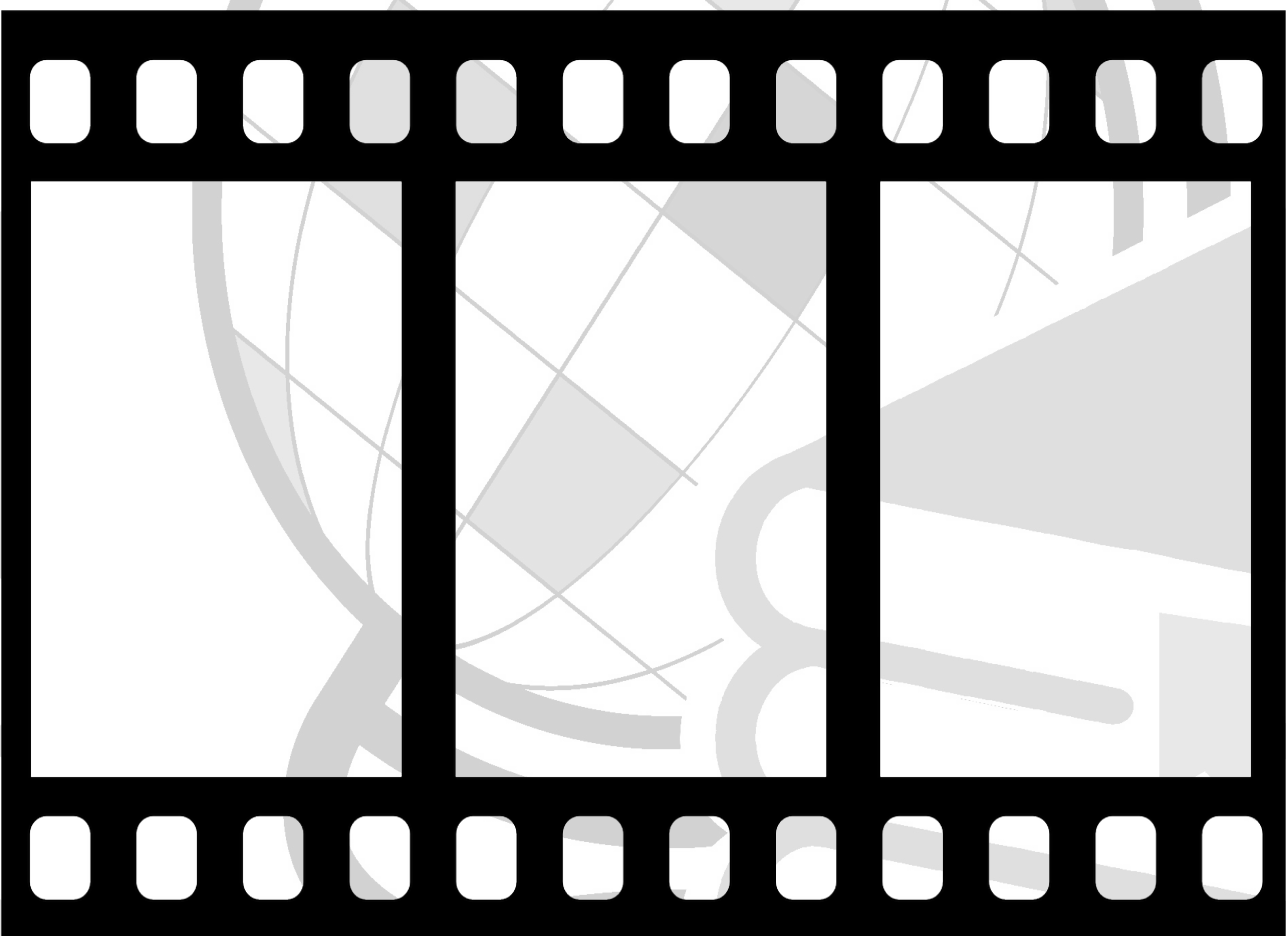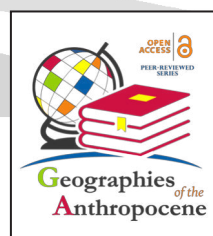# CINEMA, DISASTERS AND THE ANTHROPOCENE

*Enrico Nicosia, Lucrezia Lopez (Editors)*

Foreword by David McEntire
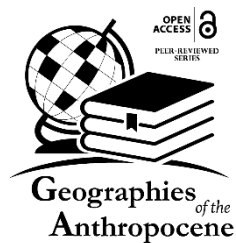
IL Sileno Edizioni

OPEN ACCESS
PEER-REVIEWED SERIES

Geographies *of the* Anthropocene

# Cinema, Disasters and the Anthropocene

Enrico Nicosia, Lucrezia Lopez

*Editors*

*Cinema, Disasters and the Anthropocene*
Enrico Nicosia, Lucrezia Lopez (Eds.)

is a collective volume of the Open Access and peer-reviewed series
"Geographies of the Anthropocene"
(Il Sileno Edizioni), ISSN 2611-3171.

www.ilsileno.it/geographiesoftheanthropocene

ISBN 979-12-80064-39-4

*Vol. 5, No. 2 (December 2022)*

# Geographies of the Anthropocene

Open Access and Peer-Reviewed series

– Research Institute for Geo-Hydrological Protection, Italy), Lina Maria Calandra (University of L'Aquila, Italy); Salvatore Cannizzaro (University of Catania, Italy), Fabio Carnelli (EURAC Research, Bolzano, Italy); Carlo Colloca (University of Catania, Italy), Gian Luigi Corinto (University of Macerata, Italy), Roberto Coscarelli (CNR – Research Institute for Geo-Hydrological Protection, Italy), Girolamo Cusimano (University of Palermo, Italy), Bharat Dahiya (Director, Research Center for Integrated Sustainable Development, College of Interdisciplinary Studies Thammasat University, Bangkok, Thailand); Sebastiano D'Amico (University of Malta, Malta), Armida de La Garza (University College Cork, Ireland), Elena Dell'Agnese (University of Milano-Bicocca, Italy), Piero Farabollini (University of Camerino, Italy), Massimiliano Fazzini (University of Camerino; University of Ferrara, Italy; Chair of the "Climate Risk" Area of the Italian Society of Environmental Geology); Giuseppe Forino (University of East Anglia, England), Virginia García Acosta (Centro de Investigaciones y Estudios Superiores en Antropología Social, CIESAS, México); Cristiano Giorda (University of Turin, Italy), Giovanni Gugg (LESC, Laboratoire d'Ethnologie et de Sociologie Comparative, CNRS – Université Paris-Nanterre, France), Luca Jourdan (University of Bologna, Italy), Francesca Romana Lugeri (ISPRA, University of Camerino, Italy), Cary J. Mock (University of South Carolina, U.S.A.; Member of IGU Commission on Hazard and Risk), Enrico Nicosia (University of Messina, Italy), Gilberto Pambianchi (University of Camerino, Italy; President of the Italian Association of Physical Geography and Geomorphology), Silvia Peppoloni (Istituto Nazionale di Geofisica e Vulcanologia, Italy; Secretary General of IAPG; Councillor of IUGS), Isabel Maria Cogumbreiro Estrela Rego (University of the Azores, Portugal), Andrea Riggio (University of Cassino and Southern Lazio, Italy), Jean-Claude Roger (University of Maryland, College Park, U.S.A.; Terrestrial Information Systems Laboratory, Code 619, NASA Goddard Space Flight Center, Greenbelt, U.S.A.); Vito Teti (University of Calabria, Italy), Bruno Vecchio (University of Florence, Italy), Masumi Zaiki (Seikei University, Japan; Secretary of IGU Commission on Hazard and Risk).

**Editorial Assistants, Graphic Project and Layout Design:** Ambra Benvenuto, Franco A. Bilotta;

**Website:** www.ilsileno.it/geographiesoftheanthropocene;

The book series "Geographies of the Anthropocene" edited by the International Scientific Publisher "Il Sileno" (Il Sileno Edizioni) will discuss

the new processes of the Anthropocene epoch through the various worldviews of geoscientists and humanists, intersecting disciplines of Geosciences, Geography, Geoethics, Philosophy, Socio-Anthropology, Sociology of Environment and Territory, Psychology, Economics, Environmental Humanities and cognate disciplines.

Geoethics focuses on how scientists (natural and social), arts and humanities scholars working in tandem can become more aware of their ethical responsibilities to guide society on matters related to public safety in the face of natural hazards, sustainable use of resources, climate change and protection of the environment. Furthermore, the integrated and multiple perspectives of the Environmental Humanities, can help to more fully understand the cultures of, and the cultures which frame the Anthropocene. Indeed, the focus of Geoethics and Environmental Humanities research, that is, the analysis of the way humans think and act for the purpose of advising and suggesting appropriate behaviors where human activities interact with the geosphere, is dialectically linked to the complex concept of Anthropocene.

The book series "Geographies of the Anthropocene" publishes online volumes, both collective volumes and monographs, which are set in the perspective of providing reflections, work materials and experimentation in the fields of research and education about the new geographies of the Anthropocene.

"Geographies of the Anthropocene" encourages proposals that address one or more themes, including case studies, but welcome all volumes related to the interdisciplinary context of the Anthropocene. Published volumes are subject to a review process (**double blind peer review**) to ensure their scientific rigor.

The volume proposals can be presented in English, Italian, French or Spanish.

The choice of digital Open Access format is coherent with the flexible structure of the series, in order to facilitate the direct accessibility and usability by both authors and readers.

# CONTENTS

**Section III**

**Water Exploitation and its Consequences in the Anthropocene era: contribution from cinematic productions**

# Foreword

*David McEntire[1]*

Over two decades ago, I was hired and appointed as the Coordinator of the Emergency Administration and Planning Program at the University of North Texas. While serving in this capacity, the faculty and I wanted to do everything we could to strengthen the curriculum and expand our degree offerings. One of the many ideas we implemented was the creation of a new course entitled "Images of Disasters in Film and Media." The class examined common myths about mass emergencies and engaged the research literature about the realities of human attitudes and behavior in crisis situations. From our perspective, the new course was the result of both selfish and selfless objectives: increase the number of students in our program and ensure our graduates had the requisite knowledge to improve emergency management. Because of the use of well-known "disaster flicks," the class was an instant success and I believe it helped students to think differently about the profession they wanted to enter.

To be sure, there are even more important and lofty ambitions today and one of them is to understand and alter human perspectives and actions in relation to the natural environment. Interestingly, film and media will continue to help us in this regard. This is the central message of *Cinema, Disasters and the Anthropocene*.

Enrico Nicosia and Lucrezia Lopez have done a masterful job in underscoring the vital role of documentaries and cinema in helping us to think differently about the role of humans in our physical world. These editors and the respected authors that have contributed to the book have produced a fantastic contribution that will be instrumental in promoting ways to promote positive change. One of the greatest strengths of this specific volume of the series *Geographies of the Anthropocene* is that it covers a wide variety of topics from many different contexts and perspectives.

---

[1] Utah Valley University, U.S.; e-mail: david.mcentire@uvu.edu.

For instance, the book examines how documentaries and films interpret and sound the alarm on how people jeopardize the environment through the overuse and misuse of natural resources, deforestation, desertification, the emission of pollutants, careless development and urbanization, the construction of dams, reliance on technology, etc. The volume is also broad in the sense that it incorporates perspectives from developed and developing nations, and includes case studies related to China, Jamaica, India, Italy, Nigeria, the United States, and former USSR. The discussions of past or current decisions and actions illustrate significant impact on communities, indigenous populations, displaced persons, and the environment in the form of climate change, floods, nuclear plant accidents, diseases, and other types of disasters and catastrophes.

Overall, *Cinema, Disasters and the Anthropocene* helps us to reflect more fully on our understanding of the impact humans have on the environment and the potential errors associated with our current application of science and technology. The chapters are well-researched and written, and provide important concepts and suggestions that are worthy of consideration and application. The content includes numerous facts and examples, which allow for internal deliberation and critical analysis.

The lessons of this book are applicable to scholars in many academic disciplines including anthropology, environmental science, geography, political science, psychology, and sociology among others. The editors and authors make it clear that cartoons, books, music, photography, cartography and other works of art and science should not be discounted in the degree to which they will promote a more sustainable environment for the future.

# Introduction: Cinema and Disaster in the Geographies of the Anthropocene

*Enrico Nicosia[1], Lucrezia Lopez[2]*

The Anthropocene concept identifies a geological era in which human action leads to changes on a planetary scale with long-term irreversible effects. Thus, humanity continues to improve its quality of life, however bracketing the balance of the ecosystem, which reacts to the damages with significant changes and environmental disasters. Such irresponsible anthropocentrism will finally lead people to forget their humanity and develop a dystopian scenario. Such a nefarious conclusion needs immediate awareness and information on a global scale to ensure that environmental problems are known to all the human inhabitants of the planet, urging to collaborate to remedy the devastation that has already begun.

In the context of studies on the *Geographies of the Anthropocene*, this volume collects insights into geographical research, with a specific look at the challenges of the future, and the potential of visual communication offered by cinema, documentaries and television series. In fact, fiction could represent the appropriate medium to examine the notions of the Anthropocene, being a language of global diffusion and highly evocative since it uses the engagement of narration and entertainment to convey messages of vital importance, arousing emotions in the viewer, shared awareness and, finally, responsibility. In the Anthropocene era, the challenge of climate change is not a problem of science but a failure of politics. And politics fails because the Great Acceleration has led to the good life and certainly a better life for people everywhere. Who is willing to give up the great stuff of the Great Acceleration? What would that new life look like? What kind of challenges does the future propose? Some of these questions, among others, are raised in the chapters of the present volume. The different geographical contexts and approaches, here collected, can play an important clarifying function, to reduce the complexity of (today's) social, economic, political, and technological reality, presenting a much deeper vision of reality than it appears to us, and at the same time offering us the means to navigate it. Thus, the volume deals with these issues in three sections, moving from

---

[1] Department of Cognitive, Psychological, Pedagogical Sciences and Cultural Studies, University of Messina, Italy, e-mail: enrico.nicosia@unime.it.
[2] Department of Geography, Universidade de Santiago de Campostela, Spain, e-mail: lucrezia.lopez@usc.es.

narrative methods to the representation of ecological disasters and finally analysing a more specific topic. Each of them wants to guide the reader in the comprehension of the different perspectives on the Anthropocene.

The first section "Narrating the Anthropocene in Cinema: Its Imagery between Romanticism and Symbolism" presents five contributions on the different ways of translating Anthropocene topics. For example, fiction can develop a sense of nostalgia, thus evoking resignation through the present. In line with this, in the opening chapter, Pedro Artur Baptista Lauria pretends to analyse the mediatic romanticization of the cinematic productions regarding the suburbs. His aim is to understand how they are portrayed in the suburban fantastic cinema. Indeed, the fantastic suburban subgenre provides fantastic elements that destroy the world, and people fight to reboot the balance of their daily life and socio-cultural ground. He will go through the "The Return of the Suburban Fantastic Cinema: Nostalgia and Ecological Dystopia in the Suburbia" by presenting a selection of audio-visual pieces (starting in the 2010s). In his opinion, the suburban fantastic cinema normalizes the suburb and the suburban lifestyle by putting them in the place of being defended by new generations. The author finally recognises a utopic narration and historical perspective of the American Dream, which has fuelled the dystopian present.

As an alternative to the representation of nostalgia for a bygone era, we can choose to focus on the effects of environmental degradation, communicating a dystopian scenario with apocalyptic images. In this regard, Floribert Patrick C. Endong's chapter provides an analysis of the zombification metaphor, using the thriller *Ojuju* to present a relationship between the precarious environmental situation and the living conditions of Nigerian urban cities, denouncing environmental risks. The author makes a deep analysis of the increasing use of the zombie and zombification in ecology-oriented or pro-environmental communication to emphasize the negative consequences of man's anti-environmental attitudes, his anti-ecological actions on earth or the consequences of such actions. Zombies embodies environmental anxieties and collapse, but also pollution, deforestation, poor land development practices and natural catastrophes, among others. Considering this, in his work *Using the Zombie Metaphor and Apocalyptic Imageries to Preach Environmentalism in Nigeria: A Semiotic Reading of C.J. Obasi's Ojuju*, he investigates the zombie metaphor in *Ojuju* as a way of speaking about environmental degradation and the resultant precariousness of human life in most Nigerian towns. The zombification metaphor and apocalyptic imageries of this cinematic production becomes a way to advocate environmental protection.

In addition to cases of Anthropocene's visual effects, fiction can also provide examples of damages on an existential level. Such an aspect is quite relevant, especially as the Third World society is paying the consequences. The chapter by Paul Joshua and Paul Tomlin investigates Jamaican cinema, using the movie *The Harder They Come* to present a symbolic narrative of Jamaica's struggle against the harmful effects of colonisation and European slavery, historically linked right in the Anthropocene era. The authors study the emergence of cinema in Jamaica in relation to the effects of slavery and colonialization. Indeed, they are assumed to be roots of the Anthropocene, thus marking the future of a territory. Throughout their work, with the help of the selected audio-visual productions, the authors underline how the European colonization and the transatlantic slave trade have, somehow, contributed to enact socio-ecological disruptive forces. This position is manifested by means of symbolic mechanisms that express the struggle of the black man and his need for identity and roots.

In sum, cinema could afford the difficult-to-grasp Anthropocene concept. In fact, the debate on Anthropocene concerns both the definition and the classification of the specific period of reference, and for this reason, it is essential to build a common vocabulary and imaginary, thus developing a common ground of reality interpretation. These are the reflections of Andrea Nocera, whose chapter analyses cinematographic products and streaming platforms (e.g., *Arrival* and *Don't Look Up*) to find different examples of feature films that propose a new approach to the world. Thus, in his selection of cinematic works he poses different questions regarding different moments with the intention to trace a sort of storyline of the representations of the Anthropocene. In such an exercise, it is certainly urgent to pay more attention to the "possible futures" and to adopt a language that might achieve as many people as possible: cinema might be one of them, but a common symbolism ground is needed, to avoid misunderstanding. In order to prevent disasters such as global warming from leading to a dramatic outcome, proposals for a new era of harmony between human beings and the rest of living beings (as in the case of the Ecotopian solution in Robert Crumb's *A Short History of America*) could be mandatory.

However, more than analysing the Anthropocene starting only from the unsustainability of human activity may be required. In the face of damage to the ecological system, it is also necessary to broaden the perspective of non-human entities, observing their agency in a post-human scenario. In this regard, the chapter by Seçil Erkoç Iqbal analyses the post-apocalyptic action thriller *I Am Legend*, inspired by Richard Matheson's novel. The author aims to compare the cinematographic and narrative products to analyse how the

Anthropos was visualised in two works distant from each other by more than fifty years. Also, such an argument manifests all its contemporaneity since we have observed the effects of the COVID-19 pandemic as the result of human actions far from the ecosystem balance, reducing humanity's "legendary" vision. Thanks to the cinema, it becomes possible "to illustrate the dialogue between the human and the nonhuman agents of the Anthropocene, and the changing dynamics of the 'recent age of man' calls for a new conceptualization of the human on a material and philosophical ground".

Therefore, with different narrative methods it is possible to provide different perspectives on Anthropocene issues, arousing awareness through conflicting emotions in the memory of the past and the hypotheses of future scenarios. However, the emergence of the Anthropocene manifests itself primarily in the present, or in any case, in historical events and disasters whose long-term effects are still visible and draw attention to a current situation in which humanity is immersed. Humanity tries to carry out a negotiation process with which it hopes to be reborn from the ashes of the disaster, trying to manage the effects of global disasters caused by itself. This topic is covered in the second section "Environment and Landscape Disaster during the Anthropocene: a call for Sustainability through Cinema". By portraying a real-life disaster, fiction can transcend pure entertainment, thus constituting a cultural phenomenon that allows people to demand an understanding of a global phenomenon and consequently develop a collective consciousness. This topic is covered in the chapter of Sonia Malvica, Lucrezia Lopez and Enrico Nicosia, who present the case of the Chernobyl nuclear disaster of 1986, which marked the fate of the Soviet Union, as well as making world history. More specifically, the case study refers to the *Chernobyl* miniseries (produced and released by HBO in 2019), which has been a world audience success showing how this event turned a city into a ghost town. In their research, the authors recognise in HBO miniseries *Chernobyl* not a documentary, but a compelling storytelling of irresponsible choices, incorrect use of technological possibilities and censorship as the leading causes of the construction of a dystopian city, still today a global symbol of the danger of human self-extinction. The miniseries *Chernobyl* reminds the public about the global consequences of an uncontrolled human activity. In addition, the miniseries contributed to restore a central role of this catastrophic site, awakening consciences at an international scale.

A specific example of a documentary is instead provided by Fabio Pollice and Patrizia Miggiano, whose chapter presents the case of the documentary film *Il tempo dei giganti* to tell the case of Xylella fastidiosa in Puglia, Italy.

In this case, attention is paid to the Salento landscape (Italy), characterized over the centuries by changing social conditions, different cultural and collective practices and the progress of agricultural techniques. No less important for this territory is the olive-growing and olive-production, an identitary factor to be valued both in economic and cultural terms. Such an inheritance is being menaced by the above-mentioned Xylella fastidiosa, a pathogen that causes a phytosanitary disaster among olive productions in Apulia. Considering the urgence of this problem, the paper encourages a critical reflection on the possibility of resorting to visual tools to explore the social perception of the consequences of this plague. In this sense, the language of the documentary could exploit the power of the visual tool to develop a sensitivity to the problem in the population and local actors, also conveying the formation of a sustainability laboratory in Salento and a rethinking of Apulian agricultural models.

In line with people's engagement and the impact of visual communication, Maria Laura Pappalardo's chapter finally overviews the "Festival Terra2050" held in Verona and Mantova (in Italy), an event dedicated to sustainable development through relief cartography. In the same, she questions the way in which mankind uses technological improvements with a homogeneous and one-dimensional paradigm leading to an unreal infinite availability of the assets of the Planet. But, according to her, we are facing an era with urgent unsolved problems, such as environmental degradation, the depletion of nature reserves, pollution, the spread of poverty, housing problems, the pervasive discrimination, among others. The three-dimensional tool allows all participants to represent the effects of humanity activity on the world. She shows how using an "old" investigative tool which, with its communicative power, could allow people to develop a powerful sense of responsibility, especially among the youngest, the new generation.

In closing, the third section "Water Exploitation and its Consequences in the Anthropocene Era: contribution from cinematic productions" collects contributions dealing with the theme of water. It is a renewable energy resource generally associated with life and rebirth but is also used in religions to identify punishments and new beginnings. However, in the Anthropocene era, irresponsible use of water resources can prove fatal, causing poverty and devastation. In the first chapter, by Maria Conte, we assist to *The conquest of power. A look to hydroelectric landscapes of Alps through the lens of audiovisuals and cinema*. She suggests the changing role of mountains, which are no longer places for the contemplation of nature, rather they undergone different transformative processes that alter their function. Throughout the analysis of the selected productions, she will demonstrate how mountains

have become "privileged places for the direct and active experience of the subjects", whose landscape are mainly experienced. More in detail, she advances a review of how representations and narratives of the hydroelectric industry are conveyed through television and cinema. In this sense, she invites to reflect on the active role of mountains, which have assumed a more functionalistic and utilitarian role to sustain the economic and social progress.

In the second chapter, we move to *The China-Tibet relationship in the film story. Disasters announced?*, in which Antonietta Ivona analyses the film story's contribution to discussing the delicate geo-economic framework between China and Tibet, physically close but culturally distant realities. In her work, she considers different documentaries aimed at pointing out the geopolitical implications that water exploitation and the construction of damns have in the already difficult relations between China and Tibet. This problem also brings environmental issues into play, such as the use of dams by China to use Tibet's resources, increasing an environmental diseconomy. It implies the lack of water supply for entire populations, difficulties for the agricultural activity and for the whole ecosystem. Added to this is the problem of global warming. Due to its high altitude, the Tibetan plateau suffers more strongly than the global average, all increased by the effects of burning fossil fuels in China and India.

In the same line of the former contributions, Sony Jalarajan Raj and Adith K Suresh introduces how to *Picturing the Anthropocene through flood narratives: The environmental disaster discourse in Indian cinema*. They present the potential of cinema as a popular art of technological reality, thus capable of providing a realistic visualization of environmental disasters and global repercussions. The main aim of the work it to explore how narratives of flood in Indian cinema define the notion of ecological disaster in India. Here, floods represent one of the most common natural disasters; of course, their consequences do affect population and biodiversity. Specifically, the authors focus on the narratives of the flood in Indian cinema: cinema can present the water element in an anti-romantic way, thus emphasizing its devastating impact on the region's geography and presenting at the same time the vulnerability of the human species in the face of an environment that they themselves have made hostile. By means of the disaster discourse, authors deconstruct the spectacles of flood in Indian cinema to understand its overarching impact on geography, culture, and life. In so doing, they pretend to warn about risks and vulnerability and the consequences of an uncontrolled human activity.

Thanks to the diversity of approaches and to the diverse geographical contexts of the contributions, we believe that the present edited volume will

contribute to understand and discover the manifold relations existing between the Geography of the Anthropocene and the cinema. The reflections and the critiques raised by the participating authors could be inputs and stimulus that pave the way to further similar research, thus reinforcing the utility of the audio-visual productions in promoting sensibilization and consciousness towards problems and disasters deriving from the Anthropocene.

Finally, we would like to thank all the authors for having answered the call and for their commitment in delivering their contributions. And of course, we would like to thank the editorial team of Il Sileno. Without the interest and the work of all of them, this book would not have been produced.

# SECTION I

## Narrating the Anthropocene in Cinema: Its Imagery between Romanticism and Symbolism

# 1. The Return of the Suburban Fantastic Cinema: Nostalgia and Ecological Dystopia in the Suburbia

*Pedro Artur Baptista Lauria[1]*

## Abstract

The present work focuses on the contemporary return of the Suburban Fantastic, a subgenre that tells narratives of children and adolescents who need to save their surroundings - the American suburbs - from fantastic exogenous elements, as is the case of the Netflix series *Stranger Things*. This essay focuses on the nostalgic, pro-suburb, and anti-scientific discourse present in the Netflix series in a context in which the environmental impacts of American suburbs are better understood. This urbanization model boomed during the 1950s, in the "Great Acceleration" period, a turning point in the Anthropocene Era when the increased use of natural resources and burning of fossil fuels started to show visible changes in the Earth System. Considered synonymous with the so-called "American Dream", these low-density urbanizations occupy wide green horizons, cover them with asphalt, and demand a huge daily fuel expenditure. True ecological dystopias romanticized in Suburban Fantastic series and films as utopias that need to be saved by the younger generations.

**Keywords:** Suburban Fantastic; Suburbia; Great Acceleration; American Dream; Anthropocene

## 1. Introduction

The present work is part of the cultural studies of the Anthropocene, with the objective of understanding how TV and cinema productions portray periods marked by the climate crisis and in the context of the unsustainable consumption of natural resources. In this way, this study intends to understand the urban, economic, and environmental discourses behind contemporary works, understanding their importance in the formation and support of revisionist or negationist narratives.

More specifically, this essay discusses the contemporary portrait of the American suburbs - urbanization inhabited mainly by a consumerist middle

---

[1] Universidade Federal Fluminense (UFF), e-mail: pedrolauria@id.uff.br.

class and considered a synthesis of the so-called "American Dream". The ecological literature heavily criticizes American suburbs due to their inherent characteristics, such as the deforestation of extensive green areas and the need for daily use of large amounts of fossil fuels.

The object of analysis of this essay will be films and series of the so-called reflexive Suburban Fantastic, a contemporary cycle of this subgenre marked by narratives in which children and young people face fantastic creatures and/or events to recover the status quo of their suburban reality, usually situated in the 1980s. Our main object of analysis will be the TV series *Stranger Things* (Duffer Brothers, 2016-present), in which we will analyse the portrait of the suburb, but also from the 1980s and the "Reagan Years", marked by the neoliberal government that fomented a pro-suburb discourse. This work demonstrates how nostalgia for the 1980s and the suburban lifestyle present in these contemporary productions align partly with a restorative discourse – uncritically romanticizing a model of life and consumption today, known to be unsustainable.

## 2. Literature Review

The beginning of the Industrial Revolution, in the middle of the 18th century, is usually proposed as the beginning of the Anthropocene (Crutzen & Stoermer, 2013), a period when the large-scale use of fossil fuels by humans from the Global North countries generated an unquestionable mark in the Earth System. However, one second moment of this so-called "Human Epoch" starts from the mid-twentieth century with the massive increase in the use of natural resources, fossil fuels, and population growth (Fay, 2018). This period is what we define today as the Great Acceleration:

> The second half of the twentieth century is unique in the entire history of human existence on Earth. Many human activities reached take-off points sometime in the twentieth century and have accelerated sharply towards the end of the century. The last 50 years have without doubt seen the most rapid transformation of the human relationship with the natural world in the history of humankind. (Steffen *et al*., 2004: 131)

In this sense, it is impossible not to speak of the United States as one of the substantial causers of the Great Acceleration. With its consolidation as the world's largest economy, based on the use of fossil fuels and unsustainable use of natural resources, Richard Lane (2019) talks about a US-led "growth paradigm" to which "American Dream" discourse based its consumerist and

developmental policy. This model has received harsh criticism, such as James Kunstler's acid speaking in *The Geography of Nowhere:*

> "Eighty percent of everything ever built in America has been built in the last fifty years, and most of it is depressing, brutal, ugly, unhealthy, and spiritually degrading […] the whole destructive, wasteful, toxic, agoraphobia-inducing spectacle that politicians proudly call "growth." (Kunstler, 1994, p. 10).

Most of the constructions Kunstler refers to are the result of the suburban expansion that occurred along with the growth of the American middle class after the war. For example, between 1945 and 1960, 85% of new homes on American territory were built in the suburbs (Coontz, 2000, p. 67), which led Halberstam to state that:

> The American dream was now located in the suburbs, and for millions of Americans, still living in urban apartments, where families were crunched up against each other and where, more often than not, two or more siblings shared the same bedroom… (Halberstam, 1993, p. 511).

In this regard, it is worth highlighting to the reader the influence represented by this urbanization model of low density and huge environmental impact that occupies large green horizons, covers them with asphalt, and demands and daily fuel expenditure. After all, due to its residential nature and distance from large urban centres, the vast majority of suburban residents are forced to exercise the habit of commuting: going and returning long distances by car to work. As explained by Eric Sanderson oil, cards and suburbs sing together as "sirens", with music that "bridges history and landscape to appeal to US identity as a free nation" (2013, p. 2). As Kenneth Jackson ponders:

> Suburbia symbolizes the fullest, most unadulterated embodiment of contemporary culture; it is a manifestation of such fundamental characteristics of American society as conspicuous consumption, a reliance upon the private automobile, upward mobility, the separation of the family into nuclear units, the widening division between work and leisure, and a tendency toward racial and economic exclusiveness." (Jackson, 1987, p. 15).

In this sense, the American suburbia presents itself not as an utopia, but as an "ecological dystopia" hidden by a discourse of greater quality of life

and proximity to nature. As discussed by Kunstler (1994), the suburbs are a symbol of an unsustainable model of life, inhabited by an individualistic middle-class who wants to fulfil their privilege to live the "American Dream". It is worth pointing out that today more Americans live in the suburbs than in the countryside and cities combined[2]. This urbanization model is a great example of the "Tragedy of Commons" as written by Garret Hardin (1968): the depletion of a shared resource by a group of people acting through their uncoordinated act according to one's self-interests. The difference, however, is that such actions are not only fostered by the Government but also by a mediatic romanticization of the suburban lifestyle. It is precisely on this second point, that this present article intends to delve into, more specifically in the return of the Suburban Fantastic films and series in the 2010s.

The suburban fantastic is a subgenre that victimizes the suburb and the suburban lifestyle by putting them in the place of being defended by new generations. Angus McFadzean originally conceptualized it as:

> 'a set of Hollywood movies that started to appear in the 1980s, in which pre-teen and teenage boys living within the suburbs are called upon to confront a disruptive fantastic force – ghosts, aliens, vampires, gremlins and malevolent robots. (McFadzean, 2019, p. 1).

This subgenre encompasses productions such as *ET – The Extraterrestrial* (Steven Spielberg, 1982), *Gremlins* (Joe Dante, 1984), *Back to The Future* (Robert Zemeckis, 1985), *The Goonies* (Richard Donner, 1985) and *Jumanji* (Joe Johnston, 1995). In these films, middle-class children are forced to return the status quo of their suburban neighbourhoods after dealing with the disruption caused by an exogenous element. Ultimately, it is up to the protagonist to defeat, assimilate or resolve this disruption, returning that suburban environment to normality in a mixture of coming-of-age dramas and the hero's journey typical of the fantasy genre (McFadzean, 2019).

Because of this syntactic structure, the subgenre has an inherently reactionary aspect: after all such narratives are rites of passage that involve white middle-class children and teenagers returning suburbia to its middle-class normality (maintaining the social and economic structures that privileges them) after resolving the disruption caused by an "Other" (something or someone who does not share the values of that environment/class). Farah Mendelsohn categorizes it as an "intrusion fantasy": a fantasy that takes us out of safety without taking the protagonist

---

[2]    https://www.bloomberg.com/news/articles/2018-11-14/u-s-is-majority-suburban-but-doesn-t-define-suburb (Accessed 12 April 2022)

from its place, with the base assumption that normality is organized and that when the fantastic retreats, the world, while not necessarily unchanged, return to predictability (2008, XXII).

Because of this restorative narrative, it is no coincidence that the emergence of suburban fantastic cinema occurred in the middle of the "Reagan Era". Ronald Reagan, after all, was the first US president to come from the suburbs, perpetuating many of its values (Troy, 2005, p. 338) and was the creator of the slogan "Make American Great Again". This restorative/nostalgic motto was a counterpoint to the previous decades and, mainly, the political and economic vision of Jimmy Carter, his predecessor, who had a more communitarian agenda concerned with the use natural of resources. After a decade marked by two oil crises (the 70s), Carter went so far as to say that "the American people cannot accept the simple fact that they have an energy crisis that will get worse in the future." (in Jackson, 1987, p. 329). Its energy secretary, James Schlesinger, even defended the return to the cities, noting that "Urban life has certain advantages (...) as they are areas of greater energy efficiency than the suburbs and the countryside" (Jackson, 1987, p. 329).

Despite these ecological concerns, Carter was defeated in 1980. Decades later, however, the deepening of climate and environmental discussions in the 21st century made the suburbs once again in the sights of ecological criticism as an unsustainable urbanization model at this critical moment of the Anthropocene Era. In addition, events such as the 2008 housing crisis and fuel crises also threatened the maintenance of the suburban middle-class. These crises were decisive in the election of Donald Trump in 2016[3], a president whose term was marked by his climate-denial discourse and policies focused on fossil fuels (Rose, 2018).

It is in this context that Angus McFadzean points to the return of the suburban fantastic cinema in the 2010s, in a "reflexive" cycle (2019, p. 115), marked by remakes, sequels, reboots, and tributes such as *Super 8* (J.J. Abrams, 2011), *Stranger Things* (Duffer Brothers, 2016-), *It – Chapter 1* (Andy Muschietti, 2017), *Bumblebee* (Travis Knight, 2018) and *Ghostbusters: Afterlife* (Jason Reitman, 2021). Most of these works nostalgically are set in the 1980s, the Reagan Era. This is the same decade that Trump alludes by reusing the campaign slogan "Make America Great Again" as things "started to go wrong" for the suburban middle class and their lifestyle after this period. According to the author, these films/series "take the audience to a place of comfort, safety, and security by delivering again the

---

[3] https://www.forbes.com/sites/joelkotkin/2016/11/22/donald-trump-clinton-rural-suburbs/ (Accessed 01 April 2022)

wonder and happiness they associate with the original suburban fantastic films" (2019, p.119). This would make such works meet the need of a millennial audience to return to the past, in the face of a time of great instability, becoming a nostalgic commodity (Jameson, 1991) that serves as a breath amid the political and economic crises of the capitalist system (Duyvendak, 2011).

However, as pointed out by Susan Stewart (in Cross, 2015, p.13), nostalgia, while responding to the future and discrediting the present, can have the function of authenticating the past. In other words, it goes beyond the audience's desire to return to simpler times, and impacts our perception about that period. Thus, works that show great amounts of nostalgia for the 1980s somehow validate, for example, the neoliberal government of the Reagan Era as a "period of good feelings", not investing with the same impetus in a critical reading of its economic and environmental policy.

This "less critical" look at the past also impacts a phenomenon that McFadzean calls the "dystopia historicization". In other words, this new cycle of suburban fantastic works makes us look back 30 years to tell us how we got from there to here (2021). This view, however, abdicates a correlational perspective between the 1980s and the present, treating them as a period in which "things still went right" and then "started to go wrong". And if Jorritsma speaks of the human need to look at past landscapes to correct the moment when "we slowly drifted from the good" (2021, p. 206), in suburban fantastic this takes its own contours. After all, Jorritsma refers to nostalgia for cities and civilizations before the Anthropocene, while in suburban fantastic, we speak of nostalgia for an urbanization model that is a symbol of the Great Acceleration. From this context, in the following sections, I analyse how some of the main productions of this new cycle of suburban fantastic portray the suburbs and the "Reagan Era", facing the contemporary ecological discussion about the unsustainability of the suburban lifestyle.

### 3. Methodology

The present work uses the critical analysis of discourse, understanding TV and cinema works as producers of meanings between subjects and a constitutive part of the social and historical moment in which they find themselves. This analysis has as its object the first four seasons of the *Stranger Things* series, understanding that this is the most significant success of the suburban fantastic since its return in the 2010s. In addition, the Netflix

series is the work that best groups the semantic and syntactic elements of the subgenre, being a reference for other productions.

However, to make a more general look at the decade, the present essay also contemplates the comparative reading of some films from the reflexive cycle of suburban fantastic categorized by Angus McFadzean in his book (2019) as *Super 8, Fright Night* (Craig Gillespie, 2011) *Tomorrowland* (Brad Bird, 2015), *Poltergeist* (Gil Kenan, 2015), *Midnight Special* (Jeff Nichols, 2016), *Jumanji: Welcome to the Jungle* (Jake Kasdan, 2017), *Bumblebee* (Travis Knight, 2018), *It - Chapter 1*, *See You Yesterday* (Stefon Bristol, 2019) *Vampires vs The Bronx* (Osmany Rodriguez, 2020), *A Babysitter's Guide to Monster Hunting* (Rachel Talalay, 2020). The analysis of these works focuses on the portrait of the suburb in these productions, taking into account the environmental impact represented by this urbanization model. In the more specific case of *Stranger Things* and other works set in the 1980s, the portrait of the "Reagan Era" and the idea of "dystopia historicization" discussed by Angus McFadzean are also analysed from the critical ecological perspective.

## 4. Findings

In the first episode of the first season of *Stranger Things*, the town of Hawkins is shown to be a calm, peaceful place where the local police barely need to work. The only intercurrences that need to be resolved by the local police are minor problems between neighbours. Furthermore, the city shows a certain diversity of classes, ranging from the upper-middle class (like Mike Wheeler and Steve Harrington) to the working classes (like Will and Jonathan Byers). The relationship between such classes also goes from fraternal harmony (as between Mike and Will) to bullying (as between Steve and Jonathan). However, the everyday of these classes is erupted by a recurring external element – the government. Since the first season, the authorities have affected the daily lives of Hawkins' residents due to its ill-fated experiments. The problems brought by the authorities range from residents' disappearance and death to Hawkins's almost total destruction (at the end of the fourth season).

It is important to note that Hawkins is built as a mosaic of semantic elements taken from the suburbs and small towns of classics from the 1980s teen cinema, which are added according to the seasons. For example, the first season focuses on High School, a typical setting for 1980s teen movies like *The Breakfast Club* (John Hughes, 1986). In the second season, the references

become even more specific, as in the case of the arcade that refers to films like *The Last Starfighter* (Nick Castle, 1984) and the train track that refers to one of the most famous scenes of *Stand by Me* (Rob Reiner, 1986). Finally, in the third season, the mall, the iconic setting of *Fast Times at Ridgemont High* (Amy Heckerling, 1982), becomes the primary setting of the narrative.

The producers of Stranger Things also create diverse visuals in Hawkins by incorporating new thematic elements in each one of the seasons, representing different festivities that also nods to the classics from the 1980s. In the first season, Hawkins is marked by Christmas holidays, setting for works such as *Gremlins* and *Home Alone* (Chris Columbus, 1990). By focusing on Halloween, the second season allows direct references *to ET - The Extraterrestrial* and *Hocus Pocus* (Kenny Ortega, 1993). The third season takes place on the 4th of July (Independence Day), referencing works such as *Russkies* (Rick Rosenthal, 1987). Finally, the fourth season takes place on Spring Break, referencing the film of the same name directed by Sean Cunningham (1983).

Hawkins' characteristic of encompassing each of these environments and themes allows, of course, to end up referring to the nostalgic aspects of multiple memories of *Stranger Things*' spectators - functioning as a great simulacrum of what we understand as a 1980s' cinematic representation of a suburb. As Lacey Smith explains:

> the suburbia invoked by Hawkins is not merely a suburb but a representation of suburban-ness, meshed with small town-ness, and Midwest-ness, and other simulacra that coalesce under the guise of a coherent visual past informed by the 1950s but colored by the aesthetics of 1980s pop culture (in WETMORE, 2018, p. 193).

This "mixed portrait" is a recurring feature of works from this reflexive cycle of the suburban fantastic and also occurs, for example, in films like *Super 8* and *Bumblebee*. In these works, suburbia is shown as the most natural, healthy, and desirable environment imaginable (McFadzean, 2019, p.134) with the better characteristics of small towns (proximity to nature, family-based economy) and large cities (proximity to urban facilities, cultural cosmopolitanism), according to the narrative need. Meanwhile, works of the subgenre set in the metropolis demonstrate a very dystopian construction, as is the case of *Fright Night* (Craig Gillespie, 2011) and *Kin* (Baker Brothers, 2018) which show urban centres marked by prostitution, violence and gambling. Meanwhile, *See You Yesterday* (Stefon Bristol, 2019) and *Vampires vs. The Bronx* (Osmany Rodriguez, 2020) focus their urban narratives on peripheral areas exposed to violence and the neglect of public

power, even though their protagonists have affective bonds with the urban location. *Stranger Things* also dedicates an episode of its second season taking the protagonist, Eleven, to the metropolis – marked by gangs, garbage, homeless people, and drug dealers. Such portraits reinforce the idea of the city as a place of crime and danger, where no one is safe, where no self-respecting middle-class person would venture. From this perspective, the suburbs would be the only logical answer (Dickey, 2019).

The city is not the only "dystopian portrait" that legitimizes the suburb as a desirable urbanization model within the subgenre. The protagonist of this new cycle of suburban fantastic is recurrently presented with an alternative, parallel, or hidden world that proves to be uninhabitable and full of dangers. This world is presented in different ways, be inside the sewer as in *It - Chapter 1*, in a ghostly dimension in *Poltergeist*, inside a video game in *Jumanji: Welcome to the Jungle*, or in places inhabited by monsters in *A Babysitter's Guide to Monster Hunting*. The Upside Down, from *Stranger Things*, stands out among the many examples "a nether world of zombified tentacular roots, blood-thirsty parasitic demons, and diseased air" which "we must turn our thinking upside down to prevent living in our own approximation of The Upside Down" (Neilson, 2017). These alternative environments serve to show to the protagonist and the audience what the world can come to be, if humanity "fails it". And in the particular case of *Stranger Things*, considering that the work takes place in the 1980s, it is clear that this comment is directed to the present and to our immediate future. But ultimately, all these alternative worlds also reaffirm the suburb as a place of pleasantness and comfort. After all, in none of the films mentioned does the protagonist find a better place to live than the suburbs – not even in the *Poltergeist* remake, in which the family continues to insist to live in the suburbs, even after having their house destroyed by spectral creatures.

*Stranger Things* also reinforce the idea that the "past is a foreign country" in which "when a problem happens, no one can pull out a cell phone to solve it", as pointed out by Wetmore (2018, p.9). This perspective, in turn, helps to distance the 1980s from our current period, removing the causal aspect between these two periods. In other words, by illustrating the 1980s as so "different" from the current period it makes the eighties appear not to be responsible for the historical developments that led us to the current moment. Instead, the 1980s, like the 1950s, became moments "outside of history" – safe havens of a time when the "American Dream" was in full swing for a certain social group, and which could be accessed again by memory, nostalgia, or populist speeches.

Finally, it is essential to discuss the portrait of science and technology in these works. After all the scientist figure is conceived since the beginning of suburban fantastic cinema as one of the main antagonists of the subgenre. Whether trying to kidnap innocent aliens as in *E.T. – The Extraterrestrial* and *Flight of the Navigator* (Randal Kleiser, 1986), experimenting with destructive robots as in *D.A.R.Y.L.* (Simon Wincer, 1985) and *Short Circuit* (John Badham, 1986) or murderous creatures as in *Watchers* (Jon Hess, 1988) and *Gremlins 2* (Joe Dante, 1990). Even humorous and positive representations of scientists bring the dangers of their experiments as is the case of the *Back to the Future* trilogy (Robert Zemeckis, 1985, 1989, 1990) and *Honey - I Shrunk the Kids* (Joe Johnston, 1989). And if in the 1980s films this apprehension was linked to anxiety about the digital world, the return of these characteristics in the suburban fantastic of the 2010s demonstrates a certain pessimism with the developments of science in recent decades. This is the case of works set in the present/near future, such as *Tomorrowland* (Brad Bird, 2015) and *Midnight Special* (Jeff Nichols, 2016), but also in productions set in the 1980s as *Super 8* and *Stranger Things*. In these works, when scientists do not appear as villains, they appear as embittered beings, repentant or working with blind obedience to the government.

In this regard, Eleven, the protagonist of the Netflix series, is a great example of the personification of the evil caused by science. The character appears in the first season as a laboratory experience, without any social abilities, and starts to be assimilated by the harmonic Hawkins' suburban reality between seasons. The peak comes at the end of the third season when she loses her powers and becomes a "normal" Hawkins dweller. In the fourth season, however, to undo the evil caused by authorities and the Government, Eleven needs to return to her status as a "laboratory test subject". It is a moment when it is shown the traumas that such experiences caused in her and other young people in a similar situation.

## 5. Discussion and Conclusions

The present analysis points out how *Stranger Things* is imbued with nostalgic feelings not only from its setting in the 1980s but also because of Hawkins' construction as a "mosaic" of references to 1980s classics. All these readings point towards the construction of the image of a suburb and a period that never existed in time, and the nostalgia evoked by it results from a construction that appeals to the affective memory of the spectator. Thus, when Jennifer Fay states that cinema's dominant mode of aesthetic world making

is often at odds with the very real human world it is meant to simulate (2018, p. IV), it is difficult not to apply this idea in a particular way to these portraits made by *Stranger Things* and the reflexive suburban fantastic cinema. In these works, the suburb is not an ecological dystopia whose existence endangers the Earth System but a utopian environment that needs to be defended from scientists, authorities, and outside threats.

Therefore, it seems that the suburban fantastic does not even try to simulate the "real world", but tries to produce a fictional world where the American society project succeeded. In this portrait, the suburbs and their residents are portrayed as victims of external actions from an authoritarian and technicist governmental machine. In this sense, its residents are not held responsible for embracing this unsustainable suburban lifestyle, but as wronged citizens who were just trying to live the "fair" American Dream. Thus, it is not coincidental that Mc Fadzean points out that some recent suburban fantastic films/series as *Stranger Things* and *Super 8* appear to be rather comfortable with aspects of contemporary American society (McFadzean, 2019, p.121). In other words, nostalgia for the suburbs implies that this urbanization is not seen as part of the ecological problems faced by the Anthropocene – despite the environmental unsustainability its model represent. After all, the suburban fantastic narrative involves the perspective that it is something "outside" the suburbs that needs to be corrected.

This approach of the subgenre reflects the isolationism of the American suburban middle class and its false perspective that suburbs, since have "fewer grey areas" and less pollution than cities, do not have the same ecological impact as them (when in fact, they are larger).(tinha um espaço duplo aqui, corrige no teu) In this regard, McFadzean ponders that the reflexive suburban fantastic returns to the perspective of lower-middle-class suburbia depicting families experiencing economic and social unease (as the case of Will and Jonathan Byers) chimes with audiences after the 2008 financial crash (McFadzean, 2019, p.119). This construction, in turn, further removes the idea that the suburban dwellers can have a destructive impact on the world since he/she is a victim of the capitalist system and is only fighting to have his/her place within the "American Dream". But in doing so, these works legitimize suburban and middle-class America's consumerism as a desirable lifestyle.

The portrait shown in *Stranger Things* is also of resignation to the future, as its narrative is based on the idea of Hawkins' peaceful reality being invaded by technology and science. As stated by Kevin Wetmore, *Stranger Things* depict the 1980s as a decade of innocence, when we did not know how horrible things were (2018, p.9). McFadzean will say that this decade will be

portrayed as a period when the future was still open and full of utopian possibilities, and the invading terrors could still be defeated (2021). However, this perspective that the 1980s were "simpler periods" and "with fewer problems" is based on a historical dissociation that our current moment is not a direct consequence of this recent past. A naive idea that the US policies of suburban sprawl, exploitation of fossil fuels, and the promotion of hyper-consumerism that exploded after the war are not related to the moment we are in today. On the contrary (eu não gosto muito de começar frases com "on the contrary", eu usaria "on another perspective" aqui), such narratives make it desirable to return to these periods as moments when American society was living its dream. The very expression "American Dream" seems to carry this dissociation – as if the "dream" operated in a dimension of its own, with no direct impact on reality.

In this sense, it is important to emphasize that works such as *Stranger Things* and *Super 8* reproduce anti-government discourses, casting scientists, military, or other State agents as villains. Lars Olson will point out that the subgenre carries this "pessimistic view" of paternal and government authorities, fostering narratives that the young will need to solve problems that older generations have caused or are unable to solve (2011, p.1). In this sense, it is again worth positioning such films as part of historical moments in which presidents like Reagan or Trump brought anti-State, anti-intellectual and anti-international organizations' postures and rhetoric. As Sirota (2011) recalls, it was one of Reagan's classic lines: "The nine scariest words anyone can say are: I'm from the government and I'm here to help." In this sense, it is worth going back to the fact that behind the apparently planned nature of the suburbs, as Samuelsson rightly points out, he "was never regulated and it was never meant to be" (2013) – since its conception, a true celebration of individual enterprises packed in a rhetoric of a social dream, which would generate a national identity.

In this regard, there is a contrast between the scientist as a greedy authority, who messes with what he/she does not understand, and the suburban resident as this peaceful figure who wants to (try to) live the "American Dream". In other words, such works emphasize that the suburban dweller is the representative of what "worked" in American society (and that is why he/she will be elevated to the role of hero in the narrative), while scientists are those who "went too far" or who "failed to save the world". It is easy to see how this perspective can foster a contrary view to scientists when they talk about intangible evils such as the issue of "global warming" or "climate change". After all, how could a suburbanite living the "American Dream" be impacting the world's temperatures? Could be suburbia not an ecological utopia as

planned by Ebenezer Howard (1898), but an ecological dystopia? The answer, as Kunstler (1994) and other suburban critics have already given, is: yes.

It is precisely the metaphor of the "car" – that element so essential for the suburbs – that brings us back to the causal ordering of history. The "Great Acceleration" seems like the perfect metaphor for what was happening since the 1950s – we were speeding up towards a dystopian present where the "American Dream" actually acted as fuel. It is not possible to understand the speed we are at today (and the urgent need to take our foot off the accelerator) without understanding this idea. However, this dissociation is not a simple lack of historical perspective on the part of American society. As the geographer Yi-Fu Tuan points out, the historicity of US society is deeply linked to the construction of its sense of identity (2001, p.197). Thus, at the moment when this identity deeply linked with the suburbs is placed under the scrutiny of global scientific opinion due to the predictions of its ecological unsustainability in the medium to long-term, the construction of a nostalgic simulacrum seems to come as one of the most immediate reactions. They can come from speeches by populist politicians chanting "Let's Make America Great Again" or from a TV Show with young protagonists fighting beings from another dimension. Therefore, when Jennifer Fay says that the dominant mode of film production is governed by a preference for the artificial and the made over any location (2018, p. VI), the same seems to be true for the preferred urbanization model of the United States. Housing projects that are built anywhere, homogeneous, following an aesthetic of control and compliance that can be replicated anytime (Dickey, 2019). In other words, if the suburb itself appears to us as a simulacrum, this leads us to infer that suburban cinema itself can be understood as a simulacrum of a simulacrum.

It is in this sense that the suburban fantastic stands out as an excellent object of the cultural study of the Anthropocene and, even more, of the post-Great Acceleration culture. After all, it is a subgenre aimed at building a generational narrative and identity construction of a middle-class that has in these suburbs the materialization of the life project of an entire nation – in despite of their ecological problems. In *The Horror of the Anthropocene*, Sarah Dillon cites the famous researcher of fantasy, John Clute (2014) to point out how fantastic literature emerges from 1750 onwards, aware of the planet itself and its mortality, being a great candidate for the title of "literature of the Anthropocene" (2018, p.4). Based on this premise, it might be interesting to start thinking of Suburban Fantastic as a "genre of the Great Acceleration".

**References**

Clute, J., 2014, The Darkening Garden: A Short Lexicon of Horror. In: *Stay*, Wood, H., Beccon Publications Essex, 269-343.

Coontz, S., 2000, *The Way We Never Were: American Families and the Nostalgia Trap*. Basic Books, New York.

Cross, G., 2015, *Consumed nostalgia. Memory in the Age of Fast Capitalism*. Columbia University Press, New York.

Crutzen, P., Stoermer, E., 2013, The Anthropocene. In: Robin, L., Sorlin, S., Warde, P. (Eds.) *The Future of Nature: Documents of Global Change* Yale University Press, New Haven.

Dickey, C., 2019, *The Suburban Uncanny. LARB.* Accessed 22nd September 2021: https://lareviewofbooks.org/article/the-suburban-uncanny/

Dillon, S., 2018, "The Horror of the Anthropocene". *Literature: Journal of 21st-Century Writing*, 6, 1, 1-25.

Duyvendak, J., 2011, *The Politics of Home – Belonging and Nostalgia in Western Europe and the United States*. Palgrave Macmillan, London.

Fay, J., 2018, *Inhospitable World: Cinema in the Time of the Anthropocene*. Oxford University Press, Oxford.

Halberstam, D., 1993, *The Fifties*. Open Road Integrated Media, New York.

Hardin, G., 1968, "The Tragedy of the Commons", *Science.* 162, 1243–1248.

Howard, E., 1898, *To-Morrow*: *A Peaceful Path to Real Reform*. Swan Sonnenschein, London.

Jackson, K., 1987, *Crabgrass Frontier: The Suburbanization of the United States*, Oxford University Press, New York.

Jameson, F., 1991, *Postmordenism, or the Cultural Logic of Late Capitalism*: Duke University Press, Durham.

Jorritsma, J., 2021, "Haunted by Historicism", *History of Humanities,* Vol. 6, No. 2, 669-685.

Kunstler, J., 1994, *The Geography of Nowhere: The Rise and Decline of America's Man-made Landscape,* Touchstone. New York.

Lane, R., 2019, "The American anthropocene: Economic scarcity and growth during the great acceleration", *Geoforum* 99, 11-21.

McFadzean, A., 2021, *Historicizing Dystopia: Suburban Fantastic Media and White Millennial Childhood*. Larb. Accessed 22nd September 2021: https://lareviewofbooks.org/article/historicizing-dystopia-suburban-fantastic-media-and-white-millennial-childhood/

_____, 2019, *Suburban Fantastic Cinema: Growing Up in the Late Twentieth Century*. Wallflower Press. Columbia University. New York.

Mendlesohn, F. 2008. *Rhetorics of Fantasy*. Wesleyan, Middletown.

Neilson, T., 2017, *Stranger Things: The Upside Down as Ecological Motif*. Accessed 21st August 2021: https://www.anthropocene-cinema.com/stranger-things-2-the-upside-down-as-ecological-motif/

Olson, L., 2011, *Great Expectations: The Role of Myth in 1980s Films with Child Heroes*. Virginia Polytechnic Institute, Blacksburg.

Prince, S., 2007, *American cinema of the 1980s*, Rutgers University Press, New Brunswick.

Rose, A., 2018, "Mining Memories with Donald Trump in the Anthropocene", *MFS Modern Fiction Studies*, 64, 4, 701-722.

Samuellson, K., 2013, *Urban Flatlining*. Atlantis. Accessed 21st September 2021 https://atlantistudelft.wordpress.com/2013/12/09/urban-flatlining-conceptions-of-landscapes-in-the-high-anthropocene/

Sanderson, E. 2013. *Terra Nova: The New World After Oil, Cars, and Suburbs*. Abrams Books, New York.

Sirota, D., 2011, *Back to Our Future: How the 1980s Explain the World We Live in Now—Our Culture, Our Politics, Our Everything*. Ballantine Books, New York.

Steffen, W., Sanderson, A., Peter, T., 2004, *Global Change and the Earth System: A Planet Under Pressure*. Springer-Verlag, New York.

Troy, G., 2005, *Morning in America: How Ronald Reagan Invented the 1980s*. Princeton University Press, New Jersey.

Tuan, Y., 2001, *Space and Place*: *The Perspective of Experience*, University of Minnesota Press, London.

Wetmore Jr., K. (Ed.), 2018, *Uncovering Stranger Things: Essays on Eighties Nostalgia, Cynicism and Innocence in the Series*, McFarland Company, North Carolina.

# 2. Using the Zombie Metaphor and Apocalyptic Imageries in Films to Preach Environmentalism in Nigeria: A Semiotic Reading of C.J. Obasi's *Ojuju*

*Floribert Patrick C. Endong[1]*

## Abstract

In a bid to sensitize masses about the terrible effects of environmental degradation, many pro-environmentalism activists and storytellers tend to use strong apocalyptic imageries, thought-provoking metaphors and the fear appeal in the construction of their advocacy messages. Using such an approach often entails representing the effects of such phenomena as pollution, deforestation, poor land development and natural catastrophes with pessimistic symbols: the Armageddon, deadly pests/pandemics, abysses, hellish scenarios, chaos, and death among others. Using such strong metaphors often serves as fear appeal aimed to push for nature-friendly ideals. Following this line of thought, the Nigerian cineaste C.J. Obasi leverages the zombification metaphor and apocalyptic imageries in his zombie thriller titled *Ojuju,* to subtly decry environmental degradation in Nigerian slums and advocate environmentalism in Nigeria. Using semiotics and secondary sources, this chapter argues that although exaggerative, the zombie metaphor in *Ojuju* vividly represents the chaotic state of environmental degradation and the resultant precariousness of human life in most Nigerian slums. The chapter examines the state of environmental degradation/protection in Nigerian urban cities and shows how this condition is represented in Obasi's *Ojuju*. The chapter also explores the extent to which the zombie metaphor and the apocalyptic imageries deployed in the film are apt in representing the environmental risks prevailing in Nigerian cities.

**Keywords**: Zombie Metaphor, Apocalyptic Imageries, Nollywood Movies, Environmentalism, Environmental Degradation.

[1] Department of Performing Arts and Cinematography, [IBAF], University of Dschang, Cameroon, e-mail: floribertendong@yahoo.com.

## 1. Introduction

On too many occasions, pro-environmental communication has hinged on the fear appeal and apocalyptic imageries. Such appeal and imageries are rooted in persuasive messages that seek to arouse fear in the readers and shape or reform human behaviors in favor of environmental protection, through the instrumentality of threat of impending danger or harm. A fear appeal most often highlights the vulnerability of the risk, and presents actions that must be taken to avoid this risk. It is therefore a strategy aimed at motivating people to adopt or advocate particular ideals, take action in favor of specific causes and policies or buy specific ideas. In pro-environmentalism campaigns, this appeal is often used to present the vulnerability of risks connected to issues such as global warming, poor drainage, desertification, pollution and environmental degradation among others. It also helps to push various concepts related to the protection of the environment. Scores of studies – notably Chen (2016), Chadwick (2015) and Azura (2022) – have indicated that the use of such fear appeal in NGO's pro-environmental communications has, in varying degrees, triggered pro-environmental attitudes or behaviors from audiences. In tandem with this, the leverage of this appeal has remained a popular culture among environmentalism-oriented artists, activists, citizen journalists, NGOs and cineastes.

In effect, in a bid to sensitize masses about the terrible consequences of environmental degradation in the world, many pro-environmentalism artists, NGOs and storytellers have entrenched the culture of using strong apocalyptic imageries, thought-provoking metaphors and fear appeals in the construction of their advocacy messages (Vu et al., 2021). It has actually become common to come across pro-environmentalism visual and theatre artists who, in their messages, represent the effects of such phenomena as pollution, deforestation, poor land development practices and natural catastrophes with symbols such as the Armageddon, deadly pests/pandemics, abysses, hellish scenarios, chaos, and death among others. Using such strong metaphors often serves as fear appeal and a strategy to push for nature-friendly ideals.

One of such fear-provoking metaphors or concepts deployed in this pro-environmentalism context is the zombie or the zombification which, in global imagination, is popularly associated with a plurality of negative phenomena. In effect, the zombie inspires fears by its physical appearance: it is a monstrous shambling being, which has no energy and is depersonalized. It feeds on human flesh/brains and is, in many imaginations, very scaring (Seabrook, 1929; Lauro, 2015). There are many myths on the zombie; however, in most imaginations, zombification is associated with negativisms

ranging from mindless consumerism and dehumanizing capitalism to counter-survivability (Vervaeke, Mastropietro & Miscevic, 2017; Crockett & Zarracina, 2016). In environmental communication likewise, the zombie and zombification are usually associated with both the ugly consequences and the perpetration of anti-environmental attitudes or behaviors (Slovic, Swarnalatha & Sarveswaran, 2019; Cohen, 2012). The two metaphors are used to evoke the ways in which humanity copes with environmental anxieties. Following this understanding, Murphy (2017) observes that the zombie most often represents environmental collapse.

In tandem with this style of representation, the Nigerian cineaste C.J. Obasi leverages the zombification metaphor and apocalyptic imageries in his film titled *Ojuju.* Such use of the zombie metaphor enables the cineaste to indirectly advocate environmental protection. Obasi's film depicts a terrible environmental situation where, the progressive pollution of the sole water source in a Nigerian shanty town, leads to the chemical contamination of town dwellers. This contamination in turn provokes the zombification of the majority of the town's humanity, creating a complex humanitarian and emergency situation in the town. In this paper, the author uses semiotics and secondary sources to argue that although exaggerative at first sight, the zombie metaphor in *Ojuju* vividly represents the chaotic state of environmental degradation and the resultant precariousness of human life in most Nigerian towns. The paper seeks answers to three research questions: What is the state of environmental degradation/protection in Nigerian urban cities? How is this state of things represented in Obasi's *Ojuju*? To what extent are the zombie metaphor and apocalyptic imageries apt in representing the environmental risks in Nigerian cities.

## 2.    The Zombie and Apocalyptic Imageries in Environment-Oriented Communication

The zombie permeates all areas of popular cultures in countries across the world. It has veritably exploded into a zeitgeist. The popularity of the zombie figure/metaphor is seen in the fact that it occupies a prominent spot in all media genres, from music and games, through comics to advertising and cinema. In Western countries such as America, the popularity of the zombie has spilled over into all spheres of life, so much so that all types of socio-political and intellectual discourses have provided a fertile ground for the zombie metaphor. This metaphor is thus used in economics, politics and mathematics as well as in natural sciences. It is therefore not surprising that

the zombie metaphor has also spilled over into pro-environmental communication. Environment-oriented communication has these last decades been replete with the living dead. Fox (2011) remarks that "zombie ideas" have since entered into environment-based scientific and media discourse in the same way they had found a fertile space in other fields such as economics and politics.

As earlier mentioned, the zombie has most often been leveraged in political and economic discourses to represent humanity's deepest fear. This is not unconnected to the fact that the zombie in itself inspires much fear. As noted by Crockett and Zarracina (2016), the undead creature has, in the popular consciousness as well as in most media discourses represented "an aesthetical horror". Perron (2009: 128) similarly contends that "be it in a novel, a film or a video game, the figure of the zombie is abject and reminds the still-living of the inescapable decrepitude of their own material parts, to the point of repulsion". Its extremely ugly nature – which involves soullessness, rot and decay, physical deformity, cannibalism and monstrosity – has been used as a metaphor for humanity's deepest fears such as racial sublimation, communism, mass contagion, human extinction, globalism and dehumanizing capitalism among others. Corroborating this observation, Vervaeke, Mastropietro and Miscevic (2017) have contended that, although the zombie metaphor tends to be a shifting signifier from one author or one discipline to the other, its association with negativity and horror has remained quasi universal. Thus, wheresoever the zombie is used, it essentially connotes evil and risk. The three scholars write that:

The zombie has become a pervasive cultural symbol that is constantly expanding its reference, not content to relegate itself to its tradition. As Deleuze and Guattari […] put it "the only modern myth is the myth of zombies". The zombie seems to be a shifting signifier with an unending hermeneutical compass. And yet its features remain remarkably consistent from one story to the next, and it has represented many varieties of apocalypse without altering its basic nature: consumerism, poverty, hunger, political dystopia and environmental degradation, zombies have assumed a heterogeneity of ugliness. No longer simply a vehicle for entertainment, it has become the basis for critical reflection and cultural self-examination (Verrvaeke, Mastropietro & Miscevic, 2017, pp. 3-4).

In line with the above, the use of the zombie apocalypse in the ecology-oriented or pro-environmental communication has mainly been to emphasize the negative consequences of man's anti-environmental attitudes, his anti-ecological actions on earth or the consequences of such actions. In tandem with this, zombification in pro-environmental communication often signifies

the risks related to environmental degradations, global warming and other ecological problems: dysfunction, social anomies, disequilibrium, chaos, and human extinction (in the long run) among others. Sen (2018) highlights the apocalyptic *signified* of the zombie and goes on to explore how by associating zombification with human extinction (caused by anti-ecological behavior), activists involved in the climate change debate may successfully touch the hearts and minds of audiences. He writes that:

Unlike climate change, a zombie apocalypse isn't real. Nonetheless, the projected fear of the end of humanity that zombies narrate may be worth our attention. If there is one tag line that is universally relevant to all zombie movies it is this: "Save Humanity." To my mind, it should replace the common environmentalist chant, "Save the Planet." All worthwhile geoscientists attest to the fact that what is at stake here is the future of civilization as we know it and not necessarily the longevity of the planet. Our planet should continue spinning around our sun for another five billion years, until the sun consumes itself. Extinction, however, is a serious matter often underplayed in so-called pragmatist climate change discourse; that is, the discourse that speaks to a so-called "green" economy, which in truth, maintains the status quo. Addressing climate change fully should in fact appear terribly impractical and as difficult as facing off a zombie incursion (Sen, 2018, p. 16).

In cinema and TV productions more specifically, the zombie metaphor has also driven environmental activism or discourse, mostly in a subtle way. Many Hollywood movies – particularly those released after the Second World War – have been sites of the crystallization of the zombie, used as specific environmental anxieties. According to a study conducted by Watson (2013) Hollywood zombies are "historically contingent". Also, they represent specific categories of environment anxieties that have prevailed and evolved in the western world at various times. Watson's (2013) study thus reveals that while zombies represented over-consumption, consumerism and the fear of incurable diseases in George Romero's *Dawn of the Dead* (1978) and *Day of the Dead* (1985), their signified shifted to various types of environmental anxieties in subsequent films. In Dany Boyle's *28 Days Later* and in Zach Snyder's *Dawn of the Dead* (2004) the zombies stand-in for growing anxiety over urban environment including over-crowding, collapse of the inner core and disillusionment with the suburban dream. Likewise, the zombie contains an under-current of anxieties in some video/digital games. In the *Plants vs Zombie* game for instance, zombies are made to represent anti-environmental and anti-conservation policies and movements in world politics. In the game,

the zombie is a metaphor for any action that could be a threat to nature, more especially the preservation of species (Backe & Aarseth, 2013).

It is also observable that, like in other disciplines – notably politics, economics and mathematics, - the zombie has fuelled or inspired various theorizations in environmental science. Bill Adams (2020) has deployed the concept of "zombie ecology", in his examination of garden centers in the UK. He described these centers as "portals to the world of the undead" for two principal reasons. First they encourage a new and mindless form of mass consumption of "unessential commodities" thereby providing a natural habitat for zombie consumers. Secondly, they favor the creation of hybrid kinds of ecosystems which integrate both natural and synthetic features as well as local and indigenized species. This hybridization subtly adds to the artificial definition of the gardens. The design of such quasi-artificial gardens favors a regrettable situation where the environment is depleted by man's action in faraway places, to construct garden centers at home; all this is done in view of satisfying the desire of a local market. Adams amply explained the two above mentioned reasons thus "it is common place of environmentalism that consumption threatens the biosphere. A garden centre is probably no worse than any other emporium in this respect. But it does show our impacts more clearly: for here we are consuming to make a garden, and yet our very consumption degrades nature somewhere else. Like zombies, we ultimately consume ourselves".

In the same vein, Cohen (2012) uses the concept of zombie ecology to develop a reflection on grey ecology. In this reflection, the author associates grey ecology with various forms of nature-unfriendly cultures, contrasting such a scenario with green ecology. In the process, he leverages the metaphor of the undead or the living dead and suggests that zombie ecology is just a manifestation of the grey ecology. In his language, world nations favor the grey or zombie ecology when they refrain from adopting ambitious and relevant nature-friendly policy under the guise that such policies are either a threat to industrial progress or a useless effort given the imminent extinction of mankind on earth. Cohen (2012) actually argues that "a green ecology judges a culture by its regard for nature, where 'nature' is typically regarded as an external entity, culture's other. A grey ecology refuses such separations, and believes that the haunting of monsters reveal communal values, shared aspirations and lived ethics (the anthropomorphic) as well as the coinhabitance and alien thriving of the nonhuman (the disanthropocentric)". Cohen associates "the hunting of monsters" with a grey ecology's belief in spurious, frightening, apocalyptic and defeatist environmental myths that end up inculcating passivity and nature-unfriendly values in members of the

society. This ultimately contributes in making people in the grey ecology to be zombie like and undead. The zombie or grey ecology is to Cohen, driven by the apocalypse which ultimately represents "a failure of the imagination, a giving up on the future instead of [being] a commitment to the difficult work of composing a better present".

Another author who leverages the zombie concept in his theoretical constructions is Fox (2011). In a paper titled "Zombie ideas in ecology", the author draws on such neologisms as economist John Quiggin's coined phrase "zombie ideas" to review a number of widely held but unproven myths in ecology. According to his conceptualization, zombie ideas are beliefs that have "survived decades of attacks from the theoretical and experimental equivalents of chainsaws and shotguns, only to feed on the brains of new generations of students". These are ideas which are especially popularly held in spite of the fact that they are not backed by facts or credible theories. They are also intuitively appealing and have persisted over decades. They are not truly alive –because they are not true – and paradoxically they are neither dead. Thus, they are undead or zombie ideas in the domain of ecology. One of the zombie ideas reviewed by Fox is the belief that disturbance reduces species' diversities thereby weakening or eliminating competition and preventing the competitive exclusion that occurs in undisturbed environments. Thus, the zombie metaphor has been used to drive pro-environmental arguments in the NGO, media and scientific communications.


## 3. Environmentalism and the Zombie in Nigeria: The Nigeria's Socio-Political and Filmic Discourse

In this section, attention is given to the state of environmental protection in Nigeria and an examination of the zombie metaphor as discursive tool not only for the environmental discourse but also for the socio-political discourse in the country.


### 3.1. State of Environmental Protection in Nigeria

The movement for the protection of the environment has these last decades been a global concept. The globalization of this movement naturally stems from the fact that most, nay all nations on earth are affected by the effects of environmental degradation. These effects include phenomena such as global change, the ozone layer depletion, pollution and the destruction of the

biodiversity among others. Like other countries of the world, Nigeria has been touched by both the effects of environmental degradation and the environmentalism movement. The various social institutions in the country have recognized the need to leverage environmental activism and adopt pro-environmental policies in the country. In tandem with this, the Marketing Officer of Nigeria's Sterling Bank, Bassey Henry observes that environmental problems such as pollution, desertification and the destruction of the biodiversity that used to sound very distant, some decades ago, are now a reality in Nigeria. As he puts it "They are happening to us [Nigerians] … We now are beginning to experience them in our localities and should take them as seriously as possible. We cannot afford to be reactive to these issues and must adopt a strategic proactive approach to a cleaner and more sustainable environment" (cited in Sterling Bank 2017).

In effect, Nigeria has since the years 1980s witnessed serious environmental crises or issues which have fuelled the socio-political debate or motivated the adoption of a number of pro-environmental policies in its territories. One of such crises is the Koko waste incident of June 1988 in which tones of toxic industrial wastes were illegally dumped by an Italian vessel in the South Western locality of Koko. The media and public outcry that followed this incident prompted the Nigerian government to adopt a number of *ad hoc* measures and environmental regulations. Concretely, the Federal Government of Nigeria created the Federal Environmental Protection Agency (FEPA) in 1988. This government later encouraged each of Nigeria's 36 States to establish their own environmental protection agencies christened State Environment Protection Agency (SEPA). In addition to this, each of the above States agencies enacted their own laws and regulations. The Koko waste incident thus motivated the Nigerian government to reform its approach to dealing with environmental problems from an *ad hoc* (direct response) model to the adoption of environmental legislations. This paradigm change led to the enactment of other regulations such as the *Forestry Act* (1958), *Antiquities Act* (1958), *Territorial Waters Decree* (1967), *Oil in Navigable Waters Decree* (1968), *Petroleum Decree* (1969), *Quarries Decree* (1969); *Sea Fisheries Decree* (1971), *Land Use Decree* (1978), *National Environmental Protection (Management of Solid and Hazardous Waste) Regulations* (1991), *Guidelines and Standards for Environmental Pollution Control in Nigeria* (1991), *Environmental Impact Assessment Decree* (1992), *Water Resources Act 101* (1993), and the *Minerals and Mining Act* (1999). In addition to all the above laws, Nigeria became a signatory to a number of international multilateral conventions, which are related to the environment.

All these efforts reveal, to an extent, the Nigerian government's efforts towards mitigating the effects of environmental problem in the country.

In the same line of thought, a considerable number of Nigeria-based NGOs, environmental activists and business enterprises such as telecom operators and banks among others, have set up initiatives that supplement the environment-oriented efforts of the government. A Good example of such initiatives is Guinness Nigeria's partnership with Wecyclers (a non-profit social enterprise involved in the promotion of environmental sustainability and community health among others), aimed at enabling a successful implementation of the "Guinness 4R Waste Management Model which integrates Re-use, Re-duction, Recovery and Recycling in the waste Management" in Nigeria and in the world. Another example of such environmental initiatives is Sterling Bank's 2009 Sterling Environment Makeover (SME). This initiative was conceived as a social responsibility scheme to promote environmental sustainability, sanitation and hygiene in the 36 Nigerian States. Through the instrumentality of the SEM project, Nigeria's Sterling Bank has supported the cleaning of markets, highways, motor parks and streets in all the Nigerian States. Main beneficiary States include Enugu, Lagos and Ogun.

In spite of all the governmental and non-governmental efforts mentioned above, anti-ecological attitudes and environmental degradation have remained very serious issues in Nigeria. Land, air and water pollution, deforestation and desertification among others, have become serious equations to be solved by the country. Most oil producing regions in Nigeria experience a wide range of environmental pollution and degradation, as well as health risks and socio-economic problems linked to ineffective government's petroleum development policies (Yakubu, 2017, Nabegu, Mustapha & Naibi, 2016). In effect, petroleum exploitation, development and production in such Nigerian oil-producing regions as Niger Delta and Rivers, have resulted in serious environmental degradation, pollution-related diseases and even economic issues. For instance, oil leaks from Shell pipelines in the Niger Delta in 2008 and 2009 seriously affected the viability of fishing in some local communities. In the Nigerian village of Bodo more especially, this water pollution forced most fishermen to go out on the open sea to throw their nets. The polluted coastal waters were becoming less propitious for fishing (Aniefiok *et al.,* 2016; Nabegu, Mustapha & Naibi, 2016).

In 2016, residents of Port Harcourt (in Rivers State, Nigeria) witnessed the environmental impact of soot pollution which created a situation of double air pollution in their city: the unresolved prevailing pollution and the added emergence of particle pollution. This incident fuelled media reportage,

environmental activism and protests in Port Harcourt city and beyond. It also raised the question of the (in)effectiveness of government environmental policies in River State and in Nigeria as a whole.

A 2010 BBC documentary series christened "Welcome to Lagos 1, 2&3" came to expose the phenomena of poor garbage disposal, slum and environmental pollution in big Nigerian cities (see Figures 1 and 2). Aired on BBC2 at 9 p.m on Thursday April 22, 2010 and on BBC4 the following Friday, the documentary portrayed Lagos as a slum and a universe plagued by multiple sources of environmental pollution and related problems. The documentary focuses on wastes dumps situated in various parts of Lagos where extremely poor people called "scavengers" comb heaps of refuse in search for wealth or food, under very dehumanizing conditions. Critics censored the documentary for presenting Lagos as a jungle, a place of abject poverty and filth. Although many critics described "Welcome to Lagos" as a myopic and colonial representation of Nigeria, the documentary reviews a number of urban and environmental problems in some of Nigeria's metropolises (BBC News, 2020; The Guardian, 2010; Donwell, 2010). Some of these problems include poor drainage, poor solid waste disposal, air and land pollution, pollution of water sources, poor housing and negative environmental attitudes among others (Nwachukwu, 2010; Ogbodo, 2009). All these factors contribute in no small measures to rendering social life difficult in Nigerian urban cities.



Figure 1 - *Images of a Lagos Slum drawn from BBC's "Welcome to Lagos 1, 2, & 3"*

### 3.2. The Zombie in the Environment-Oriented Cinema in Nigeria

Most environmental crises happening in Nigeria has attracted or fuelled media reportage and heated socio-political debates in the country. In line with this development, the Nigerian cinema has been a fertile platform for environmental discourse or activism. A considerable number of Nigerian documentary and fiction films have sought to explore the dangers of environmental depletion in Nigeria. Amara Nwankpa's *Nowhere to Run* for instance, raises awareness of the negative impacts of climate change on the security question and livelihood in Nigeria. It particularly shows how climate change in Nigeria could make the security question more complex in the country. Talking about his film, Nwankpa explains that although climate change is seriously affecting human life in Nigeria, most Nigerian tend to believe that the phenomenon is a mere foreign or distant environmental problem. There is actually very little awareness and definitely no policy making or any response to address what most Nigerians see as a global threat. "We felt that if we had a documentary and it was in people's faces and told the story of climate change from a Nigerian perspective, it would raise awareness" (cited in Made for Mind 2016).



Figure 2 - *Slum Dwellers Excavating Refuse in BBC's "Welcome to Lagos" Documentary*

Another Nigerian cineaste Tunde Kelani shot *Pyrolysis or Paralysis* (2015), a documentary focusing on the dangers of environmental degradation in Nigeria. The film actually talks about the deleterious environmental effects of charcoal production on the Nigerian forest cover. It suggests that this economic activity engenders deforestation and desertification which in turn generate a range of social problems. The same cineaste partially addresses environmental issues in many of his fiction films. Two of such films are *Arugba* (2008) and *Ti Oluwa Ni Ile* (1, 2 & 3). In these movies, the film director tends to suggest the centrality of nature in man's success or survival on earth. In *Arugba* for instance, he makes the source of the protagonist's power to lie in the water, and in *Ti Oluwa Ni Ile*, the crimes surrounding the sales and purchases of land, causes the death of some dubious men. In this movie, Kelani presents land as a phenomenon which can make or mare the life of the human on earth.

Nollywood movies generally use metaphors other than the zombie to construct their environment-oriented messages. It is hard to come across a film that hinges on the zombie or any other type of undead (vampire, revenant or demon) to critique environmental attitudes or policies in the country. C.J. Obasi's *Ojuju* is therefore one of the very rare – if not the only – environmental film rooted in the zombie apocalypse and the fear appeal. Meanwhile, the other recent zombie films such as Sam Pery's *Outbreak 2020* and Charles Enonchong's *Witchdoctor of the Living Dead* are not concerned with environmental issues. This notwithstanding, the zombie has always inspired some social critics in the country. Afrobeat apostle Fela Ramsome Kuti for instance conceived the term zombie politics in his Album Zombie. This coinage was aimed to criticize bad governance in Nigeria, particularly the military dictatorship of the 70s in Nigeria. In his understanding, zombie politics is all about mindless authoritarianisms where the leaders were just the shadows of what they should be in the strict sense of the word. In Fela's imagination, zombie politicians are mindless automatons whose eyes and ears are closed to the young, the needy and the radical. They are an incarnation of Fanon's (1963) zombies, as described in *The Wretched of the Earth*. Stricto senso, Fanon's zombies are kinds of victims of mental slavery. As he puts it: "Zombies, believe me, are more terrifying than colonists. And the problem now is not whether to fall in line with the armor-plated world of colonialism, but to think twice before urinating, spitting, or going out in the dark" (Fanon 1963: 209).

## 4. C.J. Obasi's *Ojuju* and Environmentalism

### 4.1. *Brief Presentation of the Film*

*Ojuju* is a 2014 zombie thriller written and directed by C.J. Obasi (see Figure 3). The film is a minuscule budget production, staring Gabriel Afolayan (as Romero), Omowunmi Dada (as Peju) and Kelechi Udegbe (as Emmy) – its main characters. It tells the tale of Romero and his two friends Emmy and Peju who, overnight, are compelled to survive a mysterious epidemic that has transformed their neighborhood of residence (an isolated Nigerian slum), into a minefield of flesh-eating creatures. The monstrous transformation begins after the main source of water in the slum where they dwell is infected. Most slum dwellers (including Romero's girlfriend) are contaminated. They develop strange symptoms close to those of rabid river blindness. Romero and his two friends track the disease to the slum's sole source of water supply and try to understand its genesis in a bid to find a solution to the situation.

Obasi's film premiered at the Eko International Film Festival, and the African International Film Festival (Calabar) where it won Best Nigerian Film. The movie also attracted a moderately positive review from both Nigerian and foreign commentators. *The Hollywood Reporter* commented that although made on a minute budget, *Ojuju* is an enterprising and well crafted movie, which among other things, is infused with both sly humor and genuine thrills. Julianna Snow on her part described the film as a didactic social allegory that vividly portrays the predicament of millions of Nigerian living in the highly infested environment of slums in such towns as Lagos. Avocado (2018) similarly observes that *Ojuju* has many technical flaws which stem much from the fact that it is a zero-budget film. However its director's interesting mixture of sly humor and avant-gardism enables the movie to stand out. The commentator adds that "I can't say [*Ojuju*] is suspenseful or too effective as a horror film, but it shows quite a bit of promise for the filmmaker" (Avocado, 2018, p. 6).

Figure 3 - *Poster for C.J. Obasi's* Ojuju.

## 4.2. *Ojuju as a Critique of Poor Environmental Policies in Nigeria*

At first sight, one may think *Ojuju* is just a zombie film which, like any other one, is set to merely entertain and pass a usual didactic message. The truth however remains that, the film is a social allegory on deplorable human conditions in Nigerian slums in particular, and in many other semi-urban environments in Nigeria in general. The film is profoundly feeding on the outcome of an ethnographic research and a wealth of environment related

facts collected by the film director. Actually, C.J. Obasi undertook to shoot on the chosen location (a teeming slum located in Ikeja, Nigeria [see Figure 4]) after a series of visits he paid to a friend living in the locality – the slum in which the film was shot. In an interview granted Julianne Snow (2020), Obasi confided that he develops the story of the film based on the unique features of the area such as its one-exit in, one exit out feature, as well as the fact that the area had a single water source where all members of the community fetched from. The locality actually exemplified typical Lagos slums which in addition to poor housing and poor garbage disposal, generally experience water vulnerability. This water vulnerability most often stems from a variety of factors one of which is environmental pollution. In an attempt to construct his filmic message along the social and environmental reality, Obasi conceived a story that is rooted in the theme of water pollution. His film is about an infested slum where a contaminated source of water becomes a vector of chemical contamination for a wide mass of vulnerable humans. The film is a window into the environmental conditions in which Nigerians live in Lagos slums.



Figure 4 - *Aerial View of the Ikeja Slum where Ojuju was Shot.*

In addition to the above mentioned preliminary observation, C.J. Obasi hinged on the contents of a report published in 2014 by UNICEF and WHO.

This report presents water vulnerability as a serious problem in Nigeria. It states that over half of the Nigerian population has no access to clean drinking water due partly to toxic contamination of water sources. The report thus mentions water pollution as a serious environmental and health problem in Nigeria (World Health Organization & UNICEF, 2014). By drawing on the contents of this report, Obasi contributes to the ongoing discourse on water pollution/vulnerability and water supply in Nigerian metropolises. The phenomenon of water contamination – which his film raises – is endemic not only to Nigeria but the whole of Africa. A 2021 UNICEF report titled "*Water Security for All*" identifies localities in Nigeria where physical water scarcity risks overlap with poor water service levels. People living in these localities depend on surface water or unimproved/polluted sources of water (UNICEF 2021). In tandem with this, the 2021 WASH NORM study conducted by Nigeria's National Bureau of Statistics and the UNICEF reveals that governmental efforts towards providing access to water, water vulnerability persists in Nigeria as majority of Nigerians do not still have access to adequate and quality water and hygiene services. According to the study up to 86 per cent of the Nigerian population lack such access safely managed drinking water sources. The study also reveals that although 70 per cent of Nigerians reportedly have access to a basic water services, more than half of these water sources are contaminated (National Bureau of Statistics & UNICEF 2021). Thus, water pollution remains a serious issue in Nigeria.

The use of the two tropes of water pollution and contaminated water sources also helps Obasi bring to the fore two serious environmental issues plaguing slums and shanty towns in Nigeria. The first is the anti-environmental attitudes of the slum dwellers in the film. These attitudes contribute in no small measures to contaminate water sources in their habitat. Their attitude is reminiscent of popular cultures in Nigerian slums where water sources such as streams and rivers usually represent preferred dumping grounds where piles of air-polluting or chemically poisoning refuse are disposed. The water sources are also often subject to fecal contamination. This chemical and fecal contamination of water sources is at the root of outbreak of water-borne diseases in Nigerian urban slums (Okafor *et al*, 2021). Ugwu Jennifer (2021) explores this phenomenon with close reference to the Makoko neighborhood, Nigeria's biggest floating slum. In the same line of thought, Avocado (2018: 6) argues that the environment depicted in *Ojuju* is reminiscent of the many Nigerian slums which are without access to safe drinking water. By safe water he means, "water that isn't polluted by sewage, pesticides, chemicals and more".

The second issue subtly brought to the fore through the water pollution trope is the ineffectiveness of government environmental policies and the limitations of government's efforts towards ensuring access to unpolluted water. Obasi's story is therefore well anchored in the environmental and social reality in Nigeria. The film is a well crafted conversation on the risks of anti-environmental attitude of Nigerians and poor government environmental policies, which are responsible for degrading or dehumanizing human conditions. Snow (2020) is therefore right to describe *Ojuju* as a "social allegory".

## 5. Zombification as a Metaphor/Symbol of the Consequences of Environmental Degradation

The use of the zombie metaphor in Obasi's film could variously be interpreted. However, a number of features in *Ojuju* could help show that Obasi's zombies serve as strong imageries that are part of an environmentalist discourse. From the outset, it will be important to highlight the fact that, Obasi sought to simultaneously reproduce and localize the modern/Hollywoodian zombie. His engrossment with George Romero's rhetoric and cinematic styles in *Dawn of the Living Dead* has inspired him to design his zombies very much like Romero's undead creatures. These creatures (Romero's zombies) differ from the "living zombies" and the Afro-Caribbean zombies. Eschner (2017, p. 17) explains the difference between the modern zombies (often called Romero's zombies) and the living zombies thus:

Romero's zombies are without a doubt, the quintessential archetype for the modern zombie; however, to not look past this type of zombie would be to miss an entire subset of the current zombie population. This subset is known as living zombies. […] Living zombies differ from modern (Romero) zombies, first and foremost in that they are alive, they are not reanimated corpses. Another difference between living and modern zombies is that living zombies tend to be fast, where modern zombies tend to be slow. […] Like modern zombies, living zombies tend to be singly focused on the destruction of the non-infected. Matt Mogk, author of "Everything You Ever Wanted to Know About Zombies" succinctly defines both modern and living zombies. Modern zombies are relentlessly aggressive, reanimated corpses, driven by biological infection. Living zombies are relentlessly aggressive humans, driven by biological infection.

Figure 5 - *A Zombie in Obasi's Ojuju.*

Obasi's undead creatures are the products of chemical/biological contamination (see Figure 5). They are biologically deformed and are shambling depersonalized beings. In addition, they are flesh eaters, just like most Hollywoodian zombies. However, although they have much in common with modern/western zombies, Obasi's undead are not entirely non-African/Nigerian. They are hybrid as they combine characteristics of both modern and African zombies. Marks of their Africaness include the color of their skin and the setting in which they operate. Another strong mark of their Africaness is the name used by the film director to refer to them: "*ojuju*". This term means zombie in local languages. Snow (2018, p. 63) explains Obasi's localization of the Western zombie metaphor thus:

In an interview, Obasi said he chose the name "Ojuju" because he didn't want to use the word "zombies" in any manner or form as regards the project (He felt that if such an outbreak were to occur in the slums of Lagos, they would hardly use the word "Zombies" to describe it. Obasi felt it would be more realistic to eliminate any and all supernatural elements to the plot, and localize a well-known and celebrated pop-culture (zombie) for the Nigerian environment, rather than trying to do a Hollywood-version of what a zombie film ought to be.

One clear difference between Obasi's zombies and the modern ones lies in their signified; while the latter are most often used as a symbol of modern anxieties such as mindless consumerism, racism and capitalism, Obasi's living dead could symbolize grievous and deadly sickness and other very ugly consequences of environmental degradation and poor government environmental policies. This symbolism can be developed using at least three elements observable in the movie namely: the repugnant symptoms/manifestations of zombification, the zombie apocalypse (fear appeal) and the "otherisation" of slum dwellers. The various signified of the zombie in *Ojuju* will be discussed in details in the subsequent subheadings.

## 5.1. Symptoms/manifestation of Zombification as a symbol of Health Issues

By associating the consumption of polluted water with potential causes/vectors of zombification, Obasi clearly deploys a gross exaggeration. This is so as such causality of zombification is inconsistent with science and can only be regarded as science fiction. Additionally, no case of zombification originating from the pollution of water or the consumption of contaminated water has ever existed in real life. However, Obasi's exaggerative rhetoric enables any keen film viewer explores the negative health-related consequences of water pollution. In other word, the zombie enables the film director to contribute to the social discourse on environmental pollution in Nigerian slums. The repugnant physical appearance of Obasi's zombies – that is their rotten, damaged and deformed bodies, their shambling move and their depersonalization – also vividly calls to mind the different epidemic sicknesses Nigeria slum dwellers contract as a results of water pollution and other environmental pollution. Some of these sicknesses include cholera, typhoid and diarrhea among others.

## 5.2. The Zombie Apocalypse and Fear Appeal

In his paper titled "grey zombie ecology", Cohen (2012) defines the apocalypse in line with defeatism vis-à-vis the imperative of adopting ambitious environmental policies. He contends that the apocalypse is "ultimately a failure of the imagination, a giving up on the future instead of a commitment to the difficult work of composing a better present. Those who dream of the purgation of our problems rather than deliver themselves to the

labor of repair". Thus the apocalypse has to do with exhibiting or engendering a sense of panic and giving the impression that the situation is desperate and out of control. In most environmental communication/films, the apocalypse is seen when the negative consequences of environmental degradation are presented as a "zombieism" that "can't be put back into a bottle" (Eschner, 2017). Taking zombie movies on climate change as a case study, Shaw (2013, p. 25) illustrates this apocalypse. He contends that most zombie movies on climate change are anchored in a fear appeal where the story is always made to have a pessimistic end. As he explains:

Stories generally have three elements; a thesis (the existing order), the anti-thesis (the thing that threatens to disturb that order) and the synthesis (the new order that emerges after the threat has been dealt with). That is what gives a story its narrative arc and tension. The great thing about proper zombie films is that they play havoc with this structure. There is a thesis and an anti-thesis but no synthesis. The zombies are never destroyed and no new stable order emerges. And that, I fear, may be the truth of the climate change story.

In *Ojuju*, the apocalypse is seen in the fact that although Romero the protagonist is not infected, most of his close relatives are victims of the strange epidemic and ultimately zombified. This tends to suggest that zombification is a kind of fatalism. Whatsoever the pro-environmental efforts and emergency policies the society adopts, there are going to be some victims. The trope of the zombie apocalypse is thus deployed in *Ojuju* to bring to the fore the fear appeal that characterizes most pro-environmental communication. As noted by many commentators, pro-environmentalism is now all about using the apocalypse to desperately convince an incredulous audience about the desperateness of the situation.


*5.3. The Otherization of Slum Dwellers*

The zombie metaphor subtly serves the otherization of slum dwellers in *Ojuju*. This tendency of otherizing the people living in slum is common not only among exogenous but also indigenous media (Mhabir, *et al*., 2016). To otherize means to make a person or a group of persons seem different. It also consists in considering such persons or group of persons as being different. Kathleen Taylor (2009) explains that in a situation of otherization, a group of people is either not included in their tribes or treated/classed as beasts or sub-humans. Otherizing slum dwellers often consists in representing them as sub-humans who live in very abject, sub-human or dehumanizing conditions (Odunjo & Okanlawon, 2014; Duke, 2021). It also consists in abjectifying

them and subtly distinguishing them from real urban dwellers. In relation to the above, the CEO of Abuja based Fesadeb Communications, notes that people in Nigeria slums are "homeless; many sleep under the bridges; many in shanties under sub-human conditions" (cited in Uroko, 2020, p. 32).

A number of media reportage on environmental degradation in Nigerian slums have tended to otherize, slum dwellers. Such (apparent) otherization has often consisted in representing the slum dwellers as sub-humans or resilient beasts. A case in point is BBC's documentary series christened "Welcome to Nigeria 1, 2 & 3) which subtly portrays slum dwellers in Nigeria as people who live in very dehumanizing conditions, and as depersonalized beings or sub-humans. The documentary follows groups of people living in rubbish dumps, the Lagos lagoon (the world's biggest floating slum) and the city beach side. It mainly represents the slum dwellers as people who make a living from the pit of degradation. In an assessment of the documentary, popular political critic and literary icon Wole Soyinka, described the documentary in a derogatory tone as follows: "There was this colonialist idea of the noble savage which motivated the program. It was patronizing and condescending. It surprised me because it came from the BBC which is supposed to have some sort of reputation. It was not worthy of the BBC" (cited in Donwell, 2010, p. 18).

In *Ojuju*, zombification could also be said to serve as a tool to naturalize this otherization of slum dwellers. Zombification in the movie tends to suggest that in Nigerian slums, environmental degradation enables a situation in which humanity is turned into inhumanity. It also suggests that such shanty neighborhoods are so degraded, polluted and non-conducive to human life that, only depersonalized or sub-human (zombies) will survive in the areas. Thus, the zombie becomes the social "Other", that is a sub-class of humans.


## 6. Conclusion

In a bid to sensitize masses about the terrible consequences of environmental degradation, many pro-environmentalism artists, activists and storytellers tend to use strong apocalyptic imageries, thought-provoking metaphors and fear appeals in the construction of their advocacy messages. Using such an approach often entails representing phenomena such as pollution, deforestation, poor land development practices and natural catastrophes with symbols such as the Armageddon, deadly pests/pandemics, abysses, hellish scenarios, chaos, and death among others. Using such strong metaphors often serves as fear appeal and a strategy to push for nature-

friendly ideals. Following this line of thought, the Nigerian cineaste C.J. Obasi leverages the zombification metaphor and apocalyptic imageries in his *Ojuju* to indirectly advocate environmental protection. Obasi's film depicts a terrible environmental situation where, the progressive pollution of the sole water source in a Nigerian shanty town, leads to the chemical contamination of town dwellers. This contamination in turn provokes the zombification of the majority of the town's humanity, creating a complex humanitarian and emergency situation in the town.

In this paper, the author used semiotics and secondary sources to argue that although exaggerative at first sight, the zombie metaphor in *Ojuju* vividly represents the chaotic state of environmental degradation and the resultant precariousness of human life in most Nigerian towns. The paper examined the state of environmental degradation/protection in Nigerian urban cities and showed how this state of things is represented in Obasi's *Ojuju*. The chapter also argued that the zombie metaphor and the apocalyptic imageries are apt in representing the environmental risks in Nigerian cities.

**References**

Adams, B., 2018, *Zombie ecology. Thinking like a human, conversation or the 21st century*, Thinking like Human, London.

Aniefiok et al., 2016, "Petroleum industry in Nigeria: Environmental issues, national environmental legislation and implementation of international environmental law", *American Journal of Environmental Protection* 4, 1, 21-37.

Axelrod, E., 2014, The psychology of zombies: Why are zombies so infectious. In: Axelrod E.M. (ed), *Zombies, divorce and the internet: A collection of psychological disquisitions*, APSG, Inc, Dencer CO, 1-19.

Azura P., 2022, "Climate catastrophe". The role of fear appeals in climate change communication. An MA thesis submitted to the School of Geography, Environment and Earth Science, University of Wellington, Wellington.

Backe, H. J. & Aarseth, E., 2013, Ludic zombies: An examination of zombieism in games. *Proceedings of DiGRA 2013: De-Fragging game studies*, Digital Games Research Association (DiGRA), London, 1-16.

BBC News, 2020, "Nigeria housing: 'I live in a floating slum in Lagos'". *BBC News*, Retrieved April 29, 2022 from https://www.bbc.com/news/world-africa-51677371

Chadwick, A. E., 2015, Bridging the divide between positive and negative: The effectiveness of hope and fear appeals in climate change communication.

A paper presented at Bridging Divides: Spaces of Scholarship and Practices in Environmental Communication: The Conference on Communication and Environment, Boulder, Colorado, June 11, 2015.

Cheng, M.F., 2016, "Impact of fear appeals on pro-environmental behaviour and critical determinants", *International Journal of Advertising*, 35, 74-92

Cohen, J.J., 2012, "Grey (a zombie) ecology", *In the Middle*. Retrieved April 24, 2020 from https://www.inthemedievalmiddle.com/2012/06/grey-zombie-ecology.html

Crockett, Z. & Zarracina, J., 2016, "How the zombie represents America's deepest fear", *Vox*, Retrieved April 24, 2022 from https://www.vox.com/policy-and-politics/2016/10/31/13440402/zombie-political-history

Donwell, B., 2010, "Wole Soyinka attacks BBC portrayal of Lagos 'pit of degradation'", *The Guardian*, Retrieved April 29, 2022 from https://www.theguardian.com/media/2010/apr/28/soyinka-bbc-lagos-documentaries-criticism

Duke, S., 2021, Float city. Makoko: (Re)development of an aquatic home. An MA Thesis submitted to the Carleton University, Canada.

Eschner, K., 2017, "Zombie movies are never really about zombies", *Smart News*, October, 30, p. 17. Retrieved May 1, 2020 from https://www.smithsonianmag.com/smart-news/zombie-movies-are-never-really-about-zombies-180965321/

Fanon, F., 1963, *The Wretched of the earth*. (Trans. Constance Farrington). Grove Press, New York.

Fox, J. 2011, "Zombie ideas in ecology. Dynamic ecology", *OKIOS: Journal of Advanced Ecology* June 17 edition, 16-21.

Lauro, S.J., 2015, *The transatlantic zombie: Slavery, rebellion and living dead*, Rutgers University Press, London.

Made for Minds, 2016, "Nigeria's own inconvenient truth", *Made for Minds*, Retrieved April 29, 2022, from https://www.dw.com/en/nigerias-own-inconvenient-truth/a-36468974

Mahabir, R. et al., 2016, "The study of slums as social and physical constructs: Challenges and emerging research opportunities", *Regional Studies, Regional Science*, 3, 1, 399-19.

Murphy, P. D., 2017, "Lessons from the zombie apocalypse in global popular culture: An environmental discourse approach on the walking dead", *Environmental Communication*, 12, 44-57.

Nabegu, A.B.M. & Naibbi, A.I., 2017, "Environmental regulation in Nigeria: A mini review", *International Journal of Environment Science and Natural Research*, 1, 5, 1-4.

National Bureau of Statistics & UNICEF, 2021, *Water, sanitation, hygiene: National outcome routine mapping*, Federal Republic of Nigeria & UNICEF, New York.

Nwachukwu U.M., 2010, "Solid waste generation and disposal in Nigerian cities: An empirical analysis of Onitsha metropolis", *Journal of Environmental Management and Safety* 1(1), 180-191.

Odunjo, O.O. & Okanlawon, S.A., 2014, "Urban poverty and housing inadequacies in Nigeria: Need for intervention in the core areas of cities". In: Santosa H. & Osman A. (Eds.), *W110. Informal settlements and affordable housing*, International Council for Research and Innovation in Building and Construction, London, 1173-1196.

Ogbodo, G.S., 2009, "Environmental protection in Nigeria: two decades after the Koko incident", *Annual Survey of International and Comparative Law*, 15, 1, 1-18.

Okafor, U.P. et al., 2021, "Health implications of streams water contamination by industrial eluents in the Onitsha urban area of southeastern Nigeria", *Journal of Water and Land Development*, 8, I-III, 105-114.

Ovacado, 2018, Month of horror 2018: A/S/L Nigeria: *Ojuju. Avocado*, October 15, p.6.

Perron, B., 2009, The survival horror: The extended body genre. In: Perron, B. (ed.), *Horror video games: Essays on the fusion of fear and play*, McFarland, Jefferson, N.C,121–43.

Sen, M., 2018, "What zombies can teach us about fighting climate change", *Chicago Review Books*, Retrieved April 24, 2020 from https://chireviewofbooks.com/2018/02/15/what-zombie-literature-can-teach-us-about-fighting-climate-change/

Shaw, C., 2013, "What zombie films tell us about climate change: There's no one happy ending",*The Guardian*, March 22, pp. 25-26.

Slovic, S, Swarnalatha, R. & Sarveswaran, V., 2019, *Routledge handbook of ecocriticism and environmental communication*, Routledge, London.

Snow J., 2020, "Zombie film Friday: *Ojuju*", *days with the undead*, Retrieved April 30, 2022 from https://dayswiththeundead.com/2020/03/13/zombiefilmfriday-ojuju/

Taylor, K., 2009, *Cruelty: Human evil and the human brain*, Oxford University Press, Oxford.

The Guardian, 2010, "Editorial: The BBC documentary on Lagos", *The Guardian*, May 5, p. 3.

Ugwa, J., 2021, *Thirst in the midst of the lagoon*, International Centre for Innovation and Research (ICIR), Lagos

UNICEF, 2021, *Water security for all*, UNICEF, New York.

Uroko, C., 2020, "Slum dwellers worst hit as COVID-19 exposes 'homelessness' in Nigeria", *Business* Day, May 5, p.32.

Vervaeke, J., Mastropietro, C. & Miscervic, F., 2017, *Zombies in western culture. A twenty-first century crisis*, Open Book Publishers, London.

Vu, H. T., et al., 2021, "Social media and environmental activism : Framing the climate change on Facebook by global NGOs", *Science Communication*, 43, 1, 91-115.

Watson, A., 2013, "Zombie, environmental declensionism and the fate of humanity: Symbolism in the zombie metaphor 1963-2013", A presentation delivered at the American Society for Environment History Annual Conference.

World Health Organisation & UNICEF, 2014, *Progress on drinking water and sanitation. 2014 update*, WHO & UNICEF, New York.

Yakubu, H.O., 2018, "Particles (soot) pollution in Port Harcourt, Rivers State, Nigeria – double air pollution problem ? Understanding and tackling potential environmental public health hazard", *Environments*, 5, 2, 1-22.

# 3. Countering Stereotypes in Jamaican Cinema as Discourse for the Anthropocene

*Joshua Paul[1], Tomlin Paul[2]*

## Abstract

Jamaican cinema, as limited as it is, highlights the Anthropocene in a manner that emphasizes the limitations of a Third World society. Brian Clive Smith, political scientist, in his book Understanding Third World Politics: Theories of Political Change and Development (1996) identifies Third World countries as "a group of countries which have colonial histories and which are in the process of developing economically and socially from a status characterized by low incomes, dependence on agriculture, weakness in trading relations, social deprivation for large segments of society, and restricted political and civil liberties" (Smith, B.C. 1996, pg1) The examination of a nation that falls under this classification through the use of Anthropogenic theories becomes more important as not only is it necessary to look at the political and social underdevelopment, but also how this underdevelopment ties in with the natural ecology of the country. When identifying Anthropocene as a phenomenal discourse on a country such as Jamaica, critical emphasis should be placed on lack of socio-economic resources, excess urbanization, and rapid degradation of the ecological system through over-compensation for human survival.

Utilizing film director Perry Henzell's 1972 film *The Harder They Come* as the main referential film for this analysis, we look at the subliminal portrayal of the Anthropocene Epoch and whether this is a relevant tenet within Caribbean cinema. The film focuses on the protagonist Ivanhoe "Ivan" Martin, played by notable reggae singer Jimmy Cliff, who migrates to the crowded inner city in search of life as an artist but instead falls into crime and gangsterism. The narrative is symbolic of Jamaica's struggle as a post-colonial country, still reeling from European colonization and enslavement

---

[1] *Corresponding Author*; Lecturer at the University of Technology, Jamaica Film & Digital Media Production, 20 Armon Jones Crescent, Kingston 6, Jamaica W.I.; e-mail: joshuajpaul1@gmail.com.
[2] Chair, Educational Development and Quality Center, University of Global Health Equity, Rwanda; Former Dean of Medical Sciences at the University of the West Indies; e-mail: tpjosh@yahoo.com.

which from a socio-ecological framework, marked the beginning of the Anthropocene.

## 1. Introduction

Within the Caribbean, Jamaica is seen as a cornerstone nation; the country stands out for many reasons, mostly its cultural impressions and how they have impacted the globe. Some of these elements include athletics - with dominance particularly in track and field and music - and references to one of the biggest global singers of all time -Bob Marley, exotic food, dance, and many other elements of a unique and intriguing culture. There is no doubt that the Jamaican brand is one of the most popular and enduring internationally. Despite the pull of tourists and the culture of "no problem", Jamaica has struggled for decades in a post-colonial abyss of underdevelopment marked by low levels of economic growth and unacceptably high levels of crime. Jamaica has been often thought of as an ideal site for moviemaking and while a few films have been made on location over the years, Jamaica's value in cinema and its contribution to the country's development is yet to bear fruit. *The Harder They Come* (Henzell, 1972) is an appropriate film for use in this discussion as it is often regarded as one of the more significant films which have been made from Jamaica thus far. Part of this significance reigns from the relevance of the main star Jimmy Cliff at that time and his relevance to the reggae industry. The film itself underlines salient aspects of Jamaica's infrastructure and the shortcomings within- all relevant material towards the Anthropocene conversation.

Grant Horner, associate professor of renaissance and reformation studies from Santa Clarita, California discusses the importance of film when highlighting culture. He places cinema within the categorization of a mechanism capable of deeper analysis and something which has the ability to spread a message across a wide range of audiences (Horner, 2010). Cinema in Jamaica, despite its slow growth, has struggled with its own identity in the portrayal of Jamaica as a natural paradise with enticing landscapes versus the harsh conditions of everyday life. This chapter analyses the struggle of the emergence of cinema in Jamaica as being caught in the effects of slavery and colonialization, factors which arguably are one of the roots of the Anthropocene (Lewis & Maslin, 2018). It will analyze the tradition of Jamaican cinema using Henzell's *The Harder They Come* (1972) as the

proverbial lens through which we can look back and forward at the sociopolitical roots of the shared struggle for both society and cinema in Jamaica.


## 1.1. The Anthropocene considered

The environment in which we live has no doubt been influenced by human activity ranging from changes in the composition of the atmosphere and land surface. There is a sense that these changes are so significant that we are no longer in the Holocene Epoch but instead we have moved to the Anthropocene Epoch (Crutzen & Stoermer, 2000; Crutzen, 2002; Zalasiewicz *et al.*, 2011). We are arguing here that mankind has had a significant impact on the earth's ecosystem; enough to label it as a new era, the Anthropocene.

The start date of the Anthropocene is debatable given the complexity of human existence and the heterogeneity of influences that are operating overtime. There are many different approaches to trying to locate when the Anthropocene actually began. These range from looking at the impact of fire (Glikson, 2013), pre-industrial farming (Ruddiman, 2013; Balter, 2013), industrial technologies (Zalasiewicz *et al*., 2014), and socio metabolism (Fischer-Kowalski *et al.*, 2014). It is understood that no one theory or approach can fully explain the phenomenon. Taking the socio-ecological metabolism approach, changes in the use of land over time and related changes in land cover play a role in the global carbon cycle and impact Anthropogenic climate change (Brovkin *et al.*, 2004; Canadell *et al.*, 2007). In this respect, the European efforts at colonization and the transatlantic slave trade represent major socio-ecological disruptive forces that must be considered to an explanation of the Anthropocene.

In 1492, the Europeans arrived in the Caribbean with subsequent annexing of the Americas leading to the largest human population replacement in the past 13,000 years (Diamonds, 1997); that is, the establishment of global trade networks linking Europe, China, Africa, and the Americas (Mann, 2011). The Europeans coming to the Americas led to a large decline in the human population and changes in the flora and fauna of the region. Initially, the regional population was estimated at 54 million people which declined rapidly to a minimum of 6 million by 1650 (Denevan, 1992) due to diseases brought by the Europeans, war, enslavement, and famine (Kaplan *et al.*, 2011; Mann, 2011). This wholesale and complex assault on a population in their indigenous homeland, no doubt would have led to an irreparable process of social, cultural, and economic degradation.

There is a dearth of publications referencing the impact of 1492 and beyond as a direct stimulus for the Anthropocene. Seo (2020) in reference to Jamaica Kincaid's "A Small place", notes that the many sides of the Anthropocene are often obscured by a single holistic view. Kincaid's double gaze strategy highlights an expanded shape of the Anthropocene with Antigua's aboriginal and colonial acts of nature showing newly repeated sites of the neo-liberal era. The slow ongoing violence beyond 1492 and the era of enslavement are important considerations highlighting different facets of the Anthropocene. Jamaica, like Antigua as a small Caribbean Island with a fertile ecology, commonly referred to as the "land of wood and water", was at centre-stage in the colonization and enslavement debacle. Exploring Jamaica's experience in the Anthropocene through the vehicle of cinema brings synergy and at the same time an aspect of enlightenment to a local understanding of a global phenomenon.

## 1.2. The makings of Jamaican cinema

The early moving pictures in Jamaica date back to the colonial period when the West Indies Committee saw value in using the same to promote the colonies and encourage British and European settlement. The first moving pictures highlighting Jamaica and shot in Jamaica consisted of "a number of views in and around Kingston" (Jamaica Gleaner, 11 September 1901) filmed by an itinerant cameraman. A series of films were shot in 1901 to be released by the British Warwick Trading Company.

A scheme for advertising the colonies involved British photographer and cinematographer Alfred J. West who produced "a series of cinematograph, or moving, pictures" of "our life, industry and scenery" for "exhibition overseas." (Jamaica Gleaner, 26 March 1906). The Gleaner covered West's trip across Jamaica and reported his acquisition of moving pictures of "the magnificent scenery," "vegetable life in the locality," "the vegetable products of the island," and "the activities of life here," with the intention to display "what a magnificent opportunity the island presents" to potential investors and tourists (Jamaica Gleaner, 4 April 1906). West interestingly entitles his series "Westward Ho! Our Colonies (1906–1907)". This consisted of a series of travelogs, scenes, and phantom rides in twelve short films depicting Jamaican industries, sceneries, and "scenes of life." (Jamaica Gleaner, 6 October 1906). One major fact to note is the physical ecosystem's state in the pre-colonial era. The excess vegetation and lush, scenic greenery as aforementioned, can be deceptive if taken to indicate the minimal man-made

impact on the environment. However, at that time, the Europeans had already secured a strong foothold and were pursuing an expansion and consolidation of gains where the products of the local economy would be less applied to the development of the local population. By the 1930s, social conditions were so appalling in the colonies that the British were forced to set up major Commissions as a means of responding and placating the local population. These commissions and their subsequent interventions can be seen as indicators of underdevelopment that were enforced on the native people.

In an era of enlightened self-interest, the British colonial government saw Jamaica as an asset in which investments would return to the so-called motherland. But it is of note that even then Jamaica had enough of the lure and appeal to be seen as a marketable habitat for foreigners.

In the late 1920s with sound being introduced, filmmaking became more centralized and involved standard processes with studios. Most studios considered shooting on location too expensive and risky although it added realism. As such, location filming was more the remit of a result, location filming chiefly remained the domain of independent, low-budget producers who found studio rental more costly (Hozic, 2001, pp. 92-93).

Today we see many "moving pictures" in ads luring tourists to visit the island with the same goal of development and returns for those who govern. The irony is that after more than a century of promotion the country is no better off in terms of a sustainable economy. The European influx of 1492 and thereafter seems to have predicated a long sojourn of development malaise from which recovery carries a guarded prognosis.

The motives behind Jamaican cinema then and now are worthy of consideration and exploration in any discourse of Anthropocene with cinema as a metaphor. On the surface cinema operating as an art form brings its own rationale for existence and growth. That art form operating to entertain the population at another level is a deeper view tied to purpose and connected to a process of education and inspiration which are relevant to a developing post-colonial journey. Beyond this, cinema can represent protest and advocacy and a voice for change operating in a Freirean framework. Freire believed that education was a means to building a "critical consciousness" that would enable people to create change in their lives (Freire, 2000). Although his work did not speak to cinema, the extent to which Jamaica cinema has brought enlightenment and not just entertainment is at the heart of the discourse. Has the journey for Jamaica cinema been so intertwined with 1492 and enslavement that it itself has become a victim of these forces making it

impotent to address the Anthropogenic impact operating within the socio-ecological lens?


## 2. The "Harder they Come" as an Anthropogenic metaphor

The Jamaican film industry from an indigenous point of view started in 1972, with Perry Henzell's feature film *The Harder They Come* being seen as a metaphor for Jamaica in this period (Ceccato, 2015) - young man and a young country, in search of freedom, wealth and independence, but also vibrant, full of energy, and "a bursting of creativity," as Trevor Rhone the co-director defined it.  The young man from rural Jamaica, Ivanhoe "Ivan" Martin (played by Jimmy Cliff) moves to the city of Kingston after his grandmother dies. His dream is really to become a music star although he is looking for work in the meantime with little success.  He gets a single recorded and though the song is popular, he makes little money out of it as the record company has the upper hand. Caught in a difficult situation, Ivan turns to crime.

The narrative starts with Ivan living in rural Jamaica, making the decision to move to the urbanized Kingston city, in an attempt to look for work [to sustain himself] after the death of his grandmother. The film follows the struggles that Ivan faces whilst in the city and his slippery slope journey into gangsterism. One of the biggest aspects of the film which we can explore in correlation to the Anthropocene is urbanization. Jamaica is a small island with approximately 3 million in population. These numbers, matched with a surface area of 10,990 square kilometres, are inevitably growing more and more congested.  Now the crux of the discussion is what does this congestion indicate? With the fast-growing number of persons residing in the city, we have an increasing demand for persons needing to be transported from one place to the next, increasing demand for persons to live and eat and a lot of these aspects of human survival come at a major cost to our ecological environment. The first two frames of our designated film highlight this. In the opening, we are introduced to beautiful, green vegetation, beaches, and the lushness of the unimpacted countryside that our protagonist drives across in a bus. Immediately, the director juxtaposes this with the harsh urbanized scenery of the city with limited greenery, a lot of motor vehicles, people selling products, and excess poverty also notably seen. The Anthropogenic nature of these issues regarding urbanization, congestion, and the negative effects of human beings on the environment stems from the systemic practices

of the Jamaican populace, further exacerbated by the lack of knowledge/resources and post-colonial stagnation.

Another point to note is that the congestion continues to extend towards the most recent times. Kingston as the capital city continues to grow not only in advanced architecture but also in population rate; this abundance of people has resulted in an excessive number of vehicles on the road, additional on-the-rise mining factories, and bigger farms and these elements are ultimately causing growing levels of deforestation, carbon emissions, soil erosion - all aspects that affect our environment. Climate change is now greatly evident based on rising temperatures, growing numbers of bushfires, and other natural disasters. Though our paper will look at the socioeconomic implications of a post-colonial era and how the history of the island has affected its people and quality of life pertaining to the Anthropocene Epoch, it is still quintessential to examine the physical elements that have been affected and how this is also shown on the silver screen. *The Harder They Come* as a benchmark film in the local industry showcases how the mass movement of persons to urban areas affects the ecology; also, it showcases how the move would affect a person's quality of life and mindset. This is one of the major aspects that will be discussed in this chapter as we look at the rise and fall of the protagonist of our respective films and his plummet into gangsterism which is a socio-economic issue [involving excess competition within the job market], these still all fall under the grand discussion of the Anthropocene.

## 3. Contesting and interpreting aesthetics of Jamaican cinema

*The Harder They Come* portrays the rough street life of Jamaica with poor living conditions, crime, and the daily hustle. Initially one sees the virginal Jamaican coastline, swept by rain and seemingly untouched moving to the tough entangling streets of West Kingston, where Ivan is shown the ropes of how to rip off his fellow brother. Despite the many films that had been shot on-site in Jamaica in the previous decades, this film is an important starting point for tracing the trajectory of the metamorphosis of Jamaican cinema. It was seen as the first true homegrown Jamaican film.

Many of the films since *The Harder They Come* have shown little experimentation with the aesthetic form of Henzell. Is there an aesthetic of Jamaican cinema? Jamaica's brand of reggae music and tropical island scenery has been an attraction to film makers over the decades and Henzell's portrayal of Jamaica, although representing a reality of life, has helped to cement an island life image of roughness and under development with the

daily hustle and hassles of street life. Without a thriving local film industry, local Jamaican theatre can be seen as a proxy vehicle for portraying the Jamaican film aesthetic. Many of the plays over the years have highlighted Jamaican life in ghetto-like communities with the "zinc fence" living conditions being the norm. At the same time the "zinc fence" is symbolic of lower-class experience in Jamaica and unfortunately has also been tainted with inner-city crime-riddled "bad boy" experiences. The aesthetic of the "bad boy" in Jamaican film prevails in this setting. The bad boy films such as Henzell's *The Harder They Come* and Storm Saulter's *Better Mus Come* (2011) are part of an emerging small group of films that explore Caribbean identity and history while located in a particular place.

One can argue that the "zinc fence" texture of Jamaican film represents a protest against the industry of mainstream Hollywood cinema with local filmmakers seeking cultural relevance and identity in what critics Ella Shohat and Robert Stam prominently discuss as "Third World Cinema" in Unthinking Eurocentrism: Multiculturalism and the Media (1994).

This search for identity through cinema is one of the lasting streams of cultural interrogation with broad reach, that is important for a coming of age in Jamaican society. In this respect, cinema in Jamaica should be prioritised for development. The Jamaican Film Commission over decades has actively portrayed Jamaica as a film destination and in recent years has stepped up on projects aimed at developing local cinema although these efforts are small compared to what is really needed to stimulate and support wider development and impact.

With Jamaican cinema being seen on one hand as portraying the beauty of the "land of wood and water" and on the other hand, the perils of underdevelopment in scenes of poverty and strife, indigenous filmmakers must push against a tide of cultural scripting to bring novel creative streams to the screen. What should be the point of reference for a true Jamaican film script is debatable. While Henzell broke open the jar, there is still much to explore within the landscape of Jamaica's repertoire of talent in arts, music, and sports. How this is portrayed is the thesis of anthropogenic analogy. The destructive impact on Caribbean indigenous life through European colonization and the ravages of enslavement has produced significant sociocultural regression that is far from any stage of reparation. What Henzell portrays on the reel is a real representation of the throbbing despair of the Jamaican experience. It is a moment in time that lies within the epoch of the Anthropocene. Henzell's authenticity in cinema brings entertainment and enlightenment to the population but also creates a dilemma. If Jamaican cinema is itself to grow beyond the portrayal of "zinc fence" and "bad boy

gangsterism" and itself emerges from the impact of the Anthropocene on its own development, what should be the approach of filmmakers and the industry at large?  How else can authenticity be derived for those who want to fly a Jamaican flag in cinema and not play to the tune of a neo-colonial presence still very much alive in Caribbean culture?


## 4. Cinema Representation beyond 1492 and the Postcolonial Era

In critiquing Jamaica's post-colonial society, Warner (2000) notes in *The Harder they Come,* that "The flight of fantasy taken by the film's hero is thus one with which many of its viewers could identify. The cinema scene became a virtual mirror." At the same time in the 1970s Jamaica was already a consumer of many American Hollywood-type films bringing an alternative exposure and appreciation of cinema and its enlightenment.  Moseley-Wood (2015) describes films such as "Harder they Come as "City Films" which privilege "the perspective of the underclass" and importantly relocate the representation of "postcolonial society" away from the elite and onto "the residents of ghetto spaces and others who have rejected or are unable to access traditional modes of social mobility". *The Harder They Come* can also be seen as characterizing the fantasies of escape which Mason discusses as the need to transcend entrapment and escape certain types of "dominant" space.  These authors make the point that cinema is an important art form in society with the power to dissect, analyze and speak to society.  The Anthropocene is in need of cinema to analyze and articulate such a complex phenomenon that transcends disciplines.  What better art form than cinema with the capacity to bring together all the appeals and dramatizations to tell the story of the Anthropocene.  Not simply as a documentary but in the fullness of expression as Henzell did in 1972.  There are many perspectives and views on a story.  Scores of movies have been made depicting the horror of the Jewish holocaust.  Yet the closet is bare for movies on Caribbean exploitation and the resulting Anthropocene.

The stereotyping and counter-stereotyping seen in the protracted genesis of Jamaican cinema is a necessary case study in the Anthropocene.  Jamaica's underdevelopment and "struggle in the periphery (Manley, 1983) like most of the Caribbean, can be traced to slavery and colonialism.

Geography professor Kathryn Yusoff (2018) in "A Billion Black Anthropocenes or None" argues that predominantly white geologists and geographers need to acknowledge that Europeans decimated indigenous and minority populations whenever so-called progress occurred.  She defines the

start of the human planet as the period of colonisation marked by the spread of deadly diseases such as smallpox and transatlantic slavery. In the Caribbean, the arrival of Columbus followed by the deliberate persistent process of eliminating the socioecological arrangements of the original inhabitants were precursors to globalization and the generation of capital to produce the destructive and anthropogenic effects of industrialization (Davis and Todd, 2017). Jamaica has been caught in this web of causation.

What can be seen in analyzing the decolonial work of the Caribbean, particularly that of Glissant is how to make sense of its history of a people who were translocated through human trafficking and then faced tremendous abuse of enslavement. In describing the dilemma of the Caribbean, J. Michael Dash (1989, p. 32) (the translator of Glissant's Caribbean Discourse): says "The Caribbean, in general, suffers from the phenomenon of non-history. No collective memory, no sense of chronology…." This sense of non-history is a symptom of Anthropogenic malaise and creative atrophy. Jamaican cinema has also fallen victim to this phenomenon with its own demonstration. As an industry, film is still largely viewed as a means of getting investment from the US and Europe. No different than the early days of the colonial government using "moving pictures" to woo Europeans to come to settle in Jamaica.

In the Caribbean context of 'non-history," Glissant speaks of two types of identity – "root identity" versus "relation identity", the latter referring to connections to some systems of relation (Glissant, 1989, 1997). Ndlovu-Gatsheni (2018) notes that the decolonial movements and initiatives have produced very rich vocabularies inclusive of terms such as radical black tradition, racial capitalism, black feminism, black power, Rastafarianism, dismemberment, remembering, decoloniality, epistemologies of the South to decolonial turn' (p. 47). He sees these as concepts "developed in the struggle" and representing an expansive decolonial archive and thought. Walter D. Mignolo (2000) sees these concepts as the intersection of "local histories' with "global designs". Such thinking provides some epistemological referencing to an application of cinema and the Anthropocene.

*The Harder They Come* can be seen as enriched with the symbolism of the wider black struggle though not portraying an organised and structured movement but more a literal struggle of the black man. Burton (1975) notes that "*Ivan is—and Ivans are—everywhere that economic and cultural oppression breed them.*" There is much content in this Anthropocene era for Caribbean cinema to find its identity. In fact, the very era provokes an urgency for this to be contemplated if only to find meaning and impetus for progress and development. There may be, as Glissant suggests, different

streams of identity branching around "roots" and "relations". But without such consideration, there is likely to be very little meaningful contribution made to society or less on enlightenment as opposed to entertainment.

## 5. Reflection and Conclusion

What then should be the response of Jamaican cinema to the current epoch where humanity has become a significant and dominant geophysical force? Given that most films produced since *The Harder They Come* have mirrored Henzell, "following its example, appropriating some themes and technical devices and adapting them to the changing times to reach the same goal" (Ceccato, 2015), one can argue that Jamaican cinema is caught in the same Anthropocene warp of effects as society itself: that of underdevelopment and stagnation. If cinema is not to be seen as a victim of the Anthropocene but part of the solution then its view has to go beyond a past and a future and pivot to a more wholistic embrace, an acknowledgment, and appreciation of the roots of this epoch. And then what? Will it have the position, power, and purse to re-program and move beyond 1972?

### References

Balter, M., 2013, "Archaeologists say the 'Anthropocene' is here—but it began long ago", *Science,* 340, 6130, 261-262. doi:10.1126/science.340.6130.261.

Brovkin V., Sitch S., Von Bloh W., Claussen M., Bauer E., Cramer W., 2004, "Role of land cover changes for atmospheric $CO_2$ increase and climate change during the last 150 years", *Global Change Biology*, 10,8,1253-1266. DOI: 10.1111/j.1365-2486.2004.00812.x.

Burton, J., 1975, "The Harder They Come Cultural Colonialism and the American Dream", *Jump Cut, A Review of Contemporary Media*, 6, 5-7.

Canadell, J.G., Le Quéré C., Raupach, M.R., Field C.B., Buitenhuis, E.T., Ciais P., Conway, T.J., Gillett, N.P., Houghton, R.A., Marland, G., 2007, "Contributions to accelerating atmospheric $CO_2$ growth from economic activity, carbon intensity, and efficiency of natural sinks*". Proceedings of the National Academy of Sciences.* 104, 47, 18866-18870. doi.org/10.1073/pnas.0702737104.

Ceccato, S., 2015, "Cinema in Jamaica - Legacy of The Harder They Come", *Imaginations* 6, 2, 54-67. DOI: 10.17742/image.ccn.6-2.6.

Crutzen, P. J. & Stoermer, E. F., 2000, "The Anthropocene", *IGBP Global Change News.* 41, 17-18.

Crutzen, P. J., 2002, *"*Geology of Mankind", *Nature* 415, 23. DOI: 10.1038/415023a.

Dash, J. M., 1989, *'Introduction".* In: Glissant E. (Ed.), *Caribbean Discourse: Selected Essays.,* University Press of Virginia, Charlottseville, VA, 11-14.

Davis, H. and Todd, Z., 2017, "On the importance of a date, or decolonizing the Anthropocene". *ACME: An International Journal for Critical Geographies* 16, 4, 761-780.

Shohat, E., Stam, R., 2014, *Unthinking Eurocentrism Multiculturalism and the Media.*, Routledge, London.

Denevan, W.M., 1992, *The Native Population of the Americas in 1492,* University of Wisconsin Press, Madison, USA.

Fischer-Kowalski, M., Krausmann, F. & Pallua, I., 2014, "A Socio metabolic reading of the Anthropocene: modes of subsistence, population size and human impact on Earth", *Anthropocene Rev.* 1, 8-33. DOI: 10.1177/205301961351803.

Freire, P., 2000, *Pedagogy of the Oppressed,* Continuum, New York.

Glikson, A., 2013, "Fire and human evolution: the deep-time blueprints of the Anthropocene", *Anthropocene,* 3, 89-92. DOI: 10.1016/j.ancene.2014.02.002.

Glissant, E., 1989, *Caribbean Discourse: Selected Essays. Translated by Michael Dash*, University Press of Virginia, USA.

Glissant, E., 1997, *Poetics of Relation. Translated by Betsy Wing*, University of Michigan Press, USA.

Horner, G., 2010, *Meaning at the Movies: Becoming a Discerning Viewer,* Crossway Books, USA.

Jamaica Gleaner, 11 September 1901. https://gleaner.newspaperarchive.com/kingston-daily-gleaner/1901-09-11/ Accessed Nov. 30, 2022.

Jamaica Gleaner, 26 March 1906 https://gleaner.newspaperarchive.com/kingston-daily-gleaner/1906-03-26/Accessed Nov. 30, 2022.

Jamaica Gleaner, 4 April 1906 https://gleaner.newspaperarchive.com/kingston-gleaner/1906-04-04/Accessed Nov. 30, 2022.

Jamaica Gleaner, 6 October 1906 https://gleaner.newspaperarchive.com/kingston-gleaner/1906-10-06/Accessed Nov. 30, 2022.

Kaplan, J. O., Krumhardt, K. M., Ellis, E. C., Ruddiman, W. F., Lemmen, C., & Goldewijk, K. K., 2011, "Holocene carbon emissions as a result of anthropogenic land cover change", *The Holocene*, 21, 5, 775-791. DOI: 10.1177/0959683610386983.

Lewis, S.L. and Maslin, M.A., 2018, *The Human Planet: How we created the Anthropocene,* Yale University Press, USA.

Mann, C.C., 2011, 1493: *How the Ecological Collision of Europe and the Americas Gave Rise to the Modern World.,* Granta, London.

Manley, M., 1983, *Jamaica: Struggle in the Periphery*, Writers and Readers, London.

Mignolo, W.D., 2000, *Local Histories/Global Designs: Coloniality, Subaltern Knowledges, and Border Thinking.,* Princeton University Press, Princeton, NJ.

Moseley-Wood, R., 2015, "The Other Jamaica: Music and the City in Jamaican Film", *Caribbean Quarterly*, 61, 2-3, 24-41.

Ndlovu-Gatsheni, S.J., 2018, *Epistemic freedom in Africa: Deprovincialization and Decolonization*, Routledge, New York.

Ruddiman, W.F., 2013, "The Anthropocene", *Annu. Rev. Earth Planet* Sci, 41, 45-68. DOI: 10.1146/annurev-earth-050212-123944.

Seo, G., 2020, "Human and nonhuman bodies in a localized form of the Anthropocene: Jamaica Kincaid's A Small Place", *Neohelicon,* 47, 59-66.

Smith, B.C. 1996, *Understanding Third World Politics: Theories of Political Change and Development,* Palgrave Macmillan, 1-4.

Yusoff, K., 2018, *A Billion Black Anthropocenes or None.,* University of Minnesota Press, USA.

Zalasiewicz, J., Williams, M., Haywood, A. & Ellis, M., 2011, "The Anthropocene: a new epoch of geological time?"*, Phil. Trans. R. Soc. Lond*., UK.

Zalasiewicz, J., Williams, M. & Waters, C.N.*,* 2014, *Can an Anthropocene series be defined and recognized?* Geol. Soc. Lond., UK.

# 4. From Denis Villeneuve's *Arrival* to Adam McKay's *Don't Look Up*, cultivating a meeting ground for communicating the Anthropocene: will we speak Eggplant?

*Andrea Nocera[1]*

**Abstract**

In the 1980s, American ecologist Eugene Stoermer and Nobel laureate and atmospheric chemist Paul Crutzen initiated discussions on the definition of a new epoch: the Anthropocene. Since then there have been debates on the most varied topics related to this new definition, which seems to be elusive and multifaceted every time we try to approach it. It is precisely this need to define and communicate the era in which we live, its characters, urgencies and needs, that requires thoughtful reflection to identify a minimum common denominator to analyze, describe and communicate the Anthropocene. It is no coincidence that in recent years the definitions, more and less popular, of the time in which we live have multiplied: Capitalocene, Eremocene, Plantationocene, Plasticene and the more recent Koinocene. The Anthropocene is too often perceived as an immeasurable and distant problem, impossible to embrace in its entirety, especially for those who are not insiders and struggle to relate to it, receiving from this comparison a nauseating sense of unease and guilt. But the Anthropocene, other than being a problem, is a condition of existence, which questions our way of being in the world, of dwelling it – according to Martin Heidegger's definition of dwelling (Heidegger, 1976), taken up by Tim Ingold (Ingold, 2016) – and which questions it by asking us to be responsible, response-able, that is, able to respond to the present (Haraway, 2019). It is in this need to identify a common language and imaginary, translatable and assimilable, that some cinematic experiences proposed here have moved. Few and firm principles, footholds of the real, imaginary and shared stories that cinema tries to promote in order to create a common ground of experience with which to face the Anthropocene and create a reference vocabulary. There is an urgent need to communicate the emergencies and disasters of the Human Epoch, projected on big screens by Jennifer Baichwal and Edward Burtynsky's trilogy, and to avoid the fragmentation and the communication barrier exalted by the recent *Don't Look Up* proposed by the American giant *Netflix*. The article attempts

---

[1] University of Basilicata, Italy, e-mail: a.andreanocera94@gmail.com.

to analyze and highlight the efforts made by the movie medium in establishing a shared dialogue about the Anthropocene. An inclusive human-non-human, past-future language needs to be identified, such as the semasiographic writing of Ted Chiang's heptapods staged by Denis Villeneuve's *Arrival*. The article reflects on the collective imagery that cinema proposes today with respect to the present and possible futures: generally represented by the image of the Ecological disaster, the Techno Fix and the Ecotopian solution, as Robert Crumb perfectly illustrated in *A Short History of America*. Because, as Donna Haraway states, it matters what thoughts think thoughts, what stories we tell to tell other stories with (Haraway, 2019). And maybe indeed, if we cultivate a meeting ground not only between humans, but also between humans and non-humans, one day we will speak *Eggplant*.

**Keywords:** Environmental science, Anthropocene, Cinema, Human-Non human, Dystopia.

"Where must we go, we who wander this wasteland, in search of our better selves". *The First History Man (Mad Max: Fury Road)*

## 1. Plotting the course

In 1979, Robert Crumb, an American cartoonist who founded *Zap Comix* magazine and became famous in Italy for the character of Fritz the Cat, published a twelve-illustration strip entitled *A Short History of America* in the ecologist magazine *Co-Evolutionary Quarterly*. The intention was to show how a single plot of land had changed due to the process of industrialization and anthropization. The strip illustrated the transition from a natural, verdant, bucolic environment, celebrating an ideal imagery of nature, to the appearance of early roads, railroads, motor vehicles, and the city. Green fields and blue skies were being replaced by signs of corporations, while quiet and birdsong surrendered to the deafening din of road traffic. Crumb was denouncing the process of urbanization, industrialization and in general anthropization that had taken place especially since the Second Post-World War II, with that historical-economic phenomenon that came to be known as the Great Acceleration.

It is not surprising that as early as the late 1970s, similar issues were being hotly debated[2]. In 1962, *Silent Spring* by Rachel Carson (Carson, 1962) denounced – with a scientific enquiry – the damage caused to all living beings by the use of pesticides (DDT) in agriculture, promoted by companies and the US government. On April 22, 1970, the first *Earth Day* was celebrated in the United States, while in 1972 *The Limits to Growth* was published (Meadows et al., 1972). The well-known report, commissioned from MIT by the Club of Rome openly denounced and made manifest the impossibility of infinite and uncontrolled growth by humankind.

It was precisely this desire for growth, often hidden behind the controversial definition of "development," that marked an epochal transition, in the literal sense of the term: the transition from the Holocene (the geological epoch that began with the melting of the last Wurmian glaciers and the disappearance of big carnivores about 10000 years ago) to the Anthropocene, the Human Epoch[3]. It is precisely the Anthropocene that will be discussed below, this fluid epoch, difficult to understand and grasp, exposed to multiple and burning interpretations, because it affects us all and too closely perhaps to have a truly objective gaze. The Anthropocene is too often perceived as an immeasurable and distant problem, impossible to embrace in its entirety, especially for those who are not insiders and struggle to relate to it, receiving from this confrontation a sickening sense of unease and guilt. But the Anthropocene, other than being a problem, is a condition of existence, questioning our way of being in the world, of dwelling it – according to Martin Heidegger's definition of "dwelling" (Heidegger, 1976), taken up by Tim Ingold (Ingold, 2016) – and questioning it by asking us to be *response-able*, that is, able to respond to the present (Haraway, 2019). It is in this need to identify a common language and imaginary, translatable and assimilable, that some cinematic experiences proposed here have moved. A few firm principles, footholds of the real, shared imaginaries and stories that cinema attempts to promote in order to create a common ground of experience with which to confront the Anthropocene and create a vocabulary of reference. The proposed movies were chosen because they belong, for the

---

[2] Another illustrated text with a very similar topic to Robert Crumb's was published in 1973. *Where there was a meadow* (this is the title in the Italian edition) illustrated the stages that lead a small town in the countryside to become a large industrialised city.

Müller, J., Marconi, R. (text by), 1974, *Dove c'era un prato* (*Alle Jahre wieder saust der Presslufthammer nieder*, 1973), Emme Edizioni, Milano.

Given the relevance of the topic, the text has now been reprinted in Italy by the publishing house Lazy Dog.

[3] *Anthropocene: the Human Epoch* is a 2018 documentary directed by Jennifer Baichwal, Nicholas de Pencier and Edward Burtynsky, which will be discussed later.

vast majority, to that Western mass culture that influences the millions of moviegoers who still (briefly?) push their way into movie theaters and thus shape and produce a present and future imaginary[4]. Without forgetting the active role of the spectator, cinema is a means of representing society and influencing it on the part of those who produce it, as in its narratives and meanings we can discern indicators of the ways in which a specific culture makes sense of itself (Turner, 2006, p. 4).

The cultural industry distributes different types of communication products on the market and thus collaborates in a decisive and leading manner in the construction of what is commonly defined as the collective imaginary, understood as a reserve of models, value systems, images and symbols, as a universe of the desirable, the appealing and the wishable [and the undesirable with reference to dystopian collective imaginary], available to the great masses and often endowed with transnational characteristics precisely because of the international penetration towards which the mass media industry tends (Bettetini, 1991). This reserve ends up being accessed by the uncritical motivations and existential choices of millions of individuals, for whom the relationship with the media constitutes the only or, at least, one of the most important sources of learning and self-education. Cinema has always made the main contribution to the constitution of this imagery and continues to do so[5]. (Proper translation)

Cinema, understood here as a tool and work of art/communication, stands as an eloquent medium through which understand "what stories we tell to tell other stories with; […] what stories make worlds, what worlds make stories" (Haraway, 2019). Stories, ideas and thoughts of change, disasters, crises and hopes for rebirth that characterize the present time. It is precisely this uncertainty of a gaze turned to a near, imminent future that characterizes the Human Epoch.
At the conclusion of the twelve illustrations of the comic strip, when the process of anthropization has completely invaded the scene, it is Robert Crumb himself who questions us with a very simple question: *What Next?*

---

[4] In this regard, one of the selected films, *Don't Look Up*, never appeared in Italian cinemas, but was only released by the American *Netflix* directly into people's homes. This is one of the signs of transition from cinema conceived as a physical place, to a cinema exclusively as a tool and artistic/communicative operation.
[5] In: https://www.treccani.it/enciclopedia/cinema_%28Enciclopedia-delle-scienze-sociali%29/ (last access: November 2022).

*A Short History of America* is a miniature re-presentation of the action that human beings have produced on a vast scale, and for that reason it calls him into question and to react with urgency. Crumb's response was not long in coming. Shortly after publishing the twelve vignettes, he added three more, presenting as many historical outcomes: Ecological disaster, Techno Fix and Ecotopian solution, which will be further debated.

Three present-future outcomes and stories with which, thanks in part to the medium of movies, we have been becoming familiar for quite some time. More than four decades later, it is necessary to update Crumb's comic strips and interrogate cinema to ask what stories tell where we are and where we are going.

## 2. Where we are: the Anthropocene by Edward Burtinsky and Jennifer Baichwal.

In order to create common ground for dialogue about the Anthropocene, it becomes of paramount importance to understand the conditions of the world in which *Homo sapiens* live today. Obviously, the goal immediately presents itself as too pretentious and arduous. However, thanks to an ecocritical approach aimed at some cinematic works, we can roughly identify the starting context from which human beings today look to the future.

First of all, as I have expressed in a previous paper, the very definition of the era in which we are living does not agree with everyone. There are many ways in which it has been named, varying according to the aspect one prefers to emphasize as an element of change and transition from the previous epoch. Capitalocene, Eremocene, Plantationocene, Plasticene[6], are just some of the ways employed to define the present era. The very definition of the Anthropocene, coined by Eugene Stoermer and popularized by Paul Crutzen (Crutzen & Stoermer, 2021), has not yet been formally recognized by the *International Union of Geological Sciences* (IUGS), which establishes international naming of geological epochs. From its name, this fluid epoch appears to us to be elusive and difficult to place.

---

[6] For further discussion of the distinction between the Anthropocene, Capitalocene and Eremocene I refer to: Nocera, A., 2021, *Verde Meraviglia: immaginare un nuovo modo di abitare* (*Green Wonder: Imagining a New Way of Dwelling*), Geographies of the Anthropocene, Il Sileno Edizioni, Lago.
For the designations listed here, reference is made to the work of J.W Moore, E.O. Wilson and *Ethnos magazine* for University of Arhus (Haraway, 2019, p. 237).

Canadians Edward Burtinsky and Jennifer Baichwal, respectively photographer and filmmaker, have attempted to bring some order to this confusion and capture the distinctive features of the Anthropocene with the eye of the camera. What they have given back to the audience is an overview of the Human Epoch traits, made visually impactful through the sense of wonder, beauty and daunting terror generated by the impressive and annihilating images captured by Burtinsky and projected on the movie screen. The three documentaries, *Manufactured Landscapes* (2006), *Watermark* (2013), and *Anthropocene: The Human Epoch* (2018), have been able to reach the general public and stand as a reference for establishing a common dialogue.

Right from the start, one perceives how for Burtinsky one of the central themes is landscape. The photographer shows the scale and majesty of the impact generated by anthropogenic action, particularly related to industrialization. It is a lament toward what human beings are perpetrating against nature[7]. The three documentaries highlight the pervasiveness and destructiveness with which humans have intervened in and on nature. Within the vastness of the movie theater, Burtinsky confronts us with even more imposing and annihilating landscapes, industrial landscapes, open-pit mines, tunnels dug deep into the earth, lakes of toxic material of high economic value. And we realize how much in the Anthropocene human beings have dug, shaped and left their mark on the Earth from which they try with increasing vigor to move away, forgetting all ties. A manufactured landscape that reminds us that 2020 was the year in which the weight of materials produced by *Homo sapiens* exceeded that of the living (Mancuso, 2021) and that there are molten plastic rocks named plastiglomerates[8] (Corcoran *et al.*, 2013).

Burtinsky and Baichwal also attempt to define a brief but representative vocabulary of the Anthropocene through their latest documentary. The seven key words in *Anthropocene: the Human Epoch* (mining, terraforming, technofossils, anthropocene, limits, climate change and extinction) describe the processes of action and reaction that are taking place due to anthropogenic action and that are pushing Nature to no longer be a landscape in the background, but to react to the abuse that humans are inflicting on it. In fact, as Bruno Latour states, the Anthropocene could manifest itself as a state of

---

[7] Ted, *Edward Burtinsky: Manufactured Landscapes*. Last access: May 2022.
Link: https://www.youtube.com/watch?v=U2Dd4k63-zM&t=1861s
[8] The plastiglomerate was first discovered in 2006 by oceanographer Charles Moore in Kamilo Beach (Hawaii). It consists of conglomerates of molten plastic, beach sediments, basaltic lava fragments and organic debris.

generalised war, in which Nature breaks into a battle in which the protagonists are not only all living beings, but also CO2, acidification and rising seas, and, above all, humans who still think they live in the Holocene and the Earthbound, the Earthlings of the Anthropocene (Latour, 2013). Latour's *geostory* warns us that future scenarios are anything but peaceful and shapes darker collective imagery to which we must pay close attention. To do so, an emotion could also be added to the short vocabulary on the Anthropocene proposed by Burtinsky, as it is often arduous even to understand one's feelings toward a situation that escapes from all sides and appears to have immeasurable dimensions. *Solastalgia* is a term coined in 2015 by Australian philosopher Glenn Albrecht, who has wondered for some time about the relationship between ecosystem distress and human discomfort.

Solastalgia has its origins in the concepts of "solace" and "desolation". Solace is derived from *solari* and *solacium*, with meanings connected to the alleviation of distress or to the provision of comfort or consolation in the face of distressing events. Desolation has its origins in *solus* and *desolare* with meanings connected to abandonment and loneliness. […] *Algia* means pain, suffering or sickness. (Albrecht, 2007)

Solastalgia is a sense of anguish, which can even degenerate into illness, due to the loss of the current state of one's home, territory, landscape with which one identified and felt one belonged. It can be well understood how the interventions made by humans to the detriment of the environment and the catastrophic reactions due to climate change are one of the main sources that generate this feeling. Burtinsky and Baichwal perfectly show the changes that cause solastalgia when they project onto the screen artificial and industrial landscapes, skyscraper forests replacing natural ones, dried-up waterways, processes of desertification, all generated by a perpetual and increasingly accelerated action of terraforming (modification of the Earth's surface for human purposes). All the more reason why the term solastalgia needs to enter into a common discourse on the Anthropocene since, as Albrecht states, today many people identify their home not only with reference to their local context, but encompassing the whole Earth (Albrecht, 2007). The home to which globalized *Homo sapiens* belongs and with which he identifies is no longer exclusively his own neighborhood, but the Earth as a whole. Thus, deforestation processes in the Amazon, the loss of coral reefs and other ecological disasters also trigger this emotion typical of the Anthropocene.

## 3. What Next?

Having broadly described the conditions from which *Homo sapiens* today looks to the future, it is necessary to focus on the insidious question Robert Crumb referred to a few decades ago: *What Next?* If in order to talk about the present, three documentaries have been identified, which on the whole can provide a detailed overview, in order to understand what stories we tell to tell other stories with and to imagine the near future(s), one can only refer to fictional cinema. We will see how the suggested alternatives are not substantially dissimilar to those depicted by Crumb in the last three vignettes, even though they inevitably tend to mingle with each other, generating utopian or dystopian futures.

In order to better understand the future scenarios proposed by the movie industry, it is necessary to dwell for a moment on these two concepts, which also play an important role in cinema. The term "utopia" was coined by Thomas More in his opus *Utopia*, and refers to a twofold meaning: οὐ - τόπος, "place that does not exist", and εὖ - τόπος, "happy place'". Utopia, then, is the narrative of a perfect place, but it is also <<first and foremost a text, a narrative that frames a description to which it confers its conditions of possibility, a text that marks a gap, an active difference within historical and geographical reality>> (Marin, 1973; proper translation). Dystopia, on the other hand, is an utopia in the opposite direction (Rouvillois, 1999). It shows how the ideal and perfect narrative of utopia will never be achieved, proposing, on the contrary, undesirable, frightening and negative scenarios. Via the categories of utopia and dystopia, today's media - including the cinema, especially the SF genre - tend to anticipate information about the world to come through *premediation* (Grusin, 2010), which prepare the user for whatever will happen in the future by placating anxieties and inculcating a kind of apathy (Sontag, 1965; Demaria & Piluso, 2020). As a few examples will demonstrate in the next paragraphs, in recent years science fiction cinema has increasingly focused on ecological disaster's theme (in addition to the technological one) – after all, the close link between SF and the Anthropocene has been demonstrated by a large body of scientific literature (Canavan, 2014; Kara, 2016; Haraway, 2019; Neilson, 2020) – anticipating possible future scenarios and providing a critique of current environmental policies.

## 3.1. Ecological disaster

The first of Crumb's future vignettes presents an apocalyptic scenario. An orange-hued sky, a Sun that seems to bake everything it rests on rather than act as a source of life, a dry and sandy terrain, dilapidated and abandoned buildings and human infrastructure. This is the image the cartoonist provides of the first possible future scenario: the Ecological disaster.

Unfortunately, if for Crumb it was only a hypothetical future, today *Homo sapiens* is familiar with events of this magnitude on a daily basis. The frequency with which we witness ecological disasters depends on where we are fortunate enough to live, but even the more fortunate and affluent among us, who do not experience them directly on an ongoing basis, have by now become accustomed to the alarms spread by the media.

In fact, we have been getting used to this kind of apocalyptic and dystopic scenario for quite some time now. Not only because human beings experience ecological disasters, but also because it has become a topic for the movie industry to discuss, even a rather attractive one. The risk could even be that we internalise such a hypothesis to such an extent that we become addicted to it and lack a reaction. For the time being, this would seem to be unfounded; a recent study conducted by *Avaaz*[9] (an NGO engaged in the fight against climate change, corruption, poverty and more) showed that a common sense of anxiety about climate change is widespread among young people. Here is another typical emotion of the Anthropocene.

Orange skies, sunburnt landscapes, sandy soils and crumbling structures. Almost certainly all of us, reading these scenarios, are mixing fact and fiction. *Blade Runner 2049,* the sequel to the famous 1982 movie directed by Ridley Scott, was released in cinemas in 2017. Under the direction of Denis Villeneuve, the film showed a hyper-technological world, but also one shattered by ecological disasters. The first images with which the viewer is confronted are images of imposing and disorienting landscapes, very similar to those proposed by Burtinsky and Baichwal. In a hyper-constructed world, where advertisements and the companion of life can both be holograms, and where humans and replicants coexist, it is noticeable how extremely rare it is to find any form of coexistence between humans and other living beings. The two sentences uttered by Mariette (Mackenzie Davis, as a Nexus-8 replicant working as a doxie) and the protagonist K (Ryan Gosling) are significant. The former claims never to have seen a tree, the latter instead ascertains and is

---

[9] Link: https://secure.avaaz.org/campaign/it/climate_anxiety_briefing_2021/?slideshow Last access: May 2022. Here is the link to the research conducted by *Avaaz* on climate change anxiety. You can also contribute your own experience.

surprised that a dog could be real, namely living. Here we find among the scenes of the film the meaning of that term included in the vocabulary of the *Anthropocene* documentary: extinction[10]. Even more significant than the images of *Blade Runner 2049* are the orange skies saturated with contaminated, unbreathable air. In addition to calling to mind Crumb's vignettes, they became reality a few years later due to the fires that broke out in 2020 in California and other West Coast states. On that very occasion, several newspapers and TV news had pointed out the similarity between the dystopic scenario proposed by Villeneuve's movie and what the inhabitants of San Francisco were experiencing on their own skin.

The movie of humans and replicants is not the only one that the big cinema industry has proposed in recent years to shape the stories of the Anthropocene. There are many apocalyptic, post-apocalyptic and dystopic movies that involve humanity in a bleak future. *Mad Max: Fury Road* (2015), *The Book of Eli* (2010), *The Road* (2009), *The Day After Tomorrow* (2004) are just some of them. A blockbuster film like *Interstellar* (2014), directed by Christopher Nolan, takes precisely ecological disaster and climate change as the trigger for the whole affair. With a documentary feel, the film introduces the environmental and social context that Cooper (Matthew McConaughey) and his family are forced to face every day.

My dad was a farmer. Like everybody else back then. [...] The wheat had died. The blight came and we had to burn it. We had acres of corn [...] but mostly we had dust.

This is how some of the first lines unfold during a hypothetical interview. A world in which humans have become guardians of the few precious resources at their disposal, in which ecological disasters have turned lush soil into sand and plagues have precluded the possibility of cultivating one of the few plant species on which *Homo sapiens* feeds. *Interstellar* thus illustrates the risks and some of the possible consequences of soil loss, monocultures and the general war humans are waging against nature. Even some tricks to resist sand invasions are listed, which in several countries are already a reality, such as handkerchiefs over the mouth or tables set with plates turned inside out. And a sad consideration moves the entire film because "we are not

---

[10] On the subject of extinction I point to two popular texts from the immense work of the father of biodiversity Edward Wilson:
Wilson, E. O., 2004, *Il futuro della vita* (*The future of Life*, 2002), Codice, Torino.
Wilson, E. O., 2006, *La Creazione* (*The Creation: an Appeal to Save Life on Earth*, 2006), Adelphi, Milano.

meant to save the world, we are meant to leave it". It is in the Lazarus Missions that Professor Brand (Michael Caine) places his hope of saving humanity. In a way that recalls Crumb's second scenario: Techno Fix.


### 3.2. Techno Fix

Robert Crumb's second vignette of the future brings with it a positivist baggage dating back to the XIX century combined with the persistent technological hopes of the XXI. This time the cartoonist's illustration looks promising: blue skies, flying machines, futuristic buildings. Hints aimed at dispelling any doubts about human's supposed victory over the uncertainty of the future, Crumb specifies: *Fun Future*. Probably what all mankind, more or less explicitly, yearns for. Yuval Noah Harari, an Israeli historian, has pointed out that some of the XXI century goals of *Homo sapiens* are the pursuit of immortality and happiness (Harari, 2017). The latter is determined by chemical processes: feelings of pleasure generate happiness, and there is no doubt that enjoyment produces temporary feelings of happiness. The "problem" lies in the evolutionary functioning mechanisms that characterise human beings. *Sapiens*, in fact, are not made to be fulfilled, to stop at a certain level of happiness or enjoyment, but always desire further doses of it. As Harari states, it is not certain that humans today are happier than hunter-gatherers. The pursuit of happiness could turn out to be a dangerous and fruitless chase. What can be seen, however, is that many are trying to complete this marathon by using technology and science. One of the currents of thought opposing the idea that human beings will succumb to climate change hinges precisely on a total faith in some technological innovation that will pacify our relationship with nature or, more correctly, allow us to dominate it once and for all. Yet nowadays such technology still does not seem to have been achieved.

The movie industry has also put forward a dystopian vision of the relationship between humans and technology. The futuristic landscapes projected on big screens rarely present a harmonious merging of highly advanced technology and naturalness. More often, the images tell of an even more anthropised future, where urbanisation has now taken over: cities are hyper-constructed megalopolises, developing horizontally as well as vertically (after all, this is the trend of the XXI century), plants are a rarity, as Mariette suggests, and the greyness of infrastructures reigns supreme. The city of Trantor, capital of the Galactic Empire in Isaac Asimov's *Cycle of*

*Foundations* (Asimov, 2020), recently revived in the TV series format[11], encapsulates the image of incessant urbanisation sometimes projected by the cinema industry. Trantor is a world city, a totally humanised ecumenopolis. Thinking of another, even better-known galactic empire, that of the *Star Wars* cycle, here too technology has produced completely constructed cities devoid of naturalness. Moreover, the entire *Black Mirror* TV series was dedicated to the theme of the perverse and aberrant outcomes produced by technology in a hypothetical dystopic future. The series has been constructed through individual episodes that are not connected from a plot point of view, but linked by a common dystopian look into the future. Many of the technological innovations of the current century are analysed: social networks, augmented reality, video games, nanotechnology and so on. The series highlights some aspects of the contemporary world, generating user identification, and proposes possible future imaginaries, highlighting the two sides – collaborative and conflictual, verging on the morbid – of the human-technology relationship (Bennato, 2018).

However, technology does not necessarily have to bring a negative outcome. A recent study conducted by the architecture and urban planning firm *Skidmore, Owings & Merrill* (SOM) constructed an image of what the city of the future could look like[12]. Technological innovation in this case would be adapted to the principles of ecology, with a focus on the use of water and energy, liveability, the introduction of waste in a circular process of reduction and reuse, sustainable and local food production, zero-emission infrastructure, mobility, and the promotion of culture, heritage and a digital economy. Even Edward Burtinsky, in an interview conducted for the *Manufactured Landscapes*[13] project, pointed out that technology is not the enemy of the human-environment relationship, indeed it could actually lead to the solution depicted by Crumb through improved recycling and biomimicry practices.

What could be a threat is not so much the technology itself, which depends on how it is directed, but the difficulty of communication between those who employ it and those who study its impacts and identify solutions at a scientific level. *Don't Look Up* is a 2021 film directed by Adam McKay, which received

---

[11] *Foundation* is the US TV series based on the works of the same name by Isaac Asimov and produced by David S. Goyer for Apple TV+.

[12] "*Città del Futuro* (*City of the Future*)" is the article published by National Geographic Italia in April 2019 that illustrates the project of the architecture and urban planning firm *Skidmore, Owings & Merrill* (SOM). In the issue of National Geographic Italia, "*Città. Idee per un futuro migliore*" (*Cities. Ideas for a better future*)", April 2019.

[13] Ted, *Edward Burtinsky: Manufactured Landscapes*. Link: https://www.youtube.com/watch?v=U2Dd4k63-zM&t=1861s Last access: May 2022.

several *Oscar* nominations. The events take place in the USA, but involve the whole world, as two astronomers discover a gigantic asteroid that is destined to hit the Earth, generating a new mass extinction including mankind. Despite the in-depth studies of the two scientists, supported by the scientific community, the news fails neither to be taken seriously by the population, nor to be addressed with the right technological means by the competent authorities, who prefer to profit economically from the event. Through fake news, spectacularization, politicisation and much more, the news is only taken seriously when it is too late, generating widespread and uncontrollable panic. Here again, the "solution" to the catastrophe relies on technology: a space mission consisting of a small core of super-rich people is sent to colonise another planet (here we return to something similar to Professor Brand's plan in *Interstellar*). *Don't Look Up* is an alarm to what is happening with climate change. The future Techno Fix will only be possible and will only be able to help *Homo sapiens* cure some of the problems of the Anthropocene if it is guided by an ecosystemic approach, a different kind of communication and appropriate policies.

### 3.3. Ecotopian solution

The last of Robert Crumb's hypotheses about the future is the Ecotopian solution and identifies a future in harmony between human beings and the rest of the inhabitants of the *oikos*, the common home. What is evident from the cartoonist's vignettes is the dominant presence of vegetation, which in the first two solutions was completely absent or scarce. The Ecotopian solution belongs to the long list of imagined (and im-possible?) utopias: human and non-human beings have reached a coexistence to leave the Anthropocene and enter a new epoch where there is a place for everyone. Crumb seems to anticipate and respond to the queries of anthropologist Tim Ingold, who through his own work has often questioned what the role of anthropology should be for the future. Ingold asks <<How should we live?>> (proper translation; Ingold, 2020a) and <<What kind of world has a place for us and for everything else both now and for future generations?>>[14]. Questions that have much to do with the concept of "sustainability", which is now being discussed on many fronts, and with the ability to weave relationships as in a correspondence of lines (Ingold, 2020b). It is precisely relationships and the ability to create community that prompted the coining of an alternative term

---

[14] In: Stuart Platt, Tim Ingold: "The sustainability of everything", 28 settembre 2016. Last access: May 2022. Link: https://www.youtube.com/watch?v=ncLv9Gk7XrI

to that of Stoermer and Crutzen to describe the epoch towards which we must strive: that of *Koinocene*.

The Greek noun *koinotes* (and the adjectival root *koinos*) indicates precisely "commonality", "participation", "absence of distinctions", "similarity". [...] Koinocene is the new utopia (grounded in an ancient reality) of a world in which humans become (or rather re-become) aware of their relationships and participation, and of the risk of placing *humanitas* as the single pivot of the world. (Proper translation; Favole, 2021)

The Koinocene could be achieved by overcoming once and for all the opposition between nature and culture typical of naturalism, of western cosmology, as Philippe Descola would say. Some populations inhabit the world according to other ways of thinking about the environment, which leads them to form different relationships with it, as in the cases of totemism or animism (Descola, 2021).

In the science-fiction colossal film *Avatar* (2009) by James Cameron, set in the year 2154 on the planet Pandora, the director uses the different relationships with the environment entertained by invading humans and indigenous people as a common thread. Through an approach similar to ethnography, scientist Grace Augustine and ex-marine Jake Sully come into contact with the inhabitants of Pandora and slowly learn about their customs and habits. These reveal a deep connection to all living creatures in the *oikos*: they worship Eihwa, a panic deity made up of all living things, relate intimately to the forest, trees and other non-human beings, and understand how there is a network of energy and connections through the forest between all living creatures. These features of the culture of the Pandora people might seem like mere science fiction suggestions. Recent studies by Canadian scientist Suzanne Simard, have shown how complex networks of connections between trees and fungi exist in the oldest forests. The *Wood Wide Web* is precisely this connection between plant roots and fungal hyphae that allows trees and fungi in the forest to exchange resources for community sustenance (Simard *et al.*, 1997; Beiler *et al.*, 2010). We return here to the importance of forming relationships and making community that trees seem to have learned long ago. The Eihwa people also understood the importance of connections, particularly with the plant world. Their city is built around a giant tree in the forest with which they identify, and one of the most sacred places is the Tree of Souls, which holds the voices of the ancestors.

Although of a different genre, the film *Captain Fantastic* (2016), directed by Matt Ross, provides other suggestions in this regard. The setting of the

film is very reminiscent of Crumb's third hypothesis. Ben Cash (Viggo Mortensen) lives with his family in a forest on the northwest coast of the United States. Together with his wife, who died prematurely, he has decided to raise his children in contact with nature, giving them rigorous physical and intellectual training. As a result, the family has a perfect knowledge of their environment, other living forms, the resources they can use, and a superior cultural education that is categorically opposed to western capitalism. They seem to have achieved their own ecological utopia. The importance of an ecotopian solution in opposition to the crises generated by the capitalist model is thus shown, which led Jason Moore to coin the term *Capitalocene* (Moore, 2017). On the other hand, the advantages of such an upbringing clash with the inability of Ben's children to live within the dominant community, which leads the eldest son, Bo, to clash with his father and go to one of America's most prestigious universities to study.

Matt Ross's film induces reasoning about a possible change, highlighting the criticality of an alternative solution, but also the many contradictions of Western civilisation[15]. It often uproots the beliefs and reference symbols that Western society adopts, replacing them with other models. One example is the celebration of Noam Chomsky's birthday, who is taken as a hero or figure of reference in place of Santa Claus. The well-known American intellectual and political activist throughout his life has criticised certain traits of today's society by proposing other forms of *dwelling*, hence of being in the world, as Ingold would say. It is precisely a quotation from Chomsky that marks the spirit of the movie and the road to the necessary change, Koinocene or Ecotopian solution:

> If you assume that there is no hope, you guarantee that there will be no hope. If you assume that there is an instinct for freedom, that there are opportunities to change things, then there is a possibility that you can contribute to making a better world. (Noam Chomsky, from the film *Captain Fantastic*)

## 4. Conclusions

The Anthropocene does not call for a one-way response. *Homo sapiens* does not have the option of pointing the finger at just one of the hypotheses of the future presented, but must come to terms with all that the Human Epoch

---

[15] Some statements bring to mind the text edited by M. Guernaccia, 1998, *Papalagi*, Stampa Alternativa, Rome.

is and will represent. This time asks the human species to become aware of an essential fact: commonality in fragmentation. Humans cannot exist without poplars, tuna, bees and bacteria. We are lines (Ingold, 2020b) and *koinotes* must be woven and strengthened in the weave. "Where must we go, we who wander this wasteland, in search of our better selves" (*The First History Man*, from the film *Mad Max: Fury Road*) – it is with this quote that the article opened – in order to heal this wasteland and find our better selves, *sapiens* must come to terms with themselves and open to bonds of correspondence with the Other.

Humans are looking for their own stories to tell, the ones that will shape the lives of future generations, human and non-human, and be lived by them. Cinema too, as an instrument of storytelling and communication, is shaping collective imaginaries and creating common grounds for reasoning and thinking about the Anthropocene. To overcome this *impasse* and veer towards futures of "multispecies resurgence" (Tsing, 2017) we must first understand where we are and create common ground for discussion.

It is not permissible to wait for resurgence which arrive in the form of an alien gift, such as that brought by Ted Chiang's Heptapods (Chiang, 2018), shown in cinemas by Denis Villeneuve's *Arrival*. But as in that case, hopes could be pinned on a new and acquired ability to see and think about reality. For Chiang-Villeneuve, this is made possible by a new form of language, past-present-future and circular, like the semasiographic language of Abbott and Costello (the two aliens who came to Earth to communicate with humans). In the movie, some scientific theories are taken to the extreme. According to the *Sapir-Whorf Hypothesis*, the film's real trigger:

> we dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organised by our minds-and this means largely by the linguistic systems in our minds. We cut nature up, organise it into concepts, and ascribe significances. (Whorf, 1964)

Adopting another language could change the way we think and see reality. A suggestion that brings us back to the importance of what Donna Haraway provocatively (but not too much) stated through the words of Ursula K. Le Guin, when she speaks of a human being who will be able to read Eggplant and lichen verses (Haraway, 2019, p. 87). A human who sees, thinks and inhabits through multi-species symbiosis; who has overcome nature-culture,

human and non-human oppositions by entering the common ground of the experience of living and dying well on this damaged planet (Haraway, 2019).

Creating a common vocabulary and common ground is the first tiny step towards this goal. To foster the emergence of human and non-human communities that oppose the Anthropocene and enter the Koinocene. It is important to understand which stories tell other stories and which thoughts think other thoughts (Haraway, 2019). Stories that the cinema industry helps to shape and that today have to come to terms with a Nature that is no longer harnessed but rightfully enters the current narrative. Perhaps indeed one day we will realise that we have reached a new, more inclusive, open and relational vision of reality. We will be able to speak Eggplant and once again update Robert Crumb's vignettes.

## References

Albrecht, G., Sartore, G., Connor, L., Higginbotham, N., February 2007, "Solastalgia: the Distress Caused by Environmental Change", *Australasian Psychiatry*, 15 Suppl 1(1):S95-8, DOI:10.1080/10398560701701288.

Asimov, I., 2020, *Fondazioni* (*Foundation*), Mondadori, Milano.

Beiler, K.J., Durall, D.M., Simard, S.W., Maxwell, S.A., Kretzer, A.M., 2010, "Mapping the wood-wide web: mycorrhizal networks link multiple Douglas-fir cohorts", *New Phytologist*, 185: 543-553.

Bennato, D., 2018, *Black Mirror: distopia e antropologia digitale*, Villaggio Maori edizioni, Catania.

Bettetini, G., 1991, "Cinema", *Enciclopedia delle scienze sociali*, vol. I, Istituto della Enciclopedia Italiana, Roma, 741-56.

Canavan, G., 2014, Preface. In: Canavan, G., Robinson, K.S. (Eds.), *Green Planets: Ecology and Science Fiction*, Wesleyan University Press, Middletown.

Carson, R., 1962, *Silent Spring*, Houghton Mifflin Company, Boston.

Chiang., T., 2018, *Storie della tua vita* (*Stories of Your Life and Others*), Pickwick, Mondadori, Milano.

Corcoran, P.L., Moore, C.J., Jazvac, K., 2013, "An anthropogenic marker horizon in the future rock record", *GSA Today*, v. 24, no. 6, DOI: 10.1130/GSAT-G198A.1. 4-8.

Crutzen, P.J., Stoermer, E.F., 2021, The "Anthropocene" (2000). In: Benner, S., Lax, G., Crutzen, P.J., Pöschl, U., Lelieveld, J., Brauch, H.G. (Eds.) *Paul J. Crutzen and the Anthropocene: A New Epoch in Earth's*

*History*, The Anthropocene: Politik—Economics—Society—Science, vol 1. Springer, Cham. DOI: 10.1007/978-3-030-82202-6_2.

Demaria, C., Piluso F., 2020, "Distopie contemporanee: *Bandersnatch* come evento seriale", *Mediascapes journal*, 16, 37-49.

Descola, P., 2011, *Diversità di natura, diversità di cultura* (*Diversité des natures, diversités des cultures*, 2010) Book Time, Milano.

Descola, P., 2021, *Oltre natura e cultura* (*Par-delà nature et culture*, 2005), Raffaello Cortina Editore, Milano.

Favole, A., 20 febbraio 2021, "Il tempo del Koinocene", *La Lettura, Corriere della Sera*.

Grusin, R., 2010, *Premediation: affect and mediality after 9/11*, Palgrave Macmillan, London.

Harari, Y. N., 2017, *Homo Deus. Breve Storia del Futuro* (*Homo Deus. A Brief History of Tomorrow*, 2015), Bompiani, Milano.

Haraway, D., 2019, *Chthulucene. Sopravvivere su un pianeta infetto* (*Staying with the Trouble – Making Kin in the Chthulucene*, 2016), Produzioni Nero, Roma.

Heidegger, M.; Vattimo, G. (edited by), 1976, Costruire, abitare, pensare (Bauen, Wohnen, Denken). In: Heidegger, M., *Saggi e discorsi* (*Vorträge und Aufsätze,* 1936-1953), Ugo Mursia Editore, Milano, 96-108.

Ingold, T., 2016, *Ecologia della cultura*, Meltemi editore, Sesto San Giovanni (MI).

Ingold, T., 2020a, *Antropologia. Ripensare il Mondo* (*Anthropology. Why it Matters*?, 2018), Meltemi Editore, Sesto San Giovanni (MI).

Ingold, T., 2020b, *Siamo linee. Per un'ecologia delle relazioni sociali* (*The Life of Lines*, 2015), Treccani Libri, Roma.

Kara, S., 2016, Anthropocenema: Cinema in the Age of Mass Extinctions. In: Denson S., Leyda, J. (Eds.), *PostCinema: Theorizing 21st Century Film*, Reframe, Sussex, 750-784.

Latour, B., 26 febbraio 2013, *War of the Worlds: Humans against Earthbound*, in: Latour, B., *Facing Gaia Six lectures on the political theology of nature*, Gifford, 98-122.

Mancuso, S., 2 gennaio 2021, "Smettiamo di distruggere la natura e ritroviamo gli affetti che ci legano", *La Repubblica*.

Marin, L., 1973, *Utopiques: jeux d'espaces*, Minuit, Paris.

Meadows, D.H.; Meadows, D.L.; Randers, J.; Behrens, W.W.III, 1972, *The Limit to Growth*, Universe Books, New York.

Moore, J.W., 2017, *Antropocene o Capitalocene? Scenari di ecologia-mondo nell'era della crisi planetaria* (*Anthropocene or Capitalocene? Nature, History and the Crisis of Capitalism*, 2016), Ombre Corte, Verona.

Müller, J., Marconi, R. (text by), 1974, *Dove c'era un prato* (*Alle Jahre wieder saust der Presslufthammer nieder*, 1973), Emme Edizioni, Milano.

Neilson, T., 2020, *Imagining the Anthropocene. Science fiction cinema in an era of climatic change*, (PhD thesis) University of Glasgow.

Nocera, A., 2021, *Verde Meraviglia: immaginare un nuovo modo di abitare* ("*Green Wonder: imaging a new way of dwelling*"), Geographies of the Anthropocene, Il Sileno Edizioni, Lago.

Simard, S.W., Perry, D.A., Jones, M.D., Myrold, D.D., Durall, D.M., Molina, R., 1997, "Net transfer of carbon between tree species with shared ectomycorrhizal fungi"*, Nature*, 388: 579-582.

Sontag, S., 1965, "The Imagination of Disaster", *Commentary*, vol. 40, 42-48.

Tsing A.L., 2017, *A Threat to Holocene Resurgence Is a Threat to Livability*, In: Brightman M., Lewis J. (eds) *The Anthropology of Sustainability. Palgrave Studies in Anthropology of Sustainability,* Palgrave Macmillan, New York. DOI: 10.1057/978-1-137-56636-2_3.

Turner, G., 2006, *Film as Social Practice*, Routledge, London.

Whorf, B., 1964, *Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf*, MIT Press, Cambridge.

Wilson, E. O., 2004, *Il futuro della vita (The Future of Life*, 2002), Codice, Torino.

Wilson, E. O., 2006, *La Creazione* (*The Creation: an Appeal to Save Life on Earth*, 2006), Adelphi, Milano.

# 5. Towards a Humble Vision in the Anthropocene: Critique of Anthropocentrism in *I Am Legend*

*Seçil Erkoç Iqbal[1]*

## Abstract

Paul J. Crutzen and Eugene F. Stoermer's introduction of the term 'Anthropocene' as a new geological epoch in 2000 marks the evolution of humankind into a geological force that threatens the well-being of the planet. Translated as the 'recent age of humankind,' Anthropocene seems to strengthen the anthropocentric legacy of the human since it underlines the destructive capacities of the *anthropos* who has gradually impaired the ecological balance and triggered environmental disasters. Nevertheless, it would be a short-sighted vision to consider the human as the sole denominator of all these calamities because, living in a 'posthuman space of becoming,' all human and nonhuman entities are bound by an intra-active set of relations. Thus, without ignoring the negative contribution of humankind in harming the ecological system, it is crucial to develop a more encompassing perspective that takes a critical note of the agential capacities of all human and nonhuman matter. Relatedly, cultural modes of representation, such as cinema and literature, are effective mediums to explore the imaginary projections of human-nonhuman continuum and to lay bare the need to dissolve the anthropocentric mindset. Within this perspective, the purpose of this study is to analyze the American movie, *I Am Legend* (2007), which is considered as a post-apocalyptic action thriller. Based on Richard Matheson's novel (1954) of the same title, *I Am Legend* is about the struggles of a virologist, Robert Neville, who is left defenseless amid a large group of people infected by a virus that has the agential power to turn them into vampiric mutants. Hence, Neville devotes his life to find an effective treatment to cure the disease, and he turns into a 'legend' by risking his own life to save humanity. Juxtaposing the representation of the *anthropos* in two different modes of cultural production i.e., the textual and the cinematic, that are separated by a fifty-three-year gap, it is intended to trace the way in which the Anthropocene functions as an alarm clock that verifies the need to re-evaluate the so-called 'unshakeable' status of humankind – especially

---

[1] Assist. Prof. Dr., Department of Western Languages and Literatures, İnönü University (Malatya/Türkiye), secil.erkoc@inonu.edu.tr, secilerkoc@hotmail.com.

considering how the COVID-19 pandemic has resulted in drastic socio-economic and political changes all around the globe.

## 1. Introduction

As opposed to the interpretation of the matter as an inert entity which is affected by an exterior force, there is a growing intellectual tendency to re-evaluate the agential capacities of the matter from a comprehensive standpoint in the twenty-first century. With the introduction of novel philosophical approaches such as new materialism(s)[2] and agential realism[3], anthropocentric projections of the matter as a 'passive object' are exchanged with an egalitarian standpoint that takes a note of the matter's inherent dynamism. It may be interpreted as a direct blow to the anthropocentric evaluation of the Earth as a *tabula rasa* that waits to be reconfigured, explored, and dominated, since it is now argued that "matter is agentive and intra-active" (Barad, 2007, p. 170). Within this spectrum, humankind can no longer project itself as the ultimate denominator and the controller of the more-than-human-world; instead, it is a member of this evolving system which continues renewing and upgrading itself incessantly. Therefore, it is crucial to represent the intra-action between humans and nonhumans from an eco-centric perspective and to dwell on its intellectual and material repercussions.

The Anthropocene announces the increasing level of human-nonhuman intra-action from a material-semiotic standpoint; thus, as a geological epoch, it lends itself as a suitable setting to elaborate on the dialogue between the two. The material and the semiotic dimensions of the Anthropocene will be explained in further detail below; nevertheless, to understand the main focus of this study, it is beneficial to provide a general outlook. The material dimension relates to the concrete and corporeal inputs that harbinger the physical intervention of the humankind in the regular functioning of the Earth and its outcomes – such as climate change and global warming. The semiotic dimension, on the other hand, is more about the symbolic and notional aspect

---

[2] See Tillman, R., 2015, "Toward a New Materialism: Matter as Dynamic," *Minding Nature*, 8, 1, 30-35.

[3] See Barad, K., 2007, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Duke University Press, Durham.

of the Anthropocene, and it relates to the intellectual codes that blunt the myopic standpoint of the humankind so that it will no longer continue embracing an ego-centric vision. In other words, the semiotic aspect of the 'recent age of man' urges humans to re-evaluate their position and to acknowledge the agential faculties of the nonhuman matter because its impact penetrates deeper into the corporeal and social territories. To illustrate, COVID-19 pandemic can be interpreted as a 'material-semiotic' agent which not only affects the human corpus but also the social, political, and economic domains. Hence, triggering an abrupt shift on micro and macro levels – ranging from the social to the political dynamics all around the globe – the pandemic reminds humanity of its vulnerable status as a biological entity. Having suffered from the material and the semiotic proponents of the *coronavirus* in various dimensions by firsthand, it is an enlightening experience to revisit the imaginary works exemplifying the agential faculties of the nonhuman matter i.e., the viruses or germs which violate the well-functioning of a healthy organism and announce their own autonomy. Hence, it is to be accentuated that rather than glorifying the so-called 'legendary' capacities of humankind, it is necessary to develop a much comprehensive vision that re-positions humankind back to the humble seat that it has been sharing will all human and nonhuman inhabitants of the universe.

In this manner, Richard Matheson's (1926-2013) novel, *I Am Legend* (1954), provides a fruitful basis to trace and reflect on the anxieties of the *anthropos* whose future is threatened by a cataclysmic vampire plague. Adapted for the silver screen three times, *The Last Man on Earth* (1964), *The Omega Man* (1971), and *I Am Legend* (2007), the novel is about the last surviving human on Earth, Robert Neville, who desperately tries to find a way to cure the disease. Set in Los Angeles, Matheson's novel starts in January 1976 and depicts Neville's earlier attempts to understand the cause of the plague. Having turned his house into a fortress, as it is open to the attacks of the vampiric mutants who roam all around the city at night, Neville goes out in daylight to hunt and destroy the infected bodies before they are able to find and kill him. It is a physically and psychologically consuming process for Neville since he has already lost his wife Virginia and his daughter Kathy to the germ. Despite coming to the verge of giving up a few times, Neville manages to improve both his hunting skills and his understanding of the vampires through his research and study at Los Angeles public library. After two years of incessant struggle for survival, he meets Ruth – a seemingly healthy human – for the first time and welcomes her to his house. However, it turns out that Ruth is a spy belonging to a new community of vampires whose members have developed a pill to control the adverse impacts of the

*vampiris bacillus*; and in their vision of the new world order, Neville is a threat to be exterminated. With the imminent execution of Neville by the dictum of the non-zombified vampires who plan to set up a new *oikos* for themselves, Matheson's novel blurs the distinctions between human and nonhuman, predator and prey, hero and victim, legend and history; therefore, the text lights up the ground for a non-dogmatic perspective which acknowledges the fluidity and interchangeability of the widely accepted norms and regulations of the pre-pandemic world. Thus, in the final adaptation of Matheson's novel of the same title, the movie *I Am Legend*[4] (2007) continues demonstrating the fears and concerns of the twenty-first century, and it raises questions about the precarious status of humankind in the face of environmental and socio-economic disasters that are likely to become the indispensable markers of the current geological epoch pertaining to all human and nonhuman inhabitants of the Earth. Following an interdisciplinary approach, the analysis of *Legend* is to encompass the theoretical repercussions of posthumanism as well as new materialism(s), so that the increasing prominence of the cinematographic narrative in the time of the Anthropocene will be assessed from a broader perspective.

In her insightful critique of the term 'Anthropocene,' Kathleen Dean Moore (2013) warns that words should be used cautiously because they are effective items, for "[w]ith a single misguided phrase, they can move a concept from one world into another, altering forever the landscape of our thinking" (par. 4). Alerting us to the hubristic nuances of the term, the Anthropocene, – for it may also be interpreted as projecting the human as an ultimate agent who is powerful enough to intervene in the geological undercurrents of the Earth – Moore develops an analytical stance which reads against the misguided projections that tend to validate an anthropocentric perspective. Nevertheless, it should be noted that such a stance does not necessarily "conjure a naïve view of life as an Edenic kingdom" (Crist, 2013, p. 143) where human and nonhuman entities live in total harmony. Within this context, though *Legend* concludes with Robert Neville's self-sacrifice to save all humanity, it would be an unrealistic vision to assume that people will live happily ever after in a re-configured and sterile setting that has been established by the survivors of the plague. The visual and the textual narratives of the Anthropocene, therefore, should be examined with an eco-centric focus that problematizes the human-nonhuman binary. In other words, rather than representing humankind as the sole denominator of the anthropogenic causes in a traditional setting, the agential power of the

---

[4] Hereafter will be referred to as *Legend*.

nonhuman matter should also be taken into consideration. Thereby, it can be argued that the dialogue between cinema and the Anthropocene is to entail an alternative *prognosis* which can no longer designate the more-than-human world as a passive entity that remains unresponsive to the human intervention but acknowledges the co-constitutive entanglement of human and nonhuman agencies.

## 2.    The Material and the Semiotic Dimension of the Anthropocene in a Posthuman Space[5]

First introduced by the American limnologist Eugene F. Stoermer in the 1980s, the Anthropocene earns its academic status with Stoermer and the Dutch atmospheric chemist Paul J. Crutzen's publication of their co-authored article, "The Anthropocene" in 2000 (Otter, 2018, p. 568). Descending from the Greek, the Anthropocene means 'the recent age of man,' and it marks the current geological epoch replacing the Holocene, which is thought to have started about 12.000 years ago when humankind gradually gives up its hunter-gatherer practices and embraces a settled life that is based on agriculture and stock farming (Whitehead, 2014, p. 2). As for the starting date of the Anthropocene, however, there are various interpretations: "some date its emergence to the rise of sedentary agricultural communities roughly 12.000 years ago, others to 1610 and the colonization of the Americas, others still to the onset of Europe's industrial revolution circa 1800 or the Trinity nuclear test of 1945" (Nixon, 2018, p. 2). Acknowledging the somewhat arbitrary nature of the attempt to ascertain a distinct date for the start of the Anthropocene, Crutzen (2000) and Stoermer (2000) designate the second half of the eighteenth-century as their departure point, and they explain that during this period "data retrieved from glacial ice cores show the beginning of a growth in the atmospheric concentrations of several 'greenhouse gases,' in particular $CO_2$ and $CH_4$. Such a starting date also coincides with James Watt's invention of the steam engine in 1784" (pp. 17-18).

Nevertheless, it should be noted that fossil fuels were used by humankind in the pre-Anthropocene era, too. To exemplify, during the reign of the Song Dynasty in China (960-1279), iron industry was a significant component of the Asian trade, so the coal was widely processed (Steffen *et al.*, 2007, p.

---

[5] This section of the study has been partially derived from the introduction chapter of the author's dissertation "'Out of the Maze of Dualisms': Posthuman Space in Mario Petrucci and      Alice      Oswald's      Poetry"      (2020)      which      is      available      on http://www.openaccess.hacettepe.edu.tr:8080/xmlui/handle/11655/22869

615). Similarly, starting from the thirteenth century onwards, coal mines were providing energy for home heating in England (Steffen *et al.*, 2007, p. 615). In this respect, outlining the historical markers of human-induced air pollution, Mark Whitehead (2014) maintains that atmospheric contamination may be traced back to the fourteenth-century England when "King Edward I passed a Royal Proclamation banning the burning of sea coal in furnaces in 1306" (p. 46). However, with the rise of the human population and the decrease in the number of the natural sources, the consumption of the coal continues increasing throughout the history. In the seventeenth century, for instance, the English diarist John Evelyn (1620-1706) "published his famous observations on London's air pollution problems, *Fumifugium, or the Inconvenience of the Aer and Smoke of London Dissipated*," and he tried to raise environmental awareness (Whitehead, 2014, p. 48). Still, the demands of the modern industrial civilization have been louder and more powerful than such environmental concerns; therefore, humankind has paved the way for the eventual rise in the concentration of greenhouse gases globally. Accordingly, it can be asserted that Crutzen and Stoermer's designation of the eighteenth century as the harbinger of the Anthropocene does not ignore the pre-industrial dynamics. Rather, they argue that starting from the eighteenth century onwards, the detrimental traces of the human imprint cannot be restricted to a local territory; instead, these imprints encompass the whole Earth. Indeed, the chronological categorization method concerning the rising levels of greenhouse gases in the atmosphere enables us to realize the impending ecological threat more vividly.

In the first stage of the Anthropocene, covering the years between 1800/50 and 1945, the levels of $CO_2$ "rose about 25 ppm" and it was high enough "to surpass the upper limit of natural variation through the Holocene" (Steffen *et al.*, 2007, p. 616). In its next stage, which is also known as the 'Great Acceleration,' encompassing the years between 1945 and 2015, humankind has witnessed a tremendous "increase in the rates of human-induced environmental change" (Whitehead, 2014, p. 144). Providing factual details about the intensification of the greenhouse gases during this period, Whitehead states that

[t]he Great Acceleration can be observed in relation to rising levels of carbon dioxide in the atmosphere, which has increased from 310ppm in 1950 to 400ppm today (half of the increase in anthropogenic carbon dioxide has occurred over the last 30 years), rising levels of dissolved, inorganic nitrogen (used as agricultural fertilizers) in the seas and increases in atmospheric sulphur dioxide concentrations. (2014, p. 144)

Within this spectrum, the third stage of the Anthropocene dates to 2015 (Steffen *et al.*, 2007, p. 618), and it leaves humankind on the edge of taking preliminary yet effective measures to slow down the detrimental course leading towards the irreversible phase of global warming. The previous two stages of the Anthropocene have given us sufficient input to imagine the worst scenario – if radical inertia is not left behind and environmentally sustainable behavior is not promoted. To name just a few, due to the Great Acceleration, the Earth has suffered from various environmental and political problems including climate change, defaunation, nuclear disasters, the gradual annihilation of biodiversity, the impairment of the ecological dynamics, drought, wildfires, floods, as well as the dehumanizing surveillance of technology, wild capitalism, overpopulation, neocolonialism, the Cold War, the hostile polarization of the industrialized countries, oil and water wars, and even the egoistic and somewhat hubristic inclination of the *anthropos* to colonize space. All in all, as humankind gains technological and physical power, it also continues damaging nature and turns itself into a vulnerable target whose future is to be endangered on a permanent level if global temperature reaches "the crucial threshold of 1.5 degrees Celcius (2.7 degrees Fahrenheit) above pre-industrial levels by as early as 2030" (Miller & Croft, 2018, par. 2). Thus, as the historian Dipesh Chakrabarty (2016) notes, there is a great paradox in humankind's rising to the highest level just to prepare its ultimate downfall: "There is, of course, some irony in the fact that one of the species 'threatened with [at least partial] destruction' is the human species itself. Humans need to be responsible to themselves, which, as the history of humanity shows, is easier said than done" (p. 390). Accordingly, without assuming a myopic standpoint that runs the risk of feeding humankind's egoistic inclinations to control the more-than-human world at all costs, it is of utmost importance to internalize the fact that humans are not the masters but the members of a 'posthuman space of becoming.' Here, I use the term 'posthuman space' as a more enveloping alternative that underscores the co-constitutive and the non-hierarchical set of relations between humans and nonhumans (including organic and inorganic matter). In this way, the long-held dualistic representations pertaining to the artificial nature/culture divide can also be negated.

In order to problematize the nature/culture binary, in his essay "The Climate of History Four Theses," Chakrabarty (2009) addresses humans first as "geological agents" who have the capacity to implement grand-scale changes on the regular functioning of the Earth system(s) (p. 207). Then, he goes on to emphasize the fact that humankind cannot hold itself exempt from the positive and/or negative changes that result from its geological impetus.

In other words, humans are not only geological forces but also "biological agents" who are bound to meet the dire consequences of their actions on an environmental basis (Chakrabarty, 2009, p. 206). Interweaving the (geo/bio)logical faculties of the human through each other, Chakrabarty (2009) deconstructs the distinction "between human and natural histories" (p. 207), and he challenges the materially and semiotically threatening guidelines of the nature/culture division – which has long "allowed humans to look onto their relationship to 'nature' through the prism of subject/object relationship" (Chakrabarty 2012, p. 13). Unlike the earlier humanistic projections of the seventeenth-century European Enlightenment, which widens the gap between mind and body, human and nonhuman, culture and nature, self and other by imprisoning the mental and emotional capabilities of the human into a Cartesian dualistic system; the amalgamation of the nature-cultural histories of the Earth, once again, alerts humankind to the need to assume a non-hierarchical outlook in its relationship with the more-than-human world. Therefore, living in the third phase of the Anthropocene and having experienced its (im)material consequences beforehand, it is time to fill in the blanks with the semiotic connotations of this so-called 'recent age of humankind': that humans need to re-configure their understanding and interpretation of the more-than-human world and, as Bruno Latour (2014) also contends, they should embrace a posthumanist vision which acknowledges the human-nonhuman continuum on a non-hierarchical and eco-centric platform:

The point of living in the epoch of the Anthropocene is that all agents share the same shape-changing destiny, a destiny that cannot be followed, documented, told, and represented by using any of the older traits associated with subjectivity or objectivity. Far from trying to "reconcile" or "combine" nature and society, the task, the crucial political task, is on the contrary to *distribute* agency as far and in as *differentiated* way as possible—until, that is, we have thoroughly lost any relation between these two concepts of object and subject that are no longer of any interest any more except in a patrimonial sense. (p. 15, emphasis in original)

Therefore, it may be asserted that the material and the semiotic repercussions of the Anthropocene should be evaluated in tandem because they function as magic lanterns that lead the way to a more egalitarian perspective negating the subject/object duality. The material dimensions of the *Anthropocene*, as it has been discussed above, entail the chronological and the physical aspects of *its* developmental phase including the appearance of the human as a (geo/bio)logical agent on the history scene. The semiotic magnitude of the Anthropocene, however, involves the incorporation of a

paradigm shift that validates the acknowledgement of the nonhuman matter as an 'active' agent. Only after these two dimensions (material and semiotic) are evaluated together, can it be possible to challenge the hierarchical dissection between humans and nonhumans and to propose an antidote for the fatal illness(es) of *anthropos* which is/are rooted in anthropocentrism. While textual narratives, such as literary works, have been much influential in training humankind's capacity for empathy and response-ability to the 'other'; the symbiotic relationship between cinematographic narratives and the Anthropocene can also inspire an eco-friendly demeanor for their audience.

The alignment of Richard Matheson's novel and the movie *Legend*, therefore, is quite telling in terms of exhibiting the dissolution of the anthropocentric mindset in the face of nonhuman agentic forces – such as viruses and bacteria. To better understand the paradigm shift implemented by the semiotic dimensions of the Anthropocene and how they pave the way for the apprehension of the so-called 'inert' matter as an active agent, it is crucial to examine the contemporary philosophical approaches that go beyond ordinary dualism(s) – which are the main components of "the modernist framework of thought, accepting and thinking along the dominant lines of dualist distinctions of mind and matter, soul and body, and culture and nature" (Dophjin & van der Tuin, 2011, p. 391). As a binary bending geological epoch, the Anthropocene – especially in its current phase – can no longer preserve the outdated meaning-making practices of the modernist agenda. Instead, critical posthumanism and its philosophical trajectories – including new materialism(s), ecological postmodernism[6], and posthuman ecocriticism – should be kept in mind so that the defamiliarizing characteristics of the cinematographic narration in the Anthropocene can be evaluated more thoroughly. Relatedly, elaborating on the defamiliarizing impetus of the cinema and its relation to the Anthropocene, Jennifer Fay (2018) explains that

[t]he Anthropocene is to natural science what cinema, especially early cinema, has been to human culture. It makes the familiar world strange to us by transcribing the dimensionalities of experience into celluloid, transforming and temporally transporting humans and the natural world into an unhomely image. (p. 3)

Nevertheless, as an aesthetically formulated artificial platform, cinema's projection of the gradually worsening environmental issues of the late twentieth and the early twenty-first centuries has ironically evolved into a mimetic representation the current reality. Hence, far from making the

---

[6] See Iovino, S., & Oppermann, S., 2012, "Material Ecocriticism: Materiality, Agency, and Models of Narrativity," *Ecozon@*, 3, 1, 75-91.

familiar world strange to us, cinema and the digital technology in the Anthropocene illustrate how indifferent and hostile humankind has grown to its dwelling space and time. Hence, this study attempts to present an overall analysis of the material and the immaterial trajectories of the Anthropocene before setting out to analyze *Legend* so that it will be possible to implement the regulations of the paradigm change on a concrete basis.

## 3. Philosophical Trajectories of the Anthropocene from a Non-anthropocentric Perspective

Critical posthumanism, as it is postulated by Pramod K. Nayar (2014), "begins with the assumption that the human incorporates *difference* in the form of other DNA, species and other forms of life, so that its uniqueness is a myth" (p. 13, emphasis in original). In this eco-centric re-formulation of the hierarchical boundaries between humans and nonhumans, human exceptionalism and normative subjectivity are disavowed (Nayar, 2014, p. 19). Critical posthumanism is, thus, "a whole new conceptualization of the human as a more inclusive, non-unitary entity whose boundaries with the world, with other life forms and species, are porous" (Nayar, 2014, p. 47). Accordingly, the blurring of the boundaries between the human and the nonhuman introduces an ecological dimension which sets posthumanism as an ecological critique of anthropocentrism. The ecological "strand of the posthuman thought" (Oppermann, 2016, p. 26) – which Rosi Braidotti (2013) terms as "contemporary critical posthumanism" (p. 47) – is further explained in her book *The Posthuman* (2013) as follows:

An altogether different and powerful source of inspiration for contemporary re-configurations of critical posthumanism is ecology and environmentalism. They rest on an enlarged sense of inter-connection between self and others, including the non-human or 'earth' others. This practice of relating to others requires and is enhanced by the rejection of self-centred individualism. It produces a new way of combining self-interests with the well-being of an enlarged community, based on environmental inter-connections. (p. 47)

So as to understand the reason why posthumanism calls for a self-reflexive understanding that allows humankind to see itself from a much broader perspective, it is significant to contemplate on the need to replace the "nomadic subjectivity" (Braidotti, 2013, p. 49) with a unitary vision that is based on an "enlarged sense of inter-connection between self and others,

including the non-human or 'earth' others, by removing the obstacle of self-centred individualism" (Braidotti, 2013, pp. 49-50). Inspired by ecology and environmentalism, therefore, contemporary critical posthumanism depends on the intersections of material-semiotic dialogue(s) between human and nonhuman agents. In a similar vein, new materialism is also a novel philosophical approach that operates through a critical interaction with the anthropocentric mindset. As Diana Coole (2010) and Samantha Frost (2010) express:

As human beings we inhabit an ineluctably material world. […] Our existence depends from one moment to the next on myriad micro-organisms and diverse higher species, on our own hazily understood bodily and cellular reactions and on pitiless cosmic motions, on the material artifacts and natural stuff that populate our environment, as well as on socioeconomic structures that produce and reproduce the condition of our everyday lives. (p. 1)

In such a schema, where human beings are presented as members or parts of a larger system that can either be material or discursive, it is difficult to draw anthropocentric conclusions. As an organic entity, the human consists of separate physical units such as bones, tissues, and organs, and s/he is able to survive thanks to the mutual dialogue and operation among these units. As a social entity, however, the status of the *anthropos* is determined culturally and/or discursively. In other words, s/he is regulated in relation to the exterior factors such as age, gender, the social and the economic background, and even nationality. Here, in both cases – as a physical or a social body – the human is not presented as an 'autonomous' and 'separate' entity that lives on his/her own. On the contrary, the onto-epistemological status of humankind is shaped in the light of its relationship with the material-semiotic networks including the matter and the meaning. At this point, however, it is also important to "understand how matter matters" (Barad, 2007, p. 122), so that the ego-centric implications of the Anthropocene can be deconstructed – both materially and discursively.

Karen Barad's approach in dealing with the significance of the matter is revolutionary in that she does not present a clear-cut distinction between the discursive and the natural practices. While postmodernism claims that the only access we have into the 'meaning' is through text, and the language has a discursive power in determining how the meaning is fabricated, "the new materialist theorists like Barad theorize matter and discourse through one another" (Oppermann, 2013, p. 56). In this way, Barad does not assume a hostile stance by avoiding or negating the dualisms; on the contrary, she

develops a transversal approach which is more welcoming since it "entails thinking the cultural and the natural together in illuminating ways" (Barad, 2007, p. 135). This method of thought goes in line with the premises of ecological postmodernism, for it also recognizes "the vitality of things in all natural-cultural processes, and the co-extensivity of language and reality" – in addition to perceiving "nature as being primarily constituted of interacting, interrelated phenomena" (Iovino & Oppermann, 2012, p. 78). Therefore, it is no longer possible to figure out matter as a passive entity that is shaped by an exterior force – such as the language or the *anthropos*. As Barad further argues, "[m]atter is neither fixed and given nor the mere end result of different processes. Matter is produced and productive, generated and generative. Matter is agentive, not a fixed essence or property of things" (2007, p. 137). In this picture, it is not humankind that attributes agency to things or gives meaning to the matter. It is the matter that shapes and reconfigures itself. For Barad nothing comes before or after another, so there is no ontological hierarchy but "intra-action" between human and/or (non)human agents (2007, p. 33).

Similar to Barad, Jane Bennett also criticizes the so-called human sovereignty over the more-than-human world. She recommends us to think slowly and reconsider the problematic dissection pertaining to the 'passive' position of the "dull matter (it, things)" and the 'active' representations of the "vibrant life (us, beings)" (2010, p. vii). Instead of bringing 'matter' and 'life' against each other, Bennett attempts to melt them away in the same pot and proposes the concept, "vital materiality" as an alternative (2010, p. vii). As she describes: "By 'vitality' I mean the capacity of things – edibles, commodities, storms, metals – not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own" (2010, p. viii). In this way, she draws our attention to the agentic contribution of the nonhuman bodies and challenges the post-Cartesian vision which sees nature/environment as a lifeless and mechanistic entity.

By bringing the more-than-human 'assemblages' into the picture, Bennett tries to think through the life/matter dualism. She claims that there is a certain "thing power" (2010, p. 2) inherent in the nonhuman agents varying from omega-3 fatty acids that alter human mood to electrical power and garbage hills (2010, p. vii). It is this energetic vitality that transforms objects into things and grants them with the capacity to produce effects or to act. This particular way of interpreting the world – as functioning through a web of agents rather than being affected by the presence of a dominate 'subject' – redirects our attention to the agentic contribution of the nonhuman forces. In

accordance with Barad's use of the term, "intra-action" (2007, p. 33) Bennett's theory of "distributive agency" does not position the 'subject' as the "root cause of an effect," either (2010, p. 31).

Moreover, borrowed from Deleuze and Guattari, the term "assemblage" (1987, p. 4) is also useful in describing the new materialist tendency to challenge the divisions between matter and discourse, nature and culture. Bennett (1987) states that "[a]ssemblages are ad hoc groupings of diverse elements, of vibrant materials of all sorts. Assemblages are living, throbbing confederations that are able to function despite the persistent presence of energies that confound them from within" (pp. 23-24). Arguing that assemblages are not governed by a central head, Bennett urges us to rethink subjectivity and to question the vertical alienation of power. In this way, she "takes the *deus ex machina* of our typical explanations of the world, namely the quasi-divine human being standing over mechanistic nature, and kills the last of the gods" (Gratton, 2010, p. 159). In other words, the new materialist paradigm positions the relation between humans and nonhumans on a horizontal base where the material and the discursive practices are read through one another, and hereby it deconstructs the binary oppositions between subject/self and object/other. Here, one can easily wonder how the Cartesian way of understanding the world is to be revolutionized by this eco-centric frame of thought. Same question also occupies Bennett's mind, for she contemplates as follows:

Why advocate the vitality of matter? Because my hunch is that the image of dead or thoroughly instrumentalized matter feeds human hubris and our earth-destroying fantasies of conquest and consumption. It does so by preventing us from detecting (seeing, hearing, smelling, tasting, feeling) a fuller range of the nonhuman powers circulating around and within human bodies. These maternal powers which can aid or destroy, enrich or disable, enable or degrade us in any case call for attentiveness, or even "respect" (provided that the term be stretched beyond its Kantian sense). The figure of an intrinsically inanimate matter may be one of the impediments to the emergence of more ecological and more materially sustainable modes of production and consumption. (2010, p. ix)

To put it more precisely, new materialism(s) – in its non-anthropocentric approach to evaluate agency on a material-semiotic network and via its celebration of the diffractive method of thinking which reads binaries such as mind/matter, soul/body, culture/nature, human/nonhuman, animate/inanimate through each other – redefines human identity and sets it

in relation to all 'other' agentic beings. Given the intellectual and philosophical reverberations of the Anthropocene, therefore, it can be deduced that "[t]he Anthropocene perspective on film and media history might be compared to the famous reverse-zoom camera technique" which "involves a dizzying confluence of human and nonhuman perspectives" (Peterson & Uhlin, 2019, p. 145). The ironic juxtaposition of the nonhuman matter versus the 'legendary' human 'subject' – whose attempts to cure cancer give rise to the emergence of a deadly virus which has the agential faculty to have total control over its hosts by blocking away their 'humanely' traits and turning them into vampires – not only serves as a medium to overturn the anthropocentric mindset in *Legend* but also exemplifies the contribution of the cinematographic narratives to reverse the hubristic undercurrents of the Anthropocene back on itself.

## 4. The Critique of Anthropocentrism in *I Am Legend* (2007)

Directed by Francis Lawrence and starring the famous Hollywood actor Will Smith (Robert Neville), *I Am Legend* is set in New York City, and it covers the scenes shortly before the outbreak of the vampiric plague in 2009 and the three years after. It is peculiar to witness how New York City, one of the symbolic paragons of technological advancement and modern civilization of the Anthropocene, has turned into a totally deserted landscape which has been re-claimed by nature in such a short period of time. The urban setting of the metropolis stands in dark contrast to the freely roaming wild animals including herds of deer and lions, as well as the lovely songs of the birds in the background and the growth of the unkempt grass on the motorways. The panoramic vision of the city – with its abandoned official buildings, shabby billboard advertisements, long line of automobiles left deserted, and military aircraft parked on navy vessels – demonstrates how the fatal agency of an invisible virus has totally shut everything down. Quite ironically, at the beginning of the movie, Robert Neville is driving a Ford Mustang Shelby (2007) at full speed through the deserted streets of the New York City to hunt deer with his high-tech rifle. He also stops by a cornfield to gather his food with his dog-friend Samantha. It seems the Anthropocene has rewound itself back to the Holocene when humankind was able to survive via its hunter-gatherer abilities. Nevertheless, the dangerous threshold has long been crossed, because in this dystopic setting Neville is the only surviving/immune human being who is left behind in the infected zone to be able to find a cure. Due to the outbreak, 90 percent of the world population is dead, and the

remaining 9 percent has long turned into infected vampiric mutants (Brayton, 2011, p. 67) who are roaming through the streets of the city to hunt for blood at night.

The material and the semiotic dimensions of the Anthropocene can be traced throughout the movie. The material trajectory of the 'recent age of man' is related to humankind's appearance as a (geo/bio)logical agent whose subversive intervention in the regular functioning of the ecosystem turns it into an anti-hero who continues preparing its own downfall. The markers of welfare and civilization – as represented via New York City – have long sunk into nothingness due to the plague. Even the exponential increase in human population has been severely cut and turned inside out because now there is only 1 percent of the human population remaining. Then, it can be asserted that no matter how powerful the *anthropos* projects itself to be, it takes only a short period of time for nature to re-claim what it has lost in the Great Acceleration. In this manner, it is possible to claim that *Legend* warns against radical inertia and short-sightedness. Only through reading the comprehensive scope of the Anthropocene correctly, can humankind come to terms with its own faults and take steps to correct them.

As stated above, it should be noted that the semiotic aspect of the Anthropocene should be analyzed together with its material dimension. All the technological and the scientific advancements as well as the humankind's increasing prominence on the face of the Earth run the risk of turning the *anthropos* into a desolate being who does not take a note of the agential faculties of the more-than-human word. The semiotic projections of the Anthropocene, however, present humankind with an alternative path that exchanges apathy with empathy. In other words, given the increasing number of the theoretical and philosophical studies that take a clear note of the nonhuman matter as an active force, it can be asserted that humans and nonhumans are bound to be in an intra-active set of relationship in a 'posthuman space of becoming.' Within this context, material-semiotic dimension of the Anthropocene acknowledges the capacity of the human agent to implement geological/material changes; however, it also tames the ego-centric impulse encoded within humans via reminding them that they have always been in a continuous enmeshment with the more-than-human world. The vampiric plague's capacity to infiltrate into the human corpus and to implement a biological mutation show the vulnerability of the *anthropos*. In this manner, the plague can be interpreted as a semiotic code which validates the need to apply a diffractive approach to be able to go beyond the hierarchical dualities pertaining to the Cartesian world.

Colonizing the healthy body of a human, the Krippin Virus (KV), which is named after Dr. Alice Krippin – whose attempts to genetically engineer the measles virus to be able to cure cancer prove fatal in the end – announces its own autonomy and agency by turning itself into a lethal enemy against the human body. In this way, *Legend* enables its audience to acknowledge the vitality encoded in the matter as well as the arbitrary nature of ascribing hierarchical divisions to the dichotomies pertaining to the self/subject/colonizer and the other/object/colonized. As it has been stated above, in a 'posthuman space of becoming' where every human and nonhuman entity exist within a diffractive set of alignments, it is not possible to guess the ultimate results of the human intervention in the regular functioning of the natural systems beforehand. Considering the articulation of humankind as a (geo/bio)logical force in the Anthropocene, it would, again, be a naïve stance to assume that humans can continue warranting their status as unshakeable and powerful agents. This hubristic tendency is best exemplified in the analogy introduced by Dr. Krippin in a TV interview: "If you can imagine your body as a highway, and you picture the virus as a very fast car, being driven by a very bad man. Imagine the damage that car could cause. But then if you replace that man with a cop the picture changes, and that's essentially what we've done" (Protosevich, 2007, p. 2). To the dismay of Krippin, however, modern medicine and science are left defenseless before a myriad of permutations and possibilities.

As a virologist and military officer, Robert Neville represents the authority of science and reason against the mind-blocking impetus of the KV. Once the virus infects the human body, it violates the physical and mental capabilities of its host. Analogous to the figure of Victor Frankenstein in Mary Shelley's novel *Frankenstein* (1818), Neville continues with his experiments in his home-lab to be able to find an antidote to reverse the process: he sets up traps to capture the vampiric mutants, and after benumbing them under heavy doses of sedatives, he goes on to inject different types of vaccines to test their reaction. Here, the hubristic undertones of the modern medicine and the so-called supremacy of science are subtly criticized through Neville's reactions and comments in *Legend*. Following up his last capture of an infected female, Neville observes how a male mutant exposes himself to the sunlight to be able to save her. In his anthropocentric vision of the world, Neville is not able to read through the true motivation of the male, because as a dark seeker, the male is nothing other than a monstrous being, i.e., the 'dark' doppelganger of the reasonable and healthy human. Hence, in Neville's vision, the male's exposure to the sunlight cannot demonstrate his devotion to the captured female, but his anomaly: "It's possible, decreased brain function or growing

scarcity of food, is causing them to ignore their basic survival instincts. Social devotion appears complete. Typical human behavior is now entirely absent" (Protosevich, 2007, p. 7). In the following day, Neville's falling prey to a similar trap – which has been set up by the male dark seeker – illustrates how a 'reasonable' scientist can easily lose his control in a fit of rage and risk his own life. Neville's impulsive behavior causes the death of his beloved dog, Samantha, for it is attacked by mutant dogs and gets infected while trying to protect its human companion. Here, it is seen that the lines between Neville and the male dark seeker are not as adamantine as they are dictated by the anthropocentric agenda. Neville's symbolic shortsightedness is also demonstrated towards the end of the movie when a large group of vampiric mutants – commanded by the alpha dark seeker – finds and attacks his house to re-capture the female mutant. In a similar vein, referring to this particular scene, Nicola Bowring (2015) argues that "Neville's underestimation of their ability to organize, his misconception of the other, ultimately proves his downfall […] through a false sense of superiority" (p. 135). Obviously, though immune to the KV, Neville is infected with one of the most sinister viruses of the Anthropocene – which is egocentrism and metaphysical inertia. The impetus of the cinema in the time of the Anthropocene, therefore, should entail an eco-centric vision that sees beyond the artificial dualities of the so-called 'modern civilization.'

Testifying its title, the movie *I Am Legend* concludes with Neville's decision to kill himself together with the alpha dark seeker and his 'invading' army – which in the end turns him into a 'legendary' figure sacrificing himself for the future generations. Just before his death, Neville is able to pass the antidote Anna and Ethan so that they will be able to take it to the survivors' colony and commemorate the self-sacrifice of their hero:

In 2009 a deadly virus burned through our civilization, pushing humankind to the edge of extinction. Dr. Robert Neville dedicated his life to the discovery of a cure and the restoration of humanity. On September 9th, 2012, at approximately 8:49 P.M., he discovered that cure. And at 8:52, he gave his life to defend it. We are his legacy. This is his legend. Light up the darkness. (Protosevich, 2007, p. 16)

However, considering the material and semiotic dimensions of the Anthropocene, it would be a reductionist approach to conclude that *Legend* justifies its title in a positive manner. On the contrary, reading between the scenes, it is seen that the movie does not simply confirm the image of a heroic 'subject' whose death warrants the well-being of the planet. In a posthuman space, everything is in a state of flux, and the inhabitants of this spatiotemporal process continue intra-acting in a myriad of forms. As the

viruses and germs continue mutating, all human and nonhuman life forms – including animate and inanimate matter – will be bound by various (im)material trajectories that underline the need to develop a more egalitarian and eco-centric perspective. Cinematographic narration in the time of the Anthropocene, therefore, proves itself as a useful medium to reflect on the changing dynamics peculiar to a 'posthuman space of becoming' which is always in a state of constant flux.

## 5. Conclusion

Reading the material and the semiotic trajectories of the Anthropocene side by side in *Legend*, it has been attempted to demonstrate the multi-layered projections of the human-nonhuman continuum via a mutant virus. As a geological force, humans are responsible for affecting the regular well-being of the ecological system negatively; however, they cannot escape from the detrimental consequences of their mutual entanglement with the more-than-human world. In this manner, the agential impetus of the Krippin Virus demonstrates how the nonhuman matter (which has been ironically formulated by a human agent) re-writes and re-creates itself in a plethora of possibilities. The uncontrollable energy of the virus brings the material and the semiotic aspects of the Anthropocene together: it is a material outcome of Dr. Alice Krippin's scientific experiments with the measles virus – which can also be compared to humankind's increasing impetus on a geological scale; on the other hand, the virus also operates as a semiotic agent which testifies the corporeal and the cultural fragility of the *anthropos*.

Within this perspective, as opposed to the image of an autonomous, self-willed individual, the human should be re-evaluated as an assemblage that co-exists and co-evolves with other forms of life. In this way, posthumanism "signals a renewed interest in the biological world, ideas of human animality and our kinship with other creatures" (Feder, 2014 p. 226). Likewise, critical posthumanism and ecocriticism decenter the traditional human subject and underline his/her liminal status within a posthuman space. Still, as Helena Feder (2014) argues, "ecocriticism's radical challenge lies not only in recognizing other forms of subjectivity and the ecological interconnectedness of these biologically diverse subjects, but in recognizing that relations between them are *political*—they are life and death relations" (p. 227, emphasis in original). Accordingly, the human 'self' can no longer be regarded as an all-powerful autonomous being, on the contrary, s/he is nothing other than a form of species among many others. As a creative outlet,

therefore, cinema is an effective tool in illustrating the dialogue between the human and the nonhuman agents of the Anthropocene, and the changing dynamics of the 'recent age of man' calls for a new conceptualization of the human on a material and philosophical ground. In other words, non-anthropocentric trajectories of the Anthropocene are concerned with going beyond the outdated reflections of an anthropocentric mindset that puts humankind on the highest pedestal and transforms it into a 'legendary' character; thereby, cutting all its connection with the material/physical world. In *Legend*, however, it has been demonstrated that as a (geo/bio)logical agent, the human 'subject' cannot reduce itself into a totally abstract or concrete image. Instead, it is a total sum of all the binaries brought together. Perhaps it is the reason why, the ultimate vaccine that is invented by the military scientist Robert Neville turns out to be a hybridized/enmeshed formulation that consists both of his blood and the blood of the vampiric mutant.

## References

Barad, K., 2007, *Meeting the Universe Halfway: quantum physics, and the entanglement of matter and meaning*, Duke University Press, Durham.

Bennett, J., 2010, *Vibrant Matter: a political ecology of things*, Duke University Press, Durham.

Bowring, N., 2015, "Richard Matheson's *I Am Legend*: Colonization and Adaptation," *Adaptation*, 8, 1, 130-144. doi: 10.1093/adaptation/apv001.

Braidotti, R., 2013, *The Posthuman*, Polity Press, Cambridge.

Brayton, S., 2011, "The Racial Politics of Disaster and Dystopia in I Am Legend," *The Velvet Light Trap*, 67, 66-76. doi: 10.1353/vlt.2011.0005.

Chakrabarty, D., 2016, "Humanities in the Anthropocene: The Crisis of an Enduring Kantian Fable," *New Literary History*, 47, 2-3, 377-397. https://www.jstor.org/stable/24772785

Chakrabarty, D., 2012, "Postcolonial Studies and the Challenge of Climate Change," *New Literary History*, 43, 1, 1-18. doi: 10.1353/nlh.2012.0007.

Chakrabarty, D., 2009, "The Climate of History: Four Theses," *Critical Inquiry*, 35, 2, 197-222. doi: 10.1086/596640.

Coole, D., Frost, S., 2010, Introducing the New Materialisms. In: Coole, D., Frost S. (Eds.), *New Materialisms: Ontology, Agency, and Politics*, Duke University Press, Durham, 1-43.

Crist, E., 2013, "On the Poverty of Our Nomenclature," *Environmental Humanities*, 3, 1, 129-147. doi: 10.1215/22011919-3611266.

Crutzen, P. J., & Stoermer, E. F., 2000, "The Anthropocene," *Global Change Newsletter*, 41, 17-18.

Deleuze, G., & Guattari, F., 1987, *A Thousand Plateaus: Capitalism and Schizophrenia*, translated by Brian Massumi, U of Minnesota P, Minneapolis.

Dolphjin, R., & van der Tuin, I., 2011, "Pushing dualism to an extreme: On the philosophical impetus of new materialism," *Cont Philos Rev*, 44, 383-400. doi: 10.1007/s110007-011-9197-2.

Fay, J., 2018, *Inhospitable World: Cinema in the Time of the Anthropocene*, Oxford University Press, New York.

Feder, H., 2014, Ecocriticism, Posthumanism, and the Biological Idea of Culture. In: Garrard, G. (Ed.), *The Oxford Handbook of Ecocriticism*, Oxford University Press, New York, 225-240.

Gratton, P., 2010 "Jane Bennett: *Vibrant Matter: A Political Ecology of Things*," *Philosophy in Review*, 30, 3, 158-160.

Iovino S., & Oppermann, S., 2012, "Material Ecocriticism: Materiality, Agency, and Models of Narrativity," *Ecozona*, 3, 1, 75-91. doi: 10.37536/ECOZONA.2012.3.1.452.

Latour, B., 2014, "Agency at the Time of the Anthropocene," New *Literary History*, 45, 1, 1-18. https://www.jstor.org/stable/24542578.

Miller, B., Croft J., 2018, "Planet has only until 2030 to stem catastrophic climate change, experts warn," *CNN.com*, 28 pars. https://www.cnn.com/2018/10/07/world/climate-change-new-ipcc-report-wxc/index.html.

Moore, K. D., 2013, "Anthropocene is the Wrong Word," *Earth Island Journal*, Spring, 9 pars. https://www.earthisland.org/journal/index.php/magazine/entry/anthropocene_is_the_wro ng_word/.

Nayar, P. K., 2014, *Posthumanism*, Polity P, Cambridge.

Nixon, R., 2018, The Anthropocene: The Promise and Pitfalls of an Epochal Idea. In: Mitman, G., Armiero, M., Emmett, R. S. (Eds.), *Future Remains: A Cabinet of Curiosities for the Anthropocene*, The University of Chicago Press, Chicago, 1-18.

Oppermann, S., 2016, "From Posthumanism to Posthuman Ecocriticism," *Relations*, 4, 1, 23-37. doi: 10.7358/rela-2016-001-oppe.

Oppermann, S., 2013, "Material Ecocriticism and the Creativity of Storied Matter," *Frame*, 26, 2, 55-69. https://www.frameliteraryjournal.com/26-2-ecocriticism/serpil-opperman-material-ecocriticism-and-the-creativity-of-storied-matter/.

Otter, C., *et al.*, 2018, "Roundtable: The Anthropocene in British History," *Journal of British Studies*, 57, 3, 568-572. doi: 10.1017/jbr.2018.79.

Peterson, J., & Uhlin, G., 2019, "In Focus: Film and Media Studies in the Anthropocene," *JCMS: Journal of Cinema and Media Studies*, 58, 2, 142-146. doi: 10.1353/cj.2019.0006.

Protosevich, M., 2007, *I Am Legend*, directed by Francis Lawrence, *Scripts.com*, 1-16. https://www.scripts.com/script-pdf/10450.

Steffen, W., Crutzen, P. J., McNeill, J. R., 2007, "The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?", *Ambio: A Journal of the Human Environment*, 36, 8, 614-621. https://www.jstor.org/stable/25547826.

Tillman, R., 2015, "Toward a New Materialism: Matter as Dynamic," *Minding Nature*, 8, 1, 30-35. https://humansandnature.org/toward-a-new-materialism-matter-as-dynamic/.

Whitehead, M., 2014, *Environmental Transformations: A Geography of the Anthropocene*, Routledge, New York.

# SECTION II


# Environment and Landscape Disaster during the Anthropocene: a call for Sustainability through Cinema

# 6. The *Chernobyl* Miniseries as a Narration Case of Environmental Disasters in the Anthropocene Era[1]

*Sonia Malvica[2], Lucrezia Lopez[3], Enrico Nicosia[4]*

## Abstract

During the Anthropocene, humanity negotiates its role as absolute rulers with the hope of regeneration from the ashes of disaster, finally embracing environmental requests. The Chernobyl nuclear disaster of 1986 marked the fate of the Soviet Union, as well as making world history. It was a traumatic event that reached planetary proportions, definitively cracking our security illusion and faith in technology. Visual communication is a catalyst for spreading global awareness at a surprising speed, mainly through fiction products. As a matter of fact, the *Chernobyl* miniseries (produced and released by HBO in 2019) was a world audience success showing how this event turned a city into a ghost town. It also allowed people to perceive the contrast between science's will and the power of political practice, asking the spectator to interpret the event and to develop the pertinent question. This study aims to recognise a role transcending pure entertainment in the *Chernobyl* miniseries: TV series are a cultural phenomenon that allow people to embrace the understanding of a global disaster, developing a collective consciousness.

**Keywords**: Chernobyl; Disaster fiction; Environmental Issues.

---

[1] Sonia Malvica wrote the first and second paragraphs, Enrico Nicosia wrote the third paragraph, and Lucrezia Lopez wrote the fourth and fifth paragraphs. All authors contributed to manuscript revision, read, and approved the submitted version.
[2] *Corresponding Author*; Department of Humanities and Social Sciences, University of Sassari, e-mail: smalvica@uniss.it.
[3] Department of Geography, University of Santiago de Compostela, lucrezia.lopez@usc.es.
[4] Department of Cognitive Science, Psychology, Education and Cultural Studies, University of Messina, enrico.nicosia@unime.it.

# 1. Introduction

By definition, 'catastrophe' implies a sudden change as the insertion of a chaotic component into an otherwise perfectly balanced system. The planet turns into a dystopian scenario, that is a devastated and undesirable world where humanity can do nothing but try to survive, unable to reset the world just before the tragic accident. Accordingly, people fear the suddenness of a catastrophic event, developing a state of restlessness generated by the possibility of the world's end: for this reason, the concept of dystopia enables the investigation into the relationship between popular culture and environmental issues (Nicosia & Porto, 2014). By his investigation of the communicative value of representation, Berger (1999) supported the pivotal role of science fiction in disseminating a collective culture of catastrophic stories; in particular, disaster movies can use historical and tragic events as a memento of the society collective fear (Dahlberg & Reichardt, 2022). Although movies could use narrative strategies to develop the belief that humanity can handle the world of disaster (Schröder, 2010), when the plot is based on true stories, the viewer can also associate fear with a concern related to man's actions on the environment. Moreover, the tragic idea of an already written script occurs, and people feel they can only play a role already assigned. This interpretation appears to be frequently used in the case of geopolitics investigations: in fact, a geopolitical scenario is often associated with a *script*, and the related events are accompanied using the scenic metaphor as well (Antonsich, 2001).

In agreement, when a catastrophic historical event is associated with a precise geopolitical framework, the communicative power of the script provided by a film/television product, leads to the development of a powerful, collective consciousness and a cultural phenomenon that allows people to embrace environmental issues. The Chernobyl disaster is a prime example of such global engagement.

Considering these premises, the main aim of this paper is to recognize how the case-study, namely the miniseries *Chernobyl* (produced and released by HBO in 2019), plays a role transcending pure entertainment. In the following pages, we will demonstrate that TV series are, in fact, a cultural phenomenon that allow people to embrace the understanding of a disaster into a global concern, developing a collective consciousness. We adopt a combined methodology based on the relationship between two types of sources: firstly, we analyse and reconstruct the disaster site, then we introduce the analysis and the contextualisation of these aspects in the miniseries. Thirdly, we reflect on these aspects from the point of view of the Anthropocene.

## 2. The place of the disaster: beyond the fiction

The Chernobyl nuclear disaster in the Ukrainian Soviet Socialist Republic occurred during the Cold War, characterised by a US-USSR competition that also included the primacy of nuclear energy. the tense geopolitical scenario associated with the tragedy has encouraged people to develop a collective imagination in which nuclear power was linked to the annihilation (Cordle, 2017). The USSR focus on nuclear energy as convenient energy supply (Gelino *et al.*, 2005) was motivated by the country's difficulty to access raw materials such as coal, gas, and oil, which were typically/more prominently located in the North-East without roads and characterised by an icy climate. After constructing the first commercial nuclear reactor in Obninsk in 1954, the USSR sought to see world primacy in electricity generation recognised. Thus, it advanced to nuclear energy research with secret programs, studying, in particular, the Reaktor Bolshoi Moshchnosty Kanalny (high-power channel reactor, RBMK) and the Pressurized Water Reactors (PWR) (Medveddev & Thompson, 1988).

The Chernobyl nuclear power plant was built in 1970, accompanied by the conception of Pripyat as one of nine *atomgrads* intended for workers' families. When choosing the type of nuclear reactors to install, despite the advice of director Viktor Bryukhanov who proposed PWR as a less dangerous method compared to RBMK (in terms of radiation emitted), the arguments on the lower cost of electricity prevailed. They opted for the RBMK-1000 style reactor (Carnazzi, 2016), characterised by "the nominal power equal 1000 MW electrical gross [using] enriched uranium as fuel, graphite as moderator and water as coolant" (Malko, 2002, p. 12). In the late 1970s, the first of the plant's reactors went into action, and the city of Pripyat was inaugurated, while the fourth reactor (i.e., Chernobyl-4) was completed in December 1983.

Due to the dramatic events that followed, the city was soon to be recognised as modern Pompeii (Plohky, 2018). Currently, the area within 30 km from the Chernobyl power plant looks like a ghost town, access to which is allowed only for group visitors during controlled and authorised tours, and in the presence of authorised personnel. In fact, The Chernobyl Exclusion Zone (i.e., the area near Pripyat with major radioactive contamination) is actually a considerable destination of dark tourism (Foley & Lennon, 1996), thus capturing interest as a historical destination linked to a tragedy of international reach (Lennon, 2017). An increase in tourist flow was recorded in 2019, with over 124.000 visitors compared to 71.869 in the previous year (Statista, 2021, see Fig. 1): this peak appears to be linked to the release of the HBO miniseries, *Chernobyl*. It has, somehow, contributed to the awakening

consciences at an international scale, thus turning the Chernobyl Exclusion Zone site into a dark and toxic tourism destination (Yankovska & Hannam, 2014).



Figure 1 - *The number of tourists in the Chernobyl Exclusion Zone from the year 2017 to 2021. Personal elaboration from Statista (2021).*

In order to investigate the fictional work as a cultural phenomenon, it is appropriate to starting with a brief explanation on the real, historical event. The Chernobyl tragedy occurred on the 26th of April 1986, after it began at about 1:23 pm which led to the explosion of Chernobyl-4. The tragedy was linked to the annual control test of Chernobyl-4 scheduled for Friday the 25th of April 1986. The relapse on the eve of the USSR national holiday, associated with the interruption of the reactor the following Tuesday for maintenance, put pressure on the execution of the test, which could not be postponed. Moreover, the test was related to the detection of a safety problem in the event of an external power failure by the Design Institute for Power Engineering in Moscow (Gelino *et al.*, 2005; Stanton, 1996). What, in particular, characterised the 1986 test was the maintenance of the functions of the reactor at reduced power, while the previous tests were carried out with the reactor off. The aim was to understand whether the turbogenerator could provide emergency power during the interval required to activate the emergency generators.

The reactor design was probably the main cause of the tragedy (Salge & Milling, 2006). The US Department of Energy's report (1986) stated that the

most influential factor causing the accident was the positive void coefficient of reactivity. This coefficient is associated with the increase of the vacuum (i.e., steam) in the reactor core, as well as a decrease in neutron absorption: in the case of positive void coefficient, an increase of steam in the core provides an increase of reactor's reactivity. This pattern is linked to the RBMK-1000 reactor, where water is used as a coolant and graphite as a moderator. In general, the core contains the fuel elements that produce heat, and several control rods, that are neutron absorbers (e.g., boron, cadmium) keeping nuclear reactions under control: in short, the gradual extraction of the rods allows the production of reactions and the increase of potency. Also, some fission products, called nuclear poisons (e.g., xenon), absorb neutrons and compromise the system's reactivity, accumulating even when the reactor is off. Through a primary cooling circuit, the heat produced by the fuels in the core is transferred to a secondary cooling circuit. The steam generated by the secondary circuit is sent to the turbines and alternators to produce current. Even when the nuclear reactor is off, refrigeration must still be guaranteed, otherwise, the accumulation of energy due to the decay processes would lead to a meltdown, consequently damaging the reactor. For this reason, an auxiliary system called Emergency Core Cooling System (ECCS) is provided to prevent the loss of refrigerant. The shutdown of the ECCS in the case of Chernobyl was another cause of the disaster, associated with the mismanagement of poisoning compensation (Santoro, 2019a). In practice, there was a lack of the necessary tools to manage the high void coefficient, which led to the achievement of a radioactivity dose of 300 Sv per hour in the affected area: a terribly high number against human security (Santoro, 2019a).

The test predicted that the reactor would reach a power of 700-1000 MWt: however, the power dropped to about 30 MWt at 00:28 on April 26. Then, under the order of the deputy chief engineer Anatolij Djatlov, several control rods were extracted to counteract the lowering of power, also due to the presence of xenon. This decision violated the minimum margin of operational reactivity (i.e., the number of control rods that must remain in the core) (Santoro, 2019b), and also went against the will of the reactor operator, Leonid Toptunov, and the shift supervisor, Aleksandr Akimov, to shut down the reactor (Malko, 2002, p. 18). At 01:03, the reactor was stabilised at around 200 MWt. The steam valve was closed at 1:23:04, effectively starting the test (Department of Energy, 1986; Malko, 2002). After that, for 36 seconds, there was at first, a gradual and then fast increase in power at the house of the vacuum formation. The second phase saw a rapid power excursion as the vacuum formation began to accelerate. The presence of steam increased the temperature and reactor's power. As already mentioned, almost all the control

bars were raised to counteract xenon poisoning. At this point, Akimov, who oversaw the handling the bars, pressed the button of SCRAM (i.e., Safety Control Rods Activation Mechanism) AZ-5 (A3-5 in Cyrillic). But, due to the presence of graphite in the control rods' tips that came into contact with the water (Naoum & Spyropoulos, 2021), Chernobyl-4 increased in power and then exploded, releasing a huge amount of radiation for several days. By the International Atomic Energy Agency (IAEA, www.iaea.org), the entire population of Pripyat (49.360 people) was evacuated 36 hours after the accident, 67.000 people were evacuated from contaminated areas in the following weeks and months, with a total of some 200.000 relocated. Unfortunately, the evacuation procedure was delayed by bureaucratic and politic scenarios (Marples, 1988). The unpredictability of an event of this magnitude also affected the inadequacy of the equipment: there were no tools to accurately estimate the level of radiation after the explosion, and firefighters working on the reactor did not wear appropriate, protective outfits (Kortov, Ustyantsev, 2013).

Such dynamics were partially showed in the *Chernobyl* miniseries, which contributed to a collective understanding of the event, even without knowledge of nuclear physics.


## 3. The *Chernobyl* miniseries' collective engagement

*"We live in a hyper-visual culture. Perhaps Chernobyl and its incredible cinematography can  serve as a key to unlock people's curiosity, so that historians can offer them more details when they're ready to engage with a more mature understanding of the disaster, and the history of nuclear energy writ large."*
(Schmid, 2020, p. 1160)

The Chernobyl nuclear disaster is a case of transmedia phenomenon, that is the result of cohesive stories distributed with different media formats (e.g., streaming platforms) associated to a prominent spectator's engagement (Gambarato *et al.*, 2022; Giovagnoli, 2011). Accordingly, it responded well to the positive role of the fictional media in disseminating a public understanding of global environmental issues (Kirby, 2020). The HBO's *Chernobyl* miniseries of 2019, written by Christopher Mazin and directed by Johan Renck, has been recognised as the highest-rated television series ever (The Economist, 2019). Covering the period from 25 April 1986 until 26 April 1988, *Chernobyl* tells the tragedy of the event in five episodes,

the first of which comes with a ruthless title: *1:23:45*, the exact time of the reactor explosion.

The series "is not a polemic against nuclear power or against the powerful Soviet bureaucracy. At its heart, it is all about un-burying the truth in the face of the crude censorship of an all-controlling state" (Ali, 2020, p. 155). The spectator is immediately led to empathise with characters who clash with the Soviet desire to cover up information: for example, Valerij Legasov (played by Jared Harris), chemist and deputy director of the Kurčatov Institute of Atomic Energy, nominated member of the commission charged with reducing the incident's damages and investigating the causes, and the scientist Ulana Khomyuk (played by Emily Watson), a fictional character created to show the conflict between the science's desire of truth and politic interests. The scenario of negligence affecting the entire population is immediately shown, such as during the scene of the firefighters sent to extinguish the flames generated by the reactor, without protective equipment and unaware of the extent of the disaster: the men touch the graphite from the core, taste metal in the air, and start showing the first symptoms of radiation poisoning.



Figure 2 - *Screenshots from Chernobyl's first episode. The firefighters touch the graphite (on the left) and taste metal in the air (on the right). After few minutes, they started experimenting the tragic symptoms of radiation poisoning.*

The series screenplay is inspired by *Chernobyl Prayer: Voices from Chernobyl* (first published in 1997), the Belarusian Svetlana Alexievich's work of reconstruction of some interviews collected from different survivors who experienced the tragedy. Also, The *Chernobyl Podcast* by Peter Sagal was aired once a week from May up to June 2019, releasing conversation with Mazin about the relationship between his work of fiction and historical events. It has been recognised that the series showed accurate choices in terms of aesthetics: Chernobyl-4 was represented by the extremely similar RBMK reactor at Ignalina, in Lithuania, and also the clothing and buildings were quite accurate in recreating 1980s USRR (Braithwaite, 2019). However, it is pivotal to understand that the work does not correspond to a documentary, as claimed by Mazin himself (Sagal, 2019). In fact, the series actually presents

some omissions and inaccuracies (Schmid, 2020). For example, the construction of the nuclear power plant is neglected, which could have contributed to understanding what happened and would show the technological development in the historical context as well. Also, some screenplay choices could convey a vision of the tragedy according to the US - USSR historical dichotomy, leading the spectator to recognise in Americans a scientific accuracy and scientific precaution that would be lacking in the Soviets. A self-evident example is provided in the fifth and final episode, *Vichnaya Pamyat*. During the interrogation in the trial room, Legasov reconstructs the dynamics of the incident, finally arriving at the moment when Akimov pressed the AZ-5 button. He then explains that the control rods' tips were made of graphite, which was the reason for the acceleration of reactivity, consequently leading to the reactor burst. Faced with this statement, the judge Kadnikov was in visible disbelief since this feature is not present in American reactors and therefore, asked for further information. Legasov's answer was:

> "The same reason we don't use properly enriched fuel in our cores. The same reason we are the only nation that builds water-cooled graphite moderated reactors with a positive void coefficient. It's cheaper." (*Chernobyl* miniseries, Episode 5).

The presentation of the RMBK as a cheap reactor is not accurate. On the contrary, it was costly but, unlike the other reactors, did not require the provision of rare materials and specific difficult-to-transport welds; also, RMBK was designed by the Soviets themselves (Schmid, 2020). Another moved critic is related to the anthropocentric nature of the series, as if the non-human beings were not involved in the tragedy. In this regard, Mills (2021) analysed the beginning of the first episode: the first sequences are dedicated to a cat who moves through a house, showing a painless everyday life compared to the action of Legasov, who instead seems to have just finished recording a confession that, as he himself declared, would have put his life at risk.

Figure 3 - *Screenshots from Chernobyl's first episode. In the same room, Legasov is recording his confession (on the left) and a cat is moving around, with no awareness of the tragic event.*

However, rather than recognising an anthropocentric direction, *Chernobyl* seems to represent a critique of anthropocentrism itself: human activity's consequences fall on all other unaware species, as shown in the fourth episode, with the truly dramatic liquidation of animals' sequence. Overall, *Chernobyl* aims to solicit a collective engagement in the spectators, showing an utterly human scenario made up of errors and censorship (Sagal, 2019). For this reason, the moment of the nuclear incident is shown through the scientist' dismay and confusion; both the dialogues and the shots emphasise the unconsciousness of the characters, unable to manage the situation (Rindzevičiūtė, 2020). The will to present not an accurate historical fact, but rather a human experience, is probably already traceable in the choice of starting the storytelling from the conclusion of the events. Indeed, the first sequences of the entire series are dedicated to the suicide of Legasov after producing some recordings against Anatolij Dyatlov. The main topic is definitely a human tragedy, caused by humanity itself.

The spectator is, therefore, immediately thrown into a storytelling of concealments and censorship, which is impossible as well as dangerous to have a complete account of. For this reason, the choice to place the first sequences of the series two years after the disaster is, in this sense, narratively winning, "*Chernobyl* is a general warning to humanity" (Christian, 2019, p. 765), to the Anthropocene's humanity that operates with no regard to the other living species and now is asked to face the concluded facts.

## 4. Anthropocene as humanity negotiation

As a topic of interest for all Earth Sciences, both Anthropocene and planetary boundaries are also a topic of Geography as "a 'world discipline' that reveals the complex connections between humans and non-humans

extending to the largest spatio-temporal scales" (Castree, 2014a, p. 446), and particularly of interest to physical, human, and environment geographers (Castree, 2014b). Anthropocene is a geological era after the Holocene characterised by a force of human action as the cause of significant changes and irreversible effects on the global environment (Crutzen & Stoermer, 2000). Among the numberless definition and speculations about the term "Anthropocene", according to Chakrabarty (2009) this term indicates not only the moment in which the human becomes fully expressed in the Earth System, but, during the Anthropocene human beings seems to lose their ability to grasp what is meant to be human.

Although the beginning of the Anthropocene is the subject of a current debate, the Great Acceleration and the nuclear age seem to be valid candidates, or at least they could be recognised as the second phase following the Industrial era (Steffen *et al.*, 2011). Other scholars (Zalasiewicz *et al.*, 2015) recognise the global dispersion of artificial radionuclides (i.e., the nuclear era) as a pivotal event, suggesting that the Anthropocene started with the detonation of the bomb in New Mexico on 16 July 1945. The human role in the environmental change was claimed as a global concern in the 1968, when during the 22nd session of UN General Assembly, a conference on the topic was proposed and then concretised in the 1972 United Nations Conference on the Environment, in Stockholm. The Stockholm Conference aimed to positively affect the geopolitical tension of the Cold War, providing an international interest towards a common concern (Linnér & Selin, 2021). The environmental security concept was instead developed after the 1984 gas accident in Bhobal and the 1986 Chernobyl event (Lövbrand *et al.*, 2021).

After 36 years, the effects of the Chernobyl disaster are more than visible, "Releases of radiologically significant radionuclides after the Chernobyl NPP accident correspond to 14 exaBecquerel – higher up to an order of magnitude compared to 3 emergence power units of the <Fukushima-1> NPP" (Onischenko *et al.*, 2021). Different levels of radiation reached Europe, and both the flora and fauna in the affected area were devastated, with the death of several wild animals and trees, whose red color gave birth to the famous Red Forest. After the explosion, 17.000 $Km^2$ of mainly Ukrainian forest were infected and 19.000 $km^2$ of agricultural land was contaminated (Naoum & Spyropoulos, 2021, p. 187). The incident did not only impact upon the landscape features, the high level of radiation exposure also affected individuals' physical (Ory *et al.*, 2021) and mental (Oe *et al.*, 2021) health. People involved in the incident showed long-term psychopathological symptoms as well as neuropsychiatric disorders. Gene alterations (in the contaminated areas, the frequency of chromosomal aberrations is higher than

in other countries; see Yablokov *et al.*, 2006) are associated with mental disorders, cognitive impairment, and cerebrovascular disease (Loganovsky & Marazziti, 2021). Moreover, the survivors live in a collective state of risk, managing an apparently healthy life that could collapse at any time (Abbott *et al.*, 2006).

To insert the Chernobyl disaster within the Anthropocene framework could mean recognising, in the nuclear tragedy, a "human negotiation". The Chernobyl Exclusion Zone is the concrete testimony of an ecosystem irreversibly changed by human actions. Such a dystopian environment shows irreversible changes that humanity can only accept as an accomplished fact. Chernobyl's incident represents a sort of eco-trauma (Woodbury, 2019): in line with this, HBO's miniseries represents the nuclear explosion as the first phase of a tragedy whose consequences would begin to spread in the environment silently over time. Thus, associating nuclear concern with the long-term effects of global environmental change: in this regard, Ali (2020) recognised parallelism between the censorship represented in the *Chernobyl* miniseries and the current climate change denial.

"The Anthropocene is to natural science what cinema, especially early cinema, has been to human culture" (Jennifer, 2018, p. 3). From this point of view, fiction productions can provide people with a hostile environment, difficult to manage and with threatening connotations that were, however, caused by humanity itself. By reconstructing an engaging fictional event but also a realty-related world (Shackleford, Vinney, 2020), *Chernobyl* is part of the fictional world of the Anthropocene: it can transcend pure entertainment and lead people to collective awareness and consciousness, thus embracing the understanding of a disaster into a global concern. The idea is that *Chernobyl* has been able to provide people with enough curiosity, engaging them in deep research on the real and historical fact (Schmid, 2020): the increasing dark tourism in the Exclusion Zone in 2019 (as shown in the first paragraph) is a proof of the need to live and represent the tragedy, a role played by "sublime tourists, attempting to create an attentive representation of the pervasive anxiety of the risk society" (Goatcher & Brunsden, 2011, p. 132).

Faced with the assumption of being unable to reset the world and that the will to cancel the consequences of humanity's actions is an unattainable utopia, it remains the need to develop an Anthropocene awareness (Ivakhiv, 2018).

## 5. Conclusive remarks

Tsunamis, wildfires, nuclear traces, toxic oceans, species extinctions and disruptions, ecological collapse, among others, make up the narrative of the Anthropocene (Tyszczuk, 2018). In this way: "the Anthropocene is a planetary alarm, a cautionary tale and a call for action" (Tyszczuk, 2021, p. 2) that the cultural industry, as the same cinema, is helping to disseminate. Opposite to the main discourses regarding "future scenarios" that nourish a sense of an unknown, cinematic productions about well-known catastrophes pretend to warn of future risks. Thus, the past becomes a lesson for the uncertain future. As the present work has tried to show, the visual narratives of movies and series produce a collective culture of catastrophic stories (Berger, 1999), and, in the specific case of Anthropocene-based productions, spectators are provided with potential future scenarios, that aim to prevent similar catastrophes.

As a production between history and never-ending risk management, the miniseries *Chernobyl* reminds the public which are the global consequences that such an uncontrolled human activity might have. Thus, thanks to it, this catastrophic site has obtained a central role, while strengthening the global engagement towards similar issues. Considering the contemporary historical moment (i.e., rich in demonstrations and protests precisely against the damages and trauma of human exploitation), future research should explore the different treatment of tsunamis, wildfires, nuclear accidents, eco- traumas, species extinctions and disruptions in movie productions, in order to reinforce their potential collaboration for a better future and sustainable scenario. This would enable to stimulate dialogue across contemporary areas of research that should receive more attention.

### References

Abbott, P., Wallace, C., Beck, M., 2006, "Chernobyl: Living with risk and uncertainty", *Health, Risk and Society*, 8, 2, 105-121.

Ali, S.T., 2020, "Difficult Truths versus Expedient Lies: HBO's Chernobyl and Climate Change Denial", *Journal of the Department of English*, 13, 1, 155-171.

Antonsich, M., 2021, "«Critical Geopolitics». La geopolitica nel discorso postmoderno", *Bollettino della Società Geografica Italiana*, 6, 13, 735-752.

Berger, J., 1999, *After the End: Representations of post-apocalypse*, University of Minnesota Press, London, Minneapolis.

Braithwaite, R., 2019, "Chernobyl: A 'Normal' Accident?", *Survival*, 61, 5, 149-158.

Carnazzi, S., 2016, *Cosa è successo a Chernobyl, la cronologia del disastro minuto per minuto*, https://www.lifegate.it/Chernobyl (access on 22 October 2022).

Castree, N., 2014a, "The Anthropocene and Geography I: The Back Story", *Geography Compass*, 8, 7, 436-449.

Castree, N., 2014b, "Geography and the Anthropocene II: Current Contributions", *Geography Compass*, 8, 7, 450-463.

Chakrabarty, D., 2009, "The Climate of History: Four Theses", *Critical Inquiry,* 35, 2, 197-222.

Christian, D., 2019, "Chernobyl: re-creating a nuclear tragedy", *History Australia*, 16, 4, 763-765.

Cordle, D., 2017, *Late Cold war Literature and Culture: The Nuclear 1980s*, Palgrave Macmillan, London.

Crutzen, P.J., Stoermer, E.F., 2000, "The Anthropocene", *Global Change News Letter,* 41, 17-18.

Dahlberg, R., Reichardt, U., 2022, Disaster movies: definitions, filmography and three analyses. In: Aronsson-Storrier, M., Dahlberg., D. (Eds.), *Defining Disaster: Disciplines and Domains*, Edward Elgar Publishing, Cheltenham, Northampton, 194-211.

Foley, M., Lennon, J.J., 1996, "JFK and dark tourism: A fascination with assassination", *International Journal of Heritage Studies*, 2, 4, 198-211.

Gambarato, R.R., Heuman, J., Lindberg., Y., 2022, "Streaming media and the dynamics of remembering and forgetting: The Chernobyl case", *Memory Studies*, 15, 2, 27-286.

Gelino, N., Rey-Babarro, M., Siegler, M.A., Sood, D., Verlinden, C., 2005, *Chernobyl Nuclear Disaster. An Accident Investigation Report submitted for IOE491, Human Error and Complex System Failures*, http://gbytes.gsood.com/files/Chernobyl_Report_Final.pdf (access on 22 October 2022).

Giovagnoli, M., 2011, *Transmedia storytelling: Imagery, shapes and techniques*, ETC Press, Pittsburgh, PA.

Goatcher, J., Brunsden, V., 2011, "Chernobyl and the Sublime Tourist", *Tourist Studies*, 11, 2, 115-137.

IAEA, *Frequently Asked Chernobyl Questions*, https://www.iaea.org/newscenter/focus/chernobyl/faqs (accessed 28 October 2022).

Ivakhiv, A., 2018, *Shadowing the Anthropocene: Eco-Realism for Turbulent Times*, Punctum Book.

Jennifer, F., 2018, *Inhospitable World: Cinema in the Time of the Anthropocene*, Oxford University Press, Oxford.

Kirby, A., 2020, "Scientists on the set: science consultants and the communication of science in visual fiction", *Public Understanding of Science*, 12, 261-278.

Kortov, V., Ustyantsev, Y., 2013, "Chernobyl accident: Causes, consequences and problems of radiation measurements", *Radiation Measurements*, 55, 12-16.

Lennon, J., 2017, "Dark Tourism", *Oxford Research Encyclopedia of Criminology and Criminal Justice*, https://doi.org/10.1093/acrefore/9780190264079.013.212.

Linnér, B.-O., Selin, H., 2021, Geopolitics and the United Nations Conference on the 18 Human Environment. In: Lövbrand, E., Mobjörk, M. (Eds.), *Anthropocene (In)securities Reflections on Collective Survival 50 Years After the Stockholm Conference*, Oxford University Press, Oxford, 18-33.

Loganovsky, K., Marazziti, D., 2021, "Mental Health and Neuropsychiatric Aftermath 35 Years After the Chernobyl Catastrophe: Current State and Future Perspectives", *Clinical Neuropsychiatry*", 18, 2, 101-106.

Lövbrand, E., Mobjörk, M., Söder, R., 2021, One earth, multiple worlds: Securing collective survival on a human-dominated planet. In: Lövbrand, E., Mobjörk, M. (Eds)., *Anthropocene (In)securities Reflections on Collective Survival 50 Years After the Stockholm Conference*, Oxford University Press, Oxford, 1-16.

Malko, M.V., 2002, The Chernobyl Reactor: Design Features and Reasons for Accident. In: Imanaka, T. (Ed.), *Recent Research Activities about the Chernobyl NPP Accident in Belarus, Ukraine and Russia*, Research Reactor Institute, Kyoto University, 11-27.

Marples, D.R., 1988, *The Social Impact of the Chernobyl Disaster*, Macmillan, Houndsmill.

Medveddev, Z., Thompson, M. (Ed.), 1988, *The Soviet nuclear energy programme: the road to Chernobyl*, Pluto Press, United Kingdom.

Mills, B., 2021, "Chernobyl, Chornobyl and Anthropocentric Narrative", *Series- International Journal of TV Serial Narratives*, 7, 1.

Mobjörk, E., 2021. *Anthropocene (In)securities: Reflections on Collective Survival 50 Years After the Stockholm Conference*, Stockholm International Peace Research Institute, Sweden.

https://policycommons.net/artifacts/2422496/anthropocene-insecurities/3444088/ (accessed 03 November 2022).

Naoum, S., Spyropoulos, V., 2021, "The nuclear accident at Chernobyl: Immediate and further consequences", *Romanian Journal of Military Medicine*, 124, 2, 184-190.

Nicosia, E., Porto, C.M., 2014, Under the Dome. Paura del presente e ansie del futuro, In: Amato, F., Dell'Agnese, E. (Eds.). *Schermi americani. Geografia e geopolitica degli Stati Uniti nelle serie televisive*, Edizioni Unicopli, Milano, 65-77.

Oe, M., Takebayashi, Y., Sato, H., Maeda, M., 2021, "Mental Health Consequences of the Three Mile Island, Chernobyl, and Fukushima Nuclear Disasters: A Scoping Review", *International Journal of Environmental Research and Public Health*, 18, 14, 7478.

Onischenko, G.G., Popova, A.Y., Romanovich, I.K., 2021, "Radiological consequences and lessons of the Chernobyl NPP and «Fukushima-1» NPP radiation accidents", *Radiation Hygiene*, 14, 1.

Ory, C., Leboulleux, S., Salvatore, D., Le Guen, B., De Vathaire, F., Chevillard, S., Schlumberger, M., 2021, "Consequences of atmospheric contamination by radioiodine: the Chernobyl and Fukushima accidents", *Endocrine* 71, 298-309.

Plokhy, S., 2018, *Chernobyl: History of a Tragedy*, Penguin Books, London.

"Radiazioni ionizzanti: con il D.Lgs. 101/2020 attuata la direttiva Ue 2013/59/Euratom", *Ambiente & Sicurezza*, 24 August 2020, https://www.ambientesicurezzaweb.it/radiazioni-ionizzanti-con-il-d-lgs-101-2020-attuata-la-direttiva-ue-2013-59-euratom/ (access on 22 October 2022).

Rindzevičiūtė, E., 2020, "*Chernobyl* as Technoscience", *Technology and Culture*, 61, 4, 1178-1187.

Sagal, P., 2019, *The Chernobyl podcast* [podcast], https://open.spotify.com/show/5SSYyVWm0FaY8as96gE3EM (accessed 03 November 2022).

Salge, M., Milling, P.M., 2006, "Who is to blame, the operator or the designer? Two stages of human failure in the Chernobyl accident", *System Dynamics Review*, 22, 2, 89-112.

Santoro, E., 2019a, *Dentro Chernobyl. Come funziona un reattore nucleare*, https://www.agi.it/blog-italia/scienza/chernobyl_reattore_nucleare_come_funziona-5754642/post/2019-07-01/.

Santoro, E., 2019b, *La sequenza esatta degli ultimi 60 secondi della centrale nucleare di Chernobyl*, https://www.agi.it/blog-italia/scienza/chernobyl_ultimo_minuto-5871821/post/2019-07-21/.

Schmid, S.D., 2020, "Chernobyl the TV Series: On Suspending the Truth or What's the Benefit of Lies?", *Technology and Culture*, 61, 4, 1154-1161.

Schröder, N., 2010, Framing disaster. Images of Nature, Media, and Representational Strategies in Hollywood Disaster Movies, In: Volkmann, L., Grimm, N., Detmers, I., Thomson, K. (Eds.), *Local Natures, Global Responsibilities. Ecocritical Perspectives on the New English Literatures*, Brill, Leiden, The Netherlands, 289-306.

Shackleford, K., Vinney, C., 2020, *Finding Truth in Fiction: What Fan Culture Gets Right and Why It Is Good to Get Lost in a Story*, Oxford University Press, New York.

Stanton, N., 1996, *Human Factors in Nuclear Safety*, Taylor and Francis, London, Great Britain.

Statista, 2021, *Number of tourists visiting the Chernobyl Exclusion Zone in Ukraine from 2017 to* 2021, https://www.statista.com/statistics/1231428/number-of-tourists-in-chernobyl-exclusion-zone (accessed 03 November 2022).

Steffen, W., Grinevald, J., Crutzen, P., McNeill, J., 2011, "The Anthropocene: conceptual and historical perspectives", *Philosophical Transactions of the Royal Society*, 369, 842-867.

The Economist, 2019, *Chernobyl" is the highest-rated TV series ever*, https://www.economist.com/graphic-detail/2019/06/04/chernobyl-is-the-highest-rated-tv-series-ever (accessed 28 October 2022).

Tyszczuk, R., 2018, *Provisional Cities. Cautionary Tales for the Anthropocene,* Routledge, London.

Tyszczuk, R., 2021, "Collective scenarios: Speculative improvisations for the Anthropocene", *Futures*, 134, 102854.

U.S. Department of Energy, 1986, *Report of the US Department of Energy's team analyses of the Chernobyl-4 Atomic Energy Station accident sequence*, https://doi.org/10.2172/7037704.

Woodbury, Z., 2019, "Climate trauma: Towards a new taxonomy of trauma", *Ecopsychology*, 11, 1, 1-8.

Yablokov, A., Labunska, I., Blokov, I. (Eds.), 2006, *The Chernobyl Catastrophe: Consequences on Human Health*. Greenpeace.

Yankovska, G., Hannam, K., 2014, "Dark and toxic tourism in the Chernobyl exclusion  zone", *Current Issues in Tourism*, 17, 10, 929-939.

Zalasiewicz, J., Waters, C.N., Williams, M., Barnosky, A.D., Cearreta, A., Crutzen, P., Ellis, E., Ellis, M.A., Fairchild, I.J., et al., 2015, "When Did the

Anthropocene Begin? A Mid-Twentieth Century Boundary Level Is Stratigraphically Optimal", *Quaternary International*, 383, 196-203.

# 7. "Il tempo dei giganti". A mosaic of minute stories for a film-documentary account of the Xylella case in Salento

*Fabio Pollice[1], Patrizia Miggiano[2]*

**Abstract**

The paper aims to encourage a critical reflection on the use of visual tools, with particular reference to the language of film-documentary, to explore the social perception of the phytosanitary disaster underway in Puglia, known by the name of the pathogen that was its cause, Xylella fastidiosa (Wells *et al.*, 1987; Saponari *et al.*, 2017, Morelli *et al.*, 2021).

Since 2013, the year of its first appearance in Salento, estimates record a propagation that has affected about 750,000 hectares of olive groves throughout Puglia, causing the desiccation of vast expanses of centuries-old olive trees, a landscape and natural heritage of immeasurable value and, moreover, an identity reference for Salento peninsula.

Starting from the analysis of a case study offered by the recent documentary Il tempo dei giganti, a rich mosaic of minute stories regarding the outbreak –the intention is to observe not the ontology of the phenomenon, but rather the conflict of interpretations generated by it, understood as a field of dialectic formation of reading vectors and interpretative regimes.

Finally, we will reflect on possible future scenarios and on the need for a rethinking of Puglian agricultural models that take into account the morphological, soil and climatic characteristics limatic characteristics of the region, in order to guarantee the protection and safeguarding of biodiversity to make Salento a true laboratory of sustainability. This will help local actors and the population, to rebuild after the catastrophe and rethink the landscape, agriculture and practices.

**Keywords**: Xylella; Salento; film non-fiction; documentary; environment; landscape

---

[1] Department of Human and Social Sciences, University of Salento, Studium 2000, via di Valesio, corner of Viale San Nicola, Lecce 73100; fabio.pollice@unisalento.it

[2] *Corresponding Author;* Department of Human and Social Sciences, University of Salento, Studium 2000, via di Valesio, corner of Viale San Nicola, Lecce 73100; patrizia.miggiano@unisalento.it.

*Those who will live after us,
two or three hundred years from now,
and for whom we are preparing the way,
will they remember us with a good word?*

Cechov, *Zio Vanja* (1896)

## 1. Introduction

In Salento, the southern territory of Puglia, the most serious phytosanitary emergency of the century is underway, resulting in the rapid desiccation (CoDiRo) of millions of olive trees. It is caused by an aerobic gram-negative bacterium, named *Xylella Fastidiosa*, which multiplies in the xylem vessels involved in the transport of nutrients and minerals from the roots to the upper section of the plant, often with lethal effects (Wells *et al.*, 1987; Saponari *et al.*, 2017, Morelli *et al.*, 2021). It is included in the A1 list of the Eppo (European and Mediterranean plant protection organization).

Hitherto absent in Europe, the bacterium has caused enormous damage in the United States and South America over the years (Beretta *et al.*, 1996; Müller *et al.*, 2022). The first cases were detected in 2013 in Salento, around Gallipoli, near Alezio and the provincial road 361 affecting around 8,000 hectares. Since then, according to estimates by Confagricoltura, Italy's national agricultural association, and the government's own records, the infection has spread to 750,000 hectares of olive groves throughout Puglia. It is estimated that around 21,000,000 olive trees have died or have been cut down to prevent the spread of the disease, which has particularly affected Lecce, Brindisi and part of the Taranto area, with a consequent loss of 33,000 jobs in the olive oil sector (www.confagricoltura.it;https://gd.eppo.int/taxon/XYLEFA/distribution;https://gd.eppo.int/taxon/XYLEFA/distribution).

The disaster is even more dramatic if one takes into account the fact that 30% of the plants affected by the epidemic are centuries-old olive trees, constituting a historical-cultural, landscape and natural heritage of immeasurable value[3] (Figure 1).

---

[3] Regional Law 14/2007, *Tutela e valorizzazione del paesaggio degli ulivi monumentali della Puglia* banned the uprooting and trade in olive trees over 100 years old and recognized that human care was indispensable to preserve their state of health.

Figure 1 - *Olive trees in Salento following the Xylella fastidiosa epidemic.*
Photograph by Davide Barletti

Driving through Salento, starting from the north, one notices that the effects of the massive infection are not immediately noticeable. Proceeding southwards, however, the olive trees gradually begin to show signs of desiccation. However, from a moving car it is not always easy to distinguish the grey from the green, especially as the ride gives a view only of the olive trees in the first row, the ones closest to the road (Figure 2). As one travels down the Ionian coast, however, it becomes increasingly difficult not to notice the increasingly widespread and evident desiccation, until the dramatic panorama that unfolds as one enters provincial road 101, on a long viaduct that turns towards the sea. Here, in fact, the road rises considerably, revealing a ghostly curtain of dry, grey olive groves stretching as far as the eye can see. These are scenarios that compose and decompose like a gloomy kaleidoscope, in which the human imprint is visible in the desperate attempts to contain the epidemic. So far, though, none of these attempts have led to a halt. On the contrary, Xylella continues to advance northwards, threatening the territories of the European Union.

## 2. Olive ergo sum

Over time, various solutions to the disaster have been proposed, most notably the Silletti Plan (2015), named after the then director of the Puglia Region of the State Forestry Corps and special commissioner for the Xylella emergency. This envisaged the division of the territory into three parts

(infected zone, buffer zone, prophylaxis zone) and regulated eradication, felling and monitoring protocols. There have also been more recent proposals to replant olive trees resistant or tolerant to the Xylella bacterium (belonging to the two cultivars *Favolosa* and *Leccino*), in place of those dead or eradicated (Figure 2).

The local population's yearning to overcome the emergency, however, has unfortunately clashed - and continues to clash - with a series of errors and delays in the management of the epidemic. These still persist and bog down any possible recovery or at least containment of the disaster, and has generated complex reactions among the locals, both socially and emotionally.

In fact, the olive tree represents an identity reference for the area. Both the tree and the production of olive oil have historically been associated with a constellation of affective meanings and values, which have been further invigorated and strengthened – as well as modified - by the tourist gaze on Salento.

Salento is clearly historically an agrarian landscape; the result of the interaction between human beings and the environment, but in particular, the result of a conscious and systematic imprinting on the natural landscape (Sereni, 1961). It can therefore be said that the Salento landscape has over the centuries reflected the changing social conditions, the evolution of culture and collective practices and the progress of agricultural techniques.

In Salento we can say that a system tied to ancient agricultural practices and traditions persists, and "the same cultivation practices [are] cyclically marked by the turning of the seasons"[4] (Martella, 2022, p. 2022) - all the more reason for local communities to assign an identity value to the olive-growing landscape that is greater than its economic value.

It is actually rather strange that today we recognize the identity value of a tree crop that had a markedly exogenous matrix. The development of olive growing in Salento between the 17th and 19th centuries was, in fact, linked to the production of *lampante*, or lighting, oil for the European market. During this time, oil was used as fuel in the lamps for domestic lighting in the cities of Europe, but the main beneficiaries were the large landowners and the companies that managed the oil trade. On closer inspection, this particular form of production and distribution could be considered an embryonic phase of globalization in which Salento constituted the historical counterpart of what some developing countries are today. This cultivation system reflects the needs of more economically developed countries, with little attention paid to the basic food, let alone the economic, needs of the local population. This

---

[4] Translation by the authors.

132

created, now as then, an unequal exchange, which did not return to the territory the market value that it produced.

In the end, all this was forgotten, and the olive trees ended up imposing themselves as an identity reference together with other elements of the rural landscape of Salento, such as the dry-stone walls and the characteristic *pagliare*, also functionally linked to the cultivation, so much so as to transform a contingency into a territorial vocation.

Reflecting on all this is a first step in attempting to fully grasp the universe of meanings that have matured over time around the olive tree, olive production, and the semantic and symbolic *chiaroscuro* of the trajectories of territorialization that ensue - around which the local population has built its own project of resistance and regeneration.



Figure 2 - *Decay of an olive tree in a centuries-old olive grove*.
Photograph by Patrizia Miggiano

## 3.  "Il tempo dei giganti"

Recounting the disaster and the reactions of the local community is a way of responding to the urgent need to maintain interest in the often emotionally connoted ancient bond of affection that binds the people of Salento to its *giganti*, its giants. The documentary film *Il tempo dei giganti* [The age of the giants] recreates this iconosphere, bearing witness to the spread, to the

attempts to halt the epidemic, and to the difficulties and contradictions of the policies implemented. It is freely inspired by the book of the same name by Stefano Martella, directed by Davide Barletti and Lorenzo Conte, and produced by Dinamo Film and Fluid Produzioni. Through a rich mosaic of visions and 'minute stories', the film rather than following the ontology of the phenomenon, focusses on the conflict of interpretations generated by it (Ricoeur, 1969), understood as a field of dialectical formation of vectors of reading and regimes of interpretation of the phenomenon (Figure 3).



Figure 3 - *A moment in the making of the film documentary "Il tempo dei Giganti", released in cinemas in 2022.*
Photograph by Davide Barletti

A film of this nature can certainly represent an opportunity to problematize or regenerate meanings and broaden the idea of plurality, starting from the small narratives of everyday life, the authentic terrain for the political rewriting of the practices of attribution of meaning by communities (Lefebvre, 1968; Jedlowski, 2009). It is "the stories that are almost immobile to the eye, [the] gently sloping stories", which compose "the living, fragile, quivering 'History'" (Foucault, 1969, p. 7 and p. 14)[5].

---

[5] Translation by the authors.

It should be noted that the film is just part of a dynamic framework of visual narratives, photographic and audiovisual, regarding the Salento bacteriological disaster. As to the film itself, documentary production focusing on Xylella has has proved to be popular in recent years. Co-production funding and crowdfunding campaigns have led to both quality and a plurality of narratives being produced, each one bearing a particular view of the phenomenon and each certainly worthy of attention. Consider, for example, *Semina il vento* [Sowing the wind] (2020) by Danilo Caputo, *Amalaterra* [Lovetheearth] (2018) by Gabriele Greco, the *Legnovivo* [Livewood] project (2019) by Filippo Bellantoni, or the documentary testimony by Edoardo Winspeare, entitled *Requiem per gli Ulivi di Puglia* [Requiem for the olive trees in Puglia] (2020), to name but a few.

*Il tempo dei giganti* narrates the journey of a man, Giuseppe, to his father's land in the plains of the monumental olive trees in the Valle d'Itria, where the epidemic is imminent. Giuseppe will have to explain to the elderly farmer why and how their lives will be disrupted by the spreading infection, hitherto unknown in Italy.

On his journey to his father, Giuseppe wanders through a post-apocalyptic landscape, linking the local to the global, anchoring the Xylella case to the broader phenomena of desertification and climate change.

Wandering home, Giuseppe gradually weaves a thick web of stories in which characters embody various facets of the epidemic; focusing on the causes and possible scenarios. The film takes in the heterogeneity that has characterized the perception of the disaster. It underlines how the reactions of the local population are mostly marked by distrust of the explanations offered by science, by conspiracy theories, by various forms of intolerance, at the tendency towards resignation, or denial of the problem, and towards alternative cures. The film also recognizes the universe of subjects who have been working daily to alleviate the scale and spectre of disaster and to nourish "the profound and naive effort to remake life" (Pasolini, 1957, p. 65)[6].

The film thus presents a number of narrative levels. A first level bears the portraits of a number of local characters who, in different ways and in different capacities, had personal and direct experience of the disaster. Here we find, recounting his everyday life, a farmer from the small town of Alliste, who proudly guarded the oldest tree in Salento, the 'Giant of Alliste', dating back some two thousand years, as attested by the latest census of monumental trees in Salento (Gennaio, De Santis, Medagli, 2000).

---

[6] Translation by the authors.

It is a majestic tree, bedridden by the infection, and has received a constant stream of visitors: researchers, botanists, healers, the media and schoolchildren.

> When it became known that the oldest olive tree had fallen ill, calls came from all over the world to save it: environmentalists, ordinary people, even celebrities [...]. Dozens of scientists were involved in trying to save it. Each with their own product. Each with their own therapy. On the trunks of the trees around the Giant are still plaques with numbers, because when the monumental tree was under the care of one team, the others, while waiting, began experiments on the centenarian trees near by [...]. Each centenarian was assigned its own team of scientists. The Giant and the other centenarians were surrounded by equipment usually used for chemotherapy, which allowed the liquid solutions to be released at a very slow pace: in general over three, four days (Martella, 2020, pp. 19-20).[7]

Now the skeleton of this giant, a lifeless witness to the tragedy, stands out on a depopulated and bleak horizon, the same one that surrounds the gnarled *Patriarca* [Patriach] (Figure 4) in the countryside around Scorrano, an extraordinary example of the ancient agronomic practice of *slupatura*. This is the process of emptying the olive tree (trunks and thickest branches) of its deadwood, leaving the large internal cavities to shelter up to five people from storms or the intense summer heatwave (Martella, 2022, p. 26).

---

[7] Translation by the authors.

Figure 4 - *The 'Patriarch' in the Scorrano countryside.*
Photograph by Patrizia Miggiano.

On the same narrative plane is Donato Boscia, manager of the research team at the National Research Centre in Bari, one of the scientists in charge of studying species resistant to the bacterium, He has also been the target of particularly unpleasant delegitimization campaigns.

This opens the way to reflecting on one of the features that has most characterized the heated public debate on Xylella in Salento, namely the opposition between science and anti-science, which has given rise to the most varied interpretations of its causes and attempts at solutions. These include the invective against the CNR research team, accused of having deliberately piloted the spread of the contagion to the south, to Salento, to economically favour the regional capital, Bari, to the north.

Despite these attacks, the team's scientific work has nevertheless continued over the years, and has investigated the disaster from a multifactorial perspective. The team finally concluded that:

> in Salento the conditions for an explosive cocktail were created: [...] the ideal climate, a particularly abundant vector population effective in transmitting the bacterium; numerous abandoned and therefore unweeded plots; the arrival of a particularly virulent strain whose preferred host is the olive tree; and finally [...] the olive tree

137

monoculture. In Salento, the bacterium has found uninterrupted expanses of this strain of olive. (Martella, 2020, p. 21)[8]

It is precisely the issue of Salento's agro-economy, centred exclusively on olive growing, with its consequent impact on biodiversity, that should be placed at the centre of any solution and environmental regeneration strategy. As in some developing countries, in fact, monoculture represents a major ecosystem and environmental risk in terms of reduced biodiversity, soil infertility and the spread of pests and fungal diseases.

Added to this is the fact that, in Salento, the debate and the reactions of the local population have mostly focused on the impact of the disaster on the landscape and its consequences in terms of tourist revenue. Yet, despite the importance of the issue, little has been discussed, and continues not to be discussed, about the environmental repercussions. The massive eradication of the plants, in fact, will irreversibly compromise the biomass needs that were provided by the olive trees, causing significant damage to the soil. Direct exposure to the sun's rays increases the temperature and overheats the soil. Once the tree cover is lost, the soils undergo a gradual process of degradation, starting with the leaching of the soil due to the action of atmospheric agents. This is a major issue in an area where the fertile soil layer is already quite thin.

In this Manichaean antinomy, these polarized rightious positions between science and anti-science, anti-science crusaders in particular have attempted to make their mark in this desperate race against time, proposing alternative and certainly unofficial therapies. In a number of cases, ancient popular wisdom still stubbornly prevails. There is no doubt that the Xylella case represents a perfect observatory of fluctuating opinion, of a real battleground between different visions, each of which can tell us much about how dominant (and variant) interpretative schemes of social phenomena form.

*Il tempo dei giganti* highlights the dialectical process underlying the formation of opinions, and also provides an extremely interesting investigation for geographers as it also provides an overview of the experiences connected to the territory, thus telling not the truth *about the* territory, but *of the* territory.

On the narrative level of the characters involved in the Xylella case, we also find Roberto Gennaio, photographer and author of the impressive census of monumental olive trees, entitled *Titans. Monumental olive trees in Salento* (2013), the result of more than ten years' work and thus predating the spread of the bacterium. This makes it possible to observe the phenomenon in its

---

[8] Translation by the authors.

temporal unfolding, and consequently in an eminently diachronic perspective, which is able to highlight the extent of the transformations that have occurred in the territory. Consequently, the work is an important visual mediator of memory, offered by the photographic artefact (Barthes, 1980; Sontag, 1977 and 2003), which acts both as an objective document of the past and as a complex medium (Samuel, 1996), capable of guaranteeing the consciousness of the present through the "insurance of memory" (Calzoni, 2007, p. 327).

Finally, the narrative plane includes a number of other characters. There are virtuous entrepreneurs who have courageously attempted over the years to graft trees that were destined to die, experimenting with the cultivation of resistant cultivars. There are activists, as in the case of the Capo di Leuca association, *Manu Manu Riforesta!* [Time to reforest!]. This association has been able to purchase land, loan for use or be donated abandoned land. It has also raised awareness thanks to its social and institutional networking. Finally, in synergy with the University of Salento and its Botanical Garden, it is working to contain the damage caused by climate change and the ongoing process of desertification in the local area.

A second narrative plane includes what in a Greek tragedy would be called the chorus, a group of ten illustrious *coryphaei*, who objectively narrate the tragedy for the audience. In *Il tempo dei giganti* they are the *super partes* experts who analyze the phenomenon from a scientific point of view. This gives rise to a composite discourse in which the geographical, sociological, anthropological, epidemiological, botanical and communicative points of view converge. Undoubtedly, the presence of such a rich academic debate also makes the documentary important from a scientific point of view. The documentary, in this sense constitutes a precious testimony not only of the social perception of the emergency, but also of the viewpoints of intellectuals who, in various capacities and perspectives, attempt to offer answers and comfort to the local population.

The third narrative plane presents us with the complex and at the same time fascinating question of *what about the future?* Nature's response to the present will take time, and certainly will take more than just one human generation. From this distance we are not able to see what is to come; but if we adopt the Jonasian "responsibility principle" (Jonas, 1979) and embrace the need to 'make our own' the need to care for future generations, then perhaps we could try to tie up the threads of those lives that seem disjointed and indifferent to each other's destinies. The responsibility principle would allow us to realise the extent that we are all united by the same challenge: the incessant and eternal effort to remake life.

## 4. The front line and what is to come

Giuseppe's father awaits the arrival of the barbarians in the Itria Valley. Around him there is no desert yet; but there is perception of the threat, placing the soul in the anxious and tense condition of those who wait.

Thus, while the first part of the documentary recounts what has been - the forms of the disaster and the universe of reactions; the second part turns its gaze to the future, handing the spectator a complex and demanding question: *what shall we do?*

In attempting an immediate response, we come across a vision that first of all envisages a regeneration of the Salento landscape, thus taking up the challenge of converting catastrophe into a positive change. This first response, however, in turn opens up the equally age-old question of *how do we do this?* Also, given that, from a scientific point of view, there are still questions regarding the Xylella case still to be explored, and as we have seen, whatever the science says, there are other narratives that have yet to be resolved, how can we even now think about restarting?

We are then helped by Friedrich Nietzsche's admonition: "they who have a why can endure any how" (Nietzsche,1889, p. 26)[9]. The 'why' is the opportunity to make Salento a great laboratory of sustainability in the Mediterranean, a model of virtuous design and experimentation, precisely because of the disaster that has struck it.

In other words, it is necessary, as of now, to rethink in collective and sustainable terms not local reconstruction, but rather the wider landscape and ecology of the territory as a whole, starting from a genuine reconsideration of the agro-economic model employed to date.

In this sense, the assessment of the particular morphological and soil and climatic characteristics of the Puglian region is the first necessary step; all the more so in view of the changes that have occurred in the climate, agriculture and to the local terrain. A rethinking of the agro-economic system today cannot disregard an assessment of these transformations and the resulting conditions, which mirror global changes. This is all the more true with reference to the need to work on reforestation, since increasing forestation means improving soil temperature and, consequently, the health of plants (Figure 5).

---

[9] Translation by the authors.

Figure 5 - *Detail of the felling of an olive tree after the failure of measures to contain the infection.*
Photograph by Patrizia Miggiano.

This type of project is highly articulated, requiring: first involvement and debate, then agreement between the scientific community, local actors and the population. These are the fundamental elements that must be taken into account well before any redefinition of agricultural practices or landscape in Salento. These two elements are profoundly interconnected, so it is clear that in order to rethink a landscape one must first rebuild agriculture.

A virtuous redevelopment project for the Salento landscape and agriculture will therefore necessarily depend on the presence of four fundamental factors: (a) government action, supported by strong institutional and political coordination, giving rise to a governance model capable of guaranteeing public investment that is in turn attractive to private investment; (b) the provision of real involvement of the scientific community, since any political action, if it is to guarantee effective and timely solutions to the emergency, must impose a sound scientifically-accredited strategy to the work of redeveloping agriculture and the landscape; c) the involvement of the local population, which can and must return to taking care of its own territory, becoming aware of the fact that its own future is intimately tied to its ability to reinterpret the landscape and make this hermeneutic and, at the same time, rigenerative process its own in the long term; d) the maturing of an awareness

of the need to rethink the landscape, placing sustainability as a priority objective.

The local population, in fact, is mostly convinced that the only way forward is to work to re-establish the *status quo*; to restoring the pre-existing agroeconomy, meaning a return to an entirely olive-growing landscape. But such a course of action, given the need to make such an arrangement economically viable, would entail the development of an intensive monoculture. As we know, this would be unsustainable from an environmental point of view, first and foremost because of the water requirements associated with it, but also because of the negative effects it would have on biodiversity. Instead, it is necessary to renounce this iconic but museographic view of the landscape due to the unsustainability.

The local community must be accompanied towards this change of view; and then they need to form an integral part of the project to create a more biodiverse landscape that reflects the Salento identity, taking into account both the needs of sustainability and the need to restore beauty to the territory.

This aspect appears to be of particular importance if we consider that it is neither possible nor advisable to delegate the entire work of rethinking and agro-landscape construction to the government. Following a catastrophe that has severely affected the experiences, practices and customs linked to an area, it is right that communities take on the Heideggerian project of *poetically* inhabiting the Earth; that is, of establishing a relationship of care and construction of beauty with it.

This will be possible if we start from the recognition of the affective-emotional bond that exists between the people of Salento and their identity references; but also and above all by virtue of the foundation of new agro-economic models and a new entrepreneurial fabric that can sustain such a complex process of regeneration.

Indeed, there is a need to entrust the territory and its woundedness into the hands of a new agricultural entrepreneurship, acting as a new incubator of agricultural realities. This would suggest that the focus be on the young people, who will become the entrepreneurs, providing and taking-up the employment; setting up innovative agricultural enterprises such as precision agriculture, and enhancing the value of a land in harmony with the ecosystem. This would certainly allow for a renewal of know-how, which takes into account the particular characteristics of the Salento before defining any techniques, objectives or strategies.

The University, for its part, is tasked to foster entrepreneurial projects, provided that they themselves clearly include a mission statement addressing the need to make the younger generations aware that the present moment is crucial for the future of our territory. Indeed, our future is now at stake, for

which we must not only create sustainable enterprises, but also support them both financially and in terms of grounded advice and information.

This will only possible by virtue of a real strategic convergence between all the institutions and actors interested in taking Salento as a training-school of landscape and agriculture for the entire Mediterranean area, linking past, present and future.

This phytosanitary catastrophe has been an emotional upset and a painful loss for both locals and visitors alike, due to the way that the beauty that had gradually developed over centuries has now suddenly and irreversibly gone.

The idea of landscape as a cultural product is in the awareness that what we perceive is a snapshot of a very long process that is not, and never will be, granted to us on a silver platter. Time and custom do not grant us the ability or indeed the right to constrain the landscape to our will. The landscape itself changes, transforms, degrades and regenerates incessantly.

Humankind, far from being a mere witness to these changes, should acts as a creator and should take the responsibility for these transformations and endow the territory with even more beauty. Each generation is decisive for the future of the Earth, which means acting now for the future and acting in the local for the global.

The cinematic narrative in *Il tempo dei Giganti* acts as a story for the spirit of the times, because it offers a sincere and complete picture of the changes taking place, of the circulation of ideas, of the perception of a phenomenon that stands on the edge of tragedy and rebirth.

Supporting this are the many associations, cooperatives, businesses, and realities in the area that are promoting an economically and culturally sustainable vision of the territory and its agriculture.

This inscribes the disaster in a broader *life-death-life* cycle, which gathers and gives voice to the full range of desires and hopes of the local people and their obstinate yearning to overcome the emergency.

## Acknowledgements

## References

Barnard, M., 2001, *Approaches for Understanding the Visual*, Basingstoke, Palgrave.

Barthes, R., 1980, *La Chambre Claire. Note sur la Photographie*, Seuil, Paris.

Beretta, M. J. G., Harakava, R., Chagas, C. M., Derrick, K. S., Barthe, G. A., Ceccardi, T. L., Lee, R. F., Paradela, O., Sugimori, M., Ribeiro, I. A., 1996, "First report of Xylella fastidiosa in coffee", *Plant Disease*, 80, 7, 821.

Bignante, E., 2011, *Geografia e ricerca visuale*, Laterza, Roma-Bari.

Calzoni, R., 2007, Fotografia e memoria. In: Agazzi, E., Fortunati, V. (Eds.), *Memoria e saperi. Percorsi transdisciplinari*, Meltemi, Milano, 323-340.

Foucault, M., 1969, *L'archéologie du Savoir*, Gallimard, Paris.

Gennaio, R., De Santis, B., Medagli, P., 2000, *Alberi monumentali del Salento*, Congedo Editore, Galatina.

Kovacova, M., Saponari, M., Baños, Arjona A., Hackl, E., Webb, S., Compant, S., 2021, "Xylella fastidiosa in Olive: A Review of Control Attempts and Current Management", *Microorganisms*, 9. DOI.org/10.3390/microorganisms9081771.

Lefebvre, H., 1968, *La vie quotidienne dans le monde moderne*, Gallimard, Paris.

Martella, S., 2022, *La morte dei giganti. Il batterio Xylella e la strage degli ulivi millenari*, Meltemi, Milan.

Morelli, M., García-Madero, J.M., Jos, Á., Saldarelli, P., Dongiovanni, C., Kovacova, M., Saponari, M., Baños Arjona, A., Hackl, E., Webb, S., Compant, S., "Xylella fastidiosa in Olive: A Review of Control Attempts and Current Management", *Microorganisms*, DOI: 10.3390/microorganisms9081771.

Jedlowski, P., 2009, *Il racconto come dimora. Heimat e le memorie d'Europa*, Bollati Boringhieri, Turin.

Müller, C., Esteves, M.B., Kleina, H.T., de Melo Sales, T., Boti Liva, K., Balbinote, J., Spotti Lopes, J.R., 2022, "Weeds as alternative hosts of Xylella fastidiosa in Brazilian plum orchards", *Journal of Plant Pathology*, 104, 487-493. DOI.org/10.1007/s42161-021-00979-y).

Nietzsche, F. W., 1889, *Götzen-Dämmerung oder Wie Man mit dem Hammer Philosophirt*, Verlag von C.G. Naumann, Leipzig; it. tras. G., Colli, M., Montinari, (Eds.), 2005, *Crepuscolo degli Idoli ovvero come si filosofa col martello*, Adelphi, Milan.

Ricoeur, P., 1969, *Le conflit des interpretation*, Éditions du Seuil, Paris.

Rose, G., 2001, *Visual methodologies: an introduction to the interpretation of visual materials*, Sage, London.

Saponari, M., Boscia, D., Altamura, G., Loconsole, G, Zicca, S., D'attoma, G., Morelli Palmisano F., Saponari, A., Tavano, D., Savino, V.N. Dongiovanni, C., Martelli, G.P., 2017, "Isolation and pathogenicity of Xylella fastidiosa associated to the olive quick decline syndrome in southern Italy", *Scientific Reports*, 7. Doi.org/10.1038/s41598-017-17957-z.

Sereni, E., 1961, *Storia del paesaggio agrario italiano*, Laterza, Roma-Bari.

Sontag, S., 1977, *On Photography*, Farrar Straus & Giroux, New York.

Sontag, S., 2003, *Regarding the Pain of Others*, Farrar Straus & Giroux, New York.

Wells, J.M., Raju, B.C., Hung, H.Y., Weisburg, W.G., Mandelco, P. L., Brenner, D.J., 1987, "Xylella fastidiosa gen. nov, sp. nov: Gram-negative, xylem-limited, fastidious plant bacteria related to Xanthomonas subsp.", *International Journal of Systematic Bacteriology*, 37, 136-143.

**Websites citations**

https://www.camera.it/temiap/documentazione/temi/pdf/1208003.pdf?_1584396517115; latest access: 14.01.2022.

http://www.confagricoltura.it; latest access: 12.01.2022.

https://gd.eppo.int/taxon/XYLEFA/distribution; latest access: 14.01.2022.

**Filmography**

*Il tempo dei giganti* (in uscita), directed by Davide Barletti and Lorenzo Conte
*Amalaterra* (2018), directed by Gabriele Greco
*Requiem per gli Ulivi di Puglia* (2020), directed by Edoardo Winspeare
*Legnovivo* (2019), directed by Filippo Bellantoni
*Semina il vento* (2020), directed by Danilo Caputo

# 8. Cinema and digital technology: new communication formats characterizing the scenarios of modern communication networks

*Maria Laura Pappalardo[1]*

**Abstract**

In the context of the theme: "Cinema and Digital Technology" while aware of the validity of the new communication formats that characterize the scenarios ofmodern communication networks, it is considered essential to draw attention to an "old" but still "futuristic" method of presenting, learning about and studying the Anthropocene, the disasters produced by Planet Man, and to prepare proposals for possible rebalancing. Based on the experience gained during the "Festival Terra2050" held in Verona and Mantua, which addressed the theme of sustainable development in a multidisciplinary way, the aim is to draw the attention of the general public to cartography in relief. During the many cartographic exhibitions that took place during the Festival, relief cartography was an opportunity to present, illustrate, explain, debate and reflect on the many"impacts" produced by human societies. The three-dimensionality of the paper and the possibility, offered today by the new materials with which it is made, of representing the seabed, has allowed users, of different social backgrounds and ages (many students), to become aware of their own "weight" and role on Earth. A more punctual and widespread use of survey mapping would allow for greater responsibility on the part of each human being.

**Keyword**s: maps, cartography, anthropocene

## 1. An indispensable premise

During the "Festival Terra2050 Credentials for Our Future" held in Verona and Mantua from 13 to 24 October 2021, it became increasingly urgent for citizens to be informed and to participate in discussions on the major issues of the common good, human rights, and the construction of the future for new technologies. generations, in a reference to the polis (i.e. the communities of

---

[1] University of Verona, Department of Cultures and Civilizations, Via San Francesco, 22, 37129 Verona, e-mail: maria.pappalardo@univr.it.

citizens) as a space for reflection, confrontation, project that enhances and consolidates personal freedoms while building a far-sighted public ethic.

The event debated what Piccinini recently had to write about the Turning Point, a provocative term that geologist and opinion leader Braden used to stimulate scholars to reflect on the paths that science and culture are taking and which must be understood as the necessary turning point to avoid bringing the world into a chaotic structure anymore. It seems inevitable that progress can only be made in a world which is on the verge of chaos, because today's reality requires us to set limits beyond which the risk of an irrepressible fall becomes too high.

The questions which were tried to answer were: What are the timing of the turnaround? When will real sustainable development be achieved? When statements such as: a Planet tormented by thirst, the tragedy of refugees, plastic that kills, pollution record, the sound of war, where to live, discrimination, a bad story ... will they find definitive answers?

The fundamental problem appeared very profound: the way in which mankind has taken technology and its development together with a homogeneous and one- dimensional paradigm: in this paradigm stands out a conception of the subject which progressively, in the logical-rational process, understands, and thus possesses, the object which is outside. to appear as much as possible from the Planet through the imposition of human action, which tends to ignore or forget reality itself. It seemed, therefore, easy, given these premises, to construct the idea of unlimited growth, assuming an unreal infinite availability of the assets of the Planet, to extort from it to the limit and beyond.

The new culture which has emerged as desirable for the years to come cannot be reduced to a series of urgent and partial responses to the problems which are emerging: environmental degradation, the depletion of nature reserves, pollution, the spread of poverty, housing problems, the pervasive discrimination, the pain for teachers and teachers. Hughi, to the difficulties of the economy ...

The speakers highlighted the need for: a different perspective, a thinking, a policy, an educational programme, a way of life that gives shape to resistance to the advance of the dominant paradigm, preferring less polluting production systems, supporting non-consumerist lifestyles, seeking equity and sustainability in all areas of existence.

Genuine sustainable development, it was loudly declared by those present, presupposes both respect for the human person and respect for the whole natural world, providing for a mutual connection in an orderly system. We are pleased to see that the time is ripe for a cultural revolution which will make us all aware of the need to embrace the concept of the "common good"

for sustainable development of society and the territory. In other words, to practice a far-sighted vision, to invest in the future, to care for communities, to pay attention to every being of creation, subordinating to it any interests of the individual that are contrary to it.

We must therefore get used to thinking about the future in a way that takes account of the complexity of the landscape and the need for interdisciplinary interventions.

The task of the geographer is to put a careful, lucid and punctual work on difference: it is necessary to work on the recognition of the individual parts and, in this sense, to work rigorously to restore aesthetics to be the daughter of ethics. It is important to learn to recognize, protect, and value the richness of differences found in every part of the territory, which must become a common cultural capital, in the construction of a new reality, even though we now live in a liquid society where everything changes rapidly, consumption becomes its main goal, and every value seems to "lose value."


## 2. The cartographic exhibitions

As part of the "Festival Terra2050 Credentials for Our Future" several cartographic exhibitions were held, opportunities to present, illustrate, explain, debate and reflect on the many "impacts" produced by human societies.

Figure 1 – *Part of exhibition "Mappe e carte antiche, a glance at the world of yesterday to understand what tomorrow has in store for us", Porta Palio, Verona.*

During the Cartographic Exhibition "Some places are an explanation, others an enigma" which was set up inside the University Campus of Santa Marta in Verona, cartography, understood as a representation of the real environment around us, was seen in all its pragmatism. It has been shown that the cartographer must have the ability to understand the map in all its constructional aspects so as to be able to design it, direct its construction and, if necessary, provide the sketches needed to make it. At the same time, the map proved to be an indispensable help for people of all ages, children and adults, providing them with the tools they need to understand today's reality and current issues. The exhibition "Mappe e carte antiche, a glance at the world of yesterday to understand what tomorrow has in store for us" saw the exhibition, inside Porta Palio, one of the historic doors of Verona, several important reproductions of ancient maps. It is well known that the history of cartography is the discipline concerned with describing the evolution of maps, the different forms they have taken, but above all the methods used to carry out surveys and to represent the data collected on solid supports or planes.

Today, it is believed that the first spatial representations appeared in the early stages of human history, as evidenced by numerous archaeological discoveries. Through this exhibition it was possible to discover the methods and thoughts of geographers and cartographers who lived in distant times, taking a close look at how they related and depicted their environment.

The Cartographic Exhibition "Itineraries of Verona Odysseys: Cartographic Narratives from the Past for a Sustainable Future", prepared in the cloister of the Chapter Library of Verona began its reflections by analysing reproductions of ancient maps. The purpose of this exhibition was to illustrate the changes in the urban fabric of Verona and the relationship of the citizens with their city and the environment that surrounds it. Starting from the foundation of Verona in Roman times, the exhibition then focused on the history of Verona's capital in medieval and modern times (with a particular focus on the fortifications) to conclude in contemporary times, narrating the Austrian occupation and the tragic flood of 1882, with the subsequent urban renewal. A corollary was the study of the Lessinia area, indispensable for Verona as a resource for industrial development, but also an area sensitive to the circulation of people and techniques.

### 3. "Sitting around an old table they drew lines on the map"

The Cartographic Exhibition "Sitting around an old table traced lines on the map" exhibited multiple relief maps in the atrium of the Zanotto pole of the University of Verona. In the era of digital cartography and on-line satellite maps which, in some areas, reach incredible levels of detail, it might perhaps have appeared unlikely to many that traditional forms of cartography such as models would still survive. But the reality of the market denies this conclusion, indicating the sector of relief cartography even as a driving force, both in Italy and abroad, as only through three-dimensionality it is possible to acquire true knowledge of one's own territory and consequently realize careful rebalancing plans.

In order for active protection to be achieved, it is of fundamental importance to know one's own territories and relief cartography can play a fundamental role in this sense by involving more subjects. What the relief cartography presents are not plastered and museum landscapes but landscapes in evolution and transformation, which can be part of participatory and shared projects. Too many times, however, we only work with the desire to typify or classify the landscape in order to find the areas to be conserved and protected, and we do not stop to reflect on the fact that now all margins and borders, both those historical as well as natural ones, which made it possible to perceive the landscape in the contrast of its diversity. Before there was a landscape outside the walls and a landscape inside the walls, there was the city and the countryside, the hill and the forest. Now we live on a planet where the city is continuous, incessant, where it is increasingly rare to find places where it is possible to interpolate building facts and infrastructural interventions.

Figure 2 - *Relief map of the Mediterranean Basin indicating the seabed, through thisrepresentation it is possible to become aware of the fragility of our continent. Source: LACasa della cartografia, Verona, 2022.*

Unfortunately, however, it is an incomplete, indeterminate, hybrid urban landscape, whose identity must be rediscovered above all through the study of all those negative phenomena, which make it appear in a state of progressive decay and therefore cause fear of the irreversibility of the phenomenon. And the relief cartography shows all this: it shows the yesterday of a territory and today, what it was and what it is.

Landscape is, in fact, culture but also historical memory: an inseparable alchemy that offers us marvelous beauties on the planet but also, unfortunately, monstrously ugly works.

## 4. Conclusions

From the foregoing pages, I believe that the statement that it is ever extremely urgent to establish new interpretations and ways of reading-and among these fundamental are 3D representations of territories-for the identification of more innovative forms of governance is inescapable. A multi-sectoral and integrated approach is not enough; it needs to be aware of

the importance of involving multiple territorial actors in the construction of various landscape projects. Among these, those paths related to sustainable development, which highlight the complex interweavings present between the economic and social issues of local systems and the requirements of environmental protection, acquire added value. Only through the formation of a more innovative culture of the landscape, these spaces will be able to transform into territories of aggregation and social cohesion in which to rediscover the denied condition of urbanity and rurality, and, in doing so, aim at a landscape enhancement in its complexity.



Figure 3 - *Relief map of geological Sicily: through this representation it is possibleto become aware of the particularity of our territories, of the richness of our subsoils and of the multiple potentials. Source: LACasa della cartografia, Verona, 2022.*

And if the active participation of the population is a fundamental component in defining the new culture of the landscape, it is necessary to promote knowledge of one's own reality through the dissemination of materials, for example, relief cartography, which contribute to favoring the creation and maintenance of eco- sustainable realities, with the consequent regeneration of landscape- environmental, territorial and socio-economic aspects. The confirmation of the importance of disseminating all those knowledges whose essential value is completely free from any utilitarian purpose, first of all geography which, by its free and disinterested nature, is

far from any practical and commercial constraint stems from what has been stated so far, has a fundamental role in safeguarding our planet. It has been written: "Is life widespread? Or is the Earth special, not just for us who inhabit it, but for the cosmos in the broadest sense?



Figure 4 - *Detail of the relief map of Barbaresco: through this representation it is possible to become aware of the particularity of our land and of the viticultural potential. Source: LACasa della cartografia, Verona, 2022.*

As long as we only know one biosphere, ours, we cannot exclude that it is unique: complex life could be the result of a chain of events so unlikely that it took place only once in the entire observable universe, on the planet that is become ours. On the other hand, life could be very widespread and developed on every Earth-like planet (and perhaps in many other cosmic environments). We still know too little about how life began and evolves to decide between these two extreme possibilities…".

It is therefore not just a question of answering the question, for example, of how much oil is left to exploit or whether we will be able to stop global

warming, whether the artistic beauty will win or whether even the ugly will have its revenge! When considering such a large problem, it is easy to feel confused, unable to make any changes. But we must avoid reacting in this way, all the crises and therefore also the one that our planet is experiencing and of which the signson the landscape are testimony to it, must be resolved only if individuals assume,at least in part, the responsibility.



Figure 5 - *The British Isles: through this representation it is possible to become aware of the characteristics of these territories in an innovative and responsible way. Source: LACasa della cartografia, Verona, 2022.*

Only by educating ourselves and others, doing our part to reduce degradation and pollution, enhancing the useful, geographically understood, can we make a difference. Geography, with its method of analyzing reality, and relief cartography, with its products, can help us heal from that partial blindness in the way of considering the effect of our decisions on the natural world which represents a great obstacle. the efforts being made to formulate sensible responses to the threats facing the environment currently. Studying the landscape and reading the objects present in it not in terms of mere beauty

and economic usefulness, but as the theater of human action, are a vital condition for finding the right balance in the relationship between man and his own living environment, to reverse that now widespread trend that sees us determined only to be indecisive, determined only to be irresolute, immobile in our movements, steadfast in instability, omnipotent in our determination to be powerless.



Figure 6 - *Representation of Italian submerged volcanic structures: through this representation it is possible to become aware of the complexity of the Italian territory, in particular of the multiplicity of active volcanoes present in the Mediterranean, and to understand how they affect the future of many territories.In this representation the terrestrial part has been leveled to make the characteristics of the seabed more evident. Fonte:LACasa della cartografia,Verona, 2022.*

We acknowledge more and more often that our landscape, the ugly one (following an aesthetic finding) of the huge suburbs, of the old and dilapidated peasant houses incorporated by the building development, of the artisanal and commercial areas that have invaded coasts, rivers and mountains, of the roads that have passed through valleys, woods and riverbeds, the one invaded by too much (excessive number of buildings, things, people) scares us. But the landscape, especially the ugly or useless one, is not a simple empty box to be filled or an abandoned object to be regenerated with any change of use! It is necessary to launch balanced and reasonable proposals which, in the first place, acknowledge that the pre-industrial landscape no longer exists, the beautiful landscape of bucolic memory, at least in most of the area where people live and work; we have this landscape, the one we have helped build over the last few decades. It is therefore useless to delude ourselves about rebuilding happy islands of pre-industrial landscape, much more useful and urgent is to reappropriate the common landscape as the Landscape Convention reminds us. According to the Convention, it is no longer possible to continue thinking that the territory is made up of beautiful parts and ugly parts; it is not enough to "save" the former, safeguarding, for example, historic centers while building, for example, useless suburbs in the meantime. It is necessary to move towards a sustainable redevelopment that on the one hand offers rules precisely where they have been lacking up to now (thus giving central places to the suburbs, public spaces, urban level services to improve not only the environmental quality but also the social one), from another intervenes by recycling disused and abandoned areas in which the past flanks the present, the local identity is preserved, leaving room for imagination and creativity to create new things that are a stimulus and inspiration for the sustainable development of the territories. A concept not always acquired concerns the fact that artificial interventions made by man in the landscape should not be feared but in harmony with it, but artificial interventions, that is, those that force the landscape and distort it. Roads, bridges and railways do not have to be demonized, if they are useful to re-evaluate and show off the space in which we live. The infrastructures become parts of the landscape: it is useless to get lost in discussing whether it is better to hide them or show them so as not to ruin the landscape. They must themselves become landscape; the challenge consists in the new culture that entrepreneurs, administrators, experts must acquire. A culture that envisions, when designing, for example, a road or bridge, to really take into account the landscape on which the infrastructure will be placed. It is in this logic that one should read, for example, suburban redevelopment projects that have a marked sensitivity to sustainable transport issues, as they promote interconnection and mobility based on clean energy

(the bicycle), encourage tourism and, often, allow people to enjoy beautiful places in the open air, where they can ride freely or take peaceful walks. "It is not new continents that the earth needs, but new men," so wrote Jules Verne long ago!

## References

Bonnes, M., Carrus, G., Passafaro, P., 2006, *Psicologia ambientale, sostenibilità e comportamenti ecologici,* Carocci, Roma.

Bologna, G., 2005, *Manuale della sostenibilità. Idee, concetti, nuove discipline capaci di futuro* [*Nuova Edizione*], Edizioni Ambiente, Milano.

Carnevale, V., 2005, *I sentieri della sostenibilità: percorsi tecnologie e didattiche   per l'educazione ambientale*, Aracne, Roma.

Pappalardo, M.L., 2017, *Il bello di essere sasso,* QuidEdit, Verona.

Pappalardo M.L. (Ed.), 2021, *Itinerari di odissee veronesi: narrazioni cartografiche dal passato per un futuro sostenibile,* GlobalMap, Verona.

Pappalardo M.L. (Ed.), 2021, *L'oasi dei bisbigli, il deserto delle grida,* GlobalMap, Verona.

Pappalardo, M.L. (Ed.), 2021, *Mappe e Carte Antiche* [*catalogo*]*,* GlobalMap, Verona.

Pappalardo M.L. (Ed.), 2022, *Festival Terra2050 Credenziali per il nostro futuro. Libro dell'evento: Verona e Mantova 13 – 24 ottobre 2021,* GlobalMap, Verona, 2022.

# SECTION III

# Water Exploitation and its Consequences in the Anthropocene era: contribution from cinematic productions

# 9. The conquest of power. A look to hydroelectric landscapes of Alps through the lens of audiovisuals and cinema

*Maria Conte[1]*

## Abstract

In the early twentieth century hydroelectric exploitation represented a revolutionary opportunity for the Italian nation to emancipate from the slavery of imported coal, bridging the gap with other countries. The advent of hydroelectric power was also one of the most transformative key aspects of the "colonization of the Alps": in this period the mountain landscape has been "under construction" both from a concrete point of view (through infrastructures, industrial and energy exploitation, tourism) and from a conceptual one. The mountain was imagined, conceived, conceptualized through a set of narratives, discourses and practices imbued with modernity, development and Nation. The interiorization of hydroelectric landscape as part of a collective identity was also made possible by the fundamental role of media and communication. It seems therefore interesting to reflect on the representations and narratives of the hydroelectric industry conveyed through television and cinema as a mirror of the spirit of the period.

The chapter – after contextualizing the enthusiasm for water exploitation in the broader phenomenon of Alpine Modernism - traces the parable of hydroelectricity through the gaze of some audio-visual products: from the emphatic tones of industrial documentaries to *cinegiornali* of Istituto Luce, to the short film shot during Vajont construction until Marco Paolini's "civil theatre" show. In the last section, starting from the geographical film *Dove nuotano i caprioli*, it focuses on the area of Cadore and Piave river, outlining some of the long-term and long-distance effects of the deep artificialization of the river.

**Keywords**: mountains, hydroelectric landscape, water exploitation, audiovisuals, Piave.

---

[1] PhD in Historical, Geographical and Anthropological Studies at the University of Padua and Ca' Foscari University of Venice, e-mail: mariaconte220@gmail.com.

# 1. Introduction

Hydroelectric exploitation has been one of the most transformative key aspects of the colonization and modernization processes that affect the Alpine mountains in first half of the twentieth century, up to the 1970s. The mountain, as we know and perceive it today, has gone through a twofold process: on the one hand the re-organization of the territory through human projects and artefacts, on the other the "building" of an imaginary, of a representation and staging of the landscape. The transformation is therefore meant from both a material point of view (through infrastructure, industrial and energy exploitation, tourism) and a conceptual one: what was built and is visible can be considered as a lens or a clue to inquiry and understand how the mountain is imagined, thought, conceptualized (De Rossi, 2016, pp. 3-28).

De Rossi defined as "Alpine Modernism" the set of narratives, discourses and practices imbued with the values of modernity, development and Nation that determined a paradigm of use and organization of the landscape during the twentieth century (*ibid.*). These processes are also described in Armiero's words: "Italian mountains have been shaped by words and bombs, by the rhetoric of modernization and by the tons of concrete that have given substance to the underlying rhetoric in form of dams, roads, railways" (Armiero, 2013, p. 15).

The appropriation/interiorization of geographical and symbolic mountain space as part of a collective identity was made possible also thanks to the organization of free time (colonies, open air activities and education by Touring Club Italiano and Club Alpino Italiano, scouting movement, alpinism and sport competitions, snow trains) (Soriani *et al.*, 1996) and the fundamental role of media and communications (De Rossi, 2016; Armiero, 2016).

As Bolin observes, symbolic landscapes are no less real than the material, geographical landscapes. Although both geographical and media landscapes structure our actions in the world, one could make a distinction, whereby the geographical landscape structures or sets limits on our actions in a 'hard' way, and the technological and representational landscapes of the media structure action in a 'soft' way (Bolin, 2004). The former talks to our tactile senses, while the symbolic landscape of the media primarily talks to our visual and aural senses. As such, the impact on our actions is not as direct and determining, but it is not always as obvious either. The soft structuring mechanism, then, cannot be described as weaker or less real than the hard. On the contrary, in its capacity of being naturalized, it is much harder to identify and therefore also to resist. We are not always aware of the impact of the

symbolic landscape in the same obvious way as we are of the geographical, physical ones (Bolin, 2006).

For Zinnermann, mass media pose an interesting spatial problem to geographers and related fields, not only because media representations are part of individual and societal conceptions of the world but also because of media's power to conceptualize and spread political ideas and reinforce hegemonic orders. Film and television emotionalize space, place, movement, and identity thereby affecting the viewer's perception. Visual media re-present and re-construct specific ways of seeing which carry with them historic baggage. By doing so, sense of place is continually re-constructed from specific vantage points (Zimmerman, 2007). As Anderson notes, cultural geography is once again concerned with representations and the work that representations do, with the material-affective liveliness of images, words, and art works as things in the world which incite, move, anger, transform, delight, enchant or otherwise affect (Anderson, 2018), trying to understand what people do with images and conversely how images do thing with people and how they are involved in the creation and organization of experience (Coleman, 2015).

It seems therefore interesting to analyze the discourses and narratives of the hydroelectric industry conveyed through television and cinema as well as to reflect on the representations of water, mountains, and nature. How are hydropower and landscape narrated through audiovisual media? What kinds of man-nature relationship are conveyed? How do they change over time?

How is the relationship between audiovisuals and landscape - and more generally, between audiovisuals and geography - configured in the cases considered? How can a geographic film function - making, remaking, and unmaking worlds (Anderson, 2018)?

Building on these questions, in this chapter I will consider some archival and more recent audiovisual cases. In section 2 I will analyze the image of working waters through some products from 1930-1960 period; in section 3 I will focus on Vajont case through a dedicated short doc and Marco Paolini's theatrical/television show; in section 4 I will present the geographical research film I realized exploring the hydroelectric landscape of Cadore area.

Figure 1 - *Vintage advertising images of well-known mountain localities (source: Google images).*


## 2. Working waters, modernity and Nation

### 2.1. White gold

The water gushes from the rocky spring and becomes a mountain stream, some children draw fully from it, and then it continues flowing between jumps and waterfalls. Thus begins - presenting the genuineness of fresh mountain waters – the 1939 documentary *Oro Bianco* by Istituto Luce, focused on the water resource and its usage. The title follows the expression *houille blanche* used by the industrialist and hydraulic engineer Aristide Berges at the 1889 Paris Universal Exposition to illustrate the enormous potential of hydroelectricity.

From a brief film analysis, it emerges how the choices of images and editing convey a certain type of conceptualization of what is represented. The absence of voice commentary, popular in documentaries of the time, is replaced here by an equally effective musical counterpoint that guides the

viewer's perception through an emotional rather than a descriptive/cognitive level (Ingold, 2000; Henley, 2007).

The documentary begins by presenting the upstream fresh water that has just gushed out. Children and young people quenched their thirst at the spring, creating a direct experience and drawing on the virtues of naturalness, authenticity and strength of these waters, but at 03:30 the musical commentary turns to epic and dramatic tones, accompanying the images of waters and waterfalls more and more majestic and uncontrolled, suggesting that nature is not always benevolent.

In the next cut, it is again the soundtrack which emphasizes the normalization of the atmosphere with the roar of waterfalls that turns into water games of the fountains in gardens and villas: an ordered and *"managed" beauty*, with no risks or unexpected events, in opposition to water as *wilderness.* The following sequences (06:10 – 06:30) on mills and lock systems remind us that water is primarily useful and necessary for transport and as a driving force. With the images of a flood (6:30 – 7:50), in a dramatic climax, nature shows its unpredictability and power that can become destructive violence if it is not tamed, managed and put to work through technique to create energy, work and civilization. The images then show dams, electric trains in motion, machinery and workers of industrial departments, sparks, pylons and, finally, an illuminated town square. In the final part the initial sequences of the flowing stream are re-proposed, as to reaffirm the proximity and interdependence of urban and production landscapes with mountain, in a circle that is made virtuous thanks to technical knowledge and progress.

We can find this vision explicit in the rhetoric of Istituto Luce newsreel of that period, whose episode of 27 April 1949, about a parliamentary conference on tourism in Cadore (Belluno), declaims:

> (...) In these views, congressmen find key arguments for their tourism development project, without saying that the waters of these valleys, especially after the Tai plant, contribute to solving our difficult electricity problem. Here we certainly cannot speak of useless beauty![2]

What emerges is a conception of beauty as "technological sublime" (De Rossi, 2016; Della Dora, 2019): a beauty that comes from nature when at service of man and technology, celebrating the marriage of nature and

---

[2] The translation of the quotes from the videos in the text is edited by the author.

technics and giving an essential contribution to reducing the gap between Italy and the other countries (and between the mountains and the plains).

Another newsreel report of 09/02/1949 on the inauguration of the hydroelectric plants of Perarolo di Cadore (Belluno), proclaims:

> One day this river defended Italy, today it helps its resurgence with its waters! (...)
> The snows sparkle in the sun, the darkness will not descend on Italy!

In these discourses, the construction of landscape imagery, particularly of the waters of the Piave River, went hand in hand with Nation-building processes: water became an anthropomorphic element, both a tireless worker and a sentinel, helping the national resurgence and independence. As Della Dora observes, the scenarios of tamed and useful waters entered the power plants too, as in the case of the mosaic that decorates the walls of the Achille Gaggia hydroelectric plant in Soverzene (Belluno), where the peaks and waterways of the Piave basin no longer appear as (unproductive) nature or romantic or panoramic setting, but within a scheme of controlled and regimented water reserve for Veneto region (Della Dora, 2019).

The management of river basins was one of the strategic tools for the economic and social progress of the nation, according to a functionalistic and utilitarian vision of the territory. A modern territory was a territory that worked: energy and the increased capability of technology to control nature provided the condition to enable a new territorial restructuring (Soriani *et al*., 1996).

### 2.2. The industrial documentaries of Ermanno Olmi

A rich source on this topic is represented by the post-war industrial documentary cinema, and by the 1950s production of Ermanno Olmi[3]. In those years he had been working for Edison, one of the largest electricity companies in Italy, and his career began just from the cinema section of the company. Through his works it is possible to observe a cross-section of the "hydroelectric epic" and the rhetorics that accompanied the Italian "conquest of power" of that period.

---

[3] The documentaries and short films mentioned in the paper can be found in the dvd video collection *Ermanno Olmi. Gli anni Edison. Documentari e cortometraggi 1954-1958*, published by Feltrinelli in 2008; except for *Cantiere di inverno* and *La mia valle*, available on the Youtube Channel https://www.youtube.com/@edisonchannel.

In *Cantiere d'inverno* the construction site of the dam in Val di Chiese (Trento) is vividly described by the voice-over commentary as "a living and pulsating creature, which has broken the silence of the peaks and filled the most hidden valleys with voices and sounds" (00:38-00:46). The dam loses its article and takes on a proper name, it becomes "Dam", an anthropomorphic living being with "curved and powerful back and shoulders", compared to a mythological creature "as Atlas supports the earth that the dam will hold a lake" (05:55-06:03).

The philosophy that supports the company's activity is clearly explained by the comment: "our work is aware of the importance and mission of civilization and progress" constituted by the hydroelectric revolution in those years.

Hydroelectricity represented an opportunity to break free from the slavery of coal and other fossil fuels imported from abroad. In 1905 Italy ranked third in the world to produce hydroelectric energy, which covers 70% of the needs. Other numbers: between 1898 and 1914 the hydraulic electricity produced went from 40,000 kWh to 850000 kWh. In 1921 Italy had 91 artificial lakes and 41 under construction (Armiero, 2013, 31-32).

This enthusiasm and trust in the water resource were translated, in addition to the above numbers, into a profound transformation of the alpine landscape and reorganization of the relationships between the plains and the mountains.

The same ideological elements can be found in *La mia valle*, short film guided by a voice-off monologue of a mountain dweller who traces the story of his life as reflected in the valley. He remembers his youth as marked by poverty, depopulation and immigration, at least until the advent of a hydroelectric plant: this great opportunity of change was announced by two white doves coming to rest on a mill, as if indicating the "working water" as a mythical and saving element for people of the valley.

The protagonist describes the valley modified by the dams and enriched by lakes as "more beautiful" and he feels he has nothing to envy to his brother who emigrated to the USA.

In this works large dams are described as modern cathedrals that enrich and exalt the waters and the mountain landscape. The idea of symbiosis between industry, technology and nature, if on the one hand had to satisfy the corporation, on the other hand it does not seem forced because Olmi feels the hope that the nascent industrial society can coexist with the peasant culture in a harmonious way (Aprà, 2008). It seems that the director has gradually managed to conquer his own expressive freedom, progressively freeing himself from moral debt and material obligations with the client. But this evolution does not appear completely linear and does not exclude, at least up

to a certain level, its adherence to the corporate philosophy rooted in an idea of technological progress and economic growth going hand in hand with the respect and enhancement of needs of the individual (Bruni, 2008).

In *Tre fili fino a Milano* and *La pattuglia di San Giacomo*, Olmi shot the high voltage pylons as wefts of lace embellishing the sky and the movements of the workers climbing up to repair the lines like aerial choreographies. And so he did for dams, modern architecture, cities, factories, showing - behind a feeling of concern for the high speed of change - their Promethean beauty (Toffetti, 2008). It is reflected in the curious and amazed gaze of women, children and mountaineers who stop and look at the workers at work, as if they saw their future: the author sensed that what he was filming was an epochal passage and confrontation between two worlds and two lifestyles.

*Tre fili fino a Milano* is referred to the electric wires starting from the dam and connecting the destiny of the city and the mountain, present and future. In the words and in the gaze of the peasant at the end of the film it seems to be able to retrace his thoughts, aimed at imagining the distant metropolis he probably never seen or only heard in the stories (*ibid*.).

Another important work on hydroelectricity is *La diga del ghiacciaio*, centered on the Morasco dam in the upper Val Formazza (Verbania). This documentary is set with a tone and a vocal register which are conventional for the era and the industrial genre: a rather intrusive voice-over commentary that provides many information and details on the functioning and characteristics of the dam, underlining figures and objective data. But in this rather conventional work we find some traits that will be distinctive of the director's later cinema: the intimate and humanist gaze that lingers on the faces of the protagonists to explore their existential horizon; the attention to work, discreetly observed in moments of fatigue as well as in those of rest and comradeship. The first images and words are dedicated to a small church replacing the ancient one submerged by the artificial basin and dedicated to the workers who died during the construction of the dam: the author focuses on the invisible dimension of the hydroelectric landscape, giving attention to what was "all around" the hydraulic work itself.

As noted by Castiglioni and Ferrario, hydropower landscapes deal in several aspects with invisible landscapes: a large part of the system is invisible as it develops underground (pipes, siphons, underground power plants) for technical reasons or lack of space, while sometimes the invisibility is given by the camouflage and masking of the elements to make them more aesthetically acceptable. Other kinds of invisibility are represented by the *disappeared landscapes* (valleys with pastures, huts, mills, narrow streets, entire villages and localities) in the sacrified zones of energy transition

(Ferrario & Castiglioni, 2015) and by the *landscapes of the absence* of the dead at work.

Another aspect to note in this short film is the semantics used to refer to the work and the glacier: at 02:48 it is said that "the dam is overcoming the millennial giant and causes colossal gangrene at its feet" and again at the 03:10 "small icebergs float on the surface of the lake like the wrecks of a huge shipwreck... ". In the power of these words and images seems that Olmi starts to feel the intensity and pervasiveness of human work as a geological force, sometimes the brutality of the comparison between man and mountain.

## 3.   Vajont

### 3.1. *H max 261,6*

2023 marks the sixtieth anniversary of the Vajont disaster, one of the most tragic events in Italian history and according to UN one of the five most serious environmental man-made disasters. What was the highest dam in the world in 1963 and the pride of Italian engineering has become a "monument to eternal shame of science and politics" (Merlin, 1983), a mausoleum of nearly two thousand innocents standing out in the mountain landscape of Veneto region.

In a little-known short documentary on Vajont construction, entitled *H max 261.6* (the meters of Vajont dam, the highest in the world at the time), the engineer Semenza describes the project and the works in progress. From the very first seconds, the sounds of controllers and electronic devices take us inside the laboratory where tests on scale models of the dam are carried out, giving the video a futuristic-technical taste.

At 01:30 the engineer Semenza, introducing the geography of the place, underlines that the dam will find its place "in the so-called *orrido*[4] of Vajont, so much the nature here is inaccessible and inhospitable". A few minutes later he will say, referring to the valley, that "it seems made on purpose to build a barrage of exceptional size". In these statements we find again the conception of the mountain as hostile, wild and dangerous nature, which needs to be tamed through human work. The mountain seemed to be conceived as a scenography of peaks and gorges useful for supporting dams and grandiose

---

[4] *Orrido* is an Italian word to mean a canyon, a gorge.

projects, whose oversized dimensions were exhibited as a pride (Varotto, 2021).

The video presents then the team of scholars and technicians who are working at the project, including an "electronic brain that performs in 90 hours a series of calculations for which a team of mathematicians would take years'' (03:20-04:00), and then illustrates the trials on miniature models of the dam to test the resistance of the structure: the attention in the video is entirely concentrated on the work, proof of technical and engineering skill to be exported in the world.

That the dam was well-built was proved by the fact that on the night of 9th October 1963 - when a landslide of 260 million cubic meters ruined in the reservoir - it remained standing. But everything that was around disappeared, canceled by the furious wave of hundreds of meters high that hit the valley and raze the villages of Longarone, Pirago, Faè, Villanova, Rivalta and damaging Codissago, Castellavazzo, Fortogna, Dogna and Provagna.

The "futuristic taste" of this representation of hydroeletric work seems to reflect and reproduce the technicist ad colonial gaze and approach to the Vajont question as a "modernist workshop" where there was no space for the real world with its imperfections and empirical knowledge of everyday life (Armiero, 2013). As Varotto puts it, the top-down projects did not consider the social and economic effects on the inhabited microcosm and on traditional agro-forestry-pastoral economy. Villages, woods, pastures and valleys, places already full of human and social functions and meanings, were little considered or declassified as empty spaces that could be used according to the projects and needs of others. The requests of the population, local communities and committees asking for clarity and answers also remained unheard (Varotto, 2020).

### 3.2. Orazione civile on TV

The submerged voices of the inhabitants of Erto and Casso were collected, in the years before the disaster, by the journalist Tina Merlin, who in 1983 published the book *Sulla pelle viva. Come si costruisce una catastrofe,* a dense and fundamental book which clearly documents the intertwining of economic power, politics, science and technology. It's from this book that Marco Paolini, one of the most important exponents of narrative theater in Italy, draws strong inspiration for *Il racconto del Vajont,* an *orazione civile* he took performing in small theatres, public squares and to radio audiences since 1993.

On 9th October 1997, on the 34th anniversary of the disaster, Paolini's show was performed on the landslide in front of the dam and broadcasted live in prime time on RAI2 television. The three hours show was followed by nearly three million spectators (the program also won the Oscar in 1997 for best television show) and brought the disaster to general attention as had not happened since 1963.

The effects of this catastrophe heavily influenced the delay in the formation of a "collective memory" among the survivors. As analyzed in Capelli's research, the disintegration of the local community and the dynamics linked to reconstruction/repopulation led to the lack of a collective dimension, indispensable for the elaboration of a shared memory. It thus remained "trapped" in an individual dimension and in a silent form and, in a circular process, the stopping of transmission caused the stopping of any process of collective elaboration of the trauma (Capelli, 2006).

Among survivors and witnesses, the identification of Paolini's TV show as the watershed in the re-birthing of the memory of the disaster is widespread. Renato Migotti, president of the Survivors' Association, explains that because of the spreading of that monologue there seems to have been an awakening of consciences, and the people realized that they had a role, they felt they were conscious protagonists as "informers of memory" for future generations.[5]

Its effectiveness was then undoubtedly intensified by its dissemination through the medium of television, which helped amplify the communicative process underlying any social representation of the past. It provided the necessary and ultimate legitimacy to intervene personally as actors in the process of establishing a collective memory of the disaster. Indeed, within a few years of the thirty-fourth anniversary, the phase of collective association and mobilization by committees and associations began (Capelli, 2006). The shock provoked by the program was so strong that in the following days the road to the dam had to be closed because of the hundreds of visitors coming by to know and see for themselves.

The show influenced the perception of the disaster and of the work at a national level as well. It is noteworthy that after the tragedy most of the chronicles insisted on the fact that the dam was perfect: the Vajont disaster was painted as a mockery to human ingenuity, which can do nothing if nature decides to wage war on us.[6]

---

[5] See the article *Con Paolini anche i superstiti hanno riscoperto il Vajont* listed in the sitography.
[6] See newspaper articles listed in the sitography.

The following are some excerpts from the newspapers of 11th October 1963:

Giorgio Bocca writes in *Il Giorno:*

> (…) In atomic times, one could say that this is a clean disaster, men have nothing to do with it, everything was done by nature, which is neither good nor bad, but indifferent. (...) There was nothing to be done, there are no culprits.

In the pages of *Corriere della Sera* Dino Buzzati tells:

> In front of the dead of Belluno, still stands the prestige of science, engineering, technique, work. But it was not enough. (...) Once again the imagination of nature has been greater and more cunning than the imagination of science.

In *Il Gazzettino* Armando Gervasoni writes:

> (…) It was not the highest arch dam in Europe, one of the most daring achievements of hydraulic technology, that caused one of the greatest disasters in memory. It was the mountain that betrayed.

The *leit motiv* that ran through the national press in the autumn of 1963 (except for *L'Unità*, then accused of taking political advantage of the tragedy) was saying that sometimes nature rebels against man's arrogance but it didn't follow that the man is guilty of having dared. This acquittal of responsibility, established in the days following the disaster and reinforced by the outcome of the trial in 1971 - which convicted only two of the defendants with relatively mild sentences - projected its effects for years.

With the Paolini - following Merlin's footstep - contributed to the narrative of "natural catastrophe" and shifted away from the representation of "a cruel nature" and of "a mountain that betrayed", taking the viewer step-by-step into the background of what looms as a predictable and therefore avoidable man-made disaster. The representation of the incident shifted from a discrete event that breaks in an independent system ("a stone fell into a glass filled with water and the water overflowed onto the tablecloth" was the metaphor used by Dino Buzzati on *Corriere della Sera*) to dynamic processes, which are built over time by creating preconditions within the system itself (see Ligi, 2009).

This was the story of many works that are completed excluding entire populations from choices that put their lives on the line. Paolini's show shed

a light on the asymmetries of power that are inscribed in the hydroelectric landscape of that valley and made it an "archetypal account of environmental injustice", whose ingredients are the power of a large industrial group, the resistance of local communities and the connivance of the authorities and politicization of science (Armiero, 2013).

The Vajont disaster - only briefly outlined here - constitutes the most tragic parable of the strident dialectic of centralization/marginalization of mountains after World War II, but that is not the only one -not even within the Piave basin - where the interests of local actors and communities remained in the background.


## 4. Piave, a hydroelectric workshop

A case that anticipates the Vajont dynamics is explored in the research documentary *Dove nuotano i caprioli,* the result of a filmic and public geography work I carried out in the period 2018-2021, which investigates the hydroelectric landscape of the Centro Cadore (Belluno) by collecting memories, testimonies and perceptions of dwellers and community.


In the locality of Sottocastello di Cadore, the construction of the dam on the Piave river by SADE was completed in 1949, creating a reservoir of 67 million cubic meters of water: consequently, Vallesella di Cadore became the closest hamlet to the lake. Because of the karstic nature of the soil (well known among local people), after the filling of the reservoir the village started to present hydrogeological problems as cracks, collapses, and damages to the buildings. In few years it was brought to crumble both in the material and the relational aspect. The houses were declared inhabitable and abandoned, the town razed to the ground and confusedly rebuilt in a higher location. It was a troubled story both from a human and a legal point of view because SADE denied any involvement and filed a series of appeals even after the ministerial technical commission confirmed the correlation between the reservoir and the instability.

Figure 2 - *The Piave valley of Cadore before becoming a reservoir. Bottom left the village of Vallesella (source: archive of Municipality of Domegge di Cadore).*

Currently, Vallesella is an invisible village for tourists and patrons, but still well present in the memory and hearts of those who lived it[7], especially for what it represented: a sense of community, union, and solidarity. What emerges is a relational conception of the concept of *village*, where what is most missing is precisely that dense web of exchanges and shared practices located in the spaces, which is contrasted today by housing dispersals and the fraying of the community. The decision to make filmic research has to do with its potential ubiquity and ability to spread in different circuits, reaching a wider and more heterogeneous audience (Jacobs, 2016; Varotto & Rossetto, 2016) and with the great sense of bitterness, helplessness, and injustice that I felt from the local people with respect to the events that had pitted the small town against the interests of an industrial giant. Moreover, at the time these events were very little known outside the valley and many people were glad to have the possibility to share their experiences. The goal of the research was therefore to bring these voices and stories out of invisibility, restoring importance and recognition to their experience, told through a choral and first-person narrative. The realization of the research film seemed to be experienced by some witnesses as forms of redeeming of memory for a

---

[7] A dweller interviewed told me "When I open the window in the morning, *I see* the old Vallesella" (Conte, 2021a).

feeling of injustice and bitterness that persists. Others felt as important to bring up and creating interest in certain issues and places (Conte, 2021a).

In addition, audiovisual seems well suited, because of its potential at the level of expression and for its characteristics of multi-sensoriality and polysemy (Jacobs, 2016) to create relation between dialectic elements as full/empty, proximity/distance, past/present. Through certain directorial and editing choices, the documentary intends to return a representation that is certainly "reduced, approximate, symbolic, but also authorial, complex and negotiated representation of the landscape" (Varotto & Rossetto, 2016).

If in the first part the documentary deals with the issue of water and hydroelectricity focusing on the microcosm of Vallesella, in the second part the gaze is broadened to a wider scale, considering the effects of the artificialization of the river in a system perspective.

Piave river owns a complete overview of every form of water exploitation conceived and developed in the name of progress. With about fifty inlets in high-altitude streams, a by-pass system of over 200 km of pipes, mostly underground, 17 medium-sized reservoirs, 30 power plants and an infinity of other dams and interventions, Piave is the most exploited river in Europe for energy production (Franzin & Reolon, 2009; Marzo Magno, 2018). In addition to a radical territorial transformation, these interventions have produced fundamental ecosystemic consequences in the fluvial dynamics, which will be investigated only decades later, when the "hydroelectric euphoria" will vanish, leaving room for more critical attitudes (Soriani, 2004). If on the one hand the hydraulic engineering can be considered as an admirable result of a cultural competence, it is also true that in this case and many others, it shows the limits of an arrogant interference in the morpho-hydraulic equilibrium (Vallerani, 2004).

In the last thirty years, the various uses of the Piave have reduced the flow by about 1/3 in its final part and by about 90% in high mountain streams (Franzin & Reolon, 2009). The upstream hydroelectric system modifies the hydrological regime, which is today characterized by the disappearance of moderate flow levels (completely absorbed by the regulating reservoirs), leaving the rivers in persistent conditions of reduced flow rates interrupted every few years by great overfloods.

As a result of the flow regulation operated by the reservoirs, the previous braided-structure turned into a channel-like section and the current has no longer the strength to migrate and distribute the material downstream, posing potentially dangerous situations (D'Alpaos, 2004).

The shores of Venice lagoon are also affected by the alteration of the outflows, as the reduced intake of sediments is no longer able to compensate

for marine erosion (Zunica, 1987). The need to protect reclaimed coastal land and seaside tourism fostered a series of defense works with increasing economic and environmental costs (Bondesan, 2004).

One of the still unsolved issues is the hydrogeological risk of the areas in the lower course of the river (where large floodplain sections have been unwisely invaded by agronomic and settlement expansion). To cope with this situation, the Veneto Region has foreseen the construction of a massive basin with a capacity of 30-40 million cubic meters in Crocetta del Montello (Treviso) area: a work (rated 150 million Euros) of huge environmental, ecological and landscape impact, which would deeply alter an area protected at European level (Zanatta *et al.*, 2021) and against which citizens and municipalities have appealed to the Water Tribunal.

These sketches of the Piave situation, necessarily synthetic and far from being exhaustive, delineates a complex system of multiple business interests and unsolved issues, and outlines a "water conflict" that periodically emerges and that it is the deeper legacy of a deep artificialization and industrialization of the river (Bonan, 2020).

## 5. Conclusion

The chapter offers a reflection on the relationship between the conquest of power-through the construction of hydropower landscapes-and audiovisual media, focusing on some cases of interest. The first part of the article considers some examples that convey and support a modernist rhetoric and a utilitarian approach to waters and mountains. As De Rossi puts it, modernism in the Alps was characterized by the simplification and emptying of cultural and historical landscapes, a premise for an over-meaning with few elements and concepts (De Rossi, 2016). The image of the mountain conveyed by the media has undergone a similar process of rarefaction and abstraction, distilling few essential elements related to nature and technology. Photographs, advertising posters as well as television and film products have often depicted pure objects, the result of heroic and technological construction sites in dialogue with snowy peaks. Imposing dams and reservoirs celebrated the partnership between progress, nation, and mountain. Varotto observes that the stereotypes of mountains in 20th century are often featured by an *exogenous origin* - coming from an extraneous and highly selective gaze; by the *simplification* in some details and elements that should define the quintessence of the mountain and orient expectations and imaginaries; by the *reiteration* of a vision spread by the mass media, which becomes the dominant image (Varotto, 2020).

We can say that audiovisual media, similarly to *words* in McGeachan & Philo's, "are crucially reflexive of the goings-on in the human world, but also unavoidably generative of that world in all kinds of ways. They can shape, wound, fracture and direct how lives, and the material landscapes housing those lives, are planned, enacted, altered, and obliterated" (McGeachan & Philo, 2014).

Narratives around hydropower projected the mountain at the center of the national agenda as the pivot of a renaissance economy but in many cases local communities and interests were left behind.

The most tragic and well-known case is that of Vajont disaster, which is featured in Paolini's teathrical/television show. As we have seen, Paolini's broadcast on prime-time television contributed to the widespread dissemination of a new social perception of the disaster in its procedural dimensions and to the collective and national elaboration of the tragedy in what has been called an "artistic catharsis"[8]. The author highlights asymmetries of power that are inscribed in landscapes and the underlying logics often characterized by environmental and social unsustainability and a substantial blindness for the geomorphological limits and for the socio-cultural contexts in which the large hydroelectric works were settled (Varotto, 2021).

A renewed attention is given to the specificities of places and to the practices and resistance of local communities, thus redeeming their visibility in representation and their role.

With similar inspirations I moved through the geographical film *Dove nuotano i caprioli,* in which choral narratives of the Central Cadore hydroelectric landscape and invisible geographies are given over to the very voices of witnesses and inhabitants.

As Garret notes, the film can also be conceptualized as an experience in which the author shares agency with the participants, losing some of the control over the construction of the project: in this sense it helps to destabilize the hierarchies and power relations inherent in knowledge production (Garrett 2014; Kindon, 2016). Making a geographical film has first to do with encounter, with a "new" space and with the people who make that space a culturally, lively place, dense with meaning. It can be a powerful incubator and accelerator of relationships, stimuli, ideas, connections that are established and radiate in many directions. In this sense the final product is not the only outcome to be considered: the process is equally important

---

[8] See the article *Con Paolini anche i superstiti hanno riscoperto il Vajont* listed in the sitography.

because, through collaborative research actions and the involvement of different audiences, the researcher and subjects contribute to a shared construction of meanings and can trigger the creation of new networks, collaborations, ideas-actions, with possible spillovers on the territory in terms of awareness and agency (Conte, 2021a).

Audiovisual media are then viewed here from two angles: as complex texts that re-present and re-construct specific ways of seeing, carry historical baggage and affect the viewer's perception emotionalizing spaces and places, landscapes, and identity. But they are also intended as performative tools and processes who can creatively engage with people and landscapes and participate as active agents in re-building the sense of place.

## References

Aprà, A., 2008, Le rinascite di Olmi. In: Tobagi, B. (Ed.), *I volti e le mani*, Feltrinelli Editore, Milano.

Anderson, B., 2018, "Cultural geography II: The forces of representation", *Progress in Human Geography*, 43, 6, 1120-1132. doi.org/10.1177/0309132518761431.

Armiero, M., 2013, *Le montagne della patria. Natura e nazione nella storia d'Italia. Secoli XIX e XX,* Einaudi, Torino.

Barbash, I., Taylor, L., 1997, *Cross cultural filmmaking: a handbook for making documentaries and ethnographic films and video,* University of California Press, Berkley.

Bolin, G., 2004, Spaces of Television. The Structuring of Consumers in a Swedish Shopping Mall. In: Couldry, N., McCarthy, A. (Eds), *MediaSpace. Place, Scale and Culture in a Media Age*, Routledge, London & New York, 126-144.

Bolin, G., 2006, Electronic Geographies. Media Landscapes as Technological and Symbolic Environments. In: Falkheimer, J., Jansson, A. (Eds.), *Towards a geography of communication,* Nordicom, Göteborg, 65-84.

Bonan, G., 2020, *Le acque agitate della patria. L'industrializzazione del Piave (1882-1966)*, Viella, Roma.

Bondesan, A., 2004, Il problema della riduzione del trasporto solido fluviale e l'erosione dei litorali. In: Bondesan, A., Caniato, G., Vallerani, F., Zanetti, M. (Eds.), *Il Piave*, Cierre, Verona.

Bruni, D., 2008, I cortometraggi industriali. In: *I volti e le mani*.

Capelli, C., 2006, "I difficili percorsi delle memorie condivise, il caso del disastro del Vajont", *La critica sociologica,* 158, 75-87.

Coleman, R., 2015, *Transforming Images: Screens, Affect, Futures*, Routledge, London.

Conte, M., 2021a, *Dove nuotano i caprioli. Filmic geography dentro il paesaggio idroelettrico di Centro Cadore,* Università Ca' Foscari di Venezia, tesi di laurea magistrale in Antropologia culturale, etnologia ed etnolinguistica.

Conte, M., 2021b, *Dove nuotano i caprioli* (book and DVD), Cierre, Verona.

D'Alpaos, L., 2004, Acque di superficie, acque del sottosuolo. In: *Il Piave.*

Della Dora, V., 2009, "Travelling landscape-objects", *Progress in Human Geography*, 33, 3, 334–354. doi. org/ 10. 1177/ 03091 32508 096348.

Della Dora, V., 2019, *La montagna. Natura e cultura,* Einaudi, Torino.

De Rossi, A., 2016*, La costruzione delle alpi. Il Novecento e il modernismo alpino (1917-2017)*, Donzelli editore, Roma.

Escher, A., 2006, "The geography of cinema: A cinematic world", *Erdkunde*, 60, 4, 307–314. doi.org/10.3112/erdkunde.2006.04.01.

Ferrario, V., Castiglioni, B., 2015, "Il paesaggio invisibile delle transizioni energetiche. Lo sfruttamento idroelettrico del bacino del Piave", *Bollettino della Società Geografica Italiana*, XIII, vol. VIII, 532-553.

Franzin, R., Reolon, S., 2009, L'acqua contesa. Lo sfruttamento a fini idroelettrici e irrigui dell'acqua del Piave. In: *Il conflitto dell'acqua. Il caso Piave. Atto secondo,* Cierre, Verona.

Gambi, L., 1954, "L'escursione del XVI Congresso Geografico agli impianti idroelettrici del Cadore e del Trentino", *Rivista Geografica Italiana*, LXI, 61, 3, pp. 224-229.

Garret, B. L., 2014, "Creative video ethnographies: video methodologies of urban exploration". In: Bates, C. (Ed), *Video methods social science research in motion*, Routledge, New York.

Ghetti, P.F., 1993*, Manuale in difesa dei fiumi,* Edizioni della fondazione Agnelli, Torino.

Henley, P., 2007, "Seeing, Hearing, Feeling: Sound and the Despotism of the Eye in Visual Anthropology", *Visual Anthropology Review*, 23. doi.org/10.1525/var.2007.23.1.54.

Ingold, T., 2000, *The perception of environment,* Routledge, London.

Jacobs, J., 2016, "Visualising the visceral: using film for research the ineffable", *Area*, 48, 4. doi.org/10.1111/area.12198.

Kindon, S. L., 2016, "Participatory video as a feminist practice of looking: take two!", *Area*, 48, 4, 496-503. doi: 10.1111/area.12246.

Ligi, G., 2009, *Antropologia dei disastri,* Laterza, Roma.

Ligi, G., 2021, Anatomia e antropologia di un disastro. In: Conte., M., *Dove nuotano i caprioli*, (dvd+book), Cierre, Verona.

Lukinbeal, C., Sommerland, E., 2022, "Doing film geography", *Geojournal*, 87, 1-9. doi.org/10.1007/s10708-022-10651-2.

Marzo Magno, A., 2018, *Piave. Cronache di un fiume sacro*, Il Saggiatore, Milano.

McGeachan, C., Philo, C., 2014, Words. In: Lee, R., Castree, N., Kitchin, R., Lawson, V., Paasi, A., Philo, C., Radcliffe, S., Roberts, S., and Withers, C. (Eds), *The Sage Handbook of Human Geography*, Sage, London, 545–570. doi:10.4135/9781446247617.n24.

Merlin, T., 1997, *Sulla pelle viva. Come si costruisce una catastrofe. Il caso del Vajont,* Cierre, Verona (first edition: 1983, La Pietra, Milano).

Olmi, E., 2008, Gli anni Edison. Documentari e cortometraggi (1954-1958), Feltrinelli, Milano.

Paolini, M., Vacis, G., 1997, *Il racconto del Vajont,* Garzanti, Milano.

Ruby, J., 1980, "Exposing yourself. Reflexivity, anthropology and film", Semiotica, 30, 1-2, 153-180. doi.org/10.1515/semi.1980.30.1-2.153.

Sirena, T., 2020, *Il paese scomparso. La diga di centro Cadore e i dissesti di Vallesella,* Cierre, Verona.

Soriani, S., 2004, Energia, modernizzazione e paesaggio. In: *Il Piave.*

Soriani, S., Vallerani, F., Zanetto, G., 1996, *Nature, environment, landscape: European attitudes and discourses in the modern period. The Italian case*, *1920-1970*, Quaderni del Dipartimento di Geografia - Università di Padova, Padova.

Toffetti, S., 2008, Ermanno Olmi: la Nouvelle Vague al lavoro. In: *I volti e le mani*.

Vallerani F., 2004, Il controllo delle piene e i prelievi irrigui. In: *Il Piave.*

Vallerani, F., 2013, T*ra geomorfologia e idea di natura: i paesaggi elettrici come geografia della modernizzazione*. In: Reberschak M., *Il grande Vajont*, Cierre, Verona.

Vallerani, F., 2014, Paesaggi d'acqua e controllo umano: dagli approcci adattivi alla tracotanza della modernità. In: Camerotto, A., Carniel, S. (Eds.), *Hybris: i limiti dell'uomo tra acqua, cieli e terre*, Mimesis, Milano.

Varotto, M., 2017, *Montagne del Novecento. Il volto della modernità nelle Alpi e Prealpi venete*, Cierre, Verona.

Varotto, M., 2020, *Montagne di mezzo. Una nuova geografia*, Einaudi, Torino.

Varotto, M., 2021, Montagne elettriche: il tempo della riconciliazione. In *Dove nuotano i caprioli*.

Varotto, M., Rossetto, T., "Geographic film as public research: re-visualizing/vitalizing a terraced landscape in the italian alps (Piccola

terra/Small land, 2012)", *Social and Cultural Geography*, 17, 8. doi.org/10.1080/14649365.2016.1155731.

Zanatta, K., Ferrarese, F. e altri, 2021, "Distribuzione e diversità delle orchidee delle Grave di Ciano del Montello (Fiume Piave, NE Italia)", *Annali del Museo Civico di Rovereto*, 37, pp. 137-153.

Zimmermann, S., 2007, Media Geographies: always part of the game, *Aether*, 1, 59-62.

Zunica, M., 1987, *Lo spazio costiero italiano. Dinamiche fisiche e umane*, Levi Editore, Roma.

**Video references**

*Cantiere d'inverno,* Sezione Cinema della Edisonvolta, Italia, 1955, colore, 10'; disponibile al link https://youtu.be/Q8GMIPw5JQk.

*Dove nuotano i caprioli,* Gooliver Associazione Culturale, Cierre Edizioni, Italia, 2021, trailer available https://vimeo.com/655930996.

*H max 261,6*, Unieuropa Films, Italia, 1960, B/N, 11', https://archiviostorico.enel.com/it/risultati-ricerca/dettaglio-ricerca.html?type=video&id=19fb9081-ab43-4424-bd34-22461e5ddd8d.

*ll ministro Tupini inaugura la centrale idroelettrica sorta nelle valli del Cadore,* Istituto Luce newsreel of 09/02/1949, Archivio Luce, https://patrimonio.archivioluce.com/luce-web/detail/IL5000012081/2/il-ministro-tupini-inaugura-centrale-idroelettrica-sorta-nelle-valli-del-cadore.html?startPage=0&jsonVal={%22jsonVal%22:{%22query%22:[%22piave%20utilizziamo%22],%22fieldDate%22:%22dataNormal%22,%22_perPage%22:20}}.

*Il racconto del Vajont 1956-9/10/1963*, Moby Dick – Teatri della Riviera, Italia, 1993.

*La diga del ghiacciaio,* Società Edison, Italia, 1955, B/N, 10'22''; disponibile al link https://www.youtube.com/watch?v=6WLgdNimrrA&t=19s.

*La mia valle,* Sezione Cinema della Edisonvolta, Italia, 1955, colore, 9'; disponibile al link https://www.youtube.com/watch?v=TRfrZUtljMQ&t=9s.

*La pattuglia di San Giacomo*, Sezione Cinema della Edisonvolta, Italia, 1954, col., 13', https://www.youtube.com/watch?v=zYOdy_TCoVg .

*Oro Bianco,* Istituto Nazionale Luce, 1939, https://patrimonio.archivioluce.com/luce-web/detail/IL3000083851/1/oro-bianco.html?startPage=580.

*Pieve di Cadore: convegno interparlamentare per il turismo,* servizio del cinegiornale Luce del 27/04/1949, Archivio Luce, https://patrimonio.archivioluce.com/luce-web/detail/IL5000012847/2/pieve-

cadore-convegno-interparlamentare-
turismo.html?startPage=0&jsonVal={%22jsonVal%22:{%22query%22:[%2
2convegno%20turismo%20cadore%22],%22fieldDate%22:%22dataNormal
%22,%22_perPage%22:20}}.

*Tre fili fino a Milano*, Sezione Cinema della Edisonvolta, Italia, 1958, col.,
24'30", https://www.youtube.com/watch?v=3Ase_C9e_e8 .

**Sitography**

Con Paolini anche i superstiti hanno riscoperto il Vajont,
http://temi.repubblica.it/corrierealpi-diga-del-vajont-1963-2013-il-
cinquantenario/con-paolini-anche-i-superstiti-hanno-riscoperto-il-vajont/
(last visited 25/08/2022).

Corriere della Sera: "Natura crudele", http://temi.repubblica.it/corrierealpi-
diga-del-vajont-1963-2013-il-cinquantenario/natura-crudele/ (last visited
25/08/2022).

Lo scontro tra i giornali: natura cieca o responsabilità umane?,
https://temi.repubblica.it/corrierealpi-diga-del-vajont-1963-2013-il-
cinquantenario/lo-scontro-sui-giornali (last visited on 02/12/2022).

Vajont, 9 ottobre '63. L'odore di quella maledetta sera,
https://ytali.com/2016/10/07/vajont-9-ottobre-63-lodore-di-quella-
maledetta-sera/ (last visited 25/08/2022).

Vajont 1963-2013, un'onda lunga cinquant'anni: il racconto dei
sopravvissuti, https://www.ilfattoquotidiano.it/2013/09/24/vajont-1963-
2013-unonda-lunga-cinquantanni-racconto-dei-sopravvissuti/722145/(last
visited 25/08/2022).

# 10. The China-Tibet Relationship in Film Stories: an Announced Disaster?

*Antonietta Ivona[1]*

**Abstract**

Today cinema, by virtue of its diffusion and popularity, is the perfect tool for disseminating environmental issues and highlighting their critical issues. Documentary cinema, then, has become an effective tool for communicating environmental issues and their urgencies on a large scale. The paper intends to analyze the environmental issue in relations between China and Tibet through film and documentary narration. While being aware that this is a huge issue, the visual approach to the aforementioned theme can provide a further key to understanding.

**Keywords:** Environmental; geopolitics; visual arts; religion; balances.

## 1. Introduction

Since the dawn of the last century, science and its visual approach have created an uninterrupted union. The so-called "scientific imaginary" is therefore the immediate expression to refer to the multiple and mutual influences between science and imagination. The close relation between science and visual culture in western modernity has been widely commented upon. John Crary's (1992) seminal book, for example, shows the intersection, convergence, and exchange of disciplines ever since the birth of modern science. Jos van Dijck (2005) explained how interactions between man and technology do not occur only in places designated for science but are also represented everywhere in contemporary visual culture. Visual representations, therefore, play a significant role in explaining various important issues and phenomena. Over the last century, it has become clear that much of our scientific knowledge actually depends on its representation in visual culture. One of the focal points of the debate on the relationship between science and its visual representation has long been the topic of "truth". The nineteenth century idea that truth is self-evident by visualizing an object has given way to the Foucauldian idea that truth is an effect of the

---

[1] University of Bari, Italy, e-mail: antonietta.ivona@uniba.it.

discussion. Certainly, over the years, the term "video" has been increasingly referring to a technological device but also and above all to a cultural tool that acts in the relationship of mutual mediation traditionally existing between man and world. Visual culture of the last few centuries is deeply indebted to, and has been made possible by, scientific and technological developments. They are all the result of the intersection, convergence and exchange of disciplines and skills belonging to both the technical-scientific and artistic-humanitarian fields. Crary, for example, argues that optical devices such as camera obscura and stereoscope are "points of intersection where philosophical, scientific, and aesthetic discourses overlap with mechanical techniques, institutional requirements, and socioeconomic forces" (Crary 1992, p. 28). In all these cases, they are not one-off inventions but the result of a shared need to express a new vision of the world. Again, Crary sees in the stereoscope (from the two Greek terms *stereos*, solid, and *scopos*, which looks) the first instrument that began to express the activity of observation as an action, and more precisely as a process of immersion in what one sees, a real fusion between spectator and object. "No other form of representation in the nineteenth century had so conflated the real with the optical, an object with its image" (Crary 1992, p. 124).

When the short film *L'arrivée du train en gare de La Ciotat* lasting about 45 seconds, by the Lumière brothers, was screened by surprise in 1895, the audience panicked, thinking that the train was about to run over them. This episode is therefore referred to as cinema's first attempt to create the sensation of the third dimension.

The chapter explores the use of cinema as a research tool to examine the role of film-making in the dissemination of scientific knowledge. After a first visual approach of the initial filmography of the history of cinema as a medium of knowledge, the work will focus on the union between cinema and new environmental emergencies. But cinema also was, and is, an extraordinary instrument of social condemnation of issues that would otherwise be neglected; this is precisely the topic of the fifth paragraph, namely the climate and-social emergency in Tibet accurately described by various directors.

From a methodological point of view, the aim is assessed by companioning qualitative methods approach; it is proposed using a case-study approach by studying some original films for the visual analysis. In particular, the chapter is based on data collected by the viewing of significant films and documentaries. The methodology provides a typology to understand and analyse the different approaches to scientific knowledge from a century ago and to environmental issues today. The research aims at contributing to the

study of the role of cinema in raising global awareness on urgent issues that otherwise would only be limited to a local scale.


## 2.    Film art supports science

Since the early years of the twentieth century, the first short documentaries began to appear that responded to the need to reproduce reality by showing a cross-section of society and historical-political events of the turn of the century. Visual art therefore began to support the dissemination of information also in the scientific field, which had previously been the prerogative of scholars only. It was a tool for expressing and spreading scientific achievements, otherwise considered unintelligible. In 1909 Jean Comandon filmed for the first time the syphilis bacterium, in the same years the German Wilhelm Pfeffer produced short films on the growth of botanical species; the Argentine doctor Alejandro Posadas showed footage of surgery during conferences; the German Ludwig Münch made short films on mathematics. We should also mention the ten-minute documentaries such as *La vita delle farfalle* (1911) and *Neuropatologia* (1908) by the Italian Roberto Omegna; but the most interesting productions were the ethnographic films, that were defined as "archaeo-newsreel". Other productions followed the trend, abandoning the purely documentary slant but maintaining marked references to the scientific scene. Georges Méliès' cinema marked the turning point in this direction, still referring to science but in a different way. Méliès' great intuition was to talk about science by creating an exciting story. (Merzagora, 2006). By imagining a journey into space, at that time considered the best way to strike the imagination of the audience, he gave birth to *Le Voyage dans la lune* (Figure 1), considered by many as the forerunner of science fiction films. (Testa, 2007; Tosi, 2001).

Figure 1 - *Two frames of the film Le Voyage dans la lune (Source: Ivona, 2022 from the film)*

Over time and through experiments, science was able to document the continuity of natural phenomena and, perhaps unconsciously, it was increasingly closer to cinema. (Merzagora, 2006).

Robert K. Bonine's attempt to document the consequences of the San Francisco earthquake in 1906 with his short film (*Films of the San Francisco Earthquake*) can be regarded as an example. This is a part of movies from the studio that "invented" them: the Thomas Edison Company. The same catalogue also includes two other interesting examples that represent the attempt to combine filmic representation with reality: *Storm at Sea* of 1900, by director James White and *What Happened on Twenty-Third Street, New York City* of 1901, by Edwin S Porter. Edison's film company also produced the first short films for educational purposes such as, for example, *The Wonders of Magnetism* of 1915.

Although motion picture cameras were invented in several times and places (and the Lumière brothers have a better claim on getting the first practical system into operation), this does include some of the earliest film footage that survives today. It's fascinating to watch how the films evolved with audience expectations. (Frank, 2003).

In short, the cinema before the Lumière brothers was experimented and developed to respond to specific scientific needs. Like telescope, microscope and many other scientific instruments, it too made it possible to see the invisible.

By convention, cinema was born with the public screening on December 28, 1895, of the Lumière brothers' film *La Sortie des usines Lumière* in Lyon (among the ten films screened at the first public cinema show) followed by a series of other footage films. Equally accepted is the idea that the birth of

cinema corresponds with the first public cinematic show with the aim of entertaining the audience. Yet, even abandoning the documentary spirit of pre-cinema, the links with science persist. The first real big cinematic success that allowed the seventh art to forcefully enter the entertainment industry was a scientific journey: Professor Barbenfouillis' journey to the moon in the aforementioned film by Georges Méliès. Lasting about fifteen minutes, silent and in black and white, during the film many 'clichés' of science fiction cinema are 'fixed' at an embryonic level: from the group of scientists who get together for an apparently impossible undertaking, to the encounter with alien races, until the triumphant comeback. Georges Méliès is the first to impress on the film the dream that for thousands of years had only been told orally or in writing, from *The True Story* (in ancient Greek: *Alēthê diēghémata*, literally True Stories) of Luciano di Samosata to *De la Terre à la Lune* by Jules Verne of 1865 (Figure 2), which *Le Voyage* is loosely inspired by.



Figure 2 - *The original movie poster Le Voyage dans la lune and the first cover of the book De la Terre à la Lune (Source: Ivona, 2022).*

After the success of Méliès's film, cinema produces other examples of *'scientific'* show, among which particularly valuable are Stuart Paton's *20,000 Leagues Under the Sea* (1916) with its stunning underwater shots and special effects with a massive use of divers (Figure 3); and the 1929 film *Die Frau im Mond* (A Woman on the Moon) by Fritz Lang, his last silent film, which merges science fiction and so-called "real" science, in an ironically

affectionate tribute to the nineteenth century, to Verne and to Georges Méliès. (Morandini L., Morandini L, Morandini M., 2017). After almost three intense decades of film experimentation serving science or, we may say, under the cover of science, the common path divides into new, increasing paths. "Science has become more complex and cinema is watching. Its eye also ventures where relations between science and society become thornier. For example, when scientists, willing or not, find themselves involved in the development of war machines." (Merzagora, 2006, p. 52).



Figure 3 - *Two frames of the film 20,000 Leagues Under the Sea. Source: Ivona, 2022 from the film).*

### 3. Cinema and the environment, when the seventh art becomes sustainable

As mentioned, therefore, science had, and still has, deep impact on imagination; what Smelik (2010) defines as the 'scientific imaginary' thus ends up promoting knowledge of topics otherwise unknown to the majority of people. Popular media, art and science have become an intricate and interconnected contemporary visual culture. Over the past century it became clear that much of scientific knowledge actually depends on its representation in visual culture. One of the focal points of the debate on the relationship between science and its visual representation has long been the topic of "truth". The nineteenth-century idea that truth is self-evident by visualizing an object gave way to the Foucauldian idea that truth is an effect of discourse. The idea that seeing is knowing and understanding has been with us since the time of the Greeks; an idea that Foucault (Catucci, 2005), among others, revealed in his analysis of the construction of the medical gaze and clinical anatomy as an important tool for creating a certain truth in science.

Each human age had been characterized by a particular *episteme*, a Greek word that could be translated as certain cognitive truth. A definition that manifested itself through a system of rules on how to face reality and a set of reflections on this field of investigation. An articulated system of knowledge, similar to what the American philosopher Thomas Kuhn (2009) would have defined in the same years as a paradigm. A space within which the possibilities of scientific and historical investigation of a given period operated and, at the same time, a cultural tool through which some peculiar knowledge of each era was articulated.

Among the visual arts, again Merzagora (2006) argues that films have helped to shape the image of science and scientists among the general public; scientists sometimes become characters of popular cinema and the most common plot involving scientists concerns an unstable balance between knowledge and power.

Cinema acknowledges that science has the power to understand and change the world, and it harnesses this double-edged power to fulfil its narrative goals. For example, the great American film companies, besides focusing on classic science fiction topics such as the encounter with alien worlds, have used topics such as natural disasters, man-made environmental disasters, manipulation of the natural world, and relationship between science and war. Science, as portrayed in popular films, is not a representation of true science, nor are popular films a faithful mirror of science in society. Cinema, therefore, reflects, constructs and influences the public perception of science

and the interconnections between science and society in general. (Smelik, 2010).

According to the various eras and to what was happening in the world of experimentation and research, the scientific topics dealt with by world cinema are different; just as there are different interpretations of the role of science in preventing or combating fatal events for man such as natural or other disasters. In this interpretation, scientists often play a double role. On the one hand they can cause catastrophe but on the other hand, they not only know how to foresee it, but they can also stem it. Science is at the same time the cause and solution of the catastrophe and it depends on the historical periods and on the author how much the balance between one position and another fluctuates. Hurricanes, tides, climate change, comets and asteroids, eruptions, avalanches, earthquakes and fires are just some of the manifestations of nature that rebels against the actions of men by presenting apocalyptic scenarios.

Natural apocalypses appear in cinema since the very beginning, think of *Éruption volcanique à la Martinique*, by George Méliès released in 1902 or *The Hurricane* by John Ford of 1937, up to the first major production dedicated to climate change or *The day after tomorrow* by Roland Emmerich of 2004. The catastrophic and apocalyptic slant on climate change is also felt in documentaries.

Among the best known *An Inconvenient Truth* by Al Gore of 2006 which tells how real and imminent the threat of climate change is. The 2016 sequel *An inconvenient sequel: truth to power* also takes stock of the situation by wondering what happened in the lapse of time between the two documentaries. *The 11th Hour* of 2007, directed by Leila Conners Petersen and Nadia Conners, produced and narrated by Leonardo di Caprio and *Before the flood*, a 2016 documentary directed by Fisher Stevens on climate change, produced and starring Leonardo Di Caprio, develop the same theme*; they show the effects of global rising temperatures.

In Italy, one of the main promoters of environmental awareness is Ermanno Olmi, whose films reveal a deep love for nature (among others the documentary *Terra Madre*). Olmi also shot in 2014 the film *The meadows will come back*, made with a low environmental impact, in compliance with the guidelines of the Edison Green Movie protocol for sustainable cinema. Among the initiatives undertaken to reduce the impact was a lower use of film, a 60 percent cut in $CO_2$ emissions and a ban on the use of plastic bottles on set.

According to Candau "Because of its narrative and imaginary potential, the memory of disasters has always been a precious fuel for art, all disciplines combined. Classical painting, as we know, was largely nourished by

representations of great battles. The same is true of literature and cinema where natural or man-made disaster has long been a recurring theme." (Candau, 2019, p. 9).

Cinema, thanks to its popularity, is the perfect tool for disclosing environmental issues. The beginning of this union between cinema and environment was inaugurated by the Lumière brothers who shot, in 1899, *Puits de pétrole à Bakou. Vue de* près, considered the closest thing to a current ecological documentary. Alexandre Michon filmed the fumaroles rising from the oil wells of the then Russian city of Baku. The scene, lasting about a minute, was filmed in 1887, but it was publicly screened only in August 1899.

In 1922 *Nanook from the North*, by Robert J. Flaherty, was released, a film in which the protagonists are, perhaps for the first time, the wilderness, the frozen lands of Hudson Bay and the life of a Canadian Inuit family are protagonists. Flaherty revolutionized the concept of documentary making the environment the absolute protagonist of the images.

Films on the environment have always existed in the history of cinema, but their number is increasing, reflecting the growing urgency of certain themes, such as global warming, deforestation, pollution, that cinema, as an art, feels obliged to tell.


## 4. Cinema, documentaries and the Anthropocene: a possible point of view

Film and media stories are instrumental, empirically and ideologically, to record this symptomatic awareness of man's visible impact on terrestrial ecosystems. Peterson and Uhlin (2019) believe that the 'Anthropocenery' of media history can be a tool for examining the ways in which film and media stories seem different from the Anthropocene perspective, which designates a new geological epoch in which human activities are significant enough to affect planetary ecosystems. Parallel to climate science's monitoring of the stresses posed to the environment by industrialization, film and media texts outline a cultural history of the Anthropocene, describing the ways of living and thinking that led to this crisis. "In addition to reshaping our understanding of contemporary media, the Anthropocene provides an opportunity to reconceptualize cinema and media history. The concept of anthropogenic climate change does not exactly provide a theory of history, but it pushes the limits of historical understanding and requires us to think across different time scales. Film history occupies only a tiny moment in the planetary perspective of Earth's geological history. However, human interventions have accelerated

a typically steady and slow-moving natural history, resulting in a new time scale of ecological change that is recent and fast enough for cinema to capture or imagine it." (Peterson, Uhlin, 2019, p. 144).

The term 'Anthropocene' declares that humanity now functions collectively as a geological force, capable of intervening in a biospheric system once considered large and stable enough to simply absorb the waste products of human civilization. Of growing relevance to environmental humanities, the term "Anthropocene" (the word Anthropocene comes from the Greek words *anthropo*, for "man," and *cene* for "new") was first popularized in 2000 by the chemist Paul Crutzen and ecologist Eugene Stoermer to suggest the end of the postglacial geological epoch of the Holocene, which coincided with the rapid expansion of the human species, and the beginning of a new epoch. "Considering these and many other major and still growing impacts of human activities on earth and atmosphere, and at all, including global, scales, it seems to us more than appropriate to emphasize the central role of mankind in geology and ecology by proposing to use the term "anthropocene" for the current geological epoch. The impacts of current human activities will continue over long periods. According to a study by Berger and Loutre, because of the anthropogenic emissions of CO2, climate may depart significantly from natural behaviour over the next 50,000 years." (Crutzen, Stoermer, 2000, p. 17). Humanity, they argue, is acting on the planet like a force of nature, a nature that seems to be turning against organic life, as it has been known to us. "We must now contend simultaneously with our species-being (vulnerability for extinction we share with all living things) and our apparently exceptional, suprahistorical status as a geophysical entity that rises above biology, sociality and politics. Anthropocene humanity and its world-building activities are the new nature that appears to us in the form of weather events and extreme environmental conditions that are more violent, erratic, and threatening that anything in our collective history" (Fay, 2018, p. 11).

Humanity is thus called to face a double challenge: the fight against the vulnerability typical of every living species and the defence of our 'suprahistorical' entity as a remedy that allows the living being to temporarily place itself above history, biology, sociability and politics. (Nietzsche, 1974).

Anthropocene humanity and its world-building activities are the new nature appearing to us in the form of extreme weather events and environmental conditions that are more violent, erratic, and threatening than any other event in our collective history.

The beginning of the Anthropocene (or the "Human Epoch" to indicate that human activity is set to leave an indelible mark on the geological record)

is often dated to 1945 as the inauguration of both the nuclear era and the Great Acceleration, designating an exponential growth of the stresses observable on planetary ecosystems from the effects of global capitalism. Identifying the transition between the Holocene and the Anthropocene in 1945, at the beginning of the post-war economic expansion, makes cinema witness a turning point in geological time, and consequently, the history of cinema and the history of climate become explainable with respect to each other. Other proposed dates link the Anthropocene to a longer history of industrial capitalism starting with the invention of the steam engine in 1780, or to the history of imperialism in which colonialist violence, mass death and intercultural contact intermingle and animal species have left distinguishable traces in the geological record. Regardless of the chronology scientists ultimately adopt, cultural historians can make use of the multiple start dates of the Anthropocene to find disturbing parallels, patterns, and synchronicities between human actions and ecological change. The Anthropocene, in other words, puts an end to any separation of natural history from human history, and if there is a representative medium that best captures natural environments made human, it is cinema. (Peterson, Uhlin, 2019).

Indeed, as a result of various ecocrises of the Anthropocene context, the state and fate of humanity's relationship with Planet Earth has been changed irrevocably.

While the Anthropocene, as a historical period, stretches back many centuries into human history, as a concept it is very much one of the 21st century. It is an idea that is arrived upon through the heightened scale of, and urgency to act upon, anthropocentrically induced climate change. While not an official stratification, the term is used quite pervasively to describe not only a geological epoch, but also more generally to describe the current global environmental crisis. Clark affirms this diversification of the term's uses and meaning "The term has rapidly become adopted in the humanities in a sense beyond the strictly geological. Its force is mainly as a loose, shorthand term for all the new contexts and demands – cultural, ethical, aesthetic, philosophical and political – of environmental issues that are truly planetary in scale, notably climate change, ocean acidification, effects of overpopulation, deforestation, soil erosion, overfishing and the general and accelerating degradation of ecosystems. (Clark, 2015, p. 2).

The term "Anthropocene" is a topic of impassioned debate that has generated a number of competing frameworks for characterizing this epoch. "By foregrounding humanity as a unitary force (the *anthropos* of the Anthropocene) collectively responsible for ecological collapse, the Anthropocene arguably fails to account for the disproportionate responsibility

attributable to various actors. The continuing inequities of fossil-fuel capitalism and imperialism are integral to historicizing not only the differential causes of environmental disasters but also their unevenly distributed effects, as economically dispossessed populations are left vulnerable to a changing climate while the economies of the Global North develop mitigation strategies. The Capitalocene, an alternative framework to the Anthropocene most commonly associated with Andreas Malm and Jason W. Moore, emphasizes the capitalist extraction of value from nature in pursuit of unrestricted economic growth. This approach faults not humanity as a whole but industrialization's dependence on the "free gift" of nature." (Peterson, Uhlin, 2019, p. 145). Donna Haraway believes that the concepts of Anthropocene and Capitalocene are unsuitable for explaining the history of man-earth relations; she prefers to use the term Chthulucene as it more appropriately and completely describes our age as one in which the human and the non-human are inextricably linked in sprawling practices. Chthulucene, explains Haraway, requires *sim-poiesi*, or dealing with, rather than *auto-poiesi* or self-creation. Learning to endure the problem of living and dying together on a damaged earth will prove more conducive to the kind of thinking that would provide the means to build more liveable futures. (Haraway, 2016).

According to Fay (2018, p. 12) "The Anthropocene is to natural science what cinema, especially early cinema, has been to human culture. It makes the familiar world strange to us by transcribing the dimensionalities of experience into celluloid, transforming and temporally transporting humans and the natural world into an unhomely image."

The Anthropocene perspective on cinema and the media can be considered a tool for reading the current reality in parallel with the history of man and the effects it has generated on Earth from the past until today. In short, from the slow history of geological eras to the accelerated history of man on the planet.

Cinema in its various forms (films or documentaries) is able to question the binary oppositions underlying the anthropocentric discourse, such as human / non-human, life / matter or nature / culture, thus problematizing the very term Anthropocene. Nonetheless, cinema has great power to influence our perception of political and environmental issues and our emotional involvement in imagining possible solutions.

## 5. Tibet, environmental emergencies, visual representation

After the Chinese occupation of 1950, Tibet was divided, renamed and partially annexed to the neighbouring Chinese provinces, with little reference to the original borders between the Tibetan provinces. When China refers to Tibet, calling it the Autonomous Region of Tibet or TAR officially born in 1969, it means only U-Tsang and part of the Kham. The remainder of the Kham was divided between the Chinese provinces of Sichuan and Yunnan. Amdo was divided among the provinces of Gansu, Sichuan and Qinghai. (Goldenstein, 1998; Shaik, 2011).

The historical-political territory of Tibet, corresponding to the sphere of influence of the government of Lhasa at the time of the XIII Dalai Lama, that is until 1933, the year of his death, would make it the 10th largest nation in the world by geographical area. Tibet is often referred to as the cultural or ethnographic Tibet including the autonomous region Tibet, parts of the Chinese provinces Qinghai, Sichuan Yunnan and Gangsu; the Himalayan areas of India, northern Nepal and Bhutan.

Tibetans constitute one of the largest of the 56 ethnic groups recognized by the People's Republic of China. According to a 1959 census, there were more than six million Tibetans in China. To these, about 125,000 individuals of Tibetan ethnicity in India, 60,000 in Nepal and 40,000 in Bhutan must be added.

Tibet's environment is valuable for its beauty, but also for the Tibetan people who have administered it for generations. Still, all of this is in danger. It faces two huge threats: climate change and colonization. Both emergencies do not concern only the Tibetan population but also all the others depending, as will be seen later, on the preservation of the Tibetan environment.

The Tibetan Plateau is often known as the "Third Pole" and is home to the third largest water ice deposit in the world. Its glaciers feed many of the world's largest rivers, on which more than 1.5 billion people across South and Southeast Asia depend every day for their water supply.

Still, Tibet is warming three times faster than the rest of the Earth, losing about eight billion tons of ice every year due to the disappearance of glaciers.

Before the Chinese occupation, Tibet was, from an ecological point of view, a balanced and stable territory because the conservation of the environment was an essential part of the daily life of its inhabitants. The Tibetans lived in harmony with nature thanks to their faith in the Buddhist religion which asserts the interdependence of all elements existing on earth, whether they are living or non-living. This belief was further strengthened by the strict observance of a norm that we could define as "self-regulation",

common to all Tibetan Buddhists, according to which the environment must be exploited only to satisfy one's own needs and not out of pure greed. After the occupation of Tibet, the friendly and harmonious attitude of the Tibetans towards nature was brutally supplanted by the consumerist and materialistic view of Chinese Communist ideology. With the invasion, devastating environmental destruction occurred at the same time. Today the state of the environment in Tibet is highly critical and the consequences of this degradation will be felt far beyond its borders.

The environmental issue is also of great interest to Chinese and international filmmakers. This work has considered only a few particularly significant films and, above all, related to the environmental consequences of Chinese government choices. (Table 1).

Table 1 - *Films analysed in order of quotation*

| Year | Title | Autor | Subject headings |
|---|---|---|---|
| 2015 | Under the Dome | Chai Jing | China pollution |
| 2009 | Meltdown in Tibet | Michael Buckley, Wild Yak Films | Dams; Forced Migration |
| 2011 | From nomad to nobody (why is China snuffing out Tibet's nomad culture? | Michael Buckley | Forced Migration |
| 2009 | The Yangtze River: China's wild lifeline | Films Media Group | Water Pollution; The Three Gorges Dam |
| 2006 | Silent Nu River | Jie Hu | Small rural villages in Tibet and dams |
| 2007 | Peng Hui zuo pin xuan - Videorecording | Hui Peng | Wildlife preservation in the Tibetan region of Kekexili |
| 2007 | China from the inside (episode 3) | Jonathan Lewis | Water pollution; Environmental degradation |
| 2006 | China rises | Michael Murphy | Social conditions |

An interesting example of how the urgent need to discuss and represent the climate and environmental emergency is the Chinese documentary *Under the Dome* by director Chai Jing, formerly a journalist of China Central Television, presented in 2015 on some streaming platforms, which was viewed more than 200 million times in just two days. In a country where the media is tightly controlled, it is surprising, if not unprecedented, to see the

unhindered publication of a self-financed investigative documentary on one of the most sensitive topics challenging China's growth. This video is an investigative report about China's environment and the problems of air pollution. She learned about localized smog, i.e., polluted air, but also nationwide problems of cancer, polluted rivers, and issues with coal mining.



Figure 4 - *Four frames of the documentary Under the Dome (Source: Ivona, 2022 from the documentary)*

The urgent question of the construction of dams in China is the topic addressed, however, by director Michael Buckley, in 2009, with the documentary *Meltdown in Tibet*. The huge and potentially catastrophic Chinese dam construction projects in Tibet make it urgent to denounce, through film images and beyond, the potential risks of lack of water supply for entire populations. (Figure 5).

Figure 5 - *Frames from Meltdown in Tibet (Source: Ivona, 2022 from the documentary)*

These rivers are at great risk from rapid glacier retreat, accelerated meltdown from climate change, and large-scale dams and diversions, due to massive Chinese engineering projects. Additionally, to make way for these hydroelectric projects and mining initiatives, Tibetan nomads are forced out of their traditional grassland habitat and resettled in squalid villages, where they cannot earn a decent living. Buckley again dealt with the forced migration of Tibetan nomads in the documentary *From nomad to nobody (why is China snuffing out Tibet's nomad culture?)* (2011). He documents how between 1995 and 2015, the official Chinese policy aimed at the removal of more than two million Tibetan nomads from their land. This resettlement policy is designed to eliminate nomadic culture and its strong connections with traditional Tibetan values. Nomads are the stewards of the vast grasslands of Tibet: they have been grazing these lands with their yaks for nearly 4000 years. (Figure 6). Without nomads, grasslands (already affected by climate change) will deteriorate further and turn into deserts. This could have a global impact, as these grasslands are an important source of carbon. What are the reasons behind China's forced settlement of Tibetan nomads on such a large scale? Why are Chinese mining and dam construction companies moving to the same grassland regions? What does the future hold for the vast grasslands of Tibet? These are the questions that the documentary aims to explore, in this personal interpretation of the difficult situation of Tibetan nomads.

Figure 6 - *The documentary From nomad to nobody: the new settlements for Tibetan nomads (Source: Ivona, 2022 from the documentary)*

"Watching China destroy Tibet is like someone going and destroying the whole of Antarctica," says Michael Buckley, author of Meltdown in Tibet. Buckley and others believe that China's state-led development is threatening the livelihoods of millions of people living downstream and it's getting worse.

Resource exploitation and the building of dams has only accelerated since 2006, when China finished construction of the Golmud-Lhasa railroad. The railway, one of the highest in the world, made the transportation of goods and equipment in and out of Tibet quicker and cheaper.

According to Buckley this is when he began to observe devastating changes. He tells Equal Times, "Everything is getting worse. The mighty rivers of Tibet are being dammed by Chinese engineering consortiums to feed the mainland's relentless quest for power. Nobody is doing anything to stop the destruction and Tibetans have no rights to protect their own environment." (Coca, 2017).

China has been building dams on a staggering scale and at an extraordinary rate. By 2000, China had built 22,104 large dams, providing a total of 77GW electricity generating capacity. For comparison, the US, the world's second most prolific dam builder, had 6,390 dams, and India 4,000. By 2020 China had installed 430GW of hydropower and well over four times Australia's total electricity generating capacity. China has built more large dams than the US, Brazil and Canada combined and shows no sign of slowing down. While only a fraction of these dams is found in Tibet, with the middle and lower courses of its rivers already heavily dammed, the only way for China to reach such capacities is to begin heavily damming rivers in Tibet. "As with large hydropower projects the world over, local communities bear the brunt of these controversial projects and reap few if any of the benefits. The electricity generated serves the needs of large cities and industrial centres rather than the local population." (Australia Tibet Council, 2015, p. 9).

All this should lead us to consider the water grab in Tibet no longer a regional but an international issue. Dams not only interrupt the flow of water but also the flow of vital substances contained in it. With less river silt, the downstream soils are becoming increasingly brackish and less suitable for cultivation. Habitats are destroyed and species threatened. Ecosystems are deeply altered, affecting fisheries and livelihoods. (Chellaney, 2007; Franco et alii, 2012; Coca, 2017).

China's unchecked mining expansion and dam construction across the Tibetan plateau, compounded by climate change melting glaciers, are threatening the Yellow, Yangtze, Ganges and other rivers that hundreds of millions of people depend on, say observers calling for talks on a looming crisis. (Figure 7).
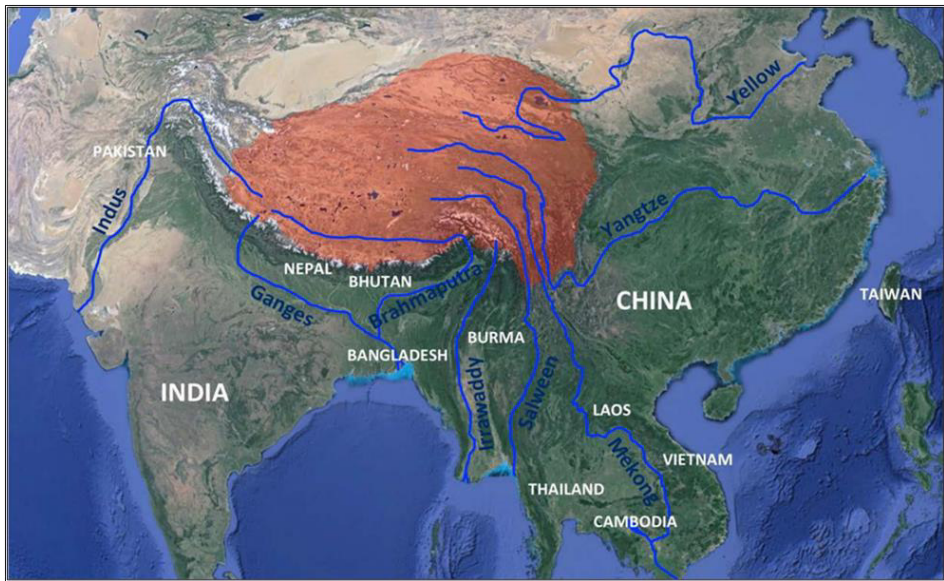


Figure 7 - *Tibet and its many rivers (Source: ATC, 2015, p. 11).*

China has not released official information on the construction of dams in Tibet; but the government's publicly declared outlook of economic growth suggests that many more will be built to massively increase Chinese hydroelectric electricity production. Some dams, such as the one about 300 meters high and the third largest in the world, in the Tibetan ethnic region of Sichuan, will flood several villages, Tibetan Buddhist monasteries and sacred mountains. Likewise, the impacts on downstream countries are poorly understood due to a lack of available information.

There are other documentary films on the theme of the dangerous exploitation of water in China in relation to Tibet; among others: *The Yangtze River: China's wild lifeline* by the production company Films Media Group, produced in 2008. This program focuses on the Three Gorges Dam, which produced huge economic benefits but also moved thousands of people from their homes and irrevocably altered the flow of silt, the geological formations and the levels of fish stocks.

*Silent Nu River*, then, is a 2006 documentary by the director Jie Hu again on the theme of the impact on small rural villages in Tibet of the construction of thirteen hydroelectric dams, along the Nu River.

Director Hui Peng's 2007 documentary film *Peng Hui zuo pin xuan - Videorecording* immortalizes the struggle between residents of the remote Tibetan region Qinghai as they seek to protect the wildlife reserve's animals and poaching gangs. The director then portrays the harsh life of farmers in a drought-stricken mountain village in Tongjiang County, Sichuan Province, and their constant struggle for water.

An interesting point of view that we could consider the way China look at itself and its transposition through the media is the four-documentary series *China from the inside* by director Jonathan Lewis produced between 2003 and 2017. They examine China through the eyes of Chinese people to see how history has shaped them and where the present is leading them. The particularly popular episode 3 examines environmental issues in China. China is trying to feed 20 percent of the world's population with 7 percent of the world's arable land. One third of the world uses water from Chinese rivers. But rapid industrialization and climate change have led to unprecedented pollution. Environmental activists, Party officials, academics and scientists are engaged in a daily struggle for environmental damage in China.

Finally, it should be mentioned *China Rise*; it is a four-part documentary international co-production of the Canadian Broadcasting Corporation (Cbc), The New York Times, Discovery Times, Zdf-Germany Television, France 5, and Britain's S4-C. The four-hour international production combines stunning, breath-taking images of China's cities and countryside with unparalleled intimate access to the men and women living an economic, political and social revolution and those left on the side-lines. This documentary portrait of China refuses to get trapped in stereotypes -for every economic "winner" profiled, also profiled is an economic "loser;" for every booming urban centre there is a rural contrast; for every industrial success story there are cautionaries about industrial accidents and environmental carelessness; for every young person there is an encounter with generations of family; and for every male portrayed there is a parallel female profile. "The

power of this documentary series is that it refuses to be seduced by a simplistic vision of what twenty-first century China is or isn't. In best dialectic fashion, the documentary seeks truth from facts and constantly presents the viewer with the dramatic contrasts and insistent conundrums that are modern day China. Perhaps better than any other video I have seen, this series introduces viewers to the contradictions that make up the reality of present-day China." (Winship, 2006, p. 68).

## 6. Conclusion

Although it does not claim to be exhaustive, the work has outlined one of the aspects of the problematic relationship between two worlds, the Chinese and the Tibetan. Although close by geographic proximity, they are extremely distant culturally and historically. In the delicate plot that draws the relations between China and Tibet, a decisive node is the environmental issue in general and water grabbing in particular, which is widely manifesting itself with the physical capture of water in hydroelectric plants through the construction of dams. These projects also have multiple cross-border implications, with the complex dynamics between neighbouring countries on water management, which China has to deal with. The soft power exercised by the Chinese government has not, to date, resolved the question of the unequal distribution of the advantages of large dams, questioning their effectiveness as a development strategy.

To this the fear that climate change exacerbates the water crisis must be added. Being a high-altitude region, the effect in Tibet is similar to that seen at the north and south poles, which are warming faster than the rest of the planet. On the Tibetan Plateau, temperatures are warming three times faster than the global average, and scientists predict a 4.6 ° C rise by the end of the century, with increasing desertification, melting glaciers and permafrost, loss of natural habitats. The snow caps of the Himalayas are in melting mode due to climate change, accelerated by a shower of black soot resulting from the massive burning of coal and other fossil fuels in both China and India. These glaciers control the flows of rivers downstream and are crucial in the dry seasons. Tibet possesses vast freshwater resources in its thousands of glaciers and alpine lakes. When they melt, the outflow increases, which means less reliable flows.

But what is China taking from Tibet? The Tibetan Plateau is rich in natural and underground resources of great value to China. Tibetans do not enjoy the economic benefits but suffer from the environmental diseconomies of the

extraction and/or use of these resources. The diversion of water from Tibet to China to feed the dams described in detail in the preceding paragraphs is one of those problems. In addition, water from Tibet's rivers supplies around 1 billion people across Asia every day. Control over Tibet's rivers gives China a significant geostrategic advantage over its neighbours.

In this unbalanced geo-economic framework, the hope is that, despite the seventy years elapsed almost in vain, the international community will find ways to establish more effective communication between the Tibetan and Chinese worlds. But the international community itself must be informed in the best possible way; and cinema, as we have seen since its inception, has a strong visual impact. It is the media tool that can and will convey the importance of mutual traditions, knowledge and partnerships in the environmental field and, obviously, not only in that. If on the one hand cinema is denunciation, on the other it is the dream; but it has always been able to express man's natural will to overcome the limits of his knowledge.

**References**

ATC Australia Tibet Council, 2019, *An iron fist in a green glove*, https://www.atc.org.au.

ATC Australia Tibet Council, 2015, *Tibet: an environmental challenge*, https://www.atc.org. au.

Candau, J., 2019, Préface. In: Gugg, G., Dall'Ò, E., Borriello, D. (Eds.) *Disasters in Popular Cultures*, Il Sileno Edizioni, Rende (CS), Italy, 8-11.

Catucci, S., 2005, *Introduzione a Foucault*, Editori Laterza, Roma-Bari.

Chellaney, B. (2007), "China-India Clash Over Chinese Claims to Tibetan Water", *The Asia-Pacific Journal*, 5, 7, https://apjjf.org.

Clark, T., 2015, *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept*, Bloomsbury Academic, New York.

Coca, N., 2017, *China's water grab in Tibet risks regional devastation and conflict*, https://www.equaltimes.org.

Crary, J. 1992, *Techniques of the Observer: On Vision and Modernity in the 19th Century*. MIT Press, Cambridge.

Crutzen, P., Stoermer E., 2000, "The Anthropocene", *Global Change Newsletter*, 41, 17-18.

Fay, J., 2018, *Inhospitable World. Cinema in the Time of the Anthropocene*, Oxford University Press, New York.

Frank, S., 2003, "Reel reality: science consultants", *Hollywood, Science as Culture*, 12, 427-469.

Franco, J., Kay, S., Kishimoto S., Kay S., Feodoroff T., Pracucci G. (2012). *The Global Water Grab: A Primer*. Transnational Institute (TNI), Amsterdam.

Goldenstein, M.C., 1998, *Il Dragone e la Montagna*, Baldini e Castoldi, Milano.

Haraway, D., 2016, *Staying with the Trouble: Making Kin in the Chthulucene*, Duke University Press, Durham, NC.

Kuhn, T. S., 2009, *La struttura delle rivoluzioni scientifiche*, Einaudi, Torino.

Kuzmin, S. L., 2011, *Hidden Tibet: History of Independence and Occupation,* Library of Tibetan Works and Archives, Dharamsala, H.P.

Merzagora, M., 2006, *Scienza da vedere: l'immaginario scientifico sul grande e sul piccolo schermo*, Sironi Editore, Milano.

Miggiano, P., 2020, Luoghi, cinema, emozioni. Un approccio visuale per Gente del Po di Michelangelo Antonioni (1947). In: Caroppo, E., Mannarini, T., Longo, M., Venuleo, C. (Eds), *Le emozioni. Atti del Workshop 2019 (28 e 29 maggio, Lecce)*, Università del Salento, Lecce, 90-105.

Morandini, L., Morandini, L, Morandini, M., 2017, *il Morandini 2018. Dizionario dei film e delle serie televisive*, Zanichelli, Bologna.

Nietzsche, F., 1974, *Sull'utilità e il danno della storia per la vita*, Adelphi, Milano.

Peterson, J., Uhlin, G., 2019, "In Focus: Film and Media Studies in the Anthropocene", *JCMS: Journal of Cinema and Media Studies*, 58, 2, 142-146. doi: 10.1353/cj.2019.0006.

Shaik, S. V., 2011, *Tibet: A History*, Yale University Press, New Haven and London.

Smelik, A. (Ed.), 2010, *The Scientific Imaginary in Visual Culture*, V&R Unipress GmbH, Goettingen.

Testa, A., 2007, Cinema e Scienza: dall'intrattenimento all'educazione scientifica. In: Pitrelli, N., Sturloni G. (Eds), *Atti del V Convegno Nazionale sulla Comunicazione della Scienza*, Polimetrica Publisher, Monza, 251-259.

Tosi, V., 2001, *Breve storia tecnologica del cinema*, Bulzoni, Roma.

Van Dijck, J., 2005, *Transparent Bodies. A Cultural Analysis of Medical Imaging*, University of Washington Press, Seattle.

Winship J.A., 2006, "China Rises", *Essay Film Reviews*, 11, 3, 68-69.

# 11. Picturing the Anthropocene through flood narratives: The environmental disaster discourse in Indian cinema

*Sony Jalarajan Raj[1], Adith K Suresh[2]*

## Abstract

Narratives of disaster play a significant role in the construction of perspectives on the Anthropocene. In an age where human activity has crossed many boundaries to explicitly reveal the imminent threat of ecological degradation, environmental disasters need to be addressed with utmost seriousness. Cinema being the popular art of the technologically advanced and globalized world, it is possible to realistically visualize environmental disasters and their impact on the ecosystem. For instance, cinematic representation of geographies of the tropical regions affected by climate change and natural disasters helps one understand the complex sociocultural repercussions that restructure the very fabric of organic life. This chapter examines how narratives of flood in Indian cinema define the notion of ecological disaster in India. Floods are one of the most common natural disasters in India as their sudden and long-term impact on the natural environment puts the lives of millions of people and animals at risk. Films that show floods as a narrative tend to emphasize the cultural disorientation as a result of the monstrosity of water. This can be argued as an anti-romantic approach whereas such narratives essentially subvert the aesthetics of rain, a common theme in Indian cinema. When floods alter the geography of a region, it reflects the vulnerability of a given population and the consequences of human activity that force them to vacate the premises of their habitat. Using contemporary disaster discourses, this chapter deconstructs the spectacles of flood in Indian cinema to understand their overarching impact on the geography, culture, and life in India.

**Keywords**: Flood, Disaster, India, Anthropocene, Environment

---

[1] Assistant Professor, Department of Communication, MacEwan University, Edmonton, Canada, e-mail: sonyjraj@gmail.com.
[2] Research Assistant, Department of Communication, MacEwan University, Edmonton, Alberta, Canada, e-mail: adithksuresh@gmail.com.

## 1. Introduction

The geological division that defines the contemporary global environment is the Anthropocene Epoch where human activity is observed to have overcome natural processes to reach a point of producing a maximum impact on the environment (Crutzen, 2006). The Anthropocene marks the "magnitude, variety and longevity of human-induced changes" that altered the relationship between humans and the Earth system (Lewis & Maslin, 2015). Human influence can be measured in terms of the changes happening in a range of areas including the atmosphere, Earth's surface, oceans, and biological life. Jedediah Purdy (2015) opines that the Anthropocene began as part of a threefold crisis—of ecology, economics and politics. After agricultural and industrial revolutions skyrocketed human activity to new possibilities for exploitation in a new globalized context, the Anthropocene has become a category of narratives that reflect the disastrous effect on life not only on the ecological and biological levels but on the social, cultural, and political levels as well. The natural resources that helped human beings in their evolution to new dimensions of progress have now become agents of climate change in modern civilization which is increasingly rendering geographical spaces uninhabitable for the human population and other species (Chakrabarty, 2016).

Narratives of disaster play a significant role in the construction of perspectives on the Anthropocene. In an age where human activity has crossed many boundaries to explicitly reveal the imminent threat of ecological degradation, environmental disasters need to be addressed with utmost seriousness. Cinema being the popular art of the technologically advanced and globalized world, it is possible to realistically visualize environmental disasters and their impact on the ecosystem. The ability to construct worlds in which disasters can be portrayed in their extremity makes cinema one of the useful mediums where one can make sense of the effects of the Anthropocene. In her book, *Inhospitable World: Cinema in the Time of the Anthropocene*, Jennifer Fay (2018) observes that: "filmmaking occasions the creation of artificial worlds, unnatural and inclement weather, and deadly environments produced as much for the sake of entertainment as for scientific study and military strategy. Cinema's dominant mode of aesthetic world-making is often at odds with the very real human world it is meant to simulate" (p. 4).

The real-life experiences of populations and communities in catastrophic events is something cinema often deals with when it produces disaster narratives. The cinematic representation of geographies of the tropical regions

affected by climate change and natural disasters helps one understand the complex sociocultural repercussions that restructure the very fabric of organic life. This chapter examines how narratives of flood in Indian cinema define the notion of ecological disaster in India. Floods are one of the most common natural disasters in India as their sudden and long-term impact on the natural environment puts the lives of millions of people and animals at risk. Films that show floods as a narrative tend to emphasize the cultural disorientation as a result of the monstrosity of water. This can be argued as an anti-romantic approach whereas such narratives essentially subvert the aesthetics of rain, a common theme in Indian cinema. When floods alter the geography of a region, it reflects the vulnerability of a given population and the consequences of human activity that force people to vacate the premises of their habitats. Using contemporary disaster discourses, this chapter deconstructs the spectacles of flood in Indian cinema to understand their overarching impact on the geography, culture, and life in India.

## 2. Disaster narratives in cinema

Discussions on environmental protection have changed from purely academic to more popular. Topics like climate change, environmental disasters, new diseases, urbanization, etc. are not problems of the future anymore, on the contrary, they are growing anxieties of today's generation as their effects are felt collectively. Since the current scenario demands more nuanced and collective action, more specific environmental narratives are required from mainstream media ecosystems. India, being one of the prominent environment-depending agricultural lands in the world, is facing threats of environmental degradation in the form of climate change, pollution, urban expansion, and population explosion, but the popular cinema of the land is reluctant to thematize the environment as a narrative or text unless the commercial value of "beauty" serves the purpose of visual aesthetics. In addition to this, environmental cinema gets submerged in the ideologies of capitalism which depend on the concept of "profitable" mainstream cinema, and the effects and challenges of such overlaps are reflected in the construction of ecological film narratives. Therefore, in order to unearth the complexities of the Anthropocene, one has to look beyond the scenic visual texts of Indian commercial cinema to understand the ecological importance of local spaces and their regional ecological politics. The critical representation of environmental tragedies in the visual format encourages the audience to have a closer look at how disaster strikes ecologically indigenous

spaces in the country. Investigations centralizing Indian cinema, one of the largest non-Western film industries in the world, reveal how disaster narratives reflect the complex sociocultural life in the Indian geographical space.

Disaster is often conceptualized as a materialist reality with immediate repercussions that might produce a long-lasting effect. The way it affects a range of parameters in a given population adds meaning to its representation through different means. According to Joanna Bator (2012), disaster "is always a cultural phenomenon because the moment it happens it becomes a part of the human world. All [disasters] have cultural, social, and political dimensions and the trauma of a disaster can shake the very foundations of the cultural, social and political structures" (p. 92). Disasters, whether they are man-made or natural, have a representational and interpretational aspect within the social, cultural, and environmental discourse. It encompasses elements and themes from a personal as well as regional point of view. In cinema, disasters are narrated as huge events that appear as spectacles of tragedy where the lives of people are threatened with imminent danger. These people, who would not get visibility in the enormity of a disaster in real-life are focused in the frames of cinema as they become subjects, victims, survivors, or even the cause of a catastrophic event. Kiu-wai Chu (2019), on the other hand, argues that disaster spectacles have the capacity to reduce the importance of climate change and environmental catastrophe into the mere repetition of images that do not often reflect real-life environmental contexts. However, the way cinema depicts the intensity of disasters varies from film to film, depending on other factors such as production cost, the use of technological effects, cultural and historical contexts in which the disaster is imagined or recreated, etc. Questions of realism are important whenever disaster events are pictured in cinema and the problem of authenticity is something filmmakers have to always consider when making disaster movies. Since cinema is an art form that reigns in the fictional world of imagination, transcribing visual images of disaster into the screen is of paramount significance. Glenn Kay and Michael Rose (2006) identify some key characteristics of a disaster movie, which include:

1. A cavalcade of recognizable faces and big stars playing characters of various social backgrounds.

2. A powerful force of nature beyond the control of humankind, and a protagonist who is constantly warning the community of the impending danger, to no avail.

3. Scenes of self-sacrifice, mass destruction, and citizens in peril.

3. Spectacular special effects and panicked crowds running toward the camera.

4. There's often a love theme in these films, […] horribly gruesome and elaborate death scenes. (Kay & Rose, 2006, pp. 10-11).

Jennifer Fay (2018) points out that cinema as a creative medium stimulates the imagination to produce an aesthetic imitation of the Anthropocene:

While no one film or set of films adds up to a totalizing explanation of climate change, cinema enables us to glimpse anthropogenic environments as both an accidental effect of human activity and a matter of design. Thus, not only is cinema like the Anthropocene in its uncanny aesthetic effects, but also, insofar as cinema has encouraged the production of artificial worlds and simulated, wholly anthropogenic weather, it is the aesthetic practice of the Anthropocene. Or, to put it more forcefully, cinema helps us to see and experience the Anthropocene as an aesthetic practice (p. 4).

Disasters in cinema are events that often refer to the adverse effects of human activity through which they become sites of historical knowledge about what went wrong in the past and how people can correct things in the present. However, more than considering them as physical threats, disasters are chosen in films as background to narrate stories of people, that eventually the disaster text becomes a metaphorical representation of the human condition itself. These narratives are sometimes about personal relationships, cultural fears, historical violence, regional myths, and religious superstitions acting as sources of information regarding the meaning of the disaster. The belief that natural disasters such as hurricanes, Tsunamis, earthquakes, and floods are caused by the evils of human activity is central to religious myths and cultural discourses. In India, such disasters are prophesized to be the result of ancient curses from angry gods as they are dissatisfied with how humans live in the natural world.

### 3. Floods in Indian cinema

Floods, one of the most devastating and common natural disasters, have recently become a recurring phenomenon in India. The peninsular geographical structure of India, surrounded by the Arabian sea, the Indian Ocean, and the Bay of Bengal, makes the land highly vulnerable to floods. Due to the effects of climate change in the twenty-first century, there was a significant rise in the number of large-scale flooding across central and North India. The Mumbai floods in 2006 and 2017 are examples of how floods are frequent catastrophic events that negatively affect everything from agriculture

to daily life and public administration. There has been a three-fold increase in heavy rainfall events between 1901-2015, causing frequent floods in West Bengal, Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh, Telangana, Odisha, Jharkhand, Assam, and portions of the Western Ghats in Goa, north Karnataka, and South Kerala (Roxy *et al.*, 2017). Indian states have floodplains associated with rivers like Brahmaputra, Ganges, Yamuna, Mahanadi, Damodar, and Kosi producing high discharges during the monsoon season (June- September). Villages and urban areas near the banks and deltas of these rivers and their tributaries are frequently affected by floods. For instance, the river Brahmaputra is called the "sorrow of Assam", the river Kosi "the sorrow of Bihar", and the river Damodar "the sorrow of Bengal" for their destructive power during the floods. All these Indian states have different socio-cultural characteristics but their immediate panic response to a disaster event appears to be somewhat similar and this allows us to deliberate upon the universality of disasters.

High population density, urbanization, and global warming are cited as reasons for flooding in India along with problems like the inadequate carrying capacity of rivers bringing heavy sediment load from catchments, drainage congestion and erosion of river-banks ("Floods", n.d.). Issues of urban flooding have intensified recently in city areas like Mumbai, Delhi, Hyderabad, Kolkata, and Chennai. Floods in urbanized areas have shown 8 times more flood peaks and 6 times more flood volumes than in rural areas and the former has shown the spontaneous eruption of floods within small time scales due to faster flow times ("Urban Floods", n.d.). The population's vulnerability to floods in urban regions has also been intensified by problems related to the inability of large populations to relocate within shorter time periods. The loss of vital infrastructure and public transportation in cities results in extreme survival conditions which are harder for governments to mitigate. Since the poorly maintained old drainage systems in metropolitan areas fail to contain the increased rainfall intensity, flood disaster management has not been very effective in finding solutions to these problems. The increased human settlements and encroachments on the floodplains with large-scale dumping of industrial and domestic waste in rivers also make the urban areas in India more vulnerable to floods than in other countries.

Flood narratives are used in religious texts to denote apocalyptic events that specifically refer to the end of humanity as a whole. For example, the Great Flood described in the Old Testament is one of the most popular and fundamental myths in the narrative tradition of flood narratives that pronounces the violent elimination of humankind (Bekkum, 2020). Different

versions of the flood myth are there in the "creation myths" of many cultures and civilizations. The concept of the Great Flood is often used as a result of divine retribution to cleanse humanity of its sins and serves as a precursor to a new civilization and world order. In these narratives, amidst the mass destruction and extinction of natural life, there usually exists a cultural hero who "represents the human need for life" (Leeming, 2004, p. 138). Similarly, in films, the hero is often the last man standing who survives the catastrophe to become the torch-bearer of hope and faith.

For example, the apocalyptic climax of *Dasavatharam,* the 2008 South Indian science fiction film, is set against the background of the 2004 Indian Ocean earthquake and Tsunami where the sudden eruption of a Tsunami-led flood washes away a deadly virus capable of mass destruction. The film uses the flood myth as a narrative trope through which one disaster leads to the stopping of another. The flood destroys much of the coastline with instant deaths of thousands of people but at the same time becomes a "divine intervention" in preventing the active spreading of a catastrophic biological weapon. Susan Sontag (1964) observes that science fiction disaster films reflect "the deepest anxieties about contemporary existence" as they often visualize "new anxieties about physical disaster, the prospect of universal mutilation and even annihilation" (p. 220). Concerned with the aesthetics of destruction, such films extensively stage disaster events where not only the individual life is threatened with immense havoc but the "collective incineration and extinction which could come any time, virtually without warning" (Sontag, 1964, p. 224).

Since natural disasters in the Anthropocene are highly affected by repercussions of human intervention in the natural environment, they cannot be described as merely natural anymore (Holm, 2012). It is also evident that the origin and intensity of flood disasters are highly influenced by human activities and climate change (Brisset *et. al*., 2017; Yin & Li, 2001; Zhou *et. al*., 2021). The Anthropocene is strictly based on human activities and disasters are consequences of these actions, therefore, narratives about a disaster also bear "human characteristics". In a technologically advanced world with media ecosystems controlling the authenticity of reality, the fictional aspects of disaster narratives are considered significant as far as public perception is mediated by them. In this sense, Fay's opinion that the "Anthropocene can be understood as a matter of design, if not an accomplishment— a kind of aesthetic wish-fulfillment of human worlding, however perverse" becomes valid (Baer & Fay 2018, p. 83). The social construction of disasters in modern society is something that invites multiple perspectives on how a catastrophic event is reported, described, interpreted,

and visually broadcasted (Webb, 2007). It must account for the social, cultural, political, economic, and historical meanings surrounding a tragedy and its aftermath (Allen, 2006). A cinematic narrative framing a disaster is therefore a cultural text in which the "concerns" of humankind are highlighted over an authentic depiction of the actual event.

Natural disaster discourses emphasize the significance of acknowledging people's vulnerability to a disaster rather than approaching the disaster as a physical event (Cannon, 2000; Hewitt, 1997; Mitchell, 1999; Varley, 1994). Cinematic versions of disasters are not just narratives about the actual disaster as a physical event but they contain subtexts of human misery, survival, and emotional stories. In the 2018 Hindi film, *Kedarnath* (Kapoor, 2018), the flood narrative is used as a background to tell the inter-faith love story of the protagonists. The film is based on the Uttarakhand floods in 2013, the worst natural disaster in India since the 2004 tsunami. It uses Bollywood's archetypal emotional drama, the tragic Hindu-Muslim love story, to symbolically connect both disasters as human-made. Using computer-generated images and live-action shots, *Kedarnath* recreates the flood situation that engulfs the lives of thousands of people. The film is set in the geographical landscape of the Himalayas and the cultural life surrounding the Kedarnath temple in Uttarakhand. Questions concerning the anthropogenic effects of climate change, the unscientific construction of roads, buildings, and hydroelectric projects in the area are raised by researchers and environmental activists, claiming that the disaster was a "man-made" one (Cho *et al.*, 2015; Shadbolt, 2013). Like *Kedarnath*, an earlier romantic disaster film called *Tum Mile* (Deshmukh, 2009) also discussed similar patterns of disaster. *Tum Mile* was based on the Maharashtra floods of 2005 against which it pictures the love story of the protagonists and their fate in the catastrophic events that destroyed the city of Mumbai.

## 4. Environmental cinema and eco-horror

The concept of environmental cinema in the anthropogenic era considers the situation where a technologically and scientifically advanced world creates isolated spaces, habitats, and people whenever they are not compatible with the pace of mainstream society. Since the Anthropocene offers an opportunity to reconceptualize cinema and media history in an age where human interventions accelerated ecological change (Peterson & Uhlin, 2019), film analysis can provide insights into the ever-changing historical aspects of ecological perspectives. For instance, the South Indian state of Kerala has the

Malayalam cinema industry producing many films that can be viewed as regional environmental texts. Often referred to as "God's Own Country", Kerala's topographical specificity is environment-centric and tourism-driven, in which modern negotiations concerning environmental degradation are relevant. The environmental film narrative is a modern discourse on the construction of mediating narrative spaces of the environment and nature. The "environment cinema" of Malayalam is a special narrative about an "ecological heterotopia" where local spaces merge with international environmental issues. Analyzing the existence of such a mediated environment of "third spaces" with poor visibility to larger contexts will reveal how localized narratives contribute to issues concerning the environment.

If we select a couple of Malayalam films such as *Churam* (Bharathan, 1997)*, Kaazhcha* (Blessy, 2004)*,* and *Naran* (Joshiy, 2005), flood is used as a spectacle through which cinema juxtaposes the ferocity of nature with the regional geographies where nature-friendly life is the norm. Here, disaster is not depicted as a harbinger of an ecological apocalypse, but as a cause of cultural disorientation in the Anthropocene. Depiction of heavy rains and floods directly presents the audience with a picture of an environmental situation where survival is extremely difficult. The cultural life in such contexts emphasizes the human misery, despair, and psychological conditions that essentially subvert the glorified notion of pro-nature life. In the portrayal of environmental disasters through visuals, the cinematographic capturing of the frames of emergency situations offers the audience a wider picture of the event in its maximized intensity, and thus they ultimately become spectacles in cinema (Murray & Heumann, 2006). The concept of "eco-disaster" transcribes the very impossibility of eco-friendly life in the Anthropocene, which affects differently for different people and communities. The regional disaster films invoke a nostalgic remembering of a lost ecological and environmental memory that is no longer the same in the changed circumstances of the Anthropocene (Murray & Heumann, 2005).

According to Dipesh Chakrabarty (2009), climate change in the Anthropocene is about "human collectivity" that points out a universality that emerges from a "shared sense of a catastrophe" (p. 16). Disaster narratives shape a collective sensibility through which the disaster is perceived in social discourses (Illner & Holm, 2016). These narratives in cinema, although colluded with extra layers of thematic paradigms that are submerged in the main plot, clearly situate the audience under the shadows of the catastrophe. In disaster films, the tragic nature of the catastrophe is described through visuals of disaster-affected landscapes, dilapidated houses, rescue operations,

mass migration of communities, and displacement of loved ones. The sudden transformation of geographical space with considerable changes in ecological balance intensifies the material loss and psychological trauma suffered by the common folk. Many of these disasters, such as flooding, are region-specific as they affect those communities vulnerable in a geographical context. People living on the banks of rivers, water reservoirs, and hilly areas are severely threatened by the fear of these disasters whenever a similar one happens anywhere in the world. The fear of disaster forces people to envision future disasters in the present time. Forming a collective sense about disasters ultimately interprets the fear in light of impending ecological horror. The narrative of disasters can be viewed as a form of "enlightened doomsaying", which according to Dupuy, is "a philosophical attitude, a reversal of the metaphysical order in our ways of thinking the world and the time based on the temporality of catastrophes" (Dupuy, 2002, p. 80, cited in Holm, 2016, p. 91).

Since fear, in its fundamental sense, is environmental in origin, the relationship between the inner and outer realms of the human subject defines the structural domain of fear. The notion of fear operates in a communicative way as it often performs like a language, a medium through which explicitly visible and mysteriously hidden aspects of social, cultural, and political elements are embedded in ecological discourses. Humanity's ancient struggle with nature is something that has persistently changed over time to new dimensions. The human-nature synchrony with the living world has been drastically affected by the economically globalized political scenario where climate change in the Anthropocene epoch is metastasized to regurgitate observable realities of eco-horror.


## 5. Conclusions

In addition to the creation of emotional spectacles, disaster narratives of floods when represented on a screen can reflect the significance of flood as a crisis that needs to be addressed collectively. Cinema can be used as a popular medium to ease disaster communication and crisis management through powerful images and narratives that can help propagate awareness. Even if those representations of disasters are highly exaggerated for cinematic effects, they can be viewed as sources of information about how people interact with disaster environments, find strategies for survival, and form community engagements. Cultural barriers like language often affect the way disaster warnings are disseminated and understood in specific social groups (Aguirre,

1988). Disaster films, therefore, promote the idea of creating a universal language for disaster communications.

Disaster narratives help construct the structure of eco-horror in its representational, performative, semiotic, and affective qualities in Indian cinema. India's culturally sensitive and diverse geography has been environment-dependent from time immemorial; this is reflected in the worship of nature and animals through collective narratives. As opposed to western conceptualizations of ecophobia, a religious, superstitious, and sentimental approach towards nature as protector and punisher is what defines "eco-fear" in India. In Indian cinema, the romanticization of natural landscapes and geographical features corroborates the idea that human existence is not possible without having a co-dependency with nature. However, after India opened itself to the economy of neoliberal values and globalization, the changes in the socio-political setting have subverted the ecological perspective in favor of new materialistic aspirations. The urbanization of cultural elements aided the reorientation of the eco-politics in the postmodern neoliberal era, and this evolution has led to the nourishment of eco-phobia as an anti-nature response. Disasters are environmental texts dealing with the anxieties, traumas, and cultural fears associated with ecophobia. The transformational aspects of "eco-fear" reveal how they challenge the essential quality of pro-nature life in India; making it a harsh reality with ingrained violence affecting marginalized communities, thus making views on environmental protection highly divisive in the context of their practicality.

## References

Aguirre, B., 1988, "The Lack of Warnings Before the Saragosa Tornado", *International Journal of Mass Emergencies and Disasters* 6, 1, 65-74.

Allen, C. E., 2006, "Putting Katrina in Context", *The Alabama Nurse* 33, 1.

Baer, N., Fay, J., 2018, "Cinema and the Anthropocene: A Conversation with Jennifer Fay", *Film Quarterly*, 80-86.

Bator, J., 2012, "The Cultural Meaning of Disaster: Remarks on Gregory Button's Work", *International Journal of Japanese Sociology* 21, 1, 92-97. DOI: 10.1111/j.1475-6781.2012.01156.x

Bekkum, K.V., 2020, "Violence in the Flood Narrative: Text and Reception". In: Ruiten, J. V., Bekkum, K. V. (Eds.), *Violence in the Hebrew Bible: between text and reception*. Brill, The Netherlands, 67–96.

Brisset, E., Guiter, F., Miramont, C., Troussier, T., Sabatier, P., Poher, Y., Cartier, R., Arnaud, F., Malet, E. and Anthony, E.J., 2017, "The overlooked human influence in historic and prehistoric floods in the European Alps". *Geology*, 45, 4, 347-350.

Cannon, T., 2000, Vulnerability analysis and disasters. In: Parker, D. J. (Ed.), *Floods Vol I*, Routledge: New York, 45–55.

Chakrabarty, D., 2009, 'The climate of history: Four theses', *Critical Inquiry*, 35, 2, 192–222.

Chakrabarty, D., 2016, "Humanities in the Anthropocene: The Crisis of an Enduring Kantian Fable", *New Literary History,* 47, 2 and 3, 377–97.

Cho, C., Li, R., Wang, S.-Y., Yoon, J-H., Gillies, R. R., 2015, "Anthropogenic footprint of climate change in the June 2013 northern India flood". *Climate Dynamics* 46, 3–4, 797.

Chu, K.W., 2019, "The imagination of eco-disaster: post-disaster rebuilding in Asian cinema", *Asian Cinema*, 30, 2, 255-272.

Crutzen, P. J., 2006, The "Anthropocene". In: Ehlers, E., Krafft, T. (Eds.), *Earth System Science in the Anthropocene: Emerging Issue and Problems*. Springer, Berlin, 13-18.

Dupuy, J., 2002, *Pour un catastrophisme éclairé: quand l'impossible est certain*. Seuil, Paris.

Fay, J., 2018, *Inhospitable World: Cinema in the Time of the Anthropocene*. Oxford University Press, New York.

Hewitt, K., 1997, *Regions of risk: A Geographical Introduction to Disasters*. Addison-Wesley Longman: Harlow, UK.

Holm, I.W., 2012, "The Cultural Analysis of Disaster." In Meiner, C., Veel, K. (Eds.), *The Cultural Life of Catastrophe and Crises*. De Gruyter, Berlin,15-32.

Holm, I.W., 2016, "Under Water within Thirty Years: The Prophetic Mode in True Detective", *BEHEMOTH: A Journal on Civilisation,* 9, 1.

Illner, P., Holm, I.W., 2016, "Making Sense of Disaster: The Cultural Studies of Disaster", In Dahlberg, R., Rubin, O., Vendelø, M. T. (Eds.), *Disaster Research: Multidisciplinary and International Perspectives*, Routledge, New York, 51-52.

Kay, G., Rose, M., 2006, *Disaster movies: a loud, long, explosive, star-studded guide to avalanches, earthquakes, floods, meteors, sinking ships, twisters, viruses, killer bees, nuclear fallout, and alien attacks in the cinema!!!!*, Chicago Review Press, Chicago, Illinois.

Leeming, D., 2004, *The Oxford Companion to World Mythology*. Oxford University Press, London.

Lewis, S.L., Maslin, M.A., 2015, "Defining the Anthropocene", *Nature*, 519, 7542, 171-180.

Mitchell, J.K., (Ed.). 1999, *Crucibles of Hazard: Mega-Cities and Disaster in Transition*. United Nations Publication: New York.

Murray, R.L., Heumann, J.K., 2005. "Environmental Nostalgia in Eco-Disaster Movies of the Early 1970s". *CEA Critic*, 67, 2, 15–28. http://www.jstor.org/stable/44377732.

Murray, R.L., Heumann, J.K., 2006, "The First Eco-Disaster Film?", *Film Quarterly*, 59, 3, 44-51.

National Disaster Management Authority Government of India. n.d., *Urban Floods*. Accessed 22 November 2022. https://ndma.gov.in/Natural-Hazards/Urban-Floods.

National Disaster Management Authority Government of India. n.d., *Floods.* Accessed 22 November 2022. https://ndma.gov.in/Natural-Hazards/Floods.

Peterson, J., Uhlin, G., 2019, "In Focus: Film and Media Studies in the Anthropocene", *JCMS: Journal of Cinema and Media Studies,* 58, 2, 142-146. doi:10.1353/cj.2019.0006.

Purdy, J., 2015, *After Nature: A Politics for the Anthropocene*. Harvard University Press, London.

Roxy, M. K., Ghosh, S., Pathak, A., Athulya, R., Mujumdar, M., Murtugudde, R., Terray, P., Rajeevan, M., 2017, "A threefold rise in widespread extreme rain events over central India", *Nature Communications*, 8, 1, 708. doi: 10.1038/s41467-017-00744-9.

Shadbolt, P., 2013, "Indian floods a man-made disaster, say environmentalists". June 25. *CNN*. Retrieved from https://edition.cnn.com/2013/06/25/world/asia/india-floods-development/index.html. Accessed 22 July 2022.

Sontag, S., 1964, "The Imagination of Disaster". In Sontag, S., *Against Interpretation and Other Essays*. Picador, New York.

Varley, P., (Ed.). 1994, *Disaster, Development and the Environment*. Wiley: Chichester, UK.

Webb, G.R., 2007, "The Popular Culture of Disaster: Exploring a New Dimension of Disaster Research". In Rodríguez, H., Quarantelli, E. L., Dynes, Russel R. (Eds.), *The Handbook of Disaster Research*, New York: Springer, 432-433.

Yin, H., Li, C., 2001, "Human impact on floods and flood disasters on the Yangtze River". *Geomorphology*, 41, 2-3, 105-109.

Zhou, L., Shi, Y., Zhao, Y., Yang, Y., Jia, J., Gao, J., Wang, Y. P., Li, Z., Zhang, Y., Guo, Y., Shi, B., Gao, S., 2021. "Extreme floods of the Changjiang River over the past two millennia: contributions of climate change and human activity". *Marine Geology*, 433, 106418.

# THE AUTHORS

**Pedro Artur Baptista Lauria** is a braizilian Ph.D. in Cinema and Audiovisual Studies at Universidade Federal Fluminense (UFF), MA in Communication and Culture at Universidade Federal do Rio de Janeiro (UFRJ) and Geographer at Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio). He is editor in chief at UFF Audiovisual Observatory and director at the NGO PECEP, which helps young people from low-income communities in Rio de Janeiro to enter college. His interests include genre studies, suburban fantastic cinema, and American fiction.

**Maria Conte** is PhD in Historical Geographical and Anthropological Studies at the University of Padua and Ca' Foscari University of Venice. Parallel to her university career, over the years she has cultivated an interest in photography and audiovisuals, attending Italian and international courses and workshops. Her research investigates environmental, social and anthropological issues through these tools, with particular interest in the relationship between man and landscapes. Her short films (Percorsi Umidi, Terre di Mezzo, Dove Nuotano i caprioli) and the documentary Dove nuotano i caprioli partecipated in several festivals and won some awards.

**Seçil Erkoç Iqbal** received her B.A. (2010) from the Department of Western Languages and Literatures at Boğaziçi University. She had her M.A. degree (2013) in English Language and Literature Department at İstanbul University, with her thesis entitled "Deconstruction of the Self in Aldous Huxley's Island and John Fowles' The Magus." During her graduate studies she worked at İstanbul University, and then at Hacettepe University where she got her PhD from English Language and Literature Department in 2020 with her dissertation entitled "'Out of the Maze of Dualisms': Posthuman Space in Mario Petrucci and Alice Oswald's Poetry." Erkoç currently works as an Assist. Prof. Dr. in the Department of Western Languages and Literatures at İnönü University, Türkiye. Her research interests include Environmental Humanities, Contemporary British Poetry, English Novel, Ecological Posthumanism, Comparative Literature, Contemporary Literary Theories and Criticism.

**Floribert Patrick C. Endong** holds a PhD in Theatre and Media Arts from the University of Calabar in Nigeria. He teaches undergraduate and graduate courses in cinema and TV studies at the Department of Performing Arts and Cinematography, [IBAF] University of Dschang, in Cameroon. His areas of interest include visual anthropology, cinema, theatre criticism, photography, cultural studies and religious communication. He has authored more than 100 peer-reviewed articles and book chapters in the above mentioned areas of interest. He edited Popular Representation of America in Non-American Media (2019), Deconstructing Images of the Global South through Media Representation and Communication (2020) and Exploring the Role of Social Media in Trans-National Advocacy (2018).

**Antonietta Ivona** is Associate Professor in Economic and Political Geography at the Department of Economy and Finance of University of Bari (Italy). She is membership of several Editorial Boards of international journals; coordinator and membership of national and international research groups; Director of Peer Review Editorial Series. Her ongoing Institutional Activities are: - Delegate of the Rector of UNIBA for Erasmus+ Programs; of the Global Thesis Study Award; to represent the University of Bari in the TUCEP Tiber Umbria Comett Education Programme - International network for knowledge and job and in the Assemblies of UNIMED Mediterranean Universities. - Disciplinary Expert for Periodic and Initial Accreditation for ANVUR - National Agency for University and Research Evaluation. Her research interests: Economic and Political Geography, Geography of Development, Tourism, Regional Economics, Transports, Teaching Methodology, Human Geography. Her research in progress: Geography of Tourism, Geography of Transport, Geography of inner areas and regional impacts, Geography of Agriculture, Coastal and Maritime Geography.

**Sony Jalarajan Raj** is an Assistant Professor at the Department of Communication, MacEwan University, Edmonton, Canada. Dr. Raj is a professional journalist turned academic who has worked in different demanding positions as a reporter, special correspondent, and producer in several news media channels like BBC, NDTV, Doordarshan, AIR, and Asianet News. Dr. Raj served as the Graduate Coordinator and Assistant Professor of Communication Arts at the Institute for Communication, Entertainment and Media at St. Thomas University Florida, USA. He was a

full-time faculty member in Journalism, Mass Communication, and Media Studies at Monash University, Australia, Curtin University, Mahatma Gandhi University and University of Kerala. Dr. Raj was the recipient of Reuters Fellowship and is a Thomson Foundation (UK) Fellow in Television Studies with the Commonwealth Broadcasting Association Scholarship.

**Lucrezia Lopez** is Lecturer of Geography at the Department of Geography of the University of Santiago de Compostela (USC) and secretary of the CETUR (Centro de Estudos Turísticos). She is academic coordinator in the USC of the International Master's Degree in City Challenges, and secretary of its international academic commission. Her research lines concern the Camino de Santiago, studied by a plurality of geographic, cultural and touristic approaches. She also deals with cultural and Mediterranean studies, tourism geography, heritage and heritage management, and geohumanities.

**Sonia Malvica** earned a PhD in Cognitive Sciences at the Department of Cognitive Sciences, Psychology, Education and Cultural Studies, University of Messina. Her research focused on tourist judgment and cognitive processes in Destination Photography's perception and evaluation; she also examined the role of potential technological applications in support of the smart tourist, paying particular attention to the communicative power of mapping. She is currently a Research Fellow at the Department of Humanities and Social Sciences, University of Sassari, where she investigates the application of Citizen Science and technology to marine litter monitoring with the direct involvement of fishermen. Her research activity spans various Geography topics, including Destination Image, smart tourism, mapping and visual perception.

**Patrizia Miggiano** graduated in Political Science and International Relations in 2009 and in Philosophical Sciences in 2012 at the University of Salento. She continues her education by cultivating her research interests, including landscape philosophy and heritage narrative methodologies in the field of live performance and audiovisual. Since 2019, she has been a PhD student in Human and Social Sciences at the Department of Humanities and Social Sciences of the University of Salento and a devotee of the subject.

Since 2022, she has been a research fellow at the same University. She collaborates with the European University Centre for Cultural Heritage in Ravello (SA). She is a member of the organizational secretariat of the School of Placetelling® at the University of Salento. She is a member of the editorial board of the journal "Geotema".

**Enrico Nicosia** is a Full Professor in Geography, in the Department of Cognitive Science, Psychology, Education and Cultural Studies at University of Messina. The scientific activity is documented by numerous publications in various fields of geography. The main research topics focus on sustainable land development policies and the role of the social-economic components on urban regeneration strategies, related to the organization of large events. His recent studies are directed at: the urban redevelopment, the transformation of the spaces of consumption, and Film induced tourism.

**Andrea Nocera** has a Bachelor's degree in History and a Master's degree in Anthropology. In recent years, thanks to "Futuro Vegetale. Plants, social innovation, design" masterclasses at the University of Florence, he has approached the world of plants as a source of inspiration to imagine more integrated ways of dwelling. His research investigates human-environment relations and human-non-human relations and he has taken an in-depth look at both paths thanks to periods of research with University of Basilicata, IRES Piemonte and Rete Sviluppo (Florence). He is co-founder of the Assoc. Fungi CollectIF and collaborates as author and editor for "Loescher Editore". He has been guest speaker at the University of Florence, University of Turin and other divulgation events. In November 2021, he published the monograph Green Wonder: imaging a new way of dwelling in the scientific series "Geographies of the Anthropocene" by "Il Sileno Edizioni".

**Maria Pappalardo** is Professor of Geography and Geography of the Environment and Landscape at the University of Verona, she has been dealing for years with issues related to underdevelopment, especially in Africa, and sustainable development by publishing various articles and volumes that investigate these issues. Recently she has launched new research that aims to highlight the strong relationship between cartography and geography.

**Joshua Paul** is a filmmaker and tertiary media lecturer currently based in Kingston, Jamaica. As a creative, he specializes particularly in writing and directing and has a strong interest in culturally and socially impactful stories, usually including themes of realism and conflict based on intra-personal or societal issues. His short films have garnered many awards across the U.S, Canada and the Caribbean. As a versatile film professional, he also works in the capacity of producer, assistant director, editor, audio specialist, and has been lecturing at the University of Technology for over 2 years. He is currently working on his first feature film project whilst also building on his academic research portfolio.

**Tomlin Paul**, is a medical educator currently serving as Dean of Research, Innovation and Quality at the University of Global Health Equity in Rwanda. He was previously Dean of the Faculty of Medical Sciences at The University of the West Indies (UWI), Jamaica.  Dr. Paul has been a consultant to the Pan American Health Organisation in medical education and is an executive member of The Consortium on Social Accountability in Health Professions Education in the Region of the Americas.  He is a member of the international team that developed the Indicators of Social Accountability Tool (ISAT) used to assess and monitor schools' progress in social accountability. He is an advocate for narrative-based medicine and integrating the arts and culture in education. He is part owner and director of Transitions Media, a limited liability film production company based in the Caribbean which has produced a number of short films.

**Fabio Pollice** is rector of the University of Salento since 2019 and full professor in Economic-Political Geography at the same university. He has taught at the Universities of Naples "Federico II" and Rome "La Sapienza". From March 2016 to October 2019, he was Director of the Department of History, Society and Human Studies at the University of Salento and in the previous three years Coordinator of the PhD in Human and Social Sciences. He is also a member of the Scientific Committee of the European University Centre for Cultural Heritage (CUEBC), EURISPES and the IULM Foundation in Milan. He also created and directs the School of Placetelling® at the University of Salento in collaboration with the European University Centre for Cultural Heritage. He deals with themes of applied geography with a particular focus on territorial development and local-global relations with

in-depth studies on the relationship between tourism and culture and the role of culture in local development processes.
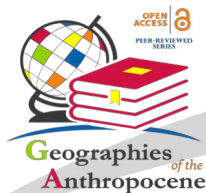
**Adith K. Suresh** is currently associating as a research assistant at the Department of Communication, MacEwan University, Canada. Adith holds a Master's Degree in English Language and Literature from Mahatma Gandhi University. His research interest includes Film Studies, Literary Criticism, and South Asian Cultural Studies.

The Anthropocene concept identifies a geological era in which human action leads to changes on a planetary scale with long-term irreversible effects. This volume collects insights into geographical research, with a specific look at the challenges of the future, and the potential of visual communication offered by cinema, documentaries and television series. In fact, fiction could represent the appropriate medium to examine the notions of the Anthropocene, being a language of global diffusion and highly evocative since it uses the engagement of narration and entertainment to convey messages of vital importance, arousing emotions in the viewer, shared awareness and, finally, responsibility. In the Anthropocene era, the challenge of climate change is not a problem of science but a failure of politics. And politics fails because the Great Acceleration has led to the good life and certainly a better life for people everywhere. Who is willing to give up the great stuff of the Great Acceleration? What would that new life look like? What kind of challenges does the future propose? Some of these questions, among others, are raised in the chapters of the present volume. The different geographical contexts and approaches, here collected, can play an important clarifying function, to reduce the complexity of (today's) social, economic, political, and technological reality, presenting a much deeper vision of reality than it appears to us, and at the same time offering us the means to navigate it. Thus, the volume deals with these issues in three sections, moving from narrative methods to the representation of ecological disasters and finally analysing a more specific topic.

*Enrico Nicosia is a Full Professor in Geography at the Department of Cognitive Science, Psychology, Education and Cultural Studies at University of Messina (southern Italy). The scientific activity is documented by numerous publications in various fields of geography. The main research topics focus on sustainable land development policies and the role of the social-economic components on urban regeneration strategies, related to the organization of large events. His recent studies are directed at: the urban redevelopment, the transformation of the spaces of consumption and Film induced tourism.*

*Lucrezia Lopez is Lecturer of Geography at the Department of Geography of the University of Santiago de Compostela (USC) and secretary of the CETUR (Centro de Estudos Turísticos). She is academic coordinator in the USC of the International Master's Degree in City Challenges, and secretary of its international academic commission. Her research lines concern the Camino de Santiago, studied by a plurality of geographic, cultural and touristic approaches. She also deals with cultural and Mediterranean studies, tourism geography, heritage and heritage management and geohumanities.*