

After the Earth: New Postsingularity Scenarios¹

The Absence of Future Has Already Began

In 2000 the Nobel-winning chemist Paul J. Crutzen, together with his collaborator, the marine science specialist Eugene F. Stroemer, introduced the idea of a new geological age in the history of Earth and proposed to call it the Anthropocene. However, already in 1972 a team of MIT researchers published a report, commissioned by the Club of Rome, tellingly entitled *The Limits to Growth* (Meadows, Meadows, Randers, and Behrens 1972). To simulate the consequences of interactions between earth and human systems – should the rate of progress not change – the MIT team used a computer model based on five variables, still recognised as important today: population, food production, industrialisation, pollution, and consumption of non-renewable natural resources. Following a review of several scenarios of future developments, the report concluded that if there are no decisive changes to already established growth trends, the limits to growth on earth would become evident by 2072, leading to a “sudden and uncontrollable decline in both population and industrial capacity” (23), which would end in a global catastrophe no later than at the end of the 22nd century. This diagnosis was confirmed by several other books, articles, and reports published at that time, among others by Barry Commoner’s widely-read *The Closing Circle: Nature, Man, and Technology* (1971). Commoner, the founding father of modern environmental movement,

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was one of those who suggested an urgently needed restructuring of American capitalist economy and technologies, which are responsible for environmental degradation. Pessimistic as they were, all the alarmist voices of the early 1970s predicting an approaching apocalypse, situated it, nevertheless, more than one hundred years in the future. That still gave their contemporaries enough space for both finding new resources and inventing cutting-edge technologies that would solve the problem or, at least, change exponential growth in such a way as to achieve ecological and economic sustainability. The safe span of hundred-odd years between the early 1970s and an assumed catastrophe was most probably also the main reason why the report *The Limits to Growth* was immediately strongly criticised or even ridiculed by different parties.

However, the situation has changed dramatically in the last two decades when the scientific community agreed that the ecological crisis is man-made and humans have been largely acknowledged as important geological agents which have deeply influenced basic physical processes of earth. As Dipesh Chakrabarty points out in his “The Climate of History: Four Thesis”: “The anthropogenic explanations of climate change spell the collapse of the age-old humanist distinction between natural history and human history” (Chakrabarty 2009: 201). In the aftermath of this collapse not only has human history become part of the history of life on this planet. Also, Chakrabarty argues, our sense of the present has been saturated by the past and the future progressively disconnected from it. As a rule, he explains, we envisage the future with the help of the same faculty which allows us to picture the past. For both are inaccessible to us in a direct manner. Therefore, visualisation and understanding of them are premised on an assumed continuity of human experience and linear succession of the past, present, and future. However, the contemporary anxiety and profound concerns about the most probable outcome of the economic-ecological (eco-eco) crisis render this canonical exercise in historical understanding hardly possible. The impossible exercise could be even mistaken for an absolute lack of the future as, for example, the German Jewish philosopher Günther Anders argued as early as in the mid-1950s. While reflecting on humankind’s “Apokalypse-Blindheit” after Hiroshima and Nagasaki, he formulated a famous dictum that “die Zukunft ‘kommt’ nicht mehr” [there is no future] (Anders 1961: 283). Obviously, the absence of any future has begun already a few decades earlier, even though it was generally connected with the possibility of a nuclear war. However, the apparent absence of the future caused by today’s acute eco-eco-crisis could be also understood in another way.

Namely, as a message which invites us to imagine another, non-linear relationship between the past, present, and future, to find a novel and more appropriate chronotopic framework.

The necessity of finding a new chronotopic framework can be demonstrated with reference to the first-ever *UN Climate Change Annual Report 2017*, published in April 2018. Not only does the report make clear that we have as few as twelve years for introducing any remedial undertakings. Moreover, it gives alarming evidence that important tipping points, leading to irreversible changes in major ecosystems and the planetary climate system, may already have been reached or passed. In other words, our collective future that has aroused so much anxiety about the finitude of humankind recently turned out to be the past, merely a *fait accompli*. The global disaster we have to cope with does not lie any more in the future, but largely in the past; it is not ahead of us, but to a wide extent already behind us. Thus, we live in a post-apocalyptic scenario today, and have already been doing so for several years without even noticing it. For this apocalypse has happened mostly in a fractal, incremental way, slowly and almost imperceptibly; the world we know has decayed, so to say, behind our backs. Paradoxically, it took place in the times called the Anthropocene, premised on the idea of humans as Masters of the World. On the one hand, this premise has deeply influenced our sense of the now, because it deconstructed our historical understanding of the present. On the other hand, however, it has spawned a variety of new science fiction (SF) scenarios which experiment with looking back from a distant future at the already past singularity that brought around an ecological disaster. This singularity, not necessarily of technological or technopolitical nature, should also be understood in terms of a radical anthropological discontinuity, which has resulted in unfathomable changes to both human civilisation and human species in a period of a few years or decades from today. What needs to be stressed here, the authors of such SF scenarios, in whatever form, format, and medium, look for appropriate cognitive and artistic means to visualise a possible post-singularity future.

Life After People

Taking into account the current global ecological and economic crisis and a variety of responses it has elicited, not only in the academia, I would like to cursorily refer to an award-winning journalist Alan Weisman who in his best-selling book *The World Without Us* suggested the following

thought experiment: “Supposed that the worst has happened. Human extinction is a fait accompli. [...] Picture a world from which we all suddenly vanished” (Weisman 2008: 4). For example, such a future in a world “without us” is pictured in a movie entitled *After Earth*. This phrase, only slightly changed, can also be found in the title of the present article. The movie from 2013, directed by M. Night Shyamalan, shows a global environmental disaster in the near future that forced humans to evacuate Earth and to search for another liveable planet. They settled in a new world, called Nova Prime. Hence, in a sense *After Earth* responds to concerns which around that time were expressed by both Stephen Hawking and Elon Musk, who both became quite pessimistic about the future of humans on Earth. Certainly, it did not prevent Shyamalan’s film from coming under severe criticism and being considered a low point in his career. Nevertheless, the film is of interest here because it shows human descendants returning to Earth after one thousand years. By no means is it a nostalgic trip. In *After Earth* a spaceship, manned by a father and a son, is caught and heavily damaged in an asteroid storm on a regular voyage to another planet. As it happens, Earth is the only planet in its reach for emergency landing. The time span of one thousand years turned out to be enough for Earth to fully regenerate. During this time, it has become the Garden of Eden once again. Nevertheless, it remains deadly dangerous for humans, not only because they are not able to breathe the air but also, as the father explains shortly after their emergency landing, because local species have developed with an aim to kill people. My guess is, therefore, that what attracted Shyamalan to the script of *After Earth* was exactly the cognitive dissonance that he wanted to impose on his audience – the dissonance between all-too-familiar pictures of our lush, liveable planet and its hostility towards humans who still believe to be its absolute masters. What is more, one may even interpret *After Earth* as a clear-cut demonstration of humankind itself being a catastrophe: a devastating event in the planet’s biological and geophysical history which has been effectively overcome.

However, I am not so much interested in postsingularity scenarios played out on a spaceship or another planet in the solar system or elsewhere. Therefore, I have slightly changed the title of Shyamalan’s film while borrowing it for my article in order to stress that the postsingularity scenarios I would like to consider are still placed *on* Earth, even though they develop *after* the Earth we know so intimately. What should be explicitly underlined at this juncture, is that in these narratives not only the face of Earth has changed decisively. Also, like in Shyamalan’s film,

humans have undergone a decisive change: they morphed into quite another species. Hence, after the Earth there are no humans any longer; it is rather an age after the humans. Obviously, the degree of difference between humans and a new species could vary considerably. On the one hand, a new Earth could be peopled by steel robots or a kind of Artificial Intelligence. On the other, it could be inhabited by a different sort of people as, for instance, Bruno Latour would have it. In his *Facing Gaia*, Latour (2017) introduces a steadily growing gap between “Humans” and/or “Moderns” and a new kind of “Earthbound people,” who are destined to live on Earth, are bound to it, and remain under its spell. These “Earthlings” have already learned how to respect Gaia and to live on a damaged planet. Indeed, Latour’s “Earthlings” remain the same species biologically, but their way of thinking has adjusted to the situation of ecological crisis as have their ways of living. Consequently, they do not see the world around as they used to. They are new people.

Even though the Anthropocene is a new age in the history of Earth, a global disaster that could wipe out the whole humankind is nothing new. Human cultures have imagined the disarticulation of the spatio-temporal frameworks of history in a variety of documented ways. However, some new apocalyptic scenarios have appeared since the late 1990s, when the ongoing rapid changes in the planet’s thermodynamic regime became scientifically established and a new epoch in Earth’s history was introduced. What is worth stressing, some of these recent apocalyptic scenarios are only relatively new, because they focus on introducing into the Western episteme indigenous mythocosmological narratives about various ends of the world and rebirth of another kind of humans that have been gathered and retold by ethnographers and/or anthropologists. That SF writers tap into this pool of motifs to morph the well-known vision of the future of humans after a singularity of whatever kind, is due to the significant difference between how “the West and the rest” have imagined the world’s infancy. As Déborah Danowski and Eduardo Viveiros de Castro (2017) point out in their recent book *The Ends of the World*, in the Western canonical expression of the idea of Eden the world that existed until the sixth day of creation was a kind of a stage set for the arrival of the main actor, that is “Man.” As humans are the last to come, Danowski and de Castro argue, “Eden is a world-without-humans that is a world-for-humans” (23). The same premise lies at the core of the Western idea of wilderness as something that has managed to survive “untouched” from the dawn of time until now. This concept of wilderness is founded on the fundamental rift between the cosmological and

anthropological order, on the basic dichotomy between Nature and Culture or, even, between organic life and humankind, seen as an essentially “anti-natural” species. Humans are therefore a factor that quantitatively and qualitatively unbalances life. The positive conception of wilderness as “world without us” is, therefore, not only central to many contemporary environmental movements but also to various SF postsingularity scenarios that tend to present revitalised, flourishing Earth as “pure nature,” a stage set once again for the arrival of new people, as I want to demonstrate. However, as Danowski and de Castro emphasise, it is a future that “ceases to be made of the same matter as the past; it becomes radically *other*, non-ours, a time that demands our disappearance in order to appear” (26; emphasis in the original). Nevertheless, another variant is possible.

The Garden of Eden Revisited

In *The Ends of the World*, Danowski and de Castro demonstrate that in several Amerindian, Melanesian, and Papuan cosmogonies the human is clearly placed as empirically anterior to the world. For instance, the myth of the Yawanawa, a people of Pano-speakers from the Western Amazon, takes place in a time when “nothing yet was, but people already existed” (Danowski and de Castro 2017: 64). At first, therefore, nothing was non-human. This primordial humanity was either fabricated by a demiurge or simply presupposed as the only substance or matter out of which the world came to be formed. What is important, parts of these primordial humans, unstable anthropomorphs, gradually changed into biological species, geographical features, meteorological phenomena, and celestial bodies. That is, the universe developed primarily in this process of diversification, with mankind as a primal substance out of which the world arose. Nevertheless, these former humans retain human virtuality underneath their present animal, vegetal, astral, or any other appearances, constantly threatening to break through. Therefore, individual and collective death is here still a fundamental motive of any action and motor of life. Hence, in various Amerindian eschatologies the same motif reappears – the prophecy about the fall of the sky, ascribed to the aging of the cosmos. This and similar kinds of the universal collapse (deluge, fire) are, however, conceived of as periodical phenomena, as parts of a much larger cycle of destruction and re-creation of humans and the world. Therefore, as Danowski and de Castro argue,

What seems to be a constant in indigenous mythologies concerning the end of the world is a unthinkable of the world without people, without a human-kind of some sort, however different from ours— as a matter of fact, the humankinds of each cosmic era generally tend to be entirely alien to each other, like separate species. (75)

That is why, when SF writers do not want to imagine the end of the world but rather a new world with a new people to replace our contemporaries, they seek inspiration in indigenous mythologies, although more often than not they ascribe the alteration of humans to aliens who have conquered Earth or have hurried to assist humankind while Earth was about to perish.

Such is, for instance, the situation when the action starts in *The Xenogenesis Trilogy* (1987–1989), later retitled *Lilith's Brood* (2000) by Octavia E. Butler, an African American SF writer, recipient of multiple Hugo and Nebula awards. In *Dawn*, the first instalment of the trilogy, the last humans who have survived a nuclear apocalypse that destroyed Earth are forced to combine their DNA with aliens, called Oankali, in order to create a new and better hybrid race, without the self-destructive and aggressive flaws characteristic of our species. Not only do the aliens have sensory tentacles all over their bodies with which they perceive the world and which largely contribute to their sea-slug appearance, what is more, they are a nomadic species that travels through the universe seeking partner species with whom they “trade” their own genes. As one of Oankali explains, this genetic engineering “enables us to survive as an evolving species instead of specializing ourselves into extinction or stagnation” (Butler 2000: 40). Clearly, Butler puts their ability to morph, to alter on the genetic level through crossbreeding that leads to inception of a new species, on a par with the possibility of survival or, even, with life force as such. Despite all obvious differences, her aliens startlingly resemble indigenous primordial humans from Yawanawa mythology with regard to, at least, one feature. Namely, the Oankali have evolved specialised organs and subcellular structures which manipulate their own genes to maximise fitness in foreign environments, which also enables them to grow their self-sustaining star ships. Not only are these star ships themselves living organisms; they diversify into living plants and houses with living walls. In other words, Butler’s aliens and their star-ship worlds are unstable entities made out of the same genetic matter which has to crossbreed with other living matter in order to survive. Affinities with Amerindian anthropomorphs are, therefore, clearly visible despite the language of

modern biology, especially genetics, which Butler relies on. What is interesting, genetics is also the language with which to explain the origin of postapocalyptic Earth and its new inhabitants in those SF narratives that do not seek inspiration in indigenous mythology but rather retell the canonical Western idea of the Garden of Eden, showing a *hortus conclusus* revisited.

The Garden of Eden Recopied

Such films as Lars von Trier's *Melancholia* (2011) and Abel Ferrara's *4:44 Last Day on Earth* (2011), which imagine an instantaneous end of all terrestrial life, show a world where ultimately no one survives. There is no off-screen voice to comment not only the end of the world, but also the future of Earth. Contrary to that, in the SF novels I would like to take a closer look at, the end of the world is, essentially, the end of a specifically human world. Moreover, the authors create a link between the past and future humans, in this case by way of codification of consciousness into software, uploadable and available for posterior reincarnation in bodies that are purely robotic or genetically engineered in smallest detail. Nevertheless, the overcoming of the species' organic or earthly condition does not mean that humans become obsolete. On the contrary, after restoring Earth to its virginal state, robotic machines with human consciousness try to do their best to genetically engineer human species from before the singularity. Experimenting with this, they make various kinds of machine-human hybrids thanks to which this new world, its new habitants, and their new ways of life could be narrated in a realistic manner and language we understand. This is, for example, the case of a fully digital Polish novel *The Old Axolotl: Hardware Dreams* (2015) by Jacek Dukaj, written in hypertext with 3D printable models of main robotic characters as well as of J.S. Morin's six-volume novel series *Robot Geneticists* (2017–2018).

Both Dukaj and Morin represent Earth after a global apocalypse, closely connected with an alien invasion which interrupts technological development of human civilisation. In *The Old Axolotl* a neuronal wave of unknown origin, but undoubtedly coming from space, has destroyed all organic matter on Earth. Only a handful of people could digitalise and download their consciousness through a computer game called InSoul3, illegally upgraded with a neuronal software. In this way, they succeeded in escaping into cyberspace and, afterwards, into mechanical bodies made

from various materials in many shapes and sizes. By contrast, the eponymous robot geneticists in Morin's novel series have been created by a sole researcher who managed to upload himself before the attack of aliens. Fortunately, the scientist has at his disposal the uploaded minds of twenty seven other researchers who worked with him on artificial intelligence. This allows him to mix this material in different proportions in order to create various minds and abilities. Obviously, all human minds created in such a way have at their disposal only robotic bodies for the long three thousand years when they help Earth to return to its primordial organic variety. At the beginning of the first instalment, some illegal genetic procedures have already been under way to produce a human body. As could be expected, to recreate human species in flesh turns out to be a rather challenging undertaking. The more so that some human-machine hybrids dream about nothing else but to be downloaded into an organic body, to touch, to taste, to smell once again. Contrary to that, new humans want to be as multitasking as, and have all the advantages of, artificial intelligence and with this aim in mind upgrade their bodies with multiple cutting-edge technological implants and extensions. Both Dukaj and Morin narrate hundreds of years of adventures of machine-human hybrids on their way to repeat the sixth day of creation when Man entered the stage, which had been fully set for him. Both authors focus on hybrid individual fates and stories in order to allow the reader to have insight in subjective impressions and sensations of imprisoned minds, as well as their progressive negotiations with machine bodies assigned to them. Therefore, the initial basic dichotomy between machine and human is not only subverted and problematised but also fractured into many fluid hybrid identities with specific worldviews.

No wonder that in Dukaj's and Morin's novels alike the first aim of human-machine hybrids is to recreate organic life on Earth. Only after that aim is accomplished, the time comes to clone new people. What should be underlined in this context, is that in both cases human clones learn how to express emotions and to interact from old Hollywood movies. More often than not, from the perspective of human minds imprisoned in robotic bodies, they seem to be pitiable parodies of their predecessors. That, understandably, deepens the hybrids' nostalgia for and drive to be fully human again. Thus, they belie the widespread belief that our forefathers were happy in the Garden of Eden. Nevertheless, if you look closer, you will undoubtedly see that Dukaj's and Morin's future is still committed to modernity, its complex of symbolic and material projects of separating "nature" and "culture." In other words, their brave new world does

not seem to be entirely new in this respect. This is clearly visible in Dukaj's novel in the figure of the eponymous – and paradoxical – old age of axolotl which is a neotenic species of Mexican salamander, *Ambystoma mexicanum*. Axolotls are rather unusual among amphibians in that they reach “adulthood” without undergoing metamorphosis. In other words, they can reproduce in a larvae state. Only in artificial conditions in laboratory, after having received an injection of iodine, could an axolotl reach a mature form, entirely superfluous from the point of view of evolution and the specimen's life. The same, as a matter of fact, could be said about cloned new people in his novel who truly are only “hardware's dreams” mentioned in the subtitle. This is underlined by the fact that some of newly engineered humans decide to playfully enter the same InSoul3 computer game which once saved the minds of their creators. Likewise, Morin's series ends with a kind of return to its beginning when a very old Eve14, the first successfully engineered human being, is finally allowed to have her mind uploaded into a robotic body. In such a way Dukaj and Morin undermine the sense of both technological singularity which apparently has given birth to a new world and the aftermath which turns out to be a simple repetition of almost the same.

The Garden of Eden Deconstructed

Not all SF artists tend, however, to simply retell the well-known Eden scenarios as a second coming of human species. Not all of them try to skip our impossible world haunted by the threat of extinction, or marginalise it as a backstory, in order to look straight into a better future, a singular path of optimism and salvation, even if sometimes these visions are visibly darkened by a nostalgia for the old “reel” (pun intended) world. Some SF writers and filmmakers find the courage to narrate a life on the damaged planet, to show the destructive environmental effects of human civilisation in order to picture how to cope with them, at the same time making multispecies liveability possible again in our progressively ruined landscapes. I am going to focus on two examples only: the Japanese anime *Blame!* (2017) and Philip Reeve's novel tetralogy *Predator Cities* (2001–2006), named alternatively *Mortal Engines Quartet*.

Contrary to previous examples that started with showing Earth already healed and fully liveable in anticipation of new inhabitants, both artworks pay attention to the ruins left after a human-caused extinction and show how to protect and rebuild entanglements that the postsingularity humans

desperately need to survive. Particularly, the Japanese CGI anime *Blame!*, directed by Hiroyuki Seshita, focuses on industrially ruined ecologies which are haunted by past ways of life, on their human and nonhuman histories. The movie presents an urban civilisation of a far technological future which reached its ultimate Net-based form centuries before. Then, due to an enigmatic infection, the vital automatic systems broke out of control and a multi-levelled city megastructure started to replicate itself independently in all directions. Humans not only lost access to the city's control but also they are methodically hunted down as "illegal residents," to be purged by the city's defence system. As it turns out, even cyborg scientists from before the disaster remain helpless because the same virus that infected city systems made them lose the so-called Net Control Gene, responsible for interaction with digital machines. The anime shows a confrontation between robotic spider-like agents of the defence system and a small tribe of Electro-Fishers, city scavengers doomed to extinction because of dwindling food supplies as the humans are incapable of operating automated food factories. Although they are clearly pictured as a kind of indigenous people, Electro-Fishers live in a ruined landscape of the once high-tech industrial megacity. A key to humanity's survival may turn out to be a strange man, Killy, who for years has been climbing up from one city level to the next in an almost vain hope of finding humans that might have retained the Net Control Gene. *Blame!* ends with an image of the same tribe during one of their rituals but three generations later, still waiting for Killy the Wanderer to return.

Undoubtedly, the spookiness of the technological past in the strange urban village of the future is clearly visible in *Blame!*. However, this high-tech industrial ecology of a distant future is somehow lacking in imagination, especially in comparison with its source – a ten-volume manga by Tsutomu Nihei. In this respect, Reeve's novel series, a kind of steampunk dystopia is much more interesting. First of all, his predator cities are not a metaphoric expression. Indeed, it is a materialisation of an invented theory called Municipal Darwinism as technological ecosystem, based on the principle of the survival of the fittest and a specific food-chain. At a time thousands of years into the future, called Traction Era, Reeve pictures European city-states, starting with London, which have been built out of junk left by a more technologically advanced civilisation, that become ferocious predators quite literally. All the cities are mounted on wheels or caterpillar tracks and are mobile. Therefore, they may easily avoid earthquakes or volcano eruptions, when needed, while hunting down and devouring smaller cities which they dismantle with huge mechanical

jaws for resources. However, the most sought-after commodity are Old-Tech, technological artefacts mostly from the 21st century. But these artefacts, parts of computers or even broken DVDs, quite quickly turn out to be not the only ghosts of the industrial past which haunt this less-advanced future. A very powerful remnant of the Sixty-Minute War which reduced Earth to wasteland – an orbital satellite weapon, abbreviated ODIN – hangs in the sky, still operative, ready to go off and destroy every target on the surface of Earth in a flash. It may be used quite soon because the code for controlling it is shortly about to be found. This dangerous bit of old technology waits, therefore, to be put into use in the looming conflict between the cities and their anti-tractionist enemies, which divides their world in half. Therefore, Reeve demonstrates that hauntings are not only a kind of human subjective experience, a recollection through which the past makes itself present. Hauntings are not immaterial, and he makes it clear in the form of the entanglements of nuclear energy and nuclear weapons, which destroyed Hiroshima, and ODIN as their updated version used during the future Sixty-Minute War, as well as in the narrated aftermath of this technoscientific war in *Predator Cities*.

Demonstrating the material aspect of haunting, Reeve also indicates that futures described by SF writers are an intrinsic part of our present. He does it not only in *Predator Cities*, but also in his interviews. In one of them, when asked about the very idea of the cycle, he stated explicitly:

At that time there was a lot of concern about the expansion of towns and the building of new roads – this was the era of the Fairmile road protests – and you often heard people complaining about towns and cities ‘gobbling up’ the surrounding countryside (a process which is still going on, of course). I think that’s what made me start thinking about a city that really did gobble things up, and what it would be like to live there... (Reeve 2012)

Saying so, he once again demonstrates that an apparently new reality of SF narratives is in fact born out of the debris of our capitalist waste. In these haunted landscapes, we share space with the ghostly contours of future worlds that are possible because they are already here. But even though these worlds are here, we are not able to perceive or appreciate them. Therefore, we need SF writers to sensitise us through narrating new landscapes and scenarios that, in their turn, are haunted by our present, that is their past.

Conclusion

Although the core concept of the Anthropocene has been premised on the idea of linear, progressive time inherited from modernity, all the postsingularity scenarios I have analysed complicate the very idea of Progress and its typical chronotopic framework. They try to renegotiate the concept of time, demonstrating and providing experiences of an entanglement of various temporalities. This could not leave the idea of singularity and an apocalyptic catastrophe intact. Even though the end of the world is usually a starting point in these narratives, it does not mean a beginning of a wholly new world and mankind. Just the opposite – these novels show that we live already in an aftermath, caught in a loop of ceaseless repetitions of the same. If the apocalypse and singularity awaiting us is to be called off, we should seriously start to familiarise ourselves with a more down-to-earth concept of the present haunted by both pasts and futures.

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