studies in the area. It restates that Environmental Education, due to its multidimensional universe, is a complex practice. The macro-trends signal both the changes in EE over time, especially since the 1990s, and the main approaches that have dominated the field in Brazil. There is no expectation here that the classification of various trends into three major macro-trends will cover the entire universe of discourses and practices. The authors' own exercise was to show that there is an exchange of tendencies between them, that they are not watertight, even if they form sets — obviously plural, not homogeneous. And Carvalho and Muhle (2017, p. 169) explain about the “risk of moralizing the epistemic question, creating a gradient that goes from good and desirable to bad or undesirable environmental education”.²²

In the same way that the macro-trends do not exhaust the diversity of practices and political orientations in environmental education, nor can they define them in watertight units; the discursive blocks identified here do not exhaust the diversity of perceptions and actions of the students who make up the young audience of environmental cinema, much less can they define them as participants in essentialist groups. There were, however, clear correspondences between the discursive blocks, and the images that form them, and the macro-trends. And this can shed light on the possible effects of environmental education on this audience, as well as identify languages and narratives, and illuminate paths towards environmental perception.

There are three political-pedagogical macro-trends: conservationist, pragmatic and critical.

The catastrophic discourse has similarities with the conservationist macro-trend, which was hegemonic in the initial phase of environmental education in Brazil and has a conservative bias. In general, it does not question the current social structure, but only proposes sectoral changes, to which Layrargues and Lima (2014, p. 30) ask: “How can we separate ecology, culture and politics? Individual, society and nature? Technique and ethics? Knowledge and power? Environment, economy and development?” The catastrophic discourse appears to be an offshoot of conservationist visions, not always politicized, which identify material, ecological aspects as the major problem, without paying attention to the crisis that precedes it, the civilizational one. As the view of the problem is based on material aspects, action hardly goes beyond the material dimension. If this is not inaction,

22 - This is why they are not interested in making a “world map” of practices, as they had done in the past. They note, however, that this exercise in identification and classification was an effort to demarcate hierarchies and preferences in the development of environmental education, due to its constitutive diversity.

it is incipient action. Finally, both are conservative because they do not propose broad, totalizing changes, due to an inability to see or act, leaving only occasional changes and the bitter taste of the anguish of environmental collapse.

A semantic field was formed with images that discursively resonate with echoes of anxiety and melancholy, in the terms that Kontchog (2020) and Lertzman (2015) put it: physical and mental exhaustion, isolation, a feeling of suffocation and powerlessness, stress, depression, anxiety, hopelessness.

On the other hand, the discourse of belief in technological solutions, which would guarantee the health of the planet and human life, corresponds to the pragmatic macro-trend. Both are offshoots of the inaction or concern with partial solutions of the catastrophist discourse and the conservationist macro-trend. And they present the belief that the very productive systems that have contributed to the collapse would develop solutions that put themselves at risk. This corresponds to the vision of ecology that Merlinsky (2021, p. 16) defines as technocratic and apolitical.

These are examples of the relationship between the discourse of belief in technology and pragmatic macro-trends: the search for punctual and individual solutions, such as the problem of waste, without considering the production and consumption systems on a global scale, which produce more and more waste; the idea that urban problems will be solved by adopting technologies, without changing the scale of cities, which caters to machines, not living beings; and the belief that merely changing the energy matrix would be a solution, without solving, for example, the dynamics of individual transportation and the formation of sacrifice zones for the extraction of new sources of energy or storage — South American lithium is the emblematic case.

As for the post-critical discourse, it is close to the critical macro-trend because it recognizes the processes that encourage alienation and inaction, financed by corporations that act on a global level together with governments and the media (Marques, 2018; Klein, 2018; Merlinsky, 2021). But here perception is an instrument of action, which is why this set of images is called post-critical discourse.

Examples of the relationship between the post-critical discourse and the critical macro-trend are: not believing in the end of the world as an immutable destiny; proposing narratives of confrontation, trusting in the power of popular mobilizations and education; and revealing their tendency to become hegemonic — in the case of the macro-trend, among environmental educators; in the case of the post-critical discourse, among young people.

Environmental perception and education

Fundamental to environmental education, perception is made up of objective and subjective, rational and non-rational elements, which develop throughout human life, in a constant re-signification of meanings (Tuan, 2012; Orsi et al., 2015). It goes beyond landscape perception: perception of time and of human and non-human actions in the landscape; awareness of the environment by human beings; questioning of the past, present, and future (planning and management of the environment); and affections for the space in which one lives. From nature, from the human perception of place, come all the mythologies, cosmogonies, narratives (Tuan, 2012, p. 124-139).

The construction of the perception of reality is in constant dialog with what arrives through sensory capacities, the media and communication networks, academic knowledge, artistic and cultural manifestations. Environmental perception is an example of the fact that “the environmental issue, as well as being scientific, political and social, is also affective, mythical and poetic” (Fonseca, 2020, p. 117). Not without reason, the National Environmental Education Program (Brazil, 2005) considers that the environment must be understood inseparably in its ecological, social, economic, scientific, technological, political, cultural, ethical, and aesthetic aspects.

For Tuan (2012 [1974], p. 161), whose work on topophilia — *love to the place or site*— was the origin of the notion of environmental perception, “sensory stimuli are potentially infinite”. In this sense, artistic, poetic, and audiovisual productions play an important role, in the best and worst ways. And they are, as observed in the images that resonated with the public considered here, a space for reflection on the gradual production of an end of the world both as an idea and as an observable reality due to climate change, the concentration of resources, and the loss of biodiversity. In addition to the end of the world as a narrative, something that was already present in the Old Testament, in the *Apocalypse*.

Conclusions

In the images that have emerged among young audiences of environmental cinema, which are repeated via discursive resonance, there are two initial discursive blocks: one refers to apocalyptic images, and the other to images that refer to the belief that technology will solve the climate crisis. Both discourses predict inaction, one because it believes that the point of no return has already been reached, and the other because it imagines that possible solutions would come precisely from the companies and practices that have been driving the environmental collapse. The actions linked to these discourses, when they exist, are individual and local, while large corporations and multimedia conglomerates continue to act on a global level.

A third block of images breaks away from the apocalypse/technological solutions pair: the view that, although collapse is knocking at the door and scientific development can indeed minimize impacts, the center of the discussion is environmental perception and the political will that it mobilizes. Unlike the previous ones, the post-critical discourse

refers to action and manifests itself from individual and local perceptions and actions to collective and global ones, via communication, social movements, and networks.

The catastrophic discourse was the most frequent in the responses and was well distributed among the questionnaires for the three films. It shares with the post-critical discourse some perceptions of present reality and the future. The difference is that the catastrophic discourse is accompanied by paralysis and hopelessness, while the post-critical discourse turns these perceptions into an instrument of struggle or resistance.

The post-critical discourse was the second most frequent, next to the catastrophic discourse, and the one that presented the most perceptions, as suggested by the answers, such as the need to have a certain amount of disobedience; to promote reform in social dynamics and structures; to value time, “so as not to have to sell it to survive”; to realize that we have been experiencing processes of commodification and mechanization of nature and the human being (“we don’t have time”, “we live on automatic”, criticism of the deification of the machine and technology); to preserve and regenerate what is possible of space, of nature, and to “feel part of it”; to realize that environmental crises can be useful in raising awareness; and to realize that “what really matters is the environment and the relationship we create with others”.

The methodological choice of qualitative research highlighted “the dynamic, holistic and individual aspects of human experience, in order to grasp the totality in the context of those who are experiencing the phenomenon” (Gerhardt and Silveira, 2009, p. 33), encompassing the subjective dimension. Working with discursive resonances (Ser-rani, 2001) made it possible to identify which images of the end of the world are repeated among young audiences of environmental films and to verify that these images correspond to the macro-trends of environmental education (Layrargues and Lima, 2014).

According to Merlinsky (2021, p. 27), “if living and dying on a planet in the process of destruction is a central problem of our time, if this represents a form of existential anguish, we must remember that it is not a fatality of fate”. This has been constructed by civilization, hence the assertion that this is not just an environmental crisis, but a civilizational one. From what we have seen in this research, cinema that dialogues with environmental issues or constructs narratives in the logic of ecocinema has contributed “to building other alternative worlds” (Idem *ib.*). Obviously, there are films of different tendencies and qualities. One criterion for use in Environmental Education is that they have been selected by leading festivals and exhibitions.

The images of the end of the world that emerged from this type of production existed before the films. Narrating or discussing them as part of a post-critical education is an important resource in the new horizons of Environmental Education. For Krenak (2019, p. 13), the end of the world is preached “as a possibility of making us give up on our own dreams. And my provocation about postponing the end of the world is precisely that we can always tell one more story. If we can do that, we’ll be postponing the end of the world”. Like Sherazade in her *Thousand and One Nights*, artists, activists, writers, audiovisual directors, communicators, and environmental educators have made narratives an instrument of resistance to the idea of the end.

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Imagens poéticas do fim do mundo: arte, eco-comunicação e percepção ambiental

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Resumo: Observar quais imagens sobre o colapso climático emergem no público jovem de cinema ambiental é o objetivo principal deste artigo, que cumpre a dupla função de relacionar arte com percepção ambiental e apontar aos novos paradigmas da educação ambiental, com base na ecologia política. Tais imagens remetem a um campo que é ao mesmo tempo discursivo e poético, já que há a reprodução de imagens poéticas relacionadas ao fim do mundo como é conhecido hoje, e simultaneamente ressoam macrotendências discursivas em temas ambientais. Os conceitos de ressonância discursiva e de macrotendências da educação ambiental são instrumentos centrais nessa observação. Com coleta e análise qualitativas de dados, identificou-se como essas imagens influenciam na percepção ambiental do grupo de jovens latino-americanos aqui considerados.

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Artigo Original

Palavras-chave: Percepção ambiental, cinema, eco-comunicação, fim do mundo, educação ambiental.

Imágenes poéticas del fin del mundo: arte, eco comunicación y percepción ambiental

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Resumen: Observar qué imágenes sobre el colapso climático surgen en el público joven del cine ambiental es el objetivo principal de este artículo, que cumple la doble función de relacionar el arte con la percepción ambiental y apuntar a los nuevos paradigmas de educación ambiental, partiendo de la ecología política. Tales imágenes se refieren a un campo que es a la vez discursivo y poético, ya que existe la reproducción de imágenes poéticas relacionadas con el fin del mundo tal como lo es conocido hoy, y al mismo tiempo hacen resonar macro tendencias discursivas en temas ambientales. Los conceptos de resonancia discursiva y macro tendencias de la educación ambiental son instrumentos centrales en esta observación. Con la recolección y análisis de datos cualitativos, se identificó cómo estas imágenes influyen en la percepción ambiental del grupo de jóvenes latinoamericanos considerados aquí.

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Artículo Original

Palabras-clave: Percepción ambiental, cine, eco-comunicación, fin del mundo, educación ambiental