

Dawn of Machinic Cyclicity: Life as We Don't Know

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ABSTRACT

This paper engages with the question of cyclical time, and more specifically, how the re-imagination of collectives introduces an essential agency in conceptualizing time by diving into the narrative of the video game *Horizon: Zero Dawn* (2017) to examine the ways in which entanglements of different forms of life (such as the coexistence of humans, nonhumans and technology) as planetary collectives challenge the fixed structure of time through the incorporation of agency as a decisive factor in shaping cyclical time. The first section explores the complexity of the human-nonhuman coexistence in relation to discourses of the Anthropocene, Capitalocene and Chthulucene. The second section engages more specifically with the ways in which these newly conceived entanglements challenge notions of time by allowing for productive ways to transform our understanding of endings and the potential of innovative cyclicity to arise.

Keywords

Time, cyclicity, collectives, human, nonhuman

INTRODUCTION

Cyclical time, understood through the Marxist critique of capitalist time, can appear predetermined in the most oppressive way, and for good reasons. After all, the individual has little to no power in shaping his/her relationship to the broader strokes of capitalist cyclical time, almost always going with the flow so to speak of these “higher forces.” This lack of control is why collectives play such a significant role in the utopian struggle for change, but how we conceive of these collectives is a whole new question of its own. The present paper dives into the narrative of the video game *Horizon: Zero Dawn* (2017) to examine the ways in which entanglements of different forms of life (such as the coexistence of humans, nonhumans and technology) as planetary collectives challenge the fixed structure of time through the incorporation of agency as a decisive factor in shaping cyclical time.

Horizon: Zero Dawn's foregrounding of time is so essential that one would be hard-pressed not to address the game's temporalities in one way or the other. While some scholars only briefly address time as such, as is the case with Lars de Wildt, Stef Aupers, Cindy Krassen and Iulia Coanda who explore representations of “techno-religion” in game narratives (2018, 169), others engage with this question more at length. Janine Tobeck and Donald Jellerson suggest that participatory aesthetic as formulated in William Gibson's *Pattern Recognition*, a work that rejects the trappings of cyberpunk he himself help establish in the first place, is structured by a “set of temporal concerns” (2018, 53). Primarily concerned with exploring Gibson's work in order to identify to foundations of its humanism and most importantly aesthetic of

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care, the authors also consider the ways in which *Horizon: Zero Dawn*, through its technologically-saturated narrative, “encodes” the value of care in a similar fashion, comparing the game’s temporal disposition toward past, present and future to Gibson’s *Pattern Recognition* (2018, 66). While an interesting point of departure, this emphasis on reification of Gibson in the game considerably limits the actual potential of engaging with a game like *Horizon: Zero Dawn*, as its engagement with questions of time go far beyond this particular scope.

To be clear, I approach *Horizon: Zero Dawn* as a text that in and of themselves participates in generating theory, as opposed to considering them simply as being influenced or representative of “proper” theoretical texts. That is not to say that the game is not influenced, or at the very least exist within broadly established intellectual discourses. Of the utmost importance is certainly a vast corpus of scholarly work that explore the relationships between humans, the environment and nonhumans – at the core of which is the progressively accepted and dominant discourse centered on the concept of the Anthropocene, which offers an appropriate point of departure to consider the context in which *Horizon: Zero Dawn* intervenes. The term Anthropocene seems to have been coined in the early 1980s by University of Michigan ecologist Eugene Stoermer in order to refer to the growing evidence of the transformative effects of human activities on Earth (Haraway 2016, 44). The term became more globally used when atmospheric chemist Paul Crutzen (2000 Nobel Prize winner) proposed that human activities “had been of such a kind and magnitude as to merit the use of a new geological term for a new epoch” (Haraway 2016, 44-45), replacing the Holocene which dated from the end of the last ice age. The Anthropocene recognizes that the now global human activity is the cause of most contemporary climate change, the impacts of which will most likely be observable “for millions of years into the future” (Lewis and Maslin 2015, 171), making human actions the Earth’s most important evolutionary pressure. Introduced to capture the “quantitative shift in the relationship between humans and the global environment” (Steffen et al. 2011, 842), the term Anthropocene has become widely accepted among researchers of global climate change. The Anthropocene thus emphasizes the impact of human activity, mankind as a “major geological force,” on the biosphere and geological time – it entwines human history and natural history (Moore 2016, 3). While containing within it a certain potential, many scholars are quick to point out the problems that come with this loaded term. Donna Haraway notices how it made its place in popular and scientific discourse in the context of urgent efforts to talk about, theorize, model, and manage “a Big Thing called Globalization,” most easily meaningful and usable by intellectuals in wealthy classes and regions to address climate-change (2016, 45). Jason Moore is quick to criticise the “Two Cultures” of the natural and human and the dualism therein.¹ The conceptual alternatives to the Anthropocene will be explored more in-depth in the following pages, but for now, what is important to remember is that the entanglement of human and nonhuman forms of life is fundamental to understanding the complex web of relationships that operate at a planetary level, and as will become increasingly important to our present analysis, to reconsider our engagement with time, and cyclical time in particular.

The context of the Anthropocene and the multispecies entanglement at its core provide fruitful grounds for *Horizon: Zero Dawn* (from now on simply referred to as HZD), both in terms of it being a video game product and in terms of the actual content of the narrative it brings to the table. Developed by Guerilla Games, HZD is the first new intellectual property of the studio since the first-person shooter *Killzone* (which spawned 4 mainline games from 2004 to 2011), and also marks its first foray into the role-playing action adventure genre. Director Mathijs de Jonge described the pitch for HZD as “by far the most risky one [among 40 or so pitches presented by the studio’s staff when deciding what new project Guerilla Games would work on next]

because it was so different and so ambitious” (O’Dwyer 2017). By releasing in 2017, in a time when discussion of climate change abound from all directions, the focus on apocalyptic events is not in itself surprising, but the approach of HZD to unfolding the complex layers of relationships between various forms of life sets it apart, especially because this intervention fundamentally engages with conceptualizations of cyclical time. The story is set in the 31st century, on what is seemingly Earth which is now equally populated by tribal human communities, lush flora, plentiful fauna, and dinosaur-like machines. From this limited information, we can assume that some unknown cataclysmic incident has transformed Earth’s landscape and the life inhabiting it. The player takes control of main protagonist Aloy, an outcast member of the Nora tribe which lives in snowy mountainous areas. While the aforementioned life forms coexist peacefully for the most part, a phenomenon known as “derangement” is causing an increasingly large number of machines to actively attack human settlements. When the Nora are attacked by a group of “cultist” who could be linked to the “derangement” of the machines, Aloy begins her quest to uncover the mysteries of the world. Through its conceptualization of new entanglements of humans, nonhumans, nature and technology, HZD not only rethinks the ways in which this web of relationships needs to be considered at a planetary scale and in the longue durée, but in doing so, the game more importantly reconfigures the meaning of thinking about “the end” through creative cyclicity. The first section of this paper therefore focuses on the former, by exploring the complexity of the human-nonhuman coexistence as portrayed in HZD in relation to discourses of Anthropocene, Capitalocene and Chthulucene. The second section thus engages more specifically with the ways in which these newly conceived entanglements challenge notions of time by allowing for productive ways to transform our understanding of endings and the potential of innovative cyclicity to arise.

AMIDST THE CHTHULUCENE: HUMANS-NONHUMANS COEXISTENCE

Whether fully acknowledged and taken into consideration or purposefully undermined and put by the wayside, the coexistence of various forms of life characterizes Earth’s complex web of relationships amongst all life. HZD depicts a world inhabited by some familiar forms of life such as humans, as well as plentiful flora and varied animal wildlife, but also more “alien” ones in the form of dinosaur-looking mechanical organisms who similarly populate the land. While humans attempt to reinforce the spatial boundary between themselves and the wilderness, there are not only direct and constant interactions between these various living organisms, but there also appears to be a mostly stable balance in place. Humans are grouped within specific settlements resembling tribal communities of premodern origin – such is the case of the first group introduced to the player, the Nora, to which the main protagonist Aloy is related albeit being branded an outcast a birth. These settlements, characterized by their own cultural specificities and internal politics, engage in hunting and gathering practices as the inhabitants venture into the wildlife surroundings to obtain their means of subsistence with very limited agriculture, cattle raising, etc. This initial tribe is not the only example of human community however as the game eventually introduces a much larger-scale city – based in contrast on a monarchy-like system of power with much more “developed” economy and living conditions – that clashes with the primitive aspects of the smaller settlements.

The world of HZD immediately stands out for its mix of premodern (sometimes even prehistoric) and futuristic aspects. The varied landscapes, composed of lush forests, harsh deserts, tall mountains, wide plains, and so on, define the environment in which the aforementioned life forms exist. From a game design perspective, these varied

landscape offer many possibilities, allowing the developers to create an open-world game comprising all sorts of variations in visual design and gameplay opportunities for the player - – for example, desert sandstorms are hostile toward the player and reduce visibility, plains make it difficult to hide from enemies by their open nature, mountains are ripe for ambushes, etc. Furthermore, the variations in ecosystem allows the developers to include all sorts of wildlife while maintaining coherence and realism, while providing the player the opportunity to actually engage in hunting activities to acquire components to craft various gear enhancing the abilities of their character. Much of open-world game design is about discovery, and uncovering all sorts of new areas with different possibilities is highly important. Unlike survival games that emphasize the difficulty of staying alive in itself through a number of menial tasks – often consisting of managing hunger level, building appropriate shelter, etc. – HZD, categorizing itself as an adventure action game, emphasizes instead the exploration of the surroundings and the ways in which the player traverses these different environments and approaches encounters with wildlife and humans alike. From a narrative standpoint, this diversity helps create a believable and unpredictable world with all sorts of people, traditions, and cultures, while also taking into consideration and depicting the implications of the ways in which the environment shape the people and their communities.

As previously hinted at, the world of HZD is populated with what could be considered fairly expected wildlife on one hand, but also unexpected nonhuman nonorganic life forms on the other. In this regard, the most outstanding element of the game is definitely the varied dinosaur-like robotic life forms – varied in anatomy, size, behavior, etc. – that roam the world. They are primarily based on a variety of dinosaurs and their behavioral patterns reflect this influence, yet they seem to coexist with organic fauna and each other “peacefully.” While not revealed to the player until a series of events deep into the game’s narrative unfold, they seem to occupy their own place in the world, that is, they have a purpose of their own. In terms of game design, these machines are implement as hostiles to confront the player and offer a challenge for traversing the world, while providing the opportunity to engage in interesting combat scenario and contribute to world-building and narrative. Discovering the origin of these machinic creatures is part of the player’s quest, raising some questions of interest. From the player’s perspective: why are there mechanical dinosaurs roaming this world? This questioning is originally only that of the player, because from the character’s perspective, these machines have always been part of life and the landscape – the inhabitants of this world only need to learn how to survive despite these dangerous robotic creatures. Yet the questions about the origin and purpose of these machines implanted in the player’s head also eventually weave themselves within the narrative itself and therefore the characters, and more specifically main protagonist Aloy.

The coexistence of mechanical creatures with organic wildlife on one hand and humans on the other, suggests a long history and complex system of relationships in HZD. As for the “natural” world, the presence of these obviously technologically advanced creatures does not seem to be a disturbance as they cohabit with fauna and flora harmoniously - more on this specific relationship will be revealed as the plot unfolds, and will be addressed in further details in the second section of this paper. In terms of the relationship between humans and technology, the player is first introduced to Aloy and her tribe. What immediately stands out of course, is the mixture of premodern ways of life in tribal communities and advanced technology reflected in the weaponry on display. For example, the primary weapon in the game is a bow, yet it is far from the traditional wooden bow of premodern warfare. It is rather a highly enhanced mechanical bow specifically designed in order to fight against massive mechanical dinosaurs, and thus combine premodern and futuristic

components and design. Notwithstanding the significant presence of technology, the humans of the Nora tribe are mostly fearful of technology in general and avoid digging too deep into its origins and what they call the “Old World.” This overall scepticism toward technology is emphasized by an unwillingness to explore the ruins across the land that harbor the remnants of this seemingly ancient technology. Furthermore, Aloy’s curiosity is being severely discouraged, yet she still manages to put her hands on a highly technologically advanced device called “Focus” that enhances her perception and allows her to obtain a wide variety of valuable information and visual cues about her surroundings. This is actually a fascinating design choice. The player is introduced to Aloy as a child and without any UI (user interface), which is rather uncommon for games in general as the UI is the primary way the player can see important information about their own character and the world – it is worth noting that there is indeed a growing trend that offers the option to minimize UI displays in many games so as to reinforce immersion. As soon as Aloy starts using the Focus, new information appears on the screen, such as the characters’ health, a compass and map, as well as various markers and weapon information. The device found by Aloy thus acts in two fundamental ways: on one hand it serves the narrative as this device will prove central to the development of the plot itself, and the device justifies the existence of the UI for the player which now sees the world just the way Aloy would on the other. It is immediately clear that Aloy is somewhat rebellious in a way, as she possesses a deep curiosity for technology not shared by other members of her tribe. Following events that make her the chosen one to find out what happened to the world, she leaves her tribe to explore the rest of the world and find some answers. It then becomes evident that other tribes have different kinds of relationships with technology, some embracing technology much more openly. Humans live in different settlements and are part of different tribes, and as such engage with their environment in a number of different ways, reinforcing the idea that humans are very much plural and in doing so, hinting at the diversity also characterizing the world around them. Through its emphasis on human-nonhuman entanglements, HZD comfortably situates itself within the aforementioned discourse of the Anthropocene, but the fundamental role of technology as an actor in its own right, rather than simply something used by humans – not to mention the specific narrative threads that will be explored in the second section of this paper – hints at a system of relations going beyond the dualism human-nature of the Anthropocene in favor of a more complex one.

Many scholars have already engaged in significant criticism of the Anthropocene discourse, highlighting its inherent problems and suggesting alternatives of their own. As Jason Moore puts it: “the Anthropocene is a comforting story with uncomfortable facts” (2017, 595). It is a story of human doing terrible things to nature – as if the two were originally separate and then connected – emphasizing the Industrial Revolution and conventional narratives of modernity. What Moore suggests is a reconfiguration of the discourse on periodization that recognizes the patterns of power capital and nature established long before the Industrial Revolution (2017, 596). Going against the reluctance within the discourse of the Anthropocene to consider human organizations, such as capitalism, as also being an integral part of “nature,” he suggests that we consider historical capitalism as a world-ecology of power (capital and nature). By shifting the focus to capital in what becomes the Capitalocene, Moore challenges the Human/Nature dualism that too often “prevents us from seeing the accumulation of capital as a powerful web of interspecies dependencies” (2017, 598), which are both shaped by capital and shaping it simultaneously. Moore insists that the Capitalocene is an argument about thinking ecological crisis, “a conversation about geo-history rather than geological history” (2018, 239). For all the legwork accomplished by recognizing the highly significant role of capitalism in this history, the Capitalocene is not without its critiques.

A primary figure in discussions of the entanglements of life, Donna Haraway responds to the Anthropocene and the Capitalocene alike. In her critique of the Anthropocene, “an almost laughable rerun of the great phallic humanizing and modernizing Adventure” (2016, 47), she criticises the focus on Species Man to the detriment of the Earth and its multiplicity of life, its tendency for top-heavy bureaucracy, and over-reliance on “Modern Synthesis” theories among other things (2016, 49). The answer, however, is not the Capitalocene according to Haraway, which is all too often restricted by its trappings of Modernity, Progress, and History and would require to be “relationally unmade” (2016, 50). This tendency is indeed present in Moore’s analysis as he emphasize the need to identify the origins of the Capitalocene even when attempting to disrupt traditional discourses of modernity. In response to the Anthropocene and the Capitalocene, Donna Haraway coins a new term to formulate a “timeplace for learning to stay with the trouble of living and dying in response-ability on a damaged earth” (2016, 2) – the Chthulucene. By focusing on the necessity of rethinking ongoing-ness and learning to be “truly present” through all sorts of temporalities and materialities, she establishes a method the counters what she describes as a “comic faith in technofixes” – that is, the belief that technology can somehow come to the rescue to solve the problems of our world – in favor of “making oddkin” through unexpected collaborations and combinations, or “copresence” (2016, 3-4). While radical scholars have certainly abandon this oversimplification of the role of technology, it remains surprisingly omnipresent in more popular discourse of science. The Chthulucene is thus a much needed third story emphasizing the fundamentally of thinking in terms of “ongoing multispecies stories and practices of becoming-with” (2016, 55), appropriately situating humans as beings “with and from” the earth which occupies the centre of the system of relationships. In the words of Donna Haraway: “The unfinished Chthulucene must collect up the trash of the Anthropocene, the exterminism of the Capitalocene, and chipping and shredding and layering like a mad gardener, make a much hotter compost pile for still possible pasts, presents, and futures” (2016, 57).

Of utmost importance in these approaches re-conceptualizing the entanglements of forms of life is a marked engagement with time – Moore emphasizes the need to rethink the periodization of capitalism, while Haraway goes even further by suggesting the multiplicity of temporalities. By situating itself, both in terms of form and content, within this context of intertwined life forms, HZD contributes in its own way to thinking cyclical time. Before moving on to the core of the matter at hand however, I do want to briefly address the ways in which these entanglements of human, nature, and technology operate outside of the game’s narrative per se, and into the creative and productive process of game design. More specifically, the process of recreating environmental landscapes is particularly interesting as it involves a vast number of interrelated steps. At a primary level, digitally rendered natural landscapes do not come out of thin air, and must be meticulously created by programmers after being broadly conceived by designers. This often involves on-site research where game designers travel to various locations to observe landscapes and acquire an understanding of different environments and the types of flora and fauna inhabiting those spaces. Because realism is highly praised in the gaming industry, this kind of attention to details is fundamental when recreating varied landscapes in large open-world games the like of HZD. This perceived nature then needs to be channelled through technology, that is, the advanced creative programming tools used by developers to create these environments within the game. Once again, this is definitely not as simple as it sounds. For one, technology comes with its own limitations – what kind of graphical fidelity can the hardware handle? Additionally, the developers need to consider the gameplay practicality of the environments in which the player will control the character. For example, too many trees makes it

difficult to move around and limits the vision, which can negatively impact the playability. Specific game mechanics can also require certain type of terrain or flora – in HZD, the player can use stealth to approach enemies, which dictates the presence of bushes to hide, and so on. As such, not only is nature filtered through technology, but the two are considered in tandem through the lens of game design. This of course also necessitates an almost unbelievable amount of work, and the labour power that goes into the creation of games' worlds, such as HZD's, should be considered as part of this entanglement of life. While this particular system of relationships is not at the center of the present analysis, and would require its own complete research project, the ways in which human-nonhuman-technology are intricately intertwined at the level of design and production should not be put by the wayside. The focus of our investigation into HZD and its potential for thinking cyclical time is, however, primarily based on the game's narrative and gameplay – not that there aren't interesting ways to think about cyclical time through the production cycle of making games and so on. The key to HZD's ability to engage with time in new and interesting ways is through the incorporation of the aforementioned human-nonhuman entanglements. Without the re-imagining of the relation between the different forms of life existing on earth, there would be no possibility for challenging notions of linear time in such provocative ways. In order to explore this potential, the following section dives deep into the most significant narrative threads of HZD to expose how the game fundamentally alters our understanding of time by suggesting the possibility of transforming fixed endings into new beginnings as part of cyclical time.

MACHINIC CYCLE OF LIFE: PLANTING THE SEEDS OF RENEWAL

While the game is clearly set in the future, many characteristics of its human civilization suggest premodern elements, and the presence of dinosaur-like machines reinforce a prehistoric sense of time even. The developers at Guerrilla Games describe the setting as post-post-apocalyptic, which suggests an apocalypse, followed by a post-apocalypse, and finally another period in which the events of the game take place. One can immediately imagine that the world as we know it somehow crumbled due to some catastrophic incident, followed by a period of stagnation during which the consequences of the cataclysm dominated the landscape, and finally a renewal of sorts – considering the lush and lively world in which the player is dropped at the beginning of the game, there are obvious signs of renewed life. Typically, post-apocalyptic games (such as the *Fallout*, *Metro*, and *Wasteland* series just to name a few) usually portray massive deserted and devastated areas fundamentally harsh to the player and threatening their survival, but HZD's post-post-apocalyptic backdrop highlights an approach to time that suggest a cyclicity in the *longue durée*. While *longue durée* was originally introduced as a concept in opposition of sorts to cyclical history², they actually go hand in hand in the case of HZD. There is first the history of humankind as we know it through evolution and then a catastrophic crisis of some kind, and then a renewal in which humans undergo growth once again. Through this narrative thread, HZD theorizes a form of cyclicity that is directly correlated to the *longue durée* - not the *longue durée* with a single course from beginning to end, but rather *longue durée* that follows cycles of life. In this sense, the concept of Crisis-Depression-Prosperity is once again relevant to understanding the engagement of HZD with time, but instead of the more familiar cyclicity of capitalism which can be observed in decades, HZD theorizes a cyclicity of time that operates on a much longer register and a much bigger scale – this cyclicity is directly related to the all-encompassing nature of the system of relationship (Human-Nonhuman) at the core of the game posited in the first section of this paper.

Uncovering the mystery of the world is of course the quest of the player, and as the narrative unfolds, the player learns that the tech giant Faro of the “Old World” lost control of the automated military robots (known as “peacekeepers”) they created. The robots, which could self-replicate and operate *ad vitam aeternam* by consuming biomass as fuel, overran the planet and consumed the biosphere, stripping Earth of all life. One of the lead scientist at Faro, Dr. Elisabet Sobeck spearheads a top secret project known as Zero Dawn, which consists of a plan to create an automated terraforming system to eventually shut the robots down and restore life to Earth – we also learn that Aloy is a clone based on the DNA of Sobeck. Zero Dawn was designed as a vast underground system of databases, factories, and cloning facilities under the control of a highly advanced artificial intelligence personally “trained” by Dr. Sobeck known as GAIA. The plan was to have GAIA wait until all life to become extinct before putting into practice a countermeasure to deactivate all of the rogue robots, and then proceed to build a new line of mechanical beings to work toward the restoration of the Earth's biosphere. Once the planet becomes habitable again, GAIA was programmed to “reseed” life on Earth based on the vast database of stored DNA and act as a “teacher” of sorts to the first human clones in order to avoid having this new breed of human repeat the same mistakes their predecessors made in the past. Unsurprisingly, things do not go as planned. It is revealed that an employee of Faro sabotaged the specific system (APOLLO) designed to teach these new humans, causing the newly born humans to follow a much slower path toward “civilization,” which explains the tribal communities based on subsistence introduced at the beginning of the game. Furthermore, a subsystem (HADES) designed to enact a “controlled extinction” in the event that Zero Dawn turned out to be a failure not favorable for human existence was activated through a signal of unknown origin. HADES thus started to seize control of GAIA's functions, forcing the latter to engage its self-destruction function as a last resort. As a result of the absence of GAIA to monitor the aforementioned terraforming process, the entire system began to break down. GAIA did enact a contingency plan however, which shapes the player's main quest, by specifically creating a clone of Dr. Sobeck in the form of Aloy with the hope that she would eventually find GAIA's message (only responsive to a DNA check matching that of Sobeck), destroy HADES, and restore GAIA's functions.³

Putting aside the unforeseen events and twists and turns at the core of the game's narrative, what HZD achieves is an elaboration of cyclicity on a whole other level. On one hand, the cycle depicted through the use of Project Zero Dawn is one that goes well beyond the kind of cycles we are used to, which operates within the established social order and structures of power of the capitalist nation-state – it is a cycle of birth-death-rebirth of humanity as a whole. On the other hand, the cycle is not one simply imposed in which humans are deprived of agency, rather humans foresee the inevitability of the devastating crisis ahead and turn what could be an “end” into a cycle anew. In doing so, they recognize the necessity of thinking beyond the human and consider the vast system of relations that exist across all forms of life in order to cyclically renew all life on Earth. What was originally never considered to be a cycle, human life on Earth – how many times have scientists considered the linear evolution of humankind and attempted to predict how long can life of Earth be maintained? – is reinterpreted through the lens of cyclical time. Although unforeseen events prevent the planned development to follow the expected protocol, a vast database of knowledge (from all fields and disciplines, science to arts, etc.) – it would actually be quite interesting to explore the specifics of the selection process, but the fairly limited information at the disposal of the player prevents a thorough analysis – in order to pass on to the “next generation.” Traditionally, life on Earth has been thought in terms of progressive linear history with a beginning and an ever approaching definite end, the planet's resources being limited and all life bound to become extinct at a certain point. HZD takes the “cycle of life” as we know it and

incorporate it to a structure of history based on the *longue durée* that challenges notions of “the end” in favor of cyclical time, a process only possible through the reconsideration of the relationship between various forms of life, including pre-existing and newly created ones.

As is already clear, the delineated series of events suggested by Project Zero Dawn does not go according to plan. Through this narrative twist, the game tackles the relationship between predetermined planning and unforeseen developments, recognizing the potential of both. This kind of unpredictability within the ruins of a wider system of relations is not without reminding the work of Anna Tsing, who explores the possibilities, or “imaginative challenge” as she would put it, that arise in conditions of precarity, when there is no promise of stability. In doing so, she focuses her attention on the matsutake, a mushroom that thrives in human-disturbed forests, as a guide on the possibilities of “coexistence within environmental disturbance” (2015, 3-4), that is, the possibilities of life within the ruins of capitalism. Presenting “a mosaic of open-ended assemblages of entangled ways of life” (2015, 4), she explores how the matsutake makes apparent the cracks in the global political economy. Focusing on the unpredictability of our current condition in a hopeful manner, she points out the need to “reopen our imagination” through original theories of heterogeneity. Tsing recognizes the constraints and possibilities of capitalism without giving in to the “crippling assumption” of progress therein, and instead emphasizes capitalism’s “patches” and the need to look for life within its ruins (2015, 6). According to Tsing, alienation plays a central role in producing these “spaces of abandonment,” because this logic that turns people and things into assets ignores the importance of “living-space entanglement[s]” and in the process, leaves behind this kind of ruins across global landscapes (2015, 5-6). Tsing notes however how forests, for example, sometimes manage to grow back even after they have been destroyed – she thinks of this process as resurgence, “the force of the life of the forest” which works in tandem with human forces through “multispecies assemblages” to generate unexpected results (2015, 179-181). She suggests an approach that tracks the “shifting patches of ruination” in terms of their global connections, while also recognizing difference despite convergence (2015, 205-206). By engaging with the destruction of capitalism, but also the hidden potential within the unpredictable ruins it creates, Tsing’s work sets up and engages with a whole new array of unexpected entanglements between humans, nonhumans, nature, capitalism, and so on, all the while challenging preconceived notions of the categories of existences and the structures of power surrounding them.

The conceptualization of ruins in Tsing’s work implies unexpected development as a consequence of capitalism, and this renewal of life amidst the ruins is important because it demonstrates the potential for accidental growth. This unpredictability, however, raises questions as to whether there is the possibility to enact this sort of renewal more purposefully? That is, maybe the devastation or ruination is inevitable, but maybe there is also the possibility of planting within this destruction the seed of life to be renewed. HZD conceptualizes in its narrative of Project Zero Dawn and its planned cycle of life this very scenario, while also recognizing the unexpected in its consequences and possibilities. As briefly mentioned, ruins are scattered across the world of HZD and beg to be explored by the player. In some ways, these ruins are both very different and somewhat similar to the ruins discussed by Tsing. While there are a variety of ruins present in HZD, most of which containing technology and knowledge from the Old World, the most interesting ones are called “Cauldron.” On one hand, they are absolutely related to industrial capitalism. On the other, they are ruins that may have been abandoned by human life, but they remain functional automated operational factories, continuously manufacturing machines. The player can explore these ruins and acquire the ability to control (through a process similar to

hacking consisting on turning antagonistic machines friendly) different types of machine as a reward for completing each one. Other ruins act more like long lost archives with vast amount of knowledge stored within, some of which containing the “secrets” of cloning and so on. These ruins are not accidental, in the sense that they were purposefully built infrastructure, but they did become ruins through unforeseen events, thus requiring to be explored and discovered once more in order to bring about any unexpected possibilities. They are in many ways seeds planted a thousand year prior. These ruins undeniably contain the possibility to rebuild life, or bring about new forms of life – they are key to the cyclicity of life in HZD. As will become increasingly clear, the machines that have gone a-wire are central to perpetuating the cycle of life, which then explains the essential role played by the manufacture-like ruins across the world. Ultimately they exemplify the complexity of the relationship between technology, nature and humankind as cyclicity is only possible through this entanglement.

What progressively becomes clear is that the entanglement of technology with nature is fundamental to the implementation of the planetary cycle – without one or the other, Project Zero Daw is impossible. It is thus also a tale of re-purposing technology for very different ends, because if we remember, the machines that eventually lost control and brought about the “end” of life on Earth were created by Faro for military “peacekeeping” purposes. The prospect of Project Zero Dawn is to repurpose the ability of these machines for reproducing themselves so that they would continue exist on a lifeless planet and eventually contribute to re-instituting life at large. In order to do so, the machines need to work in collaboration with forces of nature, which explains the absence of hostility witnessed by the player between these mechanical beings and other organic life forms. They coexist peacefully, and should have actually also accepted human presence in a similar peaceful fashion. The narrative develops, however, in such a way that a progressively larger number the machines are “infected” so as to reject human presence. Notwithstanding the specific complications of the narrative, the intent is to conceive an intertwined relationship between humans and nonhumans (organic and mechanical), which eventually come to fruition despite (or maybe because?) unforeseen developments – the elaboration and implementation of a new cyclicity fundamentally depends on this relationship.

Project Zero Dawn thus recognizes the different registers on which human time and machine time need to operate in order for its plan to come to fruition. The time of humans is inevitably coming to an “end” with the consumption of Earth’s biomass by the machine, causing human life to go completely extinct. The reality of the inability of humans to adapt to this new scenario is acknowledged and accepted upfront, but instead of imagining the “end,” Dr. Sobeck and her team conceptualize a cycle for humankind to be reintroduced to the world after the right conditions are met. Life beyond the already understood human existence has to be conceived and put into practice in order to preserve the possibility of reintegrating human life on Earth. This is most certainly not only about human life, as the whole set of conditions have to be imagined which requires to recognize the place human occupy amongst all life, and the way in which nonhuman life can be recreated altogether in tandem. This is only possible through the implementation of a third element: technology. While humans face extinction, machines engage very differently with time. Machines are created so that they could infinitely reproduce themselves no matter the conditions of Earth – the cycle of their lifespan is unbroken in a sense. The facilities that function as automated manufacture continuously replace broken machines so that they could continue to serve their purpose to prepare the Earth’s environmental renewal. As regular fauna would never survive the harsh conditions of the planet, robotic life forms essentially replace them (to a certain extent) to ensure the continuation of life until organic life can be fully reintroduced. Project Zero Dawn had to find in the “end of the world”

and the destruction caused by the machines, the seeds of renewed life. This is done by the creation of the aforementioned hyper-powerful artificial intelligence system called GAIA which is programmed to both shut down the “swarm” of rogue machines and restore Earth through a complex automated terraforming system. This involves a complicated long-term sequence consisting in reintroducing on Earth the various elements that consist its ecosystem over a thousand years.

Through this narrative, HZD raises the possibility of changing linear time into cyclical time. What is particularly important is the central idea that agency is a factor in defining time – that is, time, whether linear or cyclical, is not simply and only imposed. HZD suggests that time is more malleable than one might originally think, by challenging the notion of ending in itself, and creating the conditions for an ending to become a new beginning through cyclicity. This process of planetary scale requires a conception of life that goes beyond the simple dualism of humans and nature, in favor of one that recognizes the complex ways in which human and nonhuman life are intertwined interdependently through and through – each’s survival is fundamentally related to the other. The only possibility to maintain life at all is to consider all forms of life as one intricate web of relationships that functions together. This approach to life is ultimately what unlocks the new possibilities of thinking time as neither inherently linear or cyclical, but transformative and transformable.

CONCLUSION

Thinking within the confines of cyclical time can propagate the misconception that time is only passively experience through its repetitions and cycles, rather than actively malleable. *Horizon: Zero Dawn* is a work that challenges the former in favor of exploring the later by integrating agency in its conceptualization of time. This is only possible through a profound engagement with the ever-changing entanglements of life in which human, nonhuman and technology are intricately intertwined as the basis of new collectives coexisting at the planetary level. Through its narrative, *Horizon: Zero Dawn* suggests that thinking through these entanglements enables new possibilities to be considered, most notably by challenging linear and cyclical time alike. On the one hand, the assumed linear time and ultimately finality of human life on Earth is reinterpreted through its deeply-rooted connections with nonhuman forms of life as cyclical in the *longue durée*. On the other hand, the game also infuse the concept of cyclical time with a dose of unpredictability and agency that can only manifest itself through the aforementioned intimate entanglements of life. In any case, *Horizon: Zero Dawn* challenges the notion of ending by suggesting the possibility of reimagining the end of humanity and of all life on Earth into a new beginning through the cyclical motion of time by emphasizing the potential of recognizing the significance of thinking about all forms of life as deeply interrelated. In doing so, *Horizon: Zero Dawn* builds on the complex relationship between time and collectivity, reinforcing the transformative potential of alternative collectives, the malleability of time, and the possibilities that lie therein.

ENDNOTES

1. While not considered for the purpose of this paper, another significant contribution to re-thinking the Anthropocene discourse comes by way of Bernard Stiegler who recognizes in said discourse a “negative protention” and the necessity to overcome itself at its core. In an attempt to further thought on how to exit the Anthropocene, he highlights a possible turn from entropy to negentropy, and proposes the “Neganthropocene” as a “curative, care-ful epoch.” See Bernard Stiegler. 2018. *The Neganthropocene*. Ed. and

- trans. by Daniel Ross. London: Open Humanities Press, and Pieter Lemmens and Yuk Hui. 2017. “Apocalypse, Now! Peter Sloterdijk and Bernard Stiegler on the Anthropocene.” In *boundary2*.
2. Fernand Braudel, who formally defined the concept of the “longue durée” within the discipline of history in “Histoire et Sciences Sociales: La longue durée,” critiques the tendency among historians to emphasize the cyclical in tandem with a traditional “short history” based on events rather than moving ahead toward the unknown. It is in opposition to this structural approach to history that Braudel suggests to instead consider history in the long term, thus the appellation “longue durée.” See Fernand Braudel. 1987. “Histoire et Sciences Sociales: La longue durée.” In *Réseaux* 5 (27), 7-37.
 3. It is unclear whether the developers and writers of HZD were aware of this when making the game, especially since the use of GAIA as a complex AI with far-reaching functions of earthly rejuvenation is quite common in video games, but the notion of GAIA as presented is certainly reminiscent of conceptualizations of the “noosphere” and the notion of an ever-evolving planet Earth through the complex “intermeshing of cognitive realms within the biosphere.” See Paul R. Samson and David Pitt. 1999. *The Biosphere and Noosphere Reader: Global Environment, Society, and Change*. London; New York: Routledge.

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