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The extraordinary discourse of the Anthropocene[1]

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Abstract

The text presents the extraordinary discourse and surprising grammar of the Anthropocene discussion. It introduces the most relevant terms making up the unique lexicon of the Anthropocene epoch. Much like the debate on the epoch of man itself, this lexicon has an interdisciplinary dimension. Terms which are used include post-nature, climatic divide, Gaia, eco-justice, human environmental rights, irrecoverable/irreversible loss, geohistory and Plantationocene, while in the text topics covering criticism of anthropocentrism, human agency and natural agency, all of which are so crucial to the Anthropocene debate, are discussed.

Keywords

Anthropocene, the anthropocentrism's criticism, post-nature, geohistory, Gaia

[1] The text is an English and modified version of chapter 4 of the book "Epoka człowieka. Retoryka i marazm antropocenu" (Warsaw: PWN, 2018). The text is published for the first time in the form presented here.

Unikatowy dyskurs antropocenu

Abstrakt

Artykuł przedstawia unikatowy dyskurs i zaskakującą gramatykę dyskusji na temat antropocenu. Wprowadza on najważniejsze pojęcia konstytuujące unikatowy słownik epoki antropocenu. Podobnie jak sama debata, słownik epoki człowieka ma interdyscyplinarny character. Znajdziemy tu takie terminy, jak: postprzyroda, podział klimatyczny, Gaja, ekosprawiedliwość, środowiskowe prawa człowieka, nieodwracalna/niepowetowana strata, geohistoria, plantacjocen. Tekst podejmuje również analizę takich tematów, jak: krytyka antropocentryzmu, sprawczość ludzka czy sprawczość przyrody.

Słowa kluczowe

antropocen, krytyka antropocentryzmu, postprzyroda, geohistoria, Gaja

1. The loss of nature

In 2000, the American biologist Eugene F. Stoermer and the Dutch atmosphere scientist Paul J. Crutzen (1995 Nobel Laureate in chemistry) suggested that the current geological epoch be called the Anthropocene – "the epoch of man". Stoermer and Crutzen wrote of the unprecedented scale and intensity of humanity's current impact on the planet. In their opinion, *homo sapiens*, as a species, have become an agential force of geological significance, with humanity introducing dangerous modifications to many vital parameters of the planetary system (Crutzen, Stoermer 2000).

The epoch of man – the Anthropocene – is a tumultuous time of irreversible environmental losses. It relates to escalating climate change, a great mass extinction of species, the acidification of the oceans, increasingly tenuous relations between hu-

mans and nature (pandemics, weather aberrations, climate migration), and conflicts arising from a lack of access to energy and other resources. Earth system science research as well as reports, show that we are now standing at the threshold of likely destabilisations of the atmosphere, hydrosphere, biosphere and lithosphere (Rockström 2009; cf. Hamilton, Bonneuil, Gemenne 2015; Hamilton 2016).

One of the most apparent motifs in the Anthropocene debate is the subject of nature being irreversibly lost. The Earth is losing coral reefs, tropical forests, the seasons, the stability of the Arctic ice cover, and many individual animal species. In 2011, the environmental scientist Vaclav Smil performed calculations regarding the total body mass of land vertebrates on the planet. In accordance with these calculations, 30 % of the total mass is human mass, while 67 % is the mass of domestic animals and livestock kept by humans. Only 3 % of the world's total vertebrate body mass is made up of wild animals (Smil 2011).

Scientists estimate that 41 % of the planet's known species of amphibians are currently facing extinction, 13 % of the known bird species, and 26 % of the known mammal species. The causes of this are habitat destruction, climate change and hunting. In the case of amphibians, an additional cause is an epidemic of chytridiomycosis, a fungal skin infection affecting amphibians (Monastersky 2014: 159). In addition to this, a study performed by German scientists in 2017 showed that over the last 27 years, in 63 protected regions in Germany, there was at least a 75 % loss of the flying insect biomass (Hallmann et al. 2017).

In the widely-discussed book *The Sixth Extinction. An Unnatural History*, first published in 2014, Elizabeth Kolbert, a science journalist for The New York Times, states that by 2050, 24 % of all species of flora and fauna inhabiting the Earth today will have become extinct, with that number potentially reaching 50 % by the end of the 21st century. Kolbert warns that, each year, 14 species become extinct (the majority of them insects),

while the current rate of extinction is 10,000 times faster than that of natural extinction (Kolbert 2014: 129, 142).[2]

It appears, however, that unlike the problem of climate change, the crisis of biodiversity loss has yet to garner the level of public interest it deserves (cf. Crist, Rinker 2010: 14). That being the case, the American environmental historian Justin McBrien has proposed that, rather than being called the Anthropocene, the current geological epoch be dubbed the Necrocene – an epoch of extinction and "planned obsolescence of all life" (McBrien 2016).[3] Additionally, Earth System science research shows that by allowing biodiversity loss to continue, humanity is, in a sense, 'shooting itself in the foot'. In line with the aforementioned soft Gaia hypothesis, it is organic life that supports the planet's geophysical and chemical stability.

The problem of biodiversity loss also possesses an undeniable metaphysical side. Kolbert (2014: 201) writes: "Right now, in the amazing moment that to us counts as the present, we are deciding, without quite meaning to, which evolutionary pathways will remain open and which will forever be closed. No other creature has ever managed this, and it will, unfortunately, be our most enduring legacy." From the point of view of the foreseeable future, it is evident that the modern fixation on issues like economic growth and access to cheap crude oil and leisure is simply irrational. How will this attitude be judged in light of the consequences of the great extinction of species? Some scientists believe that the destabilization of planetary systems in the Anthropocene epoch is evidence not of humanity's power but its irrationality (Crist, Rinker 2010: 15).

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[2] This relates to background extinction, expressed in the number of extinct species per one million years. With respect to mammals, this is 0.25 per million species annually, which equates to one species per 700 years (Kolbert 2014: 17).

[3] McBrien likens this to the notion of planned obsolescence, which involves products being designed so as to become outdated, out of fashion and non-functioning after a certain amount of time (cf. Perelman 2005: 27–30). The term was popularized in the 1950s by Steven Brooks, an American industrial designer.

In his most recent book, the American zoologist and co-founder of sociobiology, Edward O. Wilson, proposes a radical solution to the Anthropocene's environmental crisis – letting half of our planet's land area be reclaimed by wilderness (Wilson 2016). It is known that the leading causes of the mass extinction of species are habitat loss and climate change, and Wilson's suggestion arguably presents a fair compromise to tackle the problem of biodiversity loss. What if we agreed that our anthropocentrism entitles us to occupy *only* (?) 50 % of the Earth's area? But even this assumption would require justification. In accordance with this, Wilson argues that his premise of leaving half of the Earth to nature is a vital condition to humanity's survival in the Anthropocene epoch. Although Wilson's proposal seems to be out of touch with reality amidst the current priorities of global politics and economics, the zoologist's proposal does lay out the proportions we ought to observe as we ponder the challenges of the Anthropocene epoch. Sadly, national parks currently account for only 6 % of the planet's land area. We can still hope, however, that Wilson's proposal will play a meaningful, if rhetorical role, in the discussions on the Anthropocene epoch.

At the same time, the Anthropocene can be called a post-environmental epoch. Many environment researchers argue that the boundary between that which is natural and that which is man-made, between the unspoiled environment and the domain of human *praxis*,[4] is impossible to define today, having no absolute value (Passmore 2002: 608). At the present time, it is difficult to speak of any facets of nature as virginal, harmonious or wild (see Dalby 2016). Already, in 1989, in his book *The End of Nature*, the aforementioned Bill McKibben, an American journalist, environmental activist and advocate for initiatives to counteract climate change, described Earth as something of an

[4] The term *praxis* originating from the theories of Karl Marx refers to the historical context of human practices, to actions that are always supported by cognition of theoretical reflection. This category transcends the theory-practice dichotomy.

artefact, dubbing it "Earth 2" or "Eaarth" on account of the degree to which it has been modified by human activity (McKibben 1989, 2010, cf. Yearley 2006).

The post-natural epoch we find ourselves in is an extraordinary time in which a return to nature (including human nature), as a stable, God-given, passive and silent canvas for our actions, is simply impossible. Nature as we know it has been altered by human hyperagency. In the Anthropocene epoch, almost every "natural" catastrophe – be it flooding, fire, plague or famine – bears the mark of human involvement. These could be more accurately defined as "post-natural" catastrophes. In light of this, we ought to be thinking in terms of post-nature and the post-natural history of nature (Raffnsøe 2016: 14).

Attesting to the fact that we are dealing with post-nature are, among other things, the discussions on relocating endangered species (Minteer, Collins 2010). The reports of the Intergovernmental Panel on Climate Change (IPCC) employ the term "assisted species migration" (IPCC 2014: 15). There are plans to create migration corridors by way of which plants and animals will be able to migrate as they flee the effects of global warming. Additionally, there are plans to introduce a range of practices intended to allow us to reproduce the aspects of nature we have lost: the reintroduction of species to ecosystems, assisted colonization, population reinforcement, artificial fertilization, the transplantation of embryos to related species, and attempts to revive extinct species (Maris 2015: 127–128). Here, human agency converges with animal agency in response to the effects of climate change caused by human activity.

An interesting example of the kind of post-natural objects that will surely become a more frequent sight in the Anthropocene epoch is the Great Pacific Garbage Patch. Drifting in the northern regions of the Pacific Ocean, the garbage patch is refuse made up of 90 % synthetic material suspended in the water and forming a plastisphere – a breeding ground for bacteria and other organisms (Moore and Philips 2011, cf. Lewis 2013: 28).

Here, inanimate man-made substances and natural entities mingle to form a hybrid mass.

The World Economic Forum currently estimates that more than 150 million tons of plastic is floating in the Earth's oceans. By 2050, the mass of plastic will likely exceed the total mass of fish in those same bodies of water (WEF 2016, cf. Angus 2016: 167). Because of this, it has been suggested that the current geological epoch be called the Plasticocene – the epoch of plastic. As we discuss our attitudes, values, costs of risks and economic priorities, we increasingly talk about factors which have hitherto been considered purely natural: the weather, which ought to be unmodified, the dwindling bee population, the shrinking water resources feeding our rivers, and ecosystems in need of protection.[5] We are also involved in diplomatic disputes over the human environmental rights to the melting Arctic in order to exploit its oil reserves (e.g. the dispute between Denmark and Russia). It is becoming clear, therefore, that nature can no longer be viewed as a non-problematic commodity. As the British environmental sociologists Phil Macnaghten and John Urry concisely put it, "There is no nature simply waiting to be conserved, but, rather all forms of its conservation entail judgements as to what indeed is nature" (Macnaghten and Urry 1998: 23).

Though the idealized "nature fetish" (Preston 2012: 195) continues to resurface in the current debate on the environment, the ideas for nature's restoration are intended to manage natural conditions and even to manage what remains of nature as it was. Parks, reserves and gardens are enclaves created by humans. Conversely, epidemics, insect infestations and droughts,

[5] On the dispute surrounding particular communities' rights to unmodified weather, see e.g. Turner, 2004. On the controversy surrounding the decline of bees in the United States and the use of pesticides, see Suryanarayanan, Kleinman 2012. The history of fruit cultivation in China, where bees also declined due to excessive pesticide use, shows that the function of bees could be performed by humans. New orchard workers were recruited to pollinate the crops, which not only created new jobs and boosted demand thanks to the new income generated, but also improved the output of orchards. Since human pollination was more systematic and precise, a thirty percent increase in yield was noted (Adler 2016).

which we are trying to control, viewing them as being outside of that which is desirable or good, are very natural. Meanwhile, the splendid vistas of tourist regions or countryside hideaways are often not as natural as they seem in that many of them have undergone extensive human transformation. In our pursuit of nature in the Anthropocene epoch, we attempt to imitate that which has been lost and what we imagine nature was in the past. Yet, the imitations we create are always merely interpretations of what we think nature ought to be.

And here, there is a dynamic dispute currently unfolding concerning environmental reflection: between a model advocating for nature preservation and a model for nature restoration. This dispute is connected with the philosophical question of the conditions necessary for nature to be authentic. We must, however, note that the issue in question is also tied to our perception and valuation of time. Traditional programs to preserve and restore nature were interpreted as a means of reversing time and returning nature to its former state. Yet, in the twenty-first century, narratives which romanticize the past and bygone states of ecosystems are clearly waning in popularity. A return to untouched or wild nature is no longer tenable, while, as mentioned earlier, the very concept of nature is a problematic one. We are increasingly aware that our imagination and values shape our definition of nature and wilderness.

The idea to protect parts of the natural environment which are completely virginal and untainted is by now unfeasible. Modern reserves and national parks are more reminiscent of theme parks, amusement parks or Jean Baudrillard's precessions of simulacra than a wilderness understood as terrain untouched by human intervention. Because of this, critics of the nature preservation paradigm discount this approach as outdated, calling for the need to restore nature – to compensate the planet for the damage done by human hands. This involves ecosystems being rebuilt, with the process being understood in different ways: as a kind of planetary gardening, or a form of design, engineering or management. In the restoration model, we

ask the question as to what extent we can responsibly remove human influence from specific areas to allow other species and ecosystems to flourish (or perish) there, without human interference. The priority would be to maintain harmonious efficacy and coherence in self-reproducing ecosystems.[6] It is entirely possible, therefore, that at best, human influence can only be reduced and judiciously minimized wherever possible. That is about as much as humanity is capable of at present, if it wishes to move past anthropocentrism in its actions.

Yet, is it even possible to completely eliminate nature understood as a sovereign and untouched setting for our actions from modern reflection on the environment? Paradoxically, the answer is most likely no. Every artefact created by humankind seems, one way or another, to defy the intentions of its creator, often generating surprising side effects. In this sense, the autonomously natural is always imminent in our achievements. The wealth of nature's agency plays a certain rudimentary and indelible role: this power manifests itself in the undesirable consequences of our innovations, unplanned by the creators and out of their control (cf. Preston 2012: 194–195). In a certain important sense, the Anthropocene is an epoch of the unintended consequences of human action.

2. Nature's agency hastily ignored – the arrogance of anthropocentrism

In one article on the Anthropocene (Hamilton 2015: 35), it is written that "The human has always been the anomaly, the creature both natural and unnatural. The Anthropocene is so momentous because nature's anomaly is now restructuring nature itself." The narratives on the Anthropocene are grounded

[6] This premise also appears in the permaculture conception inspired by Robert Hopkins, the English town of Totnes and the Transition Towns initiative launched in 2006. This relates to local initiatives aiming to identify possible ways to transition to an emissionless future by reducing dependence on fossil fuels at municipal and community levels.

in an interesting transformation of our present way of thinking about agency. This is a shift that continues to take place in opposition to anthropocentrism. It relates to the anthropocentric paradigm dominating the humanities, history, sociology and philosophy, which acknowledges the existence of human agency alone. Environmental humanities, sociology of technology, actor-network theory, and science and technology studies, add non-humans and their agency into the spectrum of possibilities: technological infrastructures, machines, other species, microbes, systems determining the condition of soil, weather, rivers and oceans, and other planetary limitations and ecological conditioning factors. As argued by authors opting for a post-humanist understanding of agency, the main protagonists in history and the social sciences (the outstanding individuals, heroes, elites and their intentionality and individualism) are not the only possible factors to explain the situation.

In the Anthropocene, the paradigm of human agency and top-down intentionality is being challenged for methodological reasons (as being overly simple) and philosophical ones – as an expression of anthropocentric arrogance in an epoch of planetary system destabilization. The Anthropocene debate thus stimulates thinking on various possible kinds of agency and even on alternative visions of intentionality. With regard to this, Studies conducted in the area of actor-network theory have revealed that our actions are mediated by non-humans and defined by decisions taken earlier, and also that agency can be "delegated" to the environment. In light of this, it is possible that the agency of infrastructures can be maintained without human supervision, as in, for example, gates regulating passenger traffic in airports or speed bumps on internal streets regulating a driver's speed (see, e.g., Winner 1986, Latour 1991, Callon 1986, 1987). Consequently, how we understand human agency also undergoes significant modification. It is a result of relationships, taking various shapes, undergoing gradations and fluctuations – it can be blocked, inhibited, or defined through technological or

natural factors. It can even be almost entirely eliminated in an appropriately configured environment.

The problems characterizing the Anthropocene epoch, such as the issue of planetary boundaries or global climate change, further stimulate the question of agency, intentionality and responsibility from the perspective of the individual and in the moral dimension. We certainly need responsible human agency in the Anthropocene epoch (cf. Barry 2019: 208, Arias-Maldonado and Trachtenberg 2019: 9). Yet, where should we put individual intentions (and actions) in the context of the climate catastrophe and irrecoverable biodiversity loss? Do we not all feel alienated and helpless? Is this not a cause of the apathy of the Anthropocene epoch? We understand very well that each one of us on their own is isolated from planetary-scale threats and deprived of influence on the situation. So, in these circumstances, on what terms can we continue to employ the old category of agency?

Significantly, the narratives on the Anthropocene epoch have accentuated the problem of the undesired side effects of human activity and of the systemic risk we face. Theories on undesired consequences, meanwhile, transcend means of thinking based on notions of intention, rational aims, predictability and controlled progress. Because of the existence of planetary boundaries, the existing conceptions of human action must change due to a lack of any external space into which we can push the undesired effects of our conduct. Because of the need to expand the category of responsibility to include that which is unintended, we must also modify our understanding of progress.

Ignoring nature's agential power and of humanity's place among non-humans may be interpreted as evidence of a form of humanistic cynicism or arrogance (Plumwood 2010: 36). But, as to what lies at the foundation of this separation of the human species from nature at large, we can only guess. Was it the image of nature being a collection of lifeless, passive matter? Was it the interpretation of nature as a super-resource to be colonized and utilized? Perhaps it was the capitalist prerogative of

unhindered access to all that is within reach for the sake of accumulating capital? Maybe it was seeing only the functional side of nature? The search for "cheap natures"[7] to be exploited? The recognition solely of the instrumental value of nature within the spectrum of needs of *homo sapiens* – the "pinnacle of evolution"? Finally, could it be our tolerance for the unscrupulous moral attitudes of (anti)environmental nihilism?

As an example, in narratives dominating the neoliberal market viewpoint today, nature is reduced to little more than what the market sees in it. In this sense, it is deprived of its autonomy. Market logic dictates that whatever is still available to us on the planet ought to be commodified. Nature's agency is thus cynically reduced to a lone, select dimension: its ability to generate profits. Following market logic, nature's protection must pay off, it must cover its own costs, making monetary calculations indispensable. The reclassification of forests and trees as "timber," fish and aquatic life as "fisheries," animals as "livestock," or lakes and rivers as "water resources", also did much to legitimize the processes of commodification and extermination (cf. Crist 2016: 29). This explains the great "career" made by terms like "ecosystem services" or by branding particular regions or ecosystems as "banks" mitigating environmental dangers (Robertson 2004, cf. Maris 2015: 123, 127). Increasingly, institutions today demand that ecosystem services be assessed, like the European Union with its Horizon 2020 program. Many are also attempting to assess the costs of biodiversity loss. There are even estimates of the total value of ecosystem services and of the natural capital of the planet. In 1997, this value was estimated to be twice the global GDP (Maris 2015: 128).

In one of his radio programs dedicated to the Anthropocene, the American radio journalist Simon Adler invites his on-air guests to contemplate the rationality of the strategy of assessing the market value of individual ecosystems and species (Adler

[7] This is a term used by an American sociologist and geographer Jason W. Moore.

2016). What value do we put on the agency of lifeforms like insects, which pollinate plants, or bats, which feed on and curb the populations of crop-destroying insects? Experts are able to more or less reliably assess the value of nature to particular economies. Often, it is only economic arguments that can sway decision-makers on matters related to the environment. Yet, does this mean that the use of economic arguments ought to be an acceptable rhetorical strategy? Regardless of how we answer this question, we must bear in mind that by opting for such an approach we will never break free of the mindsets and practices which, according to many experts, ushered in the environmental crisis to begin with.

It is emphasized that a significant number of classic social theories, like, for example, that of Émile Durkheim, functionalism and even social ecology, have rashly ignored the subject of nature (see Murphy 1995). Clearly, the intuitive acceptance of anthropocentrism in sociology and even the humanities at large, inherently results from the need to make specific disciplines autonomous. The significance of the social world is accentuated, along with humankind's exceptional ability to adapt and the importance of individual agency. The uniqueness of the human species within the animal kingdom is also underscored, as is our freedom, propensity to develop cultures, and the ability to overcome nature's obstacles through cooperation on an unparalleled scale. Anthropocentrism of this kind was often accompanied by biophobia – a conviction that nature is chaotic, unpredictable and cruel (Washington 2013: 77). This biophobia made it easier to interpret nature as an axiologically neutral backdrop, a collection of passive matter, or a resource, whose contemplation is incongruous with the moral mode of thinking.

The Canadian environmental sociologist Raymond Murphy thus criticizes social science as being theoretically myopic, writing about its inclination for a form of detrimental idealism (Murphy 1995: 691). For instance, from Murphy's point of view, the concept of the social construction of reality and poststructuralism are responsible for dangerously radicalizing the theory that

humanity freely shapes nature as it builds its surroundings, living exclusively in a world of symbols, discourse and language. More recently, similar criticism has been directed at the superficial interpretation of constructivism, attributed with the notion that nature is a human construct. I tend to believe, however, that criticism of this type suffers from a reliance on major oversimplifications and unfavorable interpretations. Yet, Murphy is most likely correct about one thing: that the variable of nature has, with excessive rashness, been needlessly and consistently avoided in the theoretical discourses of the humanities.

Haydn Washington pursues a similar line of thinking. In his book *Human Dependence on Nature: How to Help Solve the Environmental Crisis* (Washington 2013), he argues that narratives treating nature as a human product or artefact or stating that we are dealing with a loss or end of nature are fundamentally anthropocentric and arrogant – even those arising from a pro-environmental stance. Washington shows that the approach of many academics, as well as UN environmental programs, is deeply anthropocentric, viewing the value of nature exclusively through the prism of its utility to humans.

The belief, so characteristic of the Anthropocene, that the human species is the measure of all things – even of how we ought to classify planetary changes – simply attests to human megalomania. Washington denounces the attitude that the species and ecosystems around us could be nothing more than social constructs. After all, they are not merely the product of our imagination. Washington's opinion is that anthropocentrism is a manifestation of *homo sapiens*' self-obsession; one that, in the long run, may prove to be evidence of our ill-adaptedness. In maintaining the illusion that humankind "creates" nature, forests, rivers or the weather, we open the door to a number of dubious ideas, such as human engineering or projects to control the Earth's thermostat. The environmental crisis does not mean there is no nature. If civilization collapses, nature will remain and only humanity will perish. It is humankind that depends on nature, not the other way around.

For this reason, even the modern rhetoric of nature's and humanity's interdependency is, according to Washington, overly anthropocentric (Washington 2013: 79 ff.). It is equally true for trying to change nature, the climate or ecosystems. It suggests that we understand precisely what we are doing – that we are maintaining control. As the Canadian sociologist notes, however, humanity is not shaping the planet in this way at all. Thus, it seems, the anthropocentrism of social theory (cognitive, ontological and methodological) largely handicaps the possibility of accentuating that which is common to all species on Earth – the fact that they are critically dependent on ecosystems and planetary conditions. As Hamilton puts it, social scholars have no choice – in the Anthropocene epoch, everyone must be a ge physicist (Hamilton 2015: 36). Our social problems are inseparably linked with the state of the Earth's systems.

None of these theses are new. The problems of resources being exhausted, the limits of economic growth and demographic explosion were already demanding attention in the second half of the twentieth century (Ehrlich 1968, Meadows et al. 1972).[8] At that time, postulates were being formulated on the need to recognize the significance of hitherto-neglected natural processes, environmental costs and the agency of non-humans. Sociological discussions began to centre around problems like energy security, climate threats and the dangers of epidemics. That which was social began to be framed in environmental terms. In this way, in many discussions, nature reclaimed its due recognition.

To recapitulate the issues examined so far: as stressed by those involved in the Anthropocene debate, nature is currently a problematic category. Not only must it not be dislodged from the spectrum of humanistic discourse but it must also cease to be thought of as a silent and docile backdrop for our actions.

[8] The scenarios envisioned in the report, *The Limits of Growth*, published forty years ago, coincide closely with real-life trends. They were vehemently criticized, although the criticism proved unfounded (cf. Popkiewicz 2016: 102–103).

Today, it is not as easy to reduce nature to a collection of "natural resources" objectified by market logic and technology; a trove of resources we can exploit interminably with no costs incurred. In the epoch of planetary crisis, nature is vehemently claiming its normative stake as it constantly reveals its active and agential face.

3. Geohistory, a new concept of time and responsibility for the future

Phenomena like the "wicked" climate destabilization problem or the irreversible acidification of oceans pose daunting challenges to our current modes of thinking and to how we understand history. The historian and post-colonialism scholar Dipesh Chakrabarty writes about this in his article *The Climate of History: Four Theses* (Chakrabarty 2009). Chakrabarty states that full-fledged public discussions on the problem of climate change first arose in the 1980s – at around the same time as discussions concerning the phenomenon of globalization began to grow. After the year 2000, problems like droughts in Australia, wildfires, melting glaciers in the Himalayas and polar regions, ocean acidification, and species extinction became impossible to ignore in public debate (Chakrabarty 2009: 199). So, how is this reflected in the study of history?

Above all, destabilization of the climate caused by humans means that natural history and human history have converged to form an area of study known as geohistory (Castree 2014: 240). Previously, the tempo of geographic and environmental changes was considered too slow to serve as a key factor in historiographic study. Such a view was expressed by scholars like Giambattista Vico, Benedetto Croce, and R.G. Collingwood, who stressed the need to distinguish between human history and natural history. It was only in the twentieth century, with the emergence of environmental history, such as, for example, the perspective taken by the aforementioned Crosby, that the human species was depicted as a protagonist of biological signifi-

cance impacting other species and the environment. Yet, the concept of humans being a force of geological and ecological importance so characteristic of the Anthropocene epoch, is still something greater than the idea of *homo sapiens* being a factor in terms of a biological impact. After all, to change the chemical conditions of the atmosphere is something different to transporting species of flora and fauna between continents.

By endangering the socio-political order we are used to, the climate catastrophe complicates the very assumption of the continuity of human existence on Earth, exposing the finite nature of the "project" of humanity. Chakrabarty believes this will forever alter the former perception of time (Chakrabarty 2009: 197–198). The threat of a climate catastrophe suggests that history has arrived at a posthuman, or post-civilizational, stage. The understanding of history in the Anthropocene epoch cannot be built on short-term perspectives however. Our thinking about time today ought to be in line with the rule of preventiveness and moderation. In this sense, the perspective of the "investment horizon," which, in economic models usually does not exceed thirty years, is a vastly improper timeframe for any consideration of the future. The debate on the Anthropocene epoch, however, is a very important development in that it forces us to define the very limits of historical thinking.

As Chakrabarty states, in the Anthropocene epoch we must think jointly about the global and the planetary, about history based on records and on the time prior to history understood as such, about the criticism of capital and about what type of thinking characterizes humankind as a species. The geological hypothesis on the Anthropocene forces historians to confront the global history of capital with the history of the human species (Chakrabarty 2009: 212–213). This is no easy feat. Chakrabarty predicts that the climate change problem will likely exacerbate the tensions resulting from the uneven distribution of resources and power on the planet. In the future, demographic growth is most likely to affect big cities in poor countries. So, how will politics and conflicts look on a planet of slums plagued

by aberrant weather? It is important to remember that we are not a single humanity but a collection of many different worlds, polarized along the climatic divide between rich and poor.

More than just the name for a new geological epoch, the "Anthropocene" label can also be seen as a metaphor for the planetary climate and environmental crisis. Chakrabarty cannot imagine how ecomodernists can speak of a good Anthropocene. Is it a good crisis that rouses hope? The author stresses that periodization is a normative activity. Thus, the introduction of the Anthropocene category in geology possesses axiological significance. I agree with Chakrabarty – the potential arising out of this ought to be harnessed.

Chakrabarty asks the same questions as Andreas Malm and Alf Hornborg, namely: is the Anthropocene an effect of the actions of *homo sapiens* or a consequence of the actions of the economic elite in developed countries? It was, after all, the capitalist system that proliferated the extensive use of energy derived from fossil fuels in the industrial age. Yet, Chakrabarty believes that the Anthropocene crisis goes beyond the framework of capitalism and concerns something more serious – the cycle of life on the planet (Chakrabarty 2009: 217). The universal nature of the crisis means that all of us have fallen into the trap of the Anthropocene epoch, regardless of historical accountability of certain nations toward others. Because of this, a hermeneutics of suspicions characterizing the post-colonial and post-imperial approach is not a good starting point for thought on our maladies in the Anthropocene. This is not the time to dwell on how greatly divided we are. Even the rich and privileged will not escape the destabilization crisis unscathed. Regardless of how great humanity's potential is and how much freedom we have secured for ourselves, Chakrabarty believes that we cannot afford to allow the destabilization of the planetary parameters that condition the existence of life on the planet.

At the same time, in *The Climate of History*, Chakrabarty asks the question of who are "we" as a species in the epoch of human-

kind. Never before have we had to experience ourselves as a species, nor experience all of humanity simultaneously (Chakrabarty 2009: 220). The risk of climate collapse resembles the risk of a nuclear holocaust, although the former relates to the undesired consequences of our own actions, the cumulative effect of a series of small decisions made over a span of time and not to decisions that can be avoided by abandoning the use of nuclear weapons. Up to this point, we have only been interested in short-term success in survival and securing access to resources. Chakrabarty thus asks: why would we change now? Has human activity become one of nature's conditions or, conversely, is it that, for the first time, we really find ourselves in a situation where humanity literally constitutes itself? For Chakrabarty, the key problem of the Anthropocene is whether we will be able to assume total responsibility for the future.

4. The boundary of what is imaginable?

Many commentators have noted that the "Anthropocene" label possesses an overtone of boastfulness or even arrogance, being an expression of our triumphant uniqueness. As a case in point, in the debate on the new geological epoch, it is sometimes gloatingly stressed that humanity's "stratigraphic signal" will be observable for millions of years to come. In this sense, the idea of the Anthropocene really is evidence of "anthropomorphism on steroids" (Latour 2011, cf. Raffnsøe 2016: 11). This is one of the reasons that the American sociologist Eileen Crist, an advocate for human population planning via reproduction restrictions, is against the Anthropocene as a label. Crist believes the category embodies our complexes and yearning for supremacy. Can the Anthropocene be a reason for pride? Is it not better to use the term Misanthropocene in this epoch of denial and disillusionment with environmental policy (cf. Angus 2016: 226, 230)? What justifies the Anthropocene label? By accepting this term, do we not simply accentuate the possibility of humanity's complete control over natural conditions?

Malm and Hornborg also lament the fact that, in debating the Anthropocene, we revel in the power of *homo sapiens*, once again making our species the center of attention. In the course of the debate, humanity can continue its narcissistic self-admiration. Does such a categorial structure help us put up a fight against the planetary crisis and dismantle the economic order built on environmental exploitation and continued fossil fuel combustion?

The Greek term *anthropos* refers to a species existing on Earth. Similarly, the etymology of the Latin words *homo* and *humanus* relates to humankind understood as a being that lives on Earth. Yet, as Lovelock, the father of the Gaia hypothesis, states, *homo sapiens* have declared a form of war on Earth; the twenty-first century wages a war on Gaia (Lovelock 2006: 13). How can that be, given that the human condition is inherently dependent on earth, soil, clay and sand (cf. Raffnsøe 2016: 4)? Is it not heartbreaking to witness that the category of human continues to dominate and repress other categories even in an era of dramatic environmental challenges? Could it be that the notion of what is "earthly" is too mundane, pedestrian, prosaic?[9] It seems that the category of earth is forever too unspectacular to effectively represent the crises and challenges of the Anthropocene, and, above all, the necessity to implement a decisive climate policy.

Many scientists hope that the idea of the Anthropocene will not simply accentuate the arrogant relish of human agency and the planetary scope of human influence but instill in us a sense of responsibility and sensitize us to the necessity of scrutinizing humanity and its exploitative behavior while acknowledging the rights of other entities. In this way, the Anthropocene has the chance to ascend as the first epoch to be free of illusions, one in which there is no longer room for carefree optimism. It appears, however, that our chances are shrinking and the possi-

[9] This is noted by Latour, who introduces the term "the Earthbounds" to the Anthropocene lexicon (Latour 2015: 148).

bilities open to us evaporating, as we are mired in a stalemate. This is also not simply a matter of voluntary redefinition, because the existence of the planet's boundaries drastically reduces the range of choices available to humanity.

In light of this, can we advance to a responsible, post-anthropocentric Anthropocene? Or will we flounder at the impasse of irreversible losses, observing the dramatic shrinking of our natural setting? Already, we have lost nature as a stable and unproblematic backdrop for human activity. So, is the Anthropocene an epoch in which we must redefine planetary boundaries or the very meaning of boundaries themselves?

I agree with the opinion that, from the political point of view, the greatest challenge of the Anthropocene epoch is to devise means for managing irreversibility (cf. Hamilton, Bonneuil, Gemenne 2015: 10–11). There is a difference between the modern systemic risk described by Beck and catastrophes like climate collapse or irrecoverable biodiversity loss. In a risk society it is still not too late; risk represents a possible threat that we assess and try to avoid. In a catastrophe society, we sound the alarm because it is already too late. This is underscored by Hamilton: "it is too late to negotiate with Earth" (Hamilton 2015: 39).[10] This is an epoch of irreversible loss, inevitable feedback and tipping points being passed. We are left with having to devise ways to manage irreversibility – if that is still even possible.

In another sense, it is also about managing that which is inevitable (Blühdorn 2015: 165). To be able to do that, however, would require a new type of politics and leadership. The current system of unfettered progress, with individual nations negotiating for their own interests and profits, must be put aside. The problem is that we are still unable to make these changes. It also seems that we are not well prepared to do so. Our institutions suffer from built-in short-sightedness as we enter a new era of global politics aimed at adapting to "irrecoverability". We operate in conditions like unforeseeable futures, climate-driven

[10] On the topic of the "It's-too-late-o-cene" see White 2019.

migration, irreversible decisions, and inconsolable losses. Environmental policy in the Anthropocene epoch must under no circumstances be limited to only protecting ecosystems or individual species, and political thinking must focus on Earth as a whole.

Looking at it from this perspective, it is possible that the Anthropocene is more a boundary than just another one in a series of epochs (cf. Haraway, 2015: 160). In her ironically-titled article *Anthropocene, Capitalocene, Plantationocene, Chthulucene. Making Kin*, Donna J. Haraway asks whether we have crossed a point after which the consequences of our actions have irreversibly changed the very essence of the "game" of life on Earth – the life of everyone, of all living things (Haraway 2015: 159). What evidence to support such a statement could we need: climate change, toxicity norms being surpassed, or perhaps, data on the drastic costs of employing extreme technologies like those for the extraction of natural gas and oil from shale?[11] As Haraway writes, we live in an epoch of "mourning irreversible losses" (Haraway 2016: 160). This is an epoch in which shelter for living things is being destroyed and the system is collapsing. In Haraway's opinion, it is impossible that the epoch of great changes (which we desperately need) be dubbed the Anthropocene (Haraway 2016: 34) as long as we keep the existing anthropocentric categories. The American philosopher thus contemplates whether it would not be better to introduce more adequate terms.[12] One of these is the Plantationocene. We live in a time of vast, soil-depleting monocultures, and industrial farming, fishing and the raising of livestock. In transforming the planet into a plantation, we slash and burn tropical forests, inviting catastrophic wildfires and causing irreversible processes leading to the destruction of biodiversity and even entire eco-

[11] This applies to shale gas fracking and "tight oil."

[12] However, if we had to decide on just one label, Haraway believes it should be Capitalocene, as long as this term does not lead to the acceptance of modernistic premises on history and progress connected with Marxism (Haraway 2016: 51–53).

systems (Haraway 2015: 162). The Earth has become one gigantic botanical garden of disappearing specimens to delight the eyes of the human-imperialist.[13]

Another potential alternative is the Chthulucene, inspired by the spider species *Pimoa cthulhu* native to California, whose name comes from the language of the Goshute tribe of Shoshone native Americans in Utah. The word *chthonic* refers to the Earth powers present in all things (Haraway 2016: 35). Haraway is interested in accentuating the deep-running interdependencies of the living things composing an ecosystem and her writing often returns to the subject of species diversity. This philosophy dovetails quite well with the concepts proposed by Latour and Stengers, with categories like Earthbound beings, setting, stable collectivity and Gaia. She writes: "Gaia is autopoietic – self-forming, boundary maintaining, contingent, dynamic, and stable under some conditions but not others. Gaia is not reducible to the sum of its parts, but achieves finite systemic coherence in the face of perturbations within parameters that are themselves responsive to dynamic systemic processes" (Haraway 2016: 48).

According to one of Haraway's collaborators, Anna Lowenhaupt Tsing, in the postnatural epoch, even human nature ought to be viewed through the category of multi-species interdependency (Tsing 2012: 144). She argues we should refrain from talking about humanity's uniqueness and autonomy; that these kinds of narratives could lead us astray. History interpreted through the prism of the species accompanying us reveals deep interdependencies. Each living thing affects other organisms through its seasonal patterns of reproduction and development and through its geographical range. Not only humans create their environment. By turning our logic upside-down, we could say in the Anthropocene epoch that it was grains that

[13] The Plantationocene category is less confusing than that of the unifying category of the Anthropocene, which does not accentuate the specific responsibility of white people and Western civilization for the destruction of the environment.

domesticated humans, forcing us to abandon our nomadic lifestyle. The history of agrarian societies and the colonial era both indicate a close entwinement of human and non-humans. Without maintaining the right balance based on the preservation of ecological niches necessary for the development of other species, we too will not survive.

In her book *The Mushroom at the End of the World. On the Possibility of Life in Capitalist Ruins*, Tsing argues that the organisms which most extensively shaped the planet prior to the arrival of humans are bacteria and fungi (Tsing 2015). So, have we replaced them; have we taken their place as beings which transform their environment on the most ubiquitous scale and in a zealous manner? The history of humanity's relationship with various species of fungi – ones that live closely side by side with us – is fascinating. Fungi live in symbiosis with other species, with the roots of plants; they are responsible for processes that enrich the soil and allow decomposition, they absorb heavy metals and enable fermentation, so important in the production of food, alcohol and antibiotics. Yet, the history of our relationship with fungi is also the dramatic history of the great plagues devastating monocultures and plantations (like potato blight) and a history of agricultural disasters caused by mold.

By definition, the Anthropocene is an epoch in which human intervention is stronger than the impact of other geological forces (cf. Tsing 2015: 19). It is one in which "ontological uncertainty" (see Veland and Lynch 2016: 4) and instability are a condition of the times. But, to look at it another way, uncertainty can also mean being open and sensitive to external factors. Unpredictable encounters transform us (Tsing 2015: 20). The uncertain, unstable world of the Anthropocene is also a world without aim, beyond teleology: "The problem is that progress stopped making sense" (Tsing 2015: 25). Capitalism has become a dead-end street. In this sense, perhaps more useful than the notion of progress would be that of assemblage, coordination, collective efforts to survive alongside other species.

For reasons such as this, Haraway suggests that we compose a common future. “Make Kin Not Babies!” – meaning let us be together regardless of blood ties. Let us not reproduce but relate (Haraway 2015: 161). Can the future of the Anthropocene bring multi-species ecojustice? Time will tell.

Translated by Szymon Włoch

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