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THE WARNING FUNCTION OF POST-APOCALYPTIC SCIENCE FICTION

Abstract

In 1974, the board of the Bulletin of the Atomic Scientists created the Doomsday clock, using the imagery of apocalypse (symbolised by midnight) and a nuclear explosion (countdown to zero) to demonstrate how close we are to destroying our civilization with dangerous technologies of our own making. The closer to midnight we are, the more danger we face. In 2019, according to the Doomsday Clock, it's two minutes to midnight. Now, in the Anthropocene, the Age of the Human, we have a significant impact on ecosystems and the Earth. From the perspective of the early twenty-first century, the future of civilization looks grim due to an ecological, geopolitical and economic crisis. The aim of this study is to describe and analyse the contribution of dystopian and post-apocalyptic literature to this debate. Can the post-apocalyptic novels be used as mediums to warn and educate society about climate changes, ecological dangers, risks of technology or social issues? How does post-apocalyptic fiction help people to realize their position and impact in the epoch of the Anthropocene? How does fiction reflect the threats to humanity from the nineteenth century to the present? These are the questions discussed in the present study.

Keywords: post-apocalyptic fiction, science fiction, dystopia, warning function, Anthropocene

Introduction

Science fiction has always been a source of inspiration for science and technologies. Authors of science fiction have inspired scientists all over the world. SF novels serve as an amazing tool to guide scientists, to encourage technological development and to predict the future in many ways. A science fiction novel by Neal Stephenson published in 1992, for instance, provided inspiration (or rather a guideline) for 3D globe simulations. The novel has had significant influence on current computing. Open-source virtual globe programs such as Google Earth and NASA World Wind bear a resemblance to the software depicted by Stephenson in his novel *Snow Crash*. One of the Google Earth co-founders admitted that Google Earth was designed according to *Snow Crash* and its "Earth" software with "god's eye" view idea (Bar-Ze'ev, 2006). Neal Stephenson's novel is one of many examples of the way science fiction determines positive change in scientific research. This study attempts to demonstrate how a sub-genre of science fiction – post-apocalyptic fiction – can also cause positive change and have an impact on the society.

Post-apocalyptic science fiction is a specific sub-genre which depicts Earth's civilization as collapsing or collapsed. The fictional post-apocalyptic worlds reflect possible dangers and threats related to contemporary politics, environmental changes, culture, technologies or society. Just as science fiction has the ability to predict the future and inspire scientists, post-apocalyptic fiction can potentially prevent a dystopian future by depicting the worst possible ways of the society's downfall. *The Encyclopedia of Science Fiction* points out the importance of literary dystopian projections (thus also post-apocalyptic images of the future):

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The significance of the firm establishment of a dystopian image of the future in literature should not be underestimated. Literary images of the future are among the most significant expressions of the beliefs and expectations we apply in real life to the organization of our attitudes and actions. (Clute, 2018)

Post-apocalyptic fiction is an increasingly important area in science fiction as well as a genre popular among readers. Besides, the genre plays an important part in highlighting the significance of human impact on the Earth's geology and ecosystems. Post-apocalyptic literature plays a key role in warning and educating society about climate changes, ecological dangers, risks of technology or social issues. It helps people to realize their position and impact in the epoch of the Anthropocene. This survey-based study attempts to show that post-apocalyptic fiction can potentially prevent the catastrophic future from happening and can represent a warning to the humankind.

From Utopia to Dystopia

The beginning of post-apocalyptic fiction has depended on the evolution of speculative literature from utopia to dystopia. Throughout this study, the term dystopia will be used to refer to a speculation describing "hypothetical societies that are considerably worse than our own, tending towards the worst imaginable, although that extreme is hardly ever attained," as defined in *Science Fact and Science Fiction: An Encyclopedia* (Stableford, 2006: 133). The term dystopia was coined by John Stuart Mill in 1868 as an antonym of utopia (ibidem).

The genre of utopia was established in 1516 by Thomas More who published *Utopia*. According to Edward James, the classic utopia "died when idealism perished, a victim to twentieth-century pessimism and cynicism" (James, 2003: 219). Writers of utopia were unable to imagine a better world in the twentieth century because of the real horrors of totalitarianism, total war and genocide (ibidem). Utopian fiction displays dramatically better forms of relationships among people. Its key themes include people's natural desires, needs and imaginative understanding of a better future (Suvin, 2010: 382). Regarding the critical world situation of these days, though, this is not enough.

The twentieth century provided no place for ideal utopian visions because of cruel historical circumstances and a valid argument that in reality, many utopias would turn out to be 'dystopias'. It always depends on focalization. In the 'perfect' system of utopia, preference is always given to tyranny, not to the will of the individual; elites are preferred over the majority. Critics of utopia also argue that "the author is producing a risibly impractical blueprint for a future society rather than (in most cases) a trenchant critique of contemporary institutions in fictional form" (James, 2003: 220). Utopia contains dystopian focalization and vice versa. Aspects of utopia can be found in dystopia too. Using the perspective of the controlling elite group in dystopian fiction, a utopian point of view is achieved. For example, Margaret Atwood's novel *The Handmaid's Tale* (1985) takes place in the Republic of Gilead (used to be the United States of America). It represents a religious fundamentalist misogynistic society, yet from the perspective of the male Commander, instead of the handmaid Offred, the story can be considered a utopia. However, the reader is stylistically discouraged from this metaphoric identification (Stockwell, 2000).

Darko Suvin, author of several major works on science fiction criticism and literary history, wrote about the turn of the century in his essay *A Tractate on Dystopia 2001*: "We live morally in an almost complete dystopia [...] and materially (economically) on the razor's edge of collapse, distributive and collective" (Suvin, 2010: 381). Dystopia is in fact an extrapolation of aspects of the present and thus serves as a warning about current trends that need to be averted (Stockwell, 2000).

Peter Stockwell assumes that dystopia's poetics uses metonymy rather than metaphor:

The cognitive metonymy inherent in dystopias is thus an essential aspect of their poetics, in that the connection between base-reality and the dystopian world has to be close, clear and unambiguous to be successful. A more ambivalent metaphoric strategy would allow too much reader-interpretation in which the central message might be lost. (Stockwell, 2000: 211)

Darko Suvin called the twentieth century a time of betrayals due to great expectations and, consequently, great disappointment. Suvin blames "the enemies outside and inside ourselves" because

they were “too many, too tough” (Suvin, 2010: 362). Edward James assumes the utopian vision no longer has the power to influence the society.

There is no contradiction there. ‘A better world’ is not the same as ‘an ideal world’. A better world could be achieved by ‘science-fictioners’ mostly through education about science, but also through the presentation of alternate possibilities. Most of those alternate possibilities are about technological rather than political revolution: the construction of constructions and political arrangements, the staple of classic utopia, have little appeal for most SF writers. (James, 2003: 222)

After the end of classic utopia, dystopian fiction becomes popular among readers. I assume readers prefer dystopian visions with extrapolation of aspects of the present rather than ideal worlds. Society has moved to the point when people do not want an ideal world, they want to have a world at all because there are so many threats out there.

The Golden Age of Post-Apocalyptic Fiction

In 1826, Mary Shelley published her post-apocalyptic novel *The Last Man*. The work is considered the first published post-apocalyptic novel in the history of science fiction. Shelley’s novel is significant because it was written in a time when people knew nothing about atomic bombs, nuclear power or other man-made methods of mass destruction. In *The Last Man*, a catastrophe is caused by a deadly plague. Plague is also a main motif in Edgar Allan Poe’s gothic short story *The Masque of the Red Death* from 1842, as well as in *The Scarlet Plague* by Jack London, published in 1912.

Authors of post-apocalyptic fiction of the twentieth and twenty-first century obviously do not consider the plague the main threat anymore. Fear of the pandemic is still very relevant though. The motif of the plague threat has not vanished, it has transformed into fear of the military or a laboratory-made virus, as depicted in *The Stand* by Stephen King, published in 1978.

Another one of the major early writers of science fiction, the visionary H. G. Wells, predicted many real inventions, such as satellite television, tanks or space travel. In several of his works (e.g. *A Dream of Armageddon*), he expresses concern about the destructive potential of scientific advancement (cf. D’Amassa, 2005: 410). In the novel *The World Set Free* from 1909, H. G. Wells predicts the creation of an atomic bomb (in the novel, it is discovered in 1956) and the use of nuclear power plants. Wells describes a destructive atomic war that will wipe out human civilization from the earth to leave the remaining humans free to build a new, more enlightened society. Nuclear holocaust as a cause of the collapse of civilization is a common scenario especially in SF literature from the 1950s – John Wyndham’s *The Chrysalids* (1955), Leigh Brackett’s *The Long Tomorrow* (1955), Pat Frank’s *Alas, Babylon* (1959), to name but a few.

Throughout time, science fiction authors have portrayed the fears and concerns for the society in their novels. Looking back at the history of post-apocalyptic literature, we are essentially going through the history of fears and concerns for humanity from the nineteenth century to the present. As described above, some of the classical pieces of post-apocalyptic literature from the nineteenth and the beginning of the twentieth century use the threat of the plague as a leitmotif. In literature, the topic was transformed into fear of a laboratory-modified artificial virus, yet the general fear of pandemic has kept its place. In the 1950s, post-apocalyptic literature depicting the society after a nuclear holocaust began to expand. This literary depiction is certainly related to the understandable omnipresent fear of nuclear weapons. In 1947, members of the Bulletin of the Atomic Scientists publicly presented The Doomsday Clock and maintained it ever since. The Doomsday clock was originally set to seven minutes to midnight and it became a tool to demonstrate people have little time left to get atomic weapons under control.

In November 1952, the United States tested their first thermonuclear device as a part of the Operation Ivy. The same year, the Soviet Union exploded a thermonuclear device. Consequently, the Clock approached midnight as close as ever since its inception. Later, the smallest-ever number of minutes to midnight matched in January 2018. The Bulletin of the Atomic Scientists made this decision because they wanted to show political issues such as the failure of world leaders to deal with the threat of nuclear weapons and climate change, information warfare threats and other dangers from

technologies, such as synthetic biology, artificial intelligence, and cyber warfare (Mecklin, 2019). In addition, the members of Bulletin have offered a way out of the current situation:

The failure of world leaders to address the largest threats to humanity's future is lamentable—but that failure can be reversed. It is two minutes to midnight, but the Doomsday Clock has ticked away from midnight in the past, and during the next year, the world can again move it further from apocalypse. The warning the Science and Security Board now sends is clear, the danger obvious and imminent. The opportunity to reduce danger is equally clear. The world has seen the threat posed by the misuse of information technology and witnessed the vulnerability of democracies to disinformation. But there is a flip side to the abuse of social media. Leaders react when citizens insist they do so, and citizens around the world can use the power of the Internet to improve the long-term prospects of their children and grandchildren. They can insist on facts, and discount nonsense. They can demand action to reduce the existential threat of nuclear war and unchecked climate change. They can seize the opportunity to make a safer and saner world. (Mecklin, 2019)

The solution of our current situation is to be aware of the threat, to think about it, to be unafraid to talk about it, to share it, to discuss it. We can see that threats like nuclear war or climate change are present in current post-apocalyptic fiction. The possible fictional worlds are the perfect tools to discuss a possible future in accessible social dialogue. Post-apocalyptic literature helps to examine concerns, fears, and anxieties of the society over the centuries. Post-apocalyptic fiction evolves, changes and expands, just as people's anxieties do. Fiction reflects the fears of nuclear weapons, pandemics, ecocatastrophes, technological over-reach, totalitarianism, religious extremism, etc. The catastrophes of post-apocalyptic fiction remain unchanged (even in the twenty-first century, authors of science fiction write about the threat of a pandemic or nuclear weapons as in the time of Mary Shelley or H. G. Wells), but they multiply. Therefore, we currently live in the Golden Age of post-apocalyptic literature.

Post-apocalyptic fiction came to life as a sub-genre of science fiction, but by now, it has established its own stratification. In current literature, many variations of the genre can be found. The current popular phenomena are post-apocalyptic young adult fiction (such as *The Hunger Games* trilogy by Suzanne Collins, published in 2008–2010) or post-apocalyptic romance (for example *The Host* by Stephanie Meyer). In cinematography, popular post-apocalyptic comedies include *This Is the End*, directed by Seth Rogen and Evan Goldberg or Edgar Wright's *Shaun of the Dead*. The genre is popular not only in literature but also in comics, video games, movies, series, and music. A journalist and writer Jason Heller explains the rising popularity of post-apocalyptic fiction among readers in his article *Does Post-Apocalyptic Literature Have a (Non-Dystopian) Future?:*

Post-apocalyptic books are thriving for a simple reason: The world feels more precariously perched on the lip of the abyss than ever, and facing those fears through fiction helps us deal with it. These stories are cathartic as well as cautionary. But they also reaffirm why we struggle to keep our world together in the first place. By imagining what it's like to lose everything, we can value what we have. (Heller, 2005)

The mentioned “lip of the abyss” society is standing on is actually called the Anthropocene, the Age of the human. According to geologists, time can be divided in accordance with the state of the Earth. Due to recent environmental changes, Earth has entered a new human-oriented epoch. The *Welcome to the Anthropocene* website describes what it means to live in this epoch:

Probably the best-known aspect of our newfound influence is what we're doing to the climate. Atmospheric carbon dioxide may be at its highest level in 15 million years. But this is just one part of the story; we're changing the planet in countless ways. Nutrients from fertilizer wash off fields and down rivers, creating stretches of the sea where nothing grows except vast algal blooms; deforestation means vast quantities of soil are being eroded and swept away. Rich grasslands are turning to desert; ancient ice formations are melting away; species everywhere are vanishing. (Doucet, 2002)

The human impact on the Earth's geology and ecosystems is significant and post-apocalyptic fiction provides one of the tools helping to spread awareness.

The Functions of Post-Apocalyptic Fiction

The aim of this study is to clarify several aspects of post-apocalyptic fiction, especially its impact on the change and awareness of the society. In the final part of this study, functions of post-apocalyptic fiction will be specified, with focus on the warning function which is crucial for this type of science fiction.

The main seven functions of post-apocalyptic fiction are:

- (a) The aesthetic function – post-apocalyptic fiction gives us aesthetic and artistic experience,
- (b) The informative function – this kind of fiction extends the knowledge of the current world and the reader's sense of cognition,
- (c) The formative function – post-apocalyptic fiction forms the reader's value system and stimulates their imagination,
- (d) The entertainment function – the reader expects to enjoy this kind of fiction,
- (e) The realistic evocative function – the use of realistic discourse and terminology to provide the reader with an impression of realism,
- (f) The educative function – post-apocalyptic fiction educates the reader in the field of culture, politics, ecology, etc. and gives him an idea of possible futures of the Earth,
- (g) The warning function – by extrapolating controversial and problematic aspects of reality, authors of post-apocalyptic fiction draw attention to them and warn of the danger which they can cause. The warning function can be seen as a collective task of individual works of post-apocalyptic literature. Since the cornerstone of post-apocalyptic works as well as of science fiction in general is an assumption, an author (just like a scientist) operates with a certain hypothesis at the beginning. Furthermore, the author's work is closer to a sociological experiment than a scientific process, its impact on the society is more immediate than the exact and scientific clarification of an unknown phenomenon. By confronting readers with an unpleasant and often unacceptable future, post-apocalyptic literature also strives to ensure that a future like this does not occur in the current world.

It is possible to elaborate on future scientific laws, describe unpleasant substances or imagine an unacceptable future to avoid these discoveries being made, substances being produced and the future predicted in fiction coming to life. In that sense, post-apocalyptic fiction anticipates a narrative to prevent something, not to incite it (Eco, 2002: 227).

In the first post-apocalyptic fiction, *The Last Man* (1826), which has already been mentioned, Mary Shelley chose a plague as the cause of the world's catastrophe. In many of its aspects, the novel is a transposition of reality rather than fantasy (Aldiss, 1985). In 1818, there had been a terrible epidemic in India. Three years later, the virus crossed the Arabian Sea. In Basra, thousands of people died in eighteen days. The disease was cholera, and at that time, it was untreatable. It swept across Europe and in 1831 arrived in England and infested London (Aldiss, 2005: 195-196). In her novel, as Aldiss points out, Mary Shelley provided a symbolic representation, a psychic screening, of what was happening in reality (2005: 196). Shelley has set an example to be followed by post-apocalyptic writers of the twentieth century.

Science fiction is the perfect tool to propose, refine, modify, and discuss possible future in accessible social conversation. The MIT Media Lab at Massachusetts Institute of Technology is a source of new technologies, also focused on investigating artificial intelligence. Graduate students and researchers are obligated to watch every episode of the dystopian science fiction show *Black Mirror*. "I just think that as designers of computer technologies that will get into the hands of 2.5 billion people, that anyone who was involved in designing new services and new interfaces should really think carefully about what impact the technologies they develop will have on society and on people's lives," said Pattie Maes, the founder and director of the lab (Christian, 2018). The Massachusetts Institute of Technology is a good example of how dystopian and post-apocalyptic fiction could be used to educate and warn society and influence young researchers.

Conclusion

The aim of this study was to shine a new light on the functions and importance of post-apocalyptic fiction. Post-apocalyptic fiction readers are urged to reflect on the ways they interact with

technologies and with the environment. Post-apocalyptic fiction is built on a foundation of reality. Authors use an extrapolation of aspects of the present, and their fictional worlds serve as warnings about current trends that need to be averted, such as misuse of technologies, ecocatastrophes, a nuclear war, depletion of non-renewable resources and many others. Post-apocalyptic fiction creates a deep simulative experience of dystopian change of the current world. Engaging in the simulative experiences of fiction can facilitate the understanding of the current state of the world and the society.

The post-apocalyptic fictional world provides an inevitable analogy to the extratextual reality, thus helping the reader identify with it. In post-apocalyptic fiction, current environmental and social problems are metaphorically projected into the future. Links to the current world determine the urgency of the message. Post-apocalyptic fiction promptly responds to historical events, new inventions as well as social or environmental changes in the current world. In fictional texts of post-apocalyptic literature, the reader often finds people, places, and historical events related to their extratextual counterparts. Inter-world identical locations (such as Ondřej Neff's Prague in the novel *Tma*, Gluchovskij's Moscow in the *Metro* series or John Wyndham's Wabush in *The Chrysalids* to name but a few), characters or events are matched to the current-world counterparts in their basic characteristics. The real and fictional elements are connected with a strong bond of inter-world identity which aims to remove the difference between the fictional and the real in readers' minds.

Post-apocalyptic fiction creates a link between a possible future and the current state of the Earth and humanity. It reminds the reader that their choices and interactions contribute to generating the future. The reader is offered a great opportunity to consider the visions of the future that they want to become reality, and of those they do not, and how their actions contribute to one or the other.

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