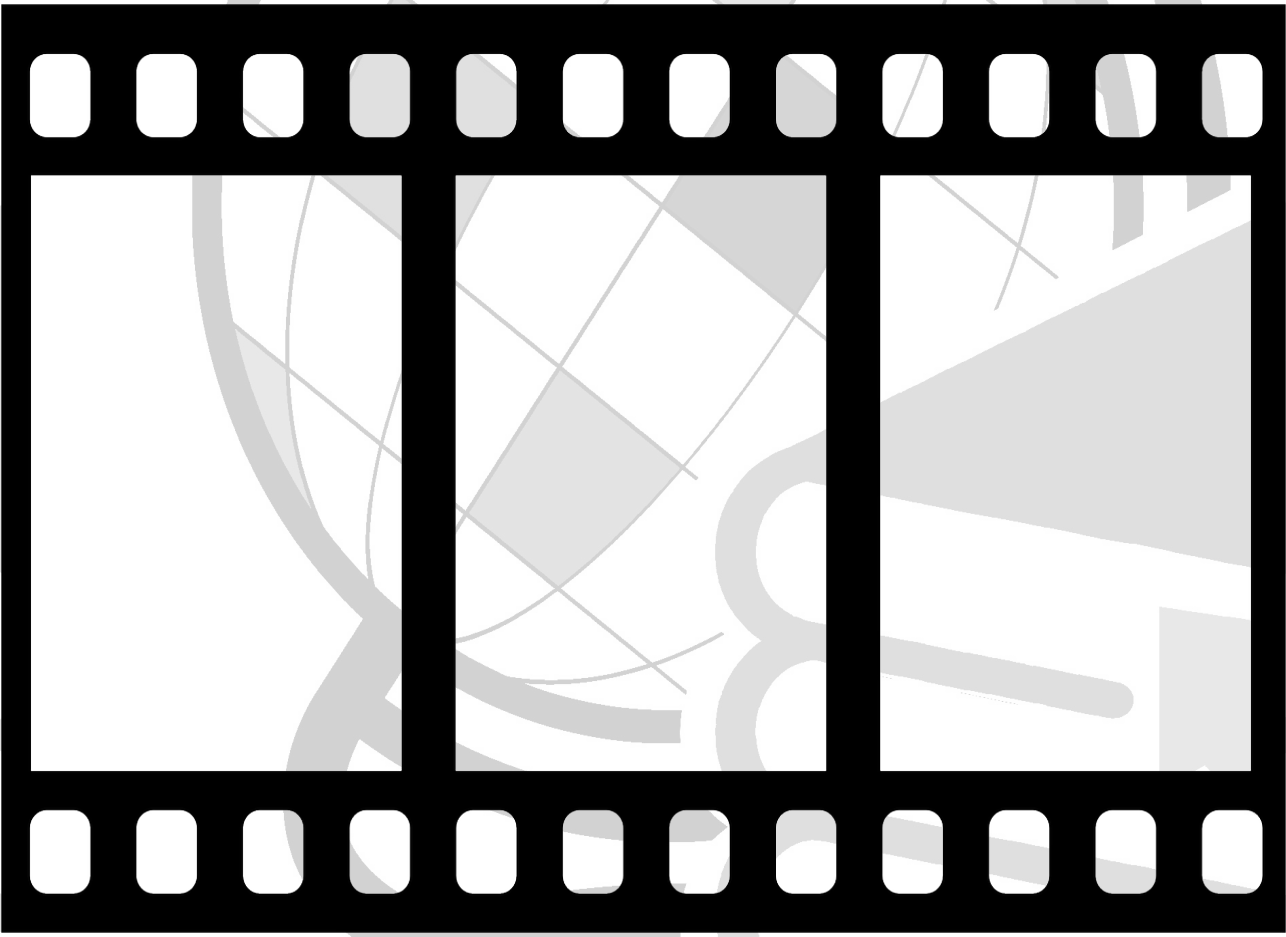
CINEMA, DISASTERS AND THE ANTHROPOCENE

Enrico Nicosia, Lucrezia Lopez (Editors)



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Geographies of the Anthropocene

Cinema, Disasters and the Anthropocene

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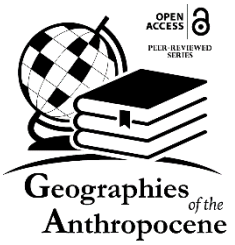

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Geographies of the Anthropocene

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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.

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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.

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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).

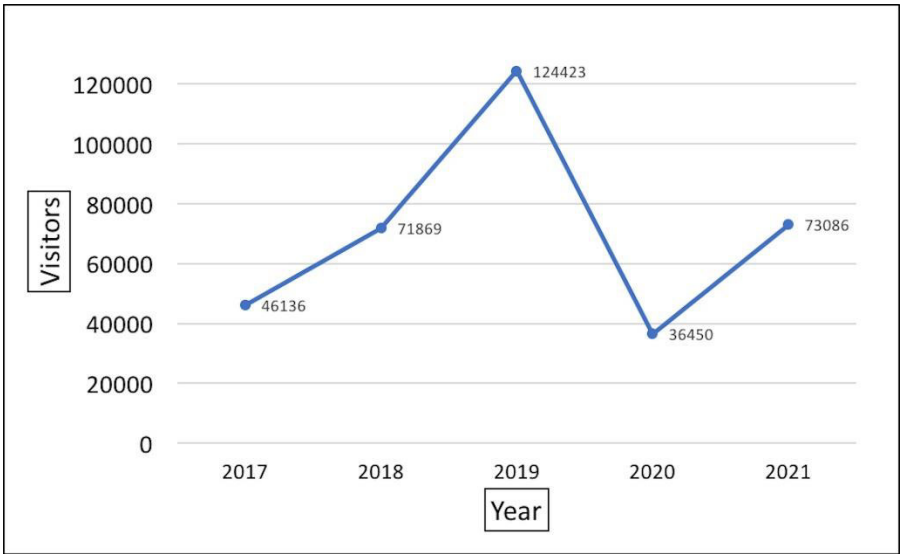

Figure 1 - *The number of tourists in the Chernobyl Exclusion Zone from the year 2017 to 2021. Personal elaboration from Statista (2021).*

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.

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

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.

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