

Posthumanism in *Outer Wilds*

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Abstract

This article performs a posthumanist reading of *Outer Wilds* (Mobius Digital, 2019) focusing on how the game represents posthuman subjectivity. *Outer Wilds* uses two alien species to represent two conceptions of subjectivity: a transhumanism focused on technological augmentation of the human, and a posthumanism focused on decentering the human subject from philosophy and culture. This article argues that *Outer Wilds* leads the player through several Braidottian processes of posthuman “becoming.” *Outer Wilds* represents becoming-machine in the two species’ different approaches to technology, becoming-earth in embracing a geo-centred perspective on ecosystems beyond the subject, and becoming-imperceptible in the two species’ different approaches to death and the idea of the self. Through these becomings, *Outer Wilds* represents what it means to be a posthuman ethical subject in a world on the verge of collapse and emphasises the importance of acting in the face of an ongoing environmental disaster.

Keywords

Environmental issues; *Outer Wilds*; posthumanism; subjectivity; Rosi Braidotti; transhumanism.

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Introduction

Outer Wilds (2019) is a first-person open-world exploration video game developed by Mobius Digital. The game takes place in a science fiction setting with aesthetics meant to “evoke the feel of a backpacking or mountaineering expedition infused with NASA sensibilities” (Beachum, 2013, p. 4). This aesthetic is inspired by creative director Alex Beachum’s experience of hiking and camping in North American national parks (Strunk, 2019). With only a small spaceship, the player sets out to explore a solar system and uncover the mysteries of a long-dead alien civilisation. After 22 minutes of exploration, the sun becomes a supernova that destroys the entire solar system and kills the protagonist. Upon their death, the protagonist is transported back in time to uncover more secrets before the sun explodes and the time loop begins again.

In this article, I present a posthumanist reading of *Outer Wilds* focusing on how it represents posthuman subjectivity and what it means to be a posthuman subject in a world on the verge of collapse. I argue that *Outer Wilds* positions itself in the area between transhumanism and posthumanism by using the game’s two alien species to present a stark contrast between these two conceptions of subjectivity. Though several games have represented one conception of posthumanism, *Outer Wilds* is unique in its ludic exploration of the differing conceptions of subjectivity between transhumanism and posthumanism. Playing the role of a subject exploring a vast solar system draws the player’s attention to what Quentin Meillassoux (2008) refers to as “the great outdoors”: “that outside which [is] not relative to us”; an ontology external to the self that “involves both untold cosmic and worldly paraphernalia as well as the re-entry into a singular existential domain” (p. 7). *Outer Wilds* invites us to consider the influence of the posthuman subject on “the great outdoors” in both environmental and Meillassouxian terms, emphasising the subject’s position in a collapsing environment, and expresses a posthumanist ethics reaching beyond the subject’s life and death.

“Posthumanism” is a term with multiple meanings, an umbrella term for several movements and schools of thought. Francesca Ferrando (2013) and Cary Wolfe (2010) both identify what Ferrando calls “confused areas of signification” between transhumanism and posthumanism whereby the term “transhumanism” is used in different ways to denote either a type of posthumanism or a concept in opposition to posthumanism. Confusion also arises between “posthumanism” used in a generic way to encompass a range of different schools of thought and to refer to specific types of posthumanism covering as many as seven different senses of the term (Ferrando, 2013). Transhumanism and posthumanism both arose in the late 1980s and early 1990s from philosophical discourses exploring the increased role of technology in mediating and defining human experience. Both share a conception of

the human as a non-fixed and mutable condition, but envision this move in different ways (Ferrando, 2013). “Transhumanism” refers to a posthumanism in which technology is used to radically enhance human capacities in such a way as to transcend the physical boundaries of the “human” (Wolfe, 2010). Specifically, according to Joel Garreau (2006) and Ray Kurzweil (2005), GNR technologies—genetics, nanotechnology, and robotics—will radically transform the field of human biology and subsequently the idea of the “human.”

“Posthumanism” also denotes a change in the philosophical, cultural, and critical modes of thought that decentre the human subject. Wolfe (2010) refers to this sense of posthumanism as the opposite of transhumanism. Rather than focusing on cybernetic augmentation of transhumanism, this posthumanism focuses on moving away from the philosophical protocols of humanism as a mode of thought and towards new metaphorical technologies of thought. This posthumanism is a movement confronting how thought itself is transformed by post-anthropocentric ideas: “a thematics of the decentering of the human in relation to either evolutionary, ecological, or technological coordinates” (Wolfe, 2010, p. xvi).

My reading of *Outer Wilds* specifically draws on Rosi Braidotti’s formulation of posthumanism in her book *The Posthuman* (2013). Like Wolfe’s posthumanism, Braidotti’s posthumanism represents a move beyond the binary of humanism and anti-humanism to reframe modes of thought in an affirmative, post-anthropocentric way that decentres Man from philosophy. “Man,” in this regard, refers to “anthropocentric, gendered and racialized . . . aesthetic and moral ideals based on white, masculine, heterosexual European civilization” (Braidotti, 2013, p. 68). Borrowing terminology from Deleuze and Guattari (1987), Braidotti (2013) frames her posthumanism in terms of the multiple “becomings” of the radical posthuman subject. These “becomings” are “affirmative transformations of both the structures of subjectivity and the production of theory and knowledge” (Braidotti, 2013, p. 66).

In what follows, I will discuss the limited representation of posthumanism in video games to provide context for how the medium has previously explored transhumanism separately from posthumanism before moving on to a close reading of *Outer Wilds*. I structure this reading using Braidotti’s (2013) processes of “becoming” for the posthuman subject and discuss *Outer Wilds*’ representations of posthuman subjectivity in terms of becoming-machine, becoming-earth, and becoming-imperceptible.

Posthumanism in Video Games

Many games represent posthumanist concepts and imagery either through their narratives and themes or as part of their gameplay and ludic construction. Tanya Krzywinska and Douglas Brown (2015) have identified the prevalence of representations of transhumanism in video

games, with many games explicitly dealing with ideas of technological augmentation. Cybernetically-enhanced protagonists are a popular trope in games considering that technological augmentation provides an easy diegetic justification for protagonists whose abilities surpass those of normal human beings. This representation of the transhuman cyborg figure is seen in various science fiction games such as *Deus Ex* (Ion Storm, 2000), *Crysis* (Crytek, 2007), *Metroid* (Nintendo R&D1 and Intelligent Systems, 1987), *Halo* (Bungie, 2001), and most recently *Cyberpunk 2077* (CD Projekt Red, 2020). Technological augmentation is also frequently used to integrate elements of game systems into the diegesis: Heads-up displays (HUDs) showing elements like character health or minimaps are explained as cybernetic vision enhancements, whereas the gradual acquisition of skills and abilities is explained as the player-character acquiring more cybernetic upgrades (Krzywinska & Brown, 2015).

Despite this emphasis on transhumanism in video games and game studies, some games adopt more from posthumanist philosophy than “just the figure of the cyborg” (Krzywinska & Brown, 2015, p. 198). Expanding players’ ludic agency beyond what a human is capable of is a core component of many video games—especially strategy games with a God-like perspective such as *Sid Meier’s Alpha Centauri* (Firaxis Games, 1999) and the *Civilization* series (MicroProse, 1991–present). Krzywinska and Brown (2015) also discuss how games with female playable characters “decentre man as the natural active agent” (p. 196) in a way that can be aligned with Braidotti’s posthumanism.

Whereas most games that engage with posthumanism deal exclusively with one sense of the term, *Outer Wilds* can be situated within the shared area of signification between transhumanism and posthumanism because these two conceptions of subjectivity are respectively represented in the game by two alien species. By representing the differences in subjectivity between a transhumanism focused on technological augmentation and a posthumanism focused on decentering the human subject, *Outer Wilds* positions itself within discussions of multiple posthumanisms and post-anthropocentric modes of thought.

Posthumanism in *Outer Wilds*

Outer Wilds contains two human-analogous sapient alien species: the Nomai and the Hearthians. The Nomai are an extinct species who inhabited the solar system hundreds of thousands of years before the beginning of the game (see Figure 1). Despite their absence from *Outer Wilds*’ world, the Nomai are a driving force of the game: a major gameplay element involves unravelling the mysteries of Nomai via the discovery and translation of journals and research notes written by Nomai individuals. The player takes on the role of an unnamed protagonist of the Hearthian species. The Hearthians are the extant inhabitants of the solar system, occupying a small society on their home

planet, Timber Hearth. In contrast to the Nomai, less information about Hearthians is directly presented to the player through text or narration. Hearthian culture is instead presented through environmental storytelling, game design elements, and scattered dialogue with Hearthian non-player characters (NPCs).

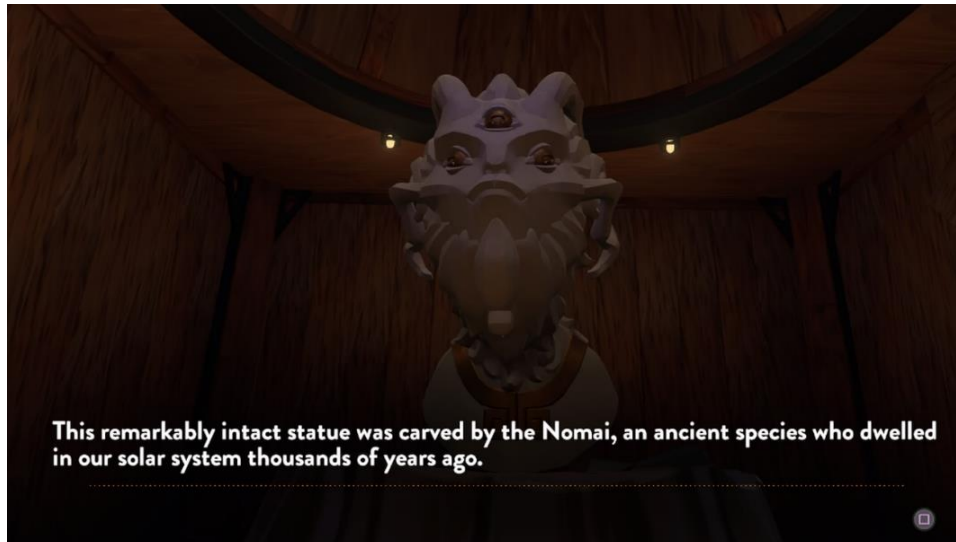


Figure 1. Nomai statue in the museum at the start of *Outer Wilds*.
Screenshot by the author.

At the start of the game, the Hearthians and Nomai appear superficially similar: Both are intelligent, humanoid, space-faring species. While they speak different languages, the Nomai's script and ideas are made comprehensible to the protagonist with the use of a translation device. The differences in subjectivity and experience between the two species are gradually explicated in text logs and implied through environmental cues.

Braidotti's (2013) posthumanism conceives of subjectivity in terms of moving beyond both humanism and anti-humanism. Braidotti defines traditional humanism as a mode of thought based on transposing a specific way of being human into a generalized standard and a universal format of subjectivity. She goes on to define anti-humanism as an antithesis to humanism derived from postmodernist feminism. Feminist anti-humanism rejects the "Eurocentric and normative humanist ideal of 'Man'" as the standard of subjectivity and acknowledges the diversity of "the human" in terms of women's experiences (Braidotti, 2013, p. 27). Anti-humanism has been further expanded beyond feminism to speak intersectionally about a range of marginalised subjects. While these anti-humanist modes of thought offer innovative alternatives to humanist thought and expand analyses of power against the dominant values of patriarchy, racism, and white supremacy, Braidotti argues that they still define themselves in terms of the former "Man" of traditional humanism by positioning sexualized and racialized others as dialectically defined through reference to the standard from which they are different"

(2013, p. 28). Braidotti's posthumanism builds upon anti-humanism but draws out the implications of a post-anthropocentric turn by positioning posthuman subjectivity beyond the human standard entirely: neither within humanism's outdated conception of Man nor within anti-humanism's dialectically-defined others.

On a basic level, *Outer Wilds* displaces these humanist and anti-humanist conceptions of subjectivity by presenting subjectivity entirely outside the human species. The Nomai and the Hearthians are both non-human alien species. Relics and skeletal remains show the Nomai as three-eyed goat-like creatures, whereas the Hearthians are amphibious humanoids with blue skin and four eyes (see Figure 2). Both species are subjects in the sense that they are conscious beings able to create culture and influence their environment, but they are subjects outside humanism and anti-humanism's focus on the human body. *Outer Wilds* displaces humanism and anti-humanism's anthropocentric focus by representing fully realised subjects outside the human species. Just like humans, the game's aliens are "complex and relational subject[s] framed by embodiment, sexuality, affectivity, empathy and desire as core qualities" (Braidotti, 2013, p. 26). However, as alien species they exist outside the traditionally defined sphere of subjectivity in humanism and anti-humanism which both define the subject in terms of the human and the human body. *Outer Wild's* representation of subjects therefore moves the definition of subjectivity outside the human.



Figure 2. A Hearthian named Marl. Screenshot by the author.

An early indicator of the divergence between the two species' subjectivities lies in their differing approaches to gender identity: Nomai are more closely aligned with the binary of traditional humanism while the Hearthians expand their definition of gender beyond binary. The Nomai use the gendered pronouns "he/him" and "she/her," signifying binary identity. In this sense, the while the Nomai are subjects outside the human but utilize the gender identity of traditional humanism. Hearthians, by contrast, have non-binary conceptions of gender: Every

Hearthian is referred to using “they/them” pronouns and, unlike many alien species in traditional science fiction that are clearly gender-coded in human terms, their physical appearances are not coded by gender. In terms of gender, compared to the Nomai Hearthians are one step further removed from humanism’s conception of “the human”. That is, humanism identifies Man as the generalised standard of the human and anti-humanism expands this to include the figure of the woman as the sexualised other and non-white peoples the racialised other. Posthumanism expands the definition of subject further to cover new conceptions of the subject. By representing the protagonist’s species as non-binary, *Outer Wilds* acknowledges the range of subjectivity beyond man and woman that posthumanist theorists like Braidotti and Yungblut (2018) argue gestures towards the posthuman subject that the Hearthians will ultimately represent.

As discussed above, Braidotti (2013) frames her posthumanism in terms of the “becomings” of the posthuman subject. Following Braidotti, I approach the differences between the two species in *Outer Wilds* in terms of becoming-machine, becoming-earth, and becoming-imperceptible.

Becoming-machine

Differing approaches to technology are key to the representations of posthuman subjectivities through the Nomai and the Hearthians. The role of technology in the production of subjectivity is fundamental to posthumanism; for example, Elizabeth Ezra (2018) discusses how the boundaries between the subject and their tools are blurred in posthumanism. Similarly, Braidotti (2013) positions technology as central to the “post-anthropocentric predicament” (p. 89) of posthumanism.

As the player continues through *Outer Wilds* and unravels more of its mysteries, it becomes clear that the Nomai were technologically advanced in comparison to the Hearthians. The game provides evidence early on that the Nomai used science and technological experimentation to solve large-scale societal problems—a recurring theme within *Outer Wilds*. The player’s first encounter with Nomai relics is in the museum on Timber Hearth, the Hearthian home planet. This encounter with Nomai writing and Nomai technology, such as gravity crystals, introduces the player to the idea that the Nomai had a technologically advanced civilisation. Although the game becomes non-linear after the player unlocks the ability to launch their spaceship, in-game cues and the design of the solar system encourage the player to explore the closest planetary body to the starting planet: Timber Hearth’s moon, the Attlerock. One of the discoveries on the moon is a piece of ruined Nomai technology. Writings around this device obliquely reveal that it was built to find something called the Eye of the Universe and that it was part of an iterative process of experimentation.

As the player explores, they are likely to discover further evidence of the Nomai as scientific naturalists with a culture based on experimentation and advanced technology, thereby placing them in correspondence with Garreau's (2006) and Kurzweil's (2005) definitions of the transhuman. The game presents this via other technological ruins left by the Nomai: a vast city built into underground caverns; a hanging city suspended over a black hole beneath the surface of a planet; orbital research stations; warp platforms for instantaneous transportation across huge distances; gravity cannons for launching spaceships; research laboratories for investigating alternative energy sources; and interstellar vessels with space travel technology far beyond that of the Hearthians. Through these artefacts, the player sees that Nomai society was based on what Kurzweil (2006) refers to as "continuous technological progress" (p. 40): a high rate of technological innovation leading to large-scale social repercussions. In Ezra's (2018) terms, their existence is "not just imbricated with the technological . . . but virtually unthinkable without technology" (p. 12). Seemingly every Nomai subject is presented as working towards advancing scientific enquiry in some way. A Nomai NPC (the only living Nomai that the player encounters in the game) says that "to seek out and to understand is our [the Nomai] way of living". As Kurzweil (2006) predicts of transhuman subjectivity, the impact of technology has changed the nature of subjective experience for the Nomai. They approach large-scale environmental disasters—such as living on a planet being consumed by a black hole or the eventual destruction of the sun—as problems that can be solved through technology. The Nomai persist with technological solutions even when those solutions are unsafe (see Figure 3). As will be discussed more fully later in this article, their sense of self is fundamentally informed by a technological conception of subjectivity as informational.

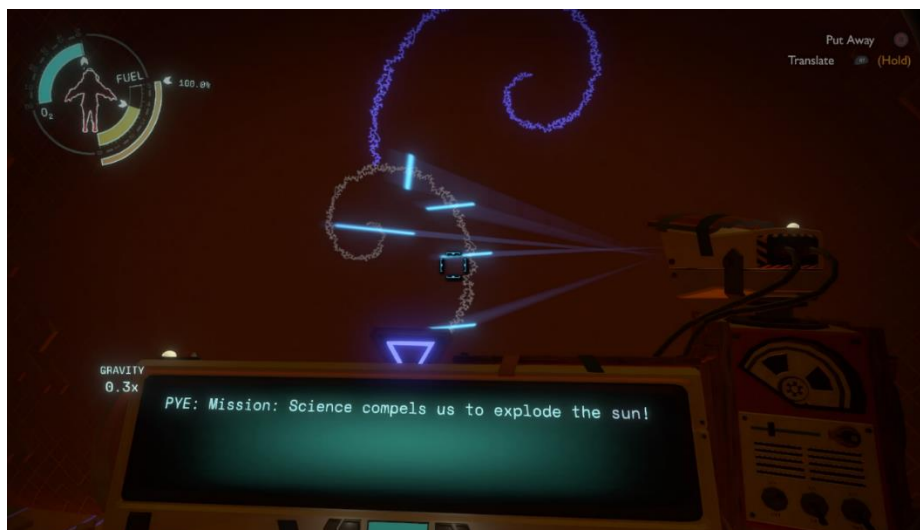


Figure 3. Text log in which a Nomai named Pye discusses exploding the sun. Screenshot by the author.

As the game progresses, it shows that the Nomai's goal of achieving transcendence through understanding the material origins of the universe characterises their sense of themselves as subjects and is fundamentally transhumanist. Many of the Nomai's technological developments were developed in the service of locating the Eye of the Universe—a space object as old as the universe itself. The Nomai built probes to find the Eye and their advanced warp technology brought them to the game's solar system millennia ago as part of this search. They seek to achieve a kind of transcendence by reaching the Eye and communing with the universe. Kurzweil (2005) ties his transhumanistic approach to transcendence in this same sense: not in a spiritualist sense of reaching another plane of reality, but in a materialist sense of transcending the ordinary limits of the material world through technological achievement. The Nomai also built shrines to the Eye on the planets of Brittle Hollow and Ember Twin. This quasi-worship of the Eye is comparable to Kurzweil's (2005) scientific materialist idea of the universe as God.

Compared to the Nomai, the Hearthians have a more pastoral approach to technology and the environment, which demonstrates a "displacement of the lines of demarcation between structural differences, or ontological categories, for instance between the organic and the inorganic, the born and the manufactured, flesh and metal, electronic circuits and organic nervous systems" (Braidotti, 2013, p. 89). Although the Hearthians have achieved space travel, they use otherwise primitive technology largely made of wood. At the beginning of the game, several Hearthian NPCs refer to the player's wooden spaceship as rickety and prone to collapse (see Figure 4). While the Nomai had grand cities and space stations, the Hearthians have only a small village on Timber Hearth and outposts elsewhere made up of campfires and tents, inhabited by lone Hearthians quietly playing musical instruments. The Hearthians are subjects defined by their relationship with the natural world around them. Their groundedness as a species—their connection to nature and their home planet—is emphasised by every Hearthian individual being named after a type of rock: Feldspar, Gneiss, Spinel, Tuff, Marl, and so on. Their wooden spaceships are both rustic and technological, organic and artificial, primitive and futuristic (see Figure 5). Their whole approach to technology blurs the boundaries between ontological categories in a way reminiscent of posthumanism.

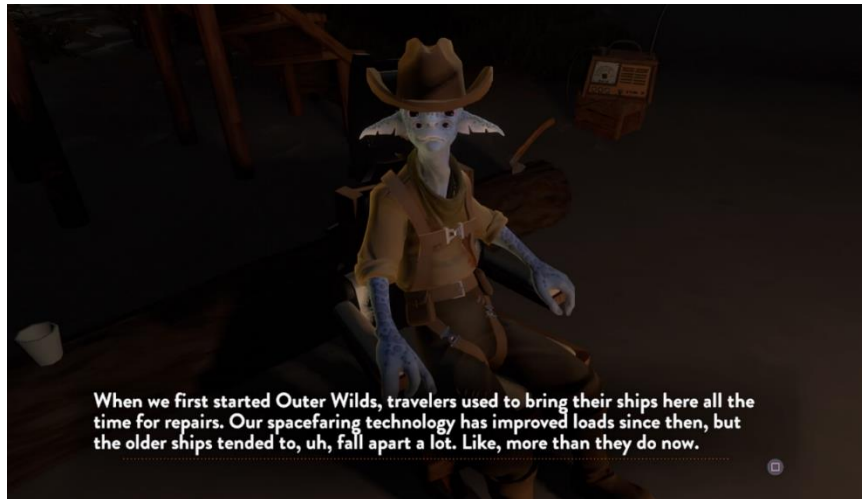


Figure 4. A Hearthian discusses the fragile nature of Hearthian technology. Screenshot by the author.



Figure 5. The rustic wooden interior of a Hearthian spaceship. Screenshot by the author.

The Hearthians also retain stricter boundaries between the subject and technology than those exhibited by the Nomai while still demonstrating a subjectivity mediated by technology. For example, the player frequently uses a spacesuit as a technological prosthesis that they can equip and unequip at will: Due to the conditions of space travel requiring the use of the suit, the player is likely to wear it so often that the distinction between the protagonist's body and the spacesuit may be forgotten, which can make it "difficult to distinguish between human beings [or, in this case, the Hearthian] and the technological domain in which they are embedded" (Ezra, 2018, p.6). Yet the ability to remove the suit—even in space when it is fatal to do so—and return to their embodied state unmediated by technology, means that the spacesuit retains the category of tool rather than becoming embedded in Hearthian subjectivity. Hearthians are becoming-machine—they have strong links to their technology and machinery is required for their space

travel—but unlike the Nomai, they have not completely structured their experience and culture around technology and scientific naturalism.

Becoming-earth

I have argued so far that Hearthians represent a posthuman subjectivity fundamentally grounded in their relationship with the natural world. Despite being aliens who do not live on Earth, their subjectivity is embedded in the process of becoming-earth, which Braidotti presents in terms of environmental and social sustainability, ecological awareness, and climate change. Becoming-earth is:

an enlarged sense of inter-connection between self and others, including the non-human or “earth” others. This practice of relating to others requires and is enhanced by the rejection of self-centred individualism. It produces a new way of combining self-interests with the well-being of an enlarged community, based on environmental inter-connections. (Braidotti, 2013, p. 48)

The Hearthians display this sense of community in their strong bond with their home planet, Timber Hearth, and a strong sense of environmental interconnection expressed through their rustic lifestyle and their culture’s “great outdoors” aesthetic. In his master’s thesis accompanying an early version of the game, creative director Alex Beachum (2013) highlights the influence of hiking, US national parks, and the American sense of the great outdoors on the lo-fi aesthetic of the Hearthians via their campfires, wooden spaceships, and rustic music. This draws the player’s attention to the Meillassouxian “great outdoors” of the expansive ontology, the vast environment, beyond the subject.

Outer Wilds requires the player to pay attention to their environment on a cosmic scale as they relive the mass extinction of planets and cultures every 22 minutes. Each planetary body has its own natural complexity requiring a new awareness from the player. In this way, *Outer Wilds* pushes players to undergo the conceptual shift of becoming-earth: to become a “geo-centred subject” (Braidotti, 2013, p. 81) aware of their environment and the needs of whatever planet they are standing on. Braidotti (2013) refers to this kind of conceptual shift towards a planetary, geo-centred perspective as a “conceptual earthquake” (p. 81). In order to survive long enough to find answers to *Outer Wilds* mysteries, the player must take on this conceptual earthquake by becoming intensely aware of their surroundings and the unique nature of each planet. They have to know the flow of the currents in the planet-spanning ocean of Giant’s Deep; they need to carefully traverse the subterranean caves that fill with sand on Ember Twin; they must learn how to navigate the tangled non-Euclidean interior of Dark Bramble.

The environmental geo-centred awareness encouraged by each new planetary body is also posthumanist in being essentially multiple. Braidotti's (2013) becoming-earth rejects the deep ecology of Arne Naess's (1977) and James Lovelock's (1979) Gaia hypotheses for viewing the Earth through a humanist lens as an anthropomorphised single and sacred organism, and *Outer Wilds* similarly rejects viewing Timber Hearth as a single focus for the Hearthian protagonist's investigations. The player must move beyond Timber Hearth to fully explore the multiple planetary bodies of the solar system and become aware of how they are related in a holistic cosmic ecosystem. The player is not tied exclusively to the home village on Timber Hearth but must expand their sphere of influence to become a "nomadic subject" (Braidotti, 2013, p. 188). Braidotti refers to the posthuman subject as "nomadic" to reflect the subject's different relation to culture and interconnection with non-human others. Rather than narrow identification with one culture and even one species, Braidotti's (2013, p. 49–50) nomadic subject identifies with the wider environment, with animals, and with the complexity of all living organisms.

The player's environmental impact in *Outer Wilds* is also expressed through their awareness of the unfolding environmental disaster. In his review of *Outer Wilds*, Austin Walker (2019) argues that the game shows us "what it means to live inside of an ongoing global, environmental disaster" (para. 16). Walker writes:

With each new discovery, the game reminds you that you walk the path of an already-doomed species that struggled with all-too-familiar questions: Can we trust technology to solve problems that trust-in-technology caused in the first place? How do we stop those with the power to ruin our ecosystem with unrestrained excess from doing so? Is disaster now inevitable? And, of course, what are we going to do? (2019, para. 15)

As the player unearths the ruins of Nomai society and the technological systems the Nomai built to prepare for environmental crisis, they become more aware of the Hearthians' obvious inability to meet the challenges of the crisis that they now face. When the player explores *The Interloper*, a comet in orbit around the system, they discover that the Nomai were wiped out by an explosion of exotic Ghost Matter from *The Interloper's* highly-pressurised core. The Nomai's extinction was sudden and unforeseen by their advanced scientific and transhumanist society. Similarly, nearly all the Hearthians apart from the protagonist are unaware of the impending disaster facing their system and are woefully unequipped to address it. Even when informed of the sun steadily going supernova, Hearthian NPCs either dismiss the protagonist or panic rather than taking any action to prevent it. Chert, a Hearthian found on Ember Twin, exemplifies this. At the start of the loop, when told that the sun is about to go supernova, Chert says "What? What makes you think that? It's true the sun has... changed, lately, but I've

not seen any evidence suggesting the approaching death of our sun! Stars above, no!" Later in the loop, when it becomes clear that the sun is exploding, Chert reacts with pessimistic nihilism: "Oh, who cares?! What does it matter?! Nothing matters anymore! The sun is about to go supernova! And me, all my research, my life's work, wasted!" Only the player, as a/the representation of posthuman subject, is able to act decisively in the face of sudden environmental collapse, and this awareness of imminent disaster and impetus to act is informed by the posthumanist attitude towards death that the game encourages.

Becoming-imperceptible

The differing approaches to technology and environment in *Outer Wilds'* two species inform how the game represents differences in posthuman subjectivity in relation to death. The reason for the protagonist's repeated deaths reveals the Nomai's transhumanist conception of the self as informational and the protagonist's entanglement with this conception of subjectivity. Most video games use death as a fail state, a scenario in which the player fails—often by losing all their health—and the game responds with a "Game Over" screen or by reverting to a save point. Death in *Outer Wilds*, however, is largely not a fail state but an intrinsic part of gameplay and narrative. One of the game's writers, Kelsey Beachum, said in an interview: "You're going to die a lot. If you're dying a lot, you're doing this correctly" (Strunk, 2019). Every 22 minutes, when the sun explodes, the protagonist is killed and wakes up 22 minutes earlier back in their village on Timber Hearth. Their memories of the 22 minutes spent exploring and their memory of their death are intact, but every other character around them is unaware of anything unusual. If the player dies in *Outer Wilds* before the sun explodes, they also wake up back in the village.

This mystery is ultimately resolved through the discovery of the Nomai's transhumanist technology for storing the self as information and their sense of disembodied subjectivity. At the start of the game, the player encounters a Nomai statue that activates in their presence. As they progress, the player discovers that this statue functions as a transmitter which, over the next 22 minutes, transmits their personality and memories to the Ash Twin Project, a repository in which the Nomai intended to preserve their consciousnesses but were never able to activate. As in-game text puts it: "Each statue will send a single Nomai's memories to his or her own storage unit within the Ash Twin." The data comprising the protagonist's self is sent back in time whenever they are killed and so the protagonist enters a time loop: they receive memories from the previous loop, explore and die, and this triggers the transmission of their memories back again (see Figure 6). It follows that the protagonist's time loop is caused by the Nomai's transhumanist conception of the informational self: The Nomai developed technology to turn their consciousnesses—their personalities and memories—into information to be stored in a data repository which seems to be at odds

with the Hearthian posthuman conception of subjectivity. Transhumanism's conception of subjectivity is one in which consciousness is:

a kind of software that runs on the biological hardware of the brain. In other words, consciousness is not something unique to the context of the embodied individual, but rather a system of information that can be accurately translated and replicated in different mediums, as exemplified by the Human Brain Project research initiative or the transhumanist fantasy of uploading one's brain/subjectivity into a computer and thus achieving a kind of immortality. (Ayers, 2015, p. 100)

The Nomai realise this transhumanist ideal of disembodied subjectivity and create a kind of immortality in the protagonist by preserving the informational pattern of their self in a computer as Ayers discusses. Transhumanism is conceptually linked to the work of cybernetic philosophers such as Norbert Wiener and Gregory Bateson who advocated for removing the human body from a central position in philosophy and conceiving of subjectivity as material information (Wolfe, 2010, pp. xii–xiii). The Nomai's reduction of consciousness to information follows the "cybernetic tradition" and its sense of disembodied subjectivity (Hayles, 1999, p. 7). The Nomai's technology expands their capabilities as subjects—specifically the dramatic extension of life span that Garreau (2006) characterises as a transhumanist goal—to such an extent that they are no longer analogous to humans.



Figure 6. In-game representation of how the Ash Twin Project works to transmit and upload consciousnesses. Screenshot by the author.

On the other hand, the Hearthians represent an embodied subjectivity in line with Braidotti's (2013) and N. Katherine Hayles's (1999) posthumanism. Unlike the Nomai, the Hearthians do not seek immortality beyond the material: their subjectivity is intimately tied to their bodies. As Hayles writes, their "being is first of all embodied being, and the complexities of this embodiment mean that [their] awareness unfolds in ways very different from those of intelligence embodied in cybernetic machines" (1999, pp. 283–284). As in Hayles's formation of posthuman subjectivity and its emphasis on the body, Hearthian subjectivity is embodied, and so their awareness unfolds differently from the Nomai subjectivity defined through cybernetic machines. This makes the Hearthian protagonist's enmeshment in the Nomai's transhumanist informational paradigm of self an unstable position. The Nomai's transhumanist disembodiment is totalizing compared to how the protagonist's entanglement with the Nomai's Ash Twin Project destabilizes their embodiment. The Hearthian protagonist's experiences of embodiment, "far from existing apart from culture, are always imbricated within it" (Hayles, 1999, p. 197), and specifically are imbricated within Nomai culture and technology. As Hayles writes:

Yet because embodiment is individually articulated, there is also at least an incipient tension between it and hegemonic cultural constructs. Embodiment is thus inherently destabilizing with respect to the body, for at any time this tension can widen into a perceived disparity. (1999, p. 197)

During *Outer Wilds*, the protagonist's subjectivity vacillates between embodiment in the body and disembodiment as information until the final sequence. At the end of the game, the player must remove the warp core that powers the Ash Twin Project so that the core can be used to power a vessel to reach the Eye of the Universe. The game conveys to the player that removing the warp core deactivates the machine powering the transfer of self and that this could result in the permanent death of the protagonist should they die before they complete their task. Ultimately, the protagonist's self is embodied. *Outer Wilds* requires that the player deactivates the Ash Twin Project and, in so doing, rejects the transhumanist disembodied self and embraces the embodied self of posthumanism. This is posthumanist not "in the sense of being 'after' our embodiment has been transcended . . . [but] in the sense that it opposes the fantasies of disembodiment and autonomy, inherited from humanism itself" (Wolfe, 2010, p. xv). In another Braidottian process of becoming, the player must learn to "respect the bond of mutual dependence between bodies and technological others, while avoiding the contempt for the flesh and the trans-humanist fantasy of escape from the finite materiality of the enfleshed self" (Braidotti, 2013, pp. 90–91).

Despite the centrality of the Nomai's transhumanist pursuit of immortality to *Outer Wilds'* narrative, the game's ending relies on a posthumanist sense of death. Through their repeated deaths and their

use of death as a learning mechanism, the player experiences death not as an event in itself but as a liminal in-betweenness in posthuman life (Braidotti, 2013). Their death is “posthumanous,” a term used by Steen Christiansen (2015) to think about the posthuman relation to death:

Life is . . . best viewed as a complex tangle of relations that is contingent on more than a simple dichotomy. Indeed, thinking the posthumanous is a matter of thinking the transformation that the tangled relation of life and death enacts in contemporary biopolitics, that is, the ways that life and death produce certain ways of life. (p. 339)

The posthumanous in-betweenness of death is represented by *Outer Wilds* in two different ways. First, there are the multiple annihilations of the body that the player experiences—the protagonist continually returns from death in a way that reminds players that life and death are “not binary end points but a continuum of multiple states of in-betweenness” (Christiansen, 2015, p. 343). Second, there is the character of Solanum, the only embodied Nomai that the player can meet in the game (the others all died hundreds of thousands of years ago). Solanum is found on the Quantum Moon, a planetary body which, like certain subatomic particles, is in a constant state of quantum fluctuation based on observation. Like the cat in Erwin Schrödinger’s (1935) thought experiment, Solanum is in an undetermined quantum state whereby she is both alive and dead at the same time. When the player lands on the Quantum Moon, they find Solanum’s corpse near their ship. By solving some puzzles, the player can change the superposition of the Quantum Moon and discover a location where Solanum is alive and able to communicate. Solanum tells the player: “You may think I’m strange but I have a hypothesis that I may not be entirely alive” (see Figure 7). Solanum is literally in-between life and death. In Christiansen’s terms, her not-dead body is both a corpse and a living thing: the “corporeal presence of an absence that we cannot reject or ignore” (2015, p. 343)

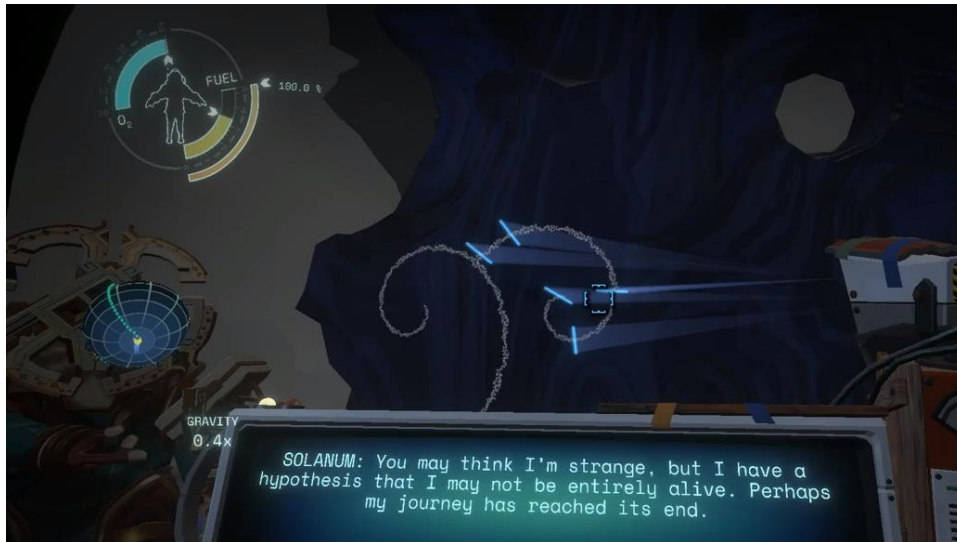


Figure 7. Solanum discusses her state of in-betweenness. Screenshot by the author.

Outer Wilds' ending moves beyond this view of the posthumanous in-betweenness of death to represent the Braidottian process of becoming-imperceptible: "the point of evacuation or evanescence of the bounded selves and their merger into the milieu, the middle grounds, the radical immanence of the earth itself and its cosmic resonance" (Braidotti, 2015, p. 137). After the player frees themselves from the transhumanist immortality of the Nomai's consciousness repository and travels to the Eye of the Universe, the universe ends. By observing and becoming entangled with the Eye, the protagonist's individuated self is destroyed and the subjectivities of various characters (including Solanum if the player met her in their playthrough) are brought together around a campfire to sing a new universe into existence: a literal example of cosmic resonance. Their subjectivities are deindividuated in becoming-imperceptible and brought together in "a creative synthesis of flows, energies and perpetual becoming" (Braidotti, 2015, p. 131). A post-credits sequence set 14.3 billion years later offers an optimistic view of the principle of posthumanous entangledness by revealing that this final permanent death resulted in the creation of a new universe and the birth of new life.

Conclusion

Outer Wilds represents the differing subjectivities of transhumanism and posthumanism through its two alien species, with the Nomai representing transhumanist subjectivity and the Hearthians representing posthumanist subjectivity. In light of our present moment of global environmental crisis, *Outer Wilds* invites us to consider the influence of the posthuman subject on the environment, what it means to live through environmental collapse on a massive scale, and how environmental awareness is informed by our attitude towards death.

Outer Wilds enables us to engage with posthumanism in video games on a deeper level and provides an opportunity to expand posthumanist research in game studies. As Krzywinska & Brown demonstrate, most video games that examine posthuman concepts focus on the technological augmentation and cybernetics of transhumanism. This means that much game scholarship has similarly focused on this aspect of posthumanism. *Outer Wilds* is unique among video games in that it explores the contested ground between two posthumanisms and allows the player to experience the subjectivity of posthumanism in a philosophical sense.

Outer Wilds also reckons with the inevitability of environmental destruction in a way that reflects the climate crisis in the real world. Where the Nomai and other Hearthians fail to acknowledge the ongoing disaster, the player is forced to acknowledge the reality of environmental destruction and confront death in a way that could potentially inform their attitude to our own ongoing climate crisis. The game's portrayal of mass extinction and the protagonist's death through the gameplay makes the idea of extinction, in Mark Fisher's (2014) words, an immediate "speculative and cognitive challenge" (p. 91). This immediate challenge might impact the player differently than thinking about the abstract possibility of human extinction in a future perhaps beyond their own lifetime. While many humans living today will never experience the consequences of our current environmental crisis, *Outer Wilds* provides a simulated experience of environmental destruction on a massive scale. Although the player is unable to prevent the end of the universe in *Outer Wilds*, they are able to travel to the Eye of the Universe and achieve a state of posthumanous becoming-imperceptible as they become-earth and accept their place in an ecosystem of destruction and creation. In this regard, the Hearthian protagonist acts where no other character in the game has the will or ability to do so. Their life

expresses itself in a multiplicity of empirical acts: there is nothing to say, but everything to do. Life, simply by being life, expresses itself by actualizing flows of energies, through codes of vital information across complex somatic, cultural and technologically networked systems. (Braidotti, 2013, pp. 189–190)

Although *Outer Wilds* ends with the destruction of the universe and depicts this destruction every 22 minutes, the game asks the player to act nonetheless, drawing together information from the cultures and technologies of the Nomai and the Hearthians, and ultimately actualizing their energy in singing the new universe into being around the cosmic campfire at the end of the game. The protagonist's acceptance of environmental destruction and death is expressed in a posthumanist way through "the idea of *amor fati* as a way of accepting vital processes and the expressive intensity of a Life we share with multiple others, here and now" (Braidotti, 2013, p. 190). In this way, *Outer Wilds* potentially

points the player towards the mental shifts that Braidotti (2013, p. 160) has argued will be necessary for humans to acknowledge the possibility of human extinction and work to tackle climate change issues and environmental devastation.

Through the game's ending, the protagonist becomes a posthuman ethical subject with their non-unitary ethics resting on "the well-being of an enlarged sense of community, which includes one's territorial or environmental inter-connections" (Braidotti, 2013, p. 190). The Hearthian protagonist acts not only for themselves but for their fellow Hearthians, their planet, the other planetary bodies in the solar system, the long-dead Nomai, and the various species who will evolve in a future universe. *Outer Wilds'* representation of becoming-earth and the game's emphasis on acting in the face of environmental disaster expresses posthumanist ethics based on "positive grounds of joint projects and activities, not on the negative or reactive grounds of shared vulnerability" (Braidotti, 2013, p. 190). Through the sacrifice of transhumanist immortality, and ultimately, the sacrifice of their material body, the protagonist expresses an ethics beyond the subject that encompasses the whole cosmic environment and looks forward to the life and energies of future species. In this way, *Outer Wilds* represents not only the differences between transhumanist and posthumanist subjectivity but how the posthumanist subject expresses itself ethically in terms of an environment beyond itself, beyond the subject, and beyond the human.

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