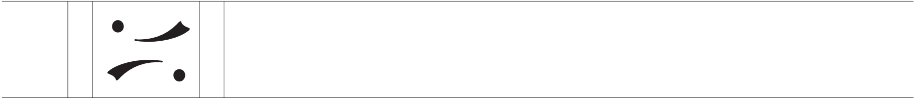

Collapse

Apocalypse: Postdigital Readings and Responses

Petar Jandrić

Introduction

The philosophical concept of apocalypse is deeply ingrained in religions such as Christianity, Zoroastrianism, and some pre-modern systems of belief such as Mayanism. Developed from the secularization of Christendom, Western sciences have, perhaps inadvertently and even unconsciously, adopted the concept. Apocalypse has also always been a prominent theme in the arts and popular culture. From ancient artwork such as Albrecht Dürer's (1498) 'The Four Horsemen' from 'The Apocalypse' and science fiction stories such as Asimov's 'Nightfall' (1941), through a whole genre of Hollywood disaster movies such as *Don't Look Up* (McKay 2021) and video games such as *Mad Max* (Rooke 2015), to comic book characters such as Marvel's Apocalypse, the idea of the apocalypse – in all imaginable forms and shapes – continues to haunt Western thinking[1].

At a grand historical scale, humanity's long-lasting obsession with the end of the world is supported by scientific evidence. We know that favourable conditions on Earth have a limited timespan. Our Sun will eventually get cold; regardless of human actions, the planet will become uninhabitable at some distant point in the future. So the only question, really, is whether our Anthropogenic actions will speed up our planet's immanent fate – and by how much. This is a heavy pill to swallow, and the one most people prefer not to think about. Yet placing the question in a planetary perspective is important because it shows that the apocalypse should not be taken as a crazy person's dream. Every minute of every day, we are closer to the inevitable end of civilization as we know it. While some science fiction writers such as Isaac Asimov and Californian techno-gurus such as Elon Musk believe that the

humankind can make a timely escape to other planets, that opportunity still resides predominantly in fiction.

It remains to be seen whether the humankind will have enough power to put up a good fight for a climate regeneration of the planet. Yet the apocalypse can arrive in many other forms. As the beat of war drums has quickly escalated from Ukraine to the whole world in February-March 2022, old apocalyptic tropes about the nuclear war are once again on the rise (see Jandrić 2022). Recently, the Covid-19 pandemic has shown us that we can face a biological apocalypse even before we manage to physically destroy the planet. Possible sources of apocalypse are many, and each type of apocalypse calls for its own preferred call of action. Nuclear apocalypse is best countered by leaving nuclear weapons in peace; pandemic apocalypse is best countered by a combination of isolation and vaccination. Yet what happens when the two intersect? And what happens when they are joined by others? In our postdigital condition, the eternal question – What is to be done about the apocalypse? – is more complex than ever.

This chapter approaches the apocalypse in three stages. In the first stage, I briefly describe some approaches to apocalypse selected according to the criterion of epistemic and stylistic diversity. In the second stage, I examine upon some differences between the approaches and link them to the philosophy of the genre. The third stage is a postdigital reading of approaches to apocalypse, which points towards some key areas for further research. The conclusion draws some implications of these conclusions for philosophical and educational responses to the crisis.

Some Approaches to Apocalypse

Jacques Derrida

Google Scholar's most cited writing for keywords 'apocalypse' and 'philosophy',[2] Jacques Derrida's 'Of an Apocalyptic Tone Recently Adopted in Philosophy' (1984: 66), suggests that '[t]hrough what is called neutrality of tone, philosophical discourse must also guarantee the neutrality or at least the imperturbable serenity that should accompany the relation to the true and the universal'. Using the work of Kant and others, Derrida meticulously exhibits that apocalyptic philosophy lacks such neutrality of tone, leading to a metaphysics and 'the castration of reason' (76). Towards the end, Derrida suggests:

> Our apocalypse now: that there is no longer any place for the apocalypse as the collection of evil and good . . . There is the apocalypse *without* apocalypse. . . .

> The end approaches. Now there is no more time to tell the truth on the apocalypse. But what are we doing, you will still insist, to what ends do we want to come when we come to tell you, here now, let's go, 'come,' the apocalypse, it's finished, that's all, I tell you this, that's what happens, that's what comes. (Derrida 1984: 94–95)

'Of an Apocalyptic Tone Recently Adopted in Philosophy' (Derrida 1984) is a difficult text. On the one hand, Derrida mocks the apocalyptic tone for its many (external and internal) contradictions; on the other hand, he argues that the apocalyptic tone is deeply ingrained in (human) nature and thus unavoidable. In Peters' reading, 'Derrida is suggesting that just as it is impossible to escape metaphysics per se, it is impossible to escape the ending of philosophy, the ends of philosophy, and what the endings recall – new programs, new conceptions, new styles, new beginnings' (in Peters et al. 2022). For Derrida, Peters, and many others, apocalypse is a never-ending continuum of ends and beginnings.

Michael Peters

In *Educational Philosophy and Post-apocalyptic Survival*, Michael Peters (2022) argues that today's 'world faces a *triple apocalypse*: . . . the disastrous prospect of a limited 'tactical' nuclear war; the Covid pandemic . . . [and] the global ecological crisis' (emphasis original). Peters then systematizes what he sees as main global catastrophic risks: astronomical, biological, technological, socio-political and economic, religious and eschatological, cultural and literary (a detailed breakdown of risks is available at Peters 2022: figure 1). Peters moves on to explore the main points of coalescence between the risks, leading to a conclusion:

> Educational philosophies of post-apocalyptic survival requires a new consciousness that understands the complex interplay of physical, biological, economic and political systems and the new interdependencies. These philosophies must employ all kinds of intellectual resources based on concepts and theories drawn from many different disciplines to analysis and understand intersecting systems – their overlap and collision – that will shape the horizon within which human will determine its post-apocalyptic survival or its catastrophic extinction. (Peters 2022)

In 'Cultural Apocalypse, Western colonial domination and 'the End of the World', Peters et al. (2022) extend this work by a closer elaboration of the concept of apocalypse in Western philosophy (Peters), Chinese philosophy (Wang), the Indigenous perspective (Mika), and the European style of post-apocalyptic thinking (Fuller). This work, based on Peters' earlier

writings including 'Apocalyptic thinking now: The ends of postmodernism' (2008) and *The Last Book of Postmodernism: Apocalyptic Thinking, Philosophy and Education in the Twenty-First Century* (Peters 2011), offers a transdisciplinary understanding of apocalyptic thinking and an opportunity to apply that understanding to specific contexts such as the Ukraine-Russia conflict (Fuller in Peters et al. 2022). The apocalypse, therefore, is not just an opportunity for a new beginning; critically, it is also a learning opportunity that may direct that beginning.

Catherine Keller

In *Facing Apocalypse: Climate, Democracy, and Other Last Chances*, Catherine Keller (2021) offers her 'dreamreading' of the Revelation of St John the Divine. Dreamreading is Keller's paraphrase of the term 'prophecy'.

> In public discourse, prophecy is normally misread as the prediction of future events. In the Biblical tradition, however, prophecy is a radical critique of systemic injustice. The Book of Revelation is focused on the Roman Empire, so the prophets are doing a visionary reading of their situation. To read these very densely coded texts straightforwardly, literally, is just fundamentalist distortion. So dreamreading is a way to get into questions: (a) How can we read these texts? (b) How were the authors of these texts reading prior texts? (c) How should we read our own situation in this mode? (Keller in Keller and Jandrić 2022: 23)

Based on her dreamreadings, Keller (2021) identifies the seven versions of Anthropocene apocalypse: Exhumanity, Brute Remainders, New Jeru for the Few, Cybertopia, Village Earth, Cosmocalypse, and The Age of Enlivenment.

Reflecting on these visions, and faithful to her chosen approach of process philosophy, Keller offers a cyclical understanding of life on Earth, pointing at the dual nature of apocalypse as the end of something old and the beginning of something new. 'Between and beyond any religion, calling all species, the immanent spirit does not cease to renew its earth and atmosphere. New creation not *ex nihilo* but *ex profundis* – in a chaos now minded for its eye-opening apocalypses' (Keller 2021: 205). And, speaking of the purpose of this work in a later interview, Keller says:

> I am using the term Apocalypse as a dramatic warning of civilization-wide malpractices that, *if* left to their own devices, will lead to unthinkable levels of human and non-human destruction. It is a term that helps unveil those patterns of destruction in order to do something serious about them. (Keller in Keller and Jandrić 2022: 23) (emphasis original)

Keller's cyclical understanding of life on Earth is derived from Christianity, yet it also appears in many other religions such as Islam [probably the best example of this is Ibn Khaldun's *Muqaddimah* (1337)].

Srećko Horvat

In *After the Apocalypse*, Srećko Horvat (2021) rejects the cyclical approach and offers a binary understanding of the future of humankind: we will either radically reinvent the world, or we will face mass extinction. These futures are explored in detail in his nine theses on apocalypse advocating, along the way, the need for a holistic understanding of the environmental struggle and its extension 'from the political and practical domains to the domains of ethics, spirituality, emotions, and imagination' (Uzelac n.d.). Horvat's work aims 'to dissolve the boundaries between fiction and reality, and to bridge the gap between what *is* and what *could be*' (emphases original), leading to a 'dialectics of hope imply that a horizon of possibilities is always entangled with reality itself' (Uzelac n.d.).

In an interview about *After the Apocalypse* (Horvat 2021), Horvat insists 'that this is the end time and there is nothing coming after; there's no kingdom coming'. Consequently, he seeks refuge in Terry Eagleton's concept of 'hope without optimism'.

> I think what we should do today in order to get outside of this trap [of short-term thinking] is precisely to come back and recreate some sort of long-term thinking; long-term thinking even in the sense of speculative fiction, or speculative critical theory, to go beyond the next ten years, or even hundred years, or even thousands of years. (Steinrueck and Laimo 2021)

In Horvat's work, the apocalypse is more than a learning opportunity; it is also a mobilizing force for political action.

Petar Jandrić and Sarah Hayes

Recently, Sarah Hayes and I published a social science fiction article, 'Postdigital Education in a Biotech Future' (2021). This article is one of many examples of recent research developments under the broad umbrella of future studies (Traxler et al. 2021; Suoranta et al. 2022; Macgilchrist et al. 2023; Ross 2023) and social science fiction in particular. The first part of our paper introduces some basic concepts.

> The second part of the paper presents a fictional speech at the graduation ceremony of a fictional military academy in a fictional East Asian country in 2050. This fictional world is marked by global warfare and militarization, and

> addressed graduates are the first generation of artificially evolved graduates in human history. The third part of the paper interprets the fictional narrative, contextualizes it into educational challenges of today, and argues for a dialogical, humanistic conception of new postdigital education in a biotech future. (Jandrić and Hayes 2021)

Hovering between philosophical approaches *à la* Derrida's (1984) and Peters' (2022), and literary approaches *à la* Asimov's (see next section), this mixed-genre article presents fictional ideas and a scholarly analysis of these ideas. Traxler et al. (2021: 513) note that these approaches are 'far from commensurable. Yet they are compatible, and complementary, in a sense that they all need each other's inputs on the road to a better understanding of our current condition, and the road to a better future.' Traxler et al.'s analysis is both a warning about the limits of social science fiction approaches and a confirmation of their value. Based on an understanding of the apocalypse as a learning opportunity, social science fiction approaches have recently gained a lot of prominence in education studies (Traxler et al. 2021; Suoranta et al. 2022; Macgilchrist et al. 2023; Ross 2023).

Isaac Asimov

Isaac Asimov's short science fiction story, 'Nightfall' (1941), describes the world constantly illuminated by six suns that falls into darkness. Due to their constant exposure to sunlight, the planet's population possess an intense fear of the dark. The disappearance of the six suns, and the appearance of more than 30,000 newly visible stars, causes global madness which destroys their civilization. This is a regular historical event, caused by coincidental overlaps in gravitational forces, that happens every two millennia; the planet's archaeologists have discovered at least nine previous civilizations that had disappeared in the past. Yet very little is known about these cycles, apart from the elusive beliefs spread by the doomsday cult. It turns out that there is more truth to the religious beliefs than the scientists would like to believe, yet neither the cult nor the science can save the civilization from its inevitable demise.

'Nightfall' (Asimov 1941) is a science-fiction classic. It has been included in at least 48 anthologies and expanded into a full-length novel. In 1968, the Science Fiction Writers of America recognized it as 'the best science fiction short story written prior to the 1965 establishment of the Nebula Awards' (Wikipedia 2023a). The story is tense, exciting and fast-paced. Its references to the Bible (the doomsday cult's holy book is called *The Book of Revelations*), depictions of eternal tensions between science and religion, and the psychology of affected masses (just to mention a few most prominent aspects), masterfully weave science and fiction into a highly persuasive story. While the

'Nightfall' (Asimov 1941) contains many insights that can be found in philosophy (such as a cyclical understanding of life), its strongest aspect is the highly persuasive evocation of the feeling of humankind's helplessness against large-scale planetary events and its own psychology.

Don't Look Up (Film)

Don't Look Up (McKay 2021) is a recent apocalypse film situated in today's United States. It portrays the scientist Dr Randall Mindy (Leonardo DiCaprio) who finds out that the gigantic comet will hit the Earth in 6.5 months and cause total destruction (see movie poster in figure 1). World's superpowers

Figure 1: Poster for *Don't Look Up* (IMDB 2023).

can destroy the comet if they act on time. Yet Dr Mindy fails to persuade politicians and the public into the reality of the threat, resulting in apocalypse. Published in 2021, *Don't Look Up* (McKay 2021) has often been interpreted as the critique of pandemic deniers and anti-vaxxers. The film 'portrays the rabid obsession of celebrity culture, and the primacy of aesthetics over substance. It cuts through our post-truth and fake-news condition with surgical precision ... [and] outlines deep relationships between postdigitalism and capitalism' (Jandrić 2022).

As I recently wrote in an invited article for American Philosophical Association's Philosophy of Film Blog Series, *Don't Look Up* (McKay 2021) 'is not a film about philosophy, but ... it is nevertheless a deeply philosophical film'. I also noted that '[f]ilm is the essence of public pedagogy, which ... can bring complex philosophical questions to the widest audiences. ... yet the artistic nature of film cannot be reduced to mere "dissemination" or "democratization" of knowledge'. Allowing us to experience possible future scenarios, and turning our attention to novel and unexplored questions, the film can raise critical consciousness (Freire 1972), and thus indirectly, yet very importantly, actively contribute to sense- and knowledge-making in the widest audiences.

Mad Max (Video Game)

The action-adventure video game, *Mad Max* (Rooke 2015), is situated in the Mad Max universe created by a series of highly successful *Mad Max* movies. In this post-apocalyptic environment, the player seeks fuel, steals weapons, fights against local gangs, races for a hefty prize and so on – all typical Mad Max things. Players can choose between various modes of gameplay, yet the design prioritizes aggressive play over stealth play. Most resources, such as food and weapons, are scarce; the only easily available resource is fuel. The main character, Max, is highly customizable (in clothing, appearance, weapons, skills), yet his ability to express emotions is quite limited.

While I cannot admit to playing the game for too long, the player immediately gets an understanding of its main rules: attack is better than hiding; stealing is better than direct confrontation; fighting skills are more important than emotion. Game design thus sets a working example of Asimov's (1941), and many other authors', idea that the apocalypse encourages ruthless and aggressive behaviours. In order to win the game, the player needs to internalize a certain *modus operandi* and the values behind it. It would require dedicated research to anticipate how much of this *modus operandi* and its associated values is transferrable to the world outside of Mad Max. According to existing research, however, some transfer of values from video games to

real life usually happens (Ortiz de Gortari and Gackenbach 2021). Looking beyond psychology, as Ian Bogost offers in his insightful analysis of 'The Rhetoric of Video Games' (2008), playing video games offers an opportunity for *experiencing* scenarios that are unlikely to happen in real life and developing our own positionality in these scenarios (see Hayes 2021). 'We need to play video games in order to understand the possibility spaces their rules create, and then to explore those possibility spaces and accept, challenge, or reject them in our daily lives' (Bogost 2008: 137).

Marvel's Apocalypse (Comic)

Apocalypse is a supervillain from many comic books published by Marvel Comics. Unlike other approaches presented so far in this chapter, he does not operate within the apocalypse; he is the personification of apocalypse, or the Apocalypse himself. Marvel's editor Bob Harras explains what attracted him to the character:

> [T]he name is dynamic. It tells you right off this character means trouble. And he came with a clear-cut agenda: 'survival of the fittest'. He didn't care if you were a mutant – if you were weak, you would be destroyed. He was merciless, but his philosophy was easy to grasp and it fit in with the harder edge of evolution which is part and parcel of the mutant story. Isn't that what humans fear about mutants? That they are the next step? (Harras 2009 in Wikipedia 2023b) (original source unavailable)

Apocalypse embodies very similar values as Mad Max (Rooke 2015). Yet unlike Max, who lives in an apocalyptic low-tech world focussed on cars, gasoline, weapons, and food, Apocalypse, as a comic book character, allows for a much higher degree of manipulation and imagination. The image of Max (figure 3) presents someone who is very different from us, but still somehow identifiable. Marvel's Apocalypse, however, is a mutant, and his body is a clear product of imagination and image manipulation. This unrealistic image does not allow easy identification with the character. However, while many works focus on physical causes of apocalypse such as planetary destruction, Marvel's Apocalypse importantly shows that apocalypse can also arrive from human biology.

The Four Horsemen from 'The Apocalypse' (Woodcut, Albrecht Dürer 1498)

The last approach to apocalypse in this overview is a woodcut made by the German painter Albrecht Dürer in 1498 (figure 2). The woodcut 'presents a dramatically distilled version of the passage from the Book of Revelation

Figure 2: Albrecht Dürer, The Four Horsemen from 'The Apocalypse' (1498) (The Metropolitan Museum of Art n.d.) (public domain).

(6:1–8) … Transforming what was a relatively staid and unthreatening image in earlier illustrated Bibles, Dürer injects motion and danger into this climactic moment through his subtle manipulation of the woodcut' (The Metropolitan Museum of Art n.d.).

At the end of fifteenth century, there was a widespread belief, based on readings of the Book of Revelation, that the world was going to end in 1500. This coincided with the threat of a Turkish invasion into Europe. In 1498, when Dürer carved the work, both threats were prominent in public imaginary, reflecting in small details such as turbans worn by some characters (see Hatfield 1995). The apparently classical Biblical motif, the *Book of Revelation*, was actually deeply linked to Dürer's present and his (contemporaries')

imagined futures; possible Turkish invasion is thus represented as the end of the (Western) world.

What's in Apocalypse Approaches?

The presented list of approaches to apocalypse is highly arbitrary. Selected from hundreds of millions available sources,[3] the list offers a mere glimpse into diversity of ways in which people have represented, understood and analysed apocalypse through the centuries. However incomplete, the selection is aimed at representing epistemically and stylistically different approaches. Derrida's (1984) work presents the classical philosophical approach; Peters (2022; Peters et al. 2022) presents new philosophical tendencies; Keller (2021) represents a religious (Christian) reading; Horvat (2022) focuses on politics; Jandrić and Hayes (2021) offer a sample of the many social science fiction approaches; Asimov (1941) presents a classical science fiction story; *Don't Look Up* (McKay 2021) is a recent example of an apocalyptic film; the video game *Mad Max* (Rooke 2015) presents an opportunity for players' active involvement in apocalypse; Marvel's character Apocalypse is a personification of apocalypse; and Dürer's (1498) woodcut closes the circle by linking a Biblical motif with its author's context.

Approaches determine the content of presentation and the way of presenting. The two are dialectically intertwined; this is why I included the visual material, where available, to my list of approaches to the apocalypse. Looking at Dürer's (1498) woodcut presents the artist's reaction to the mix of (then) current political events and religious beliefs, while playing *Mad Max* (Rooke 2015) opens up the question of player's own positionality within the apocalypse. Keller's (2021) dreamreadings of apocalypse and Peters' (2022; Peters et al. 2022) analyses of apocalypse insist on the value of learning from apocalyptic thinking, yet this learning, from methods to conclusions, is of a different order of magnitude. Arguably, these (and many other) approaches carry their own, unique value, in our understanding of apocalypse.

Different approaches to apocalypse are represented in a wide variety of genres from academic books and articles, through science fiction, to various forms of images (as diverse as woodcuts and comics) and moving pictures (film and video game). Genres are typically associated with respective disciplinary communities such as the academia and the world of film. Each disciplinary community has its own indicators of quality (academia – citations, film – awards such as Oscar, and so on). Working across genres often causes the loss of recognition. An academic will rarely get promoted based on

making a successful movie, and a filmmaker will get little if any recognition for publishing an academic article.

Disciplinary communities also have their own stratification of (sub-) genres. Within the academia, for instance, journal articles are typically valued more than chapters in edited books (see Peters et al. 2016). Peters links this stratification to the commodification of the academia and calls the academic journal article 'a dirty little industrial machine' (Peters in Peters and Jandrić 2018). This brings about isolation between the genres, which is a well-known detriment to knowledge development (Jandrić et al. 2023a, b). This is also why Peters insists that a lot can be done with a (democratic) manipulation of the form:

> Democratic subversion of form is not easy, but it is possible, and it is a critical pedagogy in itself. Form opens new possibilities. . . . We have to put that in the same basket with citizen science and open science more generally and confront that against the highly specialized lab science that includes a very few people. (Peters in Means et al. 2022: 1947–1048)

The theme of apocalypse, which has produced a staggering number of excellent works across the forms, genres, and centuries, is a prudent starting point for inquiry into (the epistemology of) the genre.

This chapter is not focused on the genre, so I must leave that inquiry for the future. In our postdigital age, however, it is also important to make note of relationships between presentation and technology used for presentation. In 'Ten theses on the shift from (static) text to (moving) image' Peters et al. (2018) write:

> The digital semiosphere is textual and non-textual, visual and non-visual, clear and unclear, familiar and uncanny; human-made and machine-made; natural and cultural. It is within its complex nature, that (digital) signs are created, transported, transformed, and interpreted. Furthermore, the marriage between digital semiosphere and post-humanism brings about different relationships between the individual and the collective. (Peters et al. 2018: 80)

Peters and his team have spent years researching relationships between text and (moving) image, starting a whole movement gathered around the Association for Visual Pedagogies and its *Video Journal of Education and Pedagogy*.[4] While it is impossible to condense their insights into a few short words, it suffices to say that the distinct value brought about by the text and the image is not just about presentation; it reaches directly into ontology and epistemology. For instance, Marvel's mutant character Apocalypse opens up numerous questions about who or what can at all be considered human – questions that generally 'belong' to philosophy (see Means et al. 2022).

One important difference emphasized both in Peters' analysis of the manipulation of the form (Means et al. 2022) and in Peters et al.'s (2018) work on contemporary relationships between text and image is the tension between individuality and collectivity. Knowledge-making has always been a collective act; even the most solitary authors always stand on shoulders of their predecessors. Yet our postdigital age builds collectivity deeply into our present. I don't know, at least not consciously, whether this chapter was informed by an odd Twitter or Facebook post I read during my coffee break. However, old concepts of authorship still haunt us through dated copyright laws, rules of promotion in the academia and so on (see Peters et al. 2016).

Furthermore, the world does not offer many Batman-like situations that will require the protagonist to stop a crazy villain from blowing up the world. Most real-life causes of apocalypse, such as environmental destruction, require collective response and collective action. However, too many works about the apocalypse have been developed in (disciplinary and other forms of) isolation that is unfit for our postdigital age and for the apocalyptic challenge. This is why the theme of apocalypse is also an excellent starting point for inquiry into questions such as disciplinarity, collective intelligence, collective responsibility and collective action.

A Postdigital Reading of Apocalypse

This brief elaboration of presented approaches and their implications provides necessary theoretical underpinning for this chapter's main purpose to examine (existing and possible) postdigital approaches to apocalypse. According to usual conventions, it is prudent to start this task from a basic description of the postdigital. According to Jandrić et al. (2018: 895), '[t]he postdigital is hard to define; messy; unpredictable; digital and analog; technological and non-technological; biological and informational'. The apocalypse is also always human and non-human, or beyond-human [as in Asimov's (1941) 'Nightfall']; it results from an entanglement between humans and the environment. In some cases, such as Marvel's character Apocalypse, destruction (which is also a continuation) comes from bioinformational within the (human) body. Even when destruction arrives from uncontrollable natural events, such as the advent of the meteor in *Don't Look Up* (2021), natural events are always entangled with human behaviour. The key questions in this entanglement, of course, are human individual and collective responses to the apocalypse.

Apocalypse has a specific temporality – a point of disaster, or radical change for the worse. However, that does not imply that the apocalypse is

the end; philosophers such as Derrida (1984) and Peters (2022; Peters et al. 2022), science fiction writers such as Asimov (1941), and videogame characters such as *Mad Max* (Rooke 2015) equally see the apocalypse as an end and as a new beginning. Again, these (and other) works all point to an important question of one's own position in apocalypse. Yet reading about or watching other people experiencing the apocalypse is very different from living and acting in the apocalypse; genres such as science fiction stories, films, and video games offer complementary, but very different, experience.

Back to theory, '[t]he postdigital is both a rupture in our existing theories and their continuation' (Jandrić et al. 2018: 895). Florian Cramer goes one step further and inserts post-directly into the apocalypse, saying that our world is 'to a lesser extent, post-apocalyptic (a world in which the apocalypse is not over, but has progressed from a discrete breaking point to an ongoing condition – in Heideggerian terms, from *Ereignis*to*Being* – and with a contemporary popular iconography pioneered by the *Mad Max* films in the 1980s)' (Cramer 2015: 14). Building on the view of the apocalypse as an end and as a new beginning, postdigital world is one of permanent apocalypse (or at least one with permanent apocalyptic tendencies). This places the question of individual and collective responsibility firmly in the present. So the question becomes: what can I do about the apocalypse today?

The rejection of dualities and dichotomies, which is a key tenant of postdigital theory and philosophy of the apocalypse, should not lull us into a fake feeling that all apocalyptic scenarios will offer opportunities for new beginnings. As Horvat (2021) insists, once a species is extinct, there is no turning back! So Horvat's insisting on a duality between a radical change and mass extinction does have a solid practical underpinning; humans can get extinct just like ancient dinosaurs or recently Pinta Giant Tortoises. In this respect, theories of the apocalypse bring a refinement of postdigital theory, as we need to accept that some dichotomies are real and unavoidable. Vice versa, postdigital theory can bring in some nuance to existing dichotomies, because, as in Asimov's (1941) 'Nightfall', even a total destruction of human race does not mean that it will not reappear (perhaps in a different shape and form). Postdigital theory of the apocalypse does not totally reject dichotomies, yet it does bring attention to them – 'the prefix post(-) signals that we have something to talk about' (Sinclair and Hayes 2019: 129).

Even in 'purest' philosophy, claims Derrida's (1984), the tone of the apocalypse is fundamentally different from, yet inextricably connected with, the traditional 'cold' and 'neutral' tone of philosophy. This curious relationship is recognized by postdigital theory, in the trialectic between we-think, we-learn, and we-act (Jandrić 2019) and wider (see Edwards 2022). Derrida's

(1984) argument has profound consequences for postdigital research (Jandrić et al. 2023a, b), particularly in relation to disciplinarity. Accepting that 'cold' and 'neutral' research cannot be divorced from 'warm' or 'biased' research directly calls for (often radical) transdisciplinarity (which is another key tenant of postdigital theory) (see Gibbs2022; MacKenzie2022; Green2022). While apocalypse research makes the need for transdisciplinarity obvious, it opens up important questions regarding the ways that such research should be conducted.

Some Implications for Philosophical and Educational Responses to the Crisis

It would be reasonably easy to add more approaches to apocalypse, expand further inquiry into genre, and develop deeper postdigital readings of the apocalypse. This chapter opens these and other important topics that I look forward to exploring (and reading about ways in which others have explored them). However, the presented argument pushes this chapter further towards three pressing questions that have appeared in its many strands and contexts. What is the role of postdigital theory in apocalypse research? How can apocalypse research inform postdigital theory? What is to be done about the apocalypse?

Postdigital theory and apocalypse research share a lot: a recognition of deep entanglement between humans, nature, and technology, a temporality which is in the present with a keen eye on past and future, a transdisciplinary understanding of human knowledge, a focus on relationships between the individual and the collective, an understanding of apocalypse as a learning opportunity, and many other features. An understanding of apocalypse as a learning opportunity, which is one of the rare features of all approaches to apocalypse, invites the question of relationships between apocalypse research and education studies.

This may be one of the reasons why future studies, and (social) science fiction studies, have undergone such a strong rise in popularity in education circles. While most of this research does not focus on apocalypse *per se*, the theoretical proximity between studies of apocalypse and future studies of education creates opportunities for informing each other. After all, all these approaches are aimed at imagining what may happen, developing people's positionality towards what may happen, and enabling action towards a better future. Social science fiction approaches (Traxler et al. 2021; Suoranta et al. 2022; Macgilchrist et al. 2023) strongly indicate that postdigital theory offers a fertile ground for apocalypse research, especially in terms of methodology.

Vice versa, this chapter shows that apocalypse research, such as Horvat's (2021) insisting on the reality of the apocalyptic threat, opens new opportunities for development and / or refinement of postdigital theory. Therefore, this productive relationship between apocalypse and postdigital research should be nurtured and developed in the future.

Speaking of theory, Shandell Houlden and George Veletsianos (2022) argue that education fictions, as a research method, are overly focused to pessimistic visions of the future. They thusly propose that educators should focus on 'impossible dreaming' about 'speculative education fiction and hopeful learning futures'. In authors' own words, educators

> need to practice this hopeful work as a refusal of the disimagination machine of the academy, as a refusal to reinforce settler apocalypticism (and its cousins white supremacy, ableism and cis-hetero-patriarchy) in these times of demise and transformation. They need to become a part of enabling the end of such systems. (Houlden and Veletsianos 2022)

We need to know the apocalypse in order to prevent it. But, as Houlden and Veletsianos (2022) insist, the necessary precondition of knowing cannot enable action on its own. Alongside apocalyptic projections, we also need hopeful projections; we need to somehow balance the two. Horvat's (2021) appropriation of Terry Eagleton's concept of 'hope without optimism' is an honest attempt at achieving that balance. We need other attempts, and we need attempts focused on education.

The last thing that needs to be done, and the one that has gained the least attention in this chapter, is to develop ways in which developed theory can turn to generative practice. Thankfully, this is the focus of the many works of educational social science fiction (Traxler et al. 2021; Suoranta et al. 2022; Macgilchrist et al. 2023; Ross 2023). Educational practice can gain a lot from a deeper engagement with the many approaches to the apocalypse, and I do hope that this chapter has offered some fresh inspiration for further development of that engagement through a productive postdigital dialogue.

Notes

1. Preparing this chapter, I found an Instagram account named post.digitalapocalypse. See https://www.instagram.com/post.digitalapocalypse/. Accessed 7 February 2023.
2. Search was conducted on 7 February 2023.
3. On 8 February 2023, simple Google search with a keyword 'apocalypse' returns about 221 million results.
4. See https://visualpedagogies.com/ and https://brill.com/view/journals/vjep/vjep-overview.xml. Accessed 8 February 2023.

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