



Moving Through Ruins and Encountering Entropy in the *Horizon* Video Games

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Abstract

Ruins are increasingly sites of interest in popular culture and scholarly settings, with recent academic thought surrounding ruination frequently crossing disciplinary lines. This includes work by human geographers reflecting on their experiences of walking through ruinous landscapes. By turning attention to the work of Tim Edensor and Jonathan Brettell, this article considers their ideas in the context of contemporary video games, using textual analysis to unpack the fantastical futures of Guerrilla Games' *Horizon Zero Dawn* (2017) and its recent sequel *Horizon Forbidden West* (2022). *Horizon Zero Dawn* has been described as a 'techno-fantasy' (Maher n.p.), blending elements from classic fantasy novels and post-apocalypse film (Hudgins n.p.). These open-world role playing games are set in a post-apocalyptic United States, amidst landscapes strewn with debris left behind by the Old Ones. The player takes control of an outcast named Aloy, who sets out to solve the mysteries of the Old Ones and their technology, all while directing her on quests through a world overrun by strange animal-like machines. In considering the ruins of the *Horizon* games, this article develops the ideas of others: "that ruins might be one avenue through which to detect critical potential in games" (Fraser 178). On the whole, this article examines how Edensor's and Brettell's experiences of ruins compare to those in computer-generated settings, while thinking more broadly about the differences and similarities between physical and virtual ruins. In doing so, specific attention is given to how players traverse *Horizon's* ruins, how game design curates the players' experiences of ruination, and how encountering entropy provides an opportunity to reflect upon the future. Beyond these discussions, this article works to demonstrate the utility of fantasy media in interdisciplinary work, arguing that *Horizon* offers players an opportunity to engage with distinct entropic landscapes and to reflect on Earth's ecological well-being.

Keywords

Ruin, entropy, fantasy, geography, *Horizon* video games

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Introduction

Ruins are sites of increasing interest in popular culture and scholarly settings (DeSilvey and Edensor 465), with recent academic thought surrounding the theme of ruination often crossing disciplinary lines. For Ann Stoler, this variety means that ruination has become “an ambiguous term; both an act of ruining, a condition of being ruined, and a cause of it. Ruination is an act perpetuated, a condition to which one is subject, and a cause of loss” (195). Yet across this variety is the understanding that ruins stand as reminders of once lively human spaces that have been abandoned, leaving them open to nonhuman processes that work to erode, collapse, and repurpose materials. What happens, however, when ruins are encountered virtually instead of physically? What does it mean to move through virtual ruins?

Drawing on the work of geographers Tim Edensor and Jonathan Brettell, this article investigates how players encounter and traverse ruins in fantastical video games. Edensor and Brettell have both produced scholarly works which articulate embodied experiences of walking among ruins, whilst reflecting on the role of entropy in shaping such spaces. In Edensor’s case, his book chapter “Walking Through Ruins” draws upon his experiences of exploring twentieth century industrial ruins in Britain. Brettell’s article “Diving into Nonlinear History: Working with Entropy at the Purton Ships Graveyard, Gloucestershire” recounts a two day walk along England’s River Severn pondering on the wreckage of discarded old boats along the way. This article examines the pertinence of Edensor’s and Brettell’s accounts in the context of virtual ruins by turning to Guerrilla Games’ popular video game *Horizon Zero Dawn* (2017), and its recent sequel, *Horizon Forbidden West* (2022).

By incorporating the work of Edensor and Brettell, this article evaluates movement and encounter in *Horizon*’s virtual ruins in relation to the real-world, arguing that video game ruins can provide spaces for players to reflect upon entropy and the future. The first section, ‘Traditions and Horizons’, provides an overview of the place of ruins in culture and the fantastic, and of the *Horizon* games themselves. In the ‘Motivations and Movement’ section, attention turns to highlighting how the player moves through *Horizon*’s world and the incentives for doing so. The following section, ‘Curating Ruination’, unpacks the differences between real and virtual ruins in terms of their creation and design. Before the article’s conclusion, the ‘Encountering Entropy’ section examines the place of entropy in *Horizon*.

Traditions and Horizons

As tangible phenomena, ruinous sites have offered inspiration to creatives by revealing the impermanence of human existence (Lyons 1). Ruins appear across visual mediums, depicted in everything from paintings, to photographs and films, and more recently video games. Over time, the artistic expression of ruins has shifted from merely conveying the ruins of classical architecture to capturing contemporary forms of ruination. Western culture has been especially captivated by ruins and their aesthetic and has even borne several terms reflective of this fetishisation. These terms include the Germanic notion of

'ruin lust' that rose to prominence in the eighteenth century (Pohl, "Aura" 155), to more recent ideas of 'ruin porn' that have snowballed over the last few decades (Lyons 2). The fetishisation of ruins is currently a pertinent topic due to the popularity of urban exploration and ruin photography (Pohl, "Aura" 155), with Siobhan Lyons arguing that "ruin porn is the new sublime" (1). However, this fetishisation of ruins has been rendered problematic, as it leads to depictions of ruins that ignore the socio-economic conditions of their abandonment (Pohl, "Aura" 155), turning "the ruin into a mythic object with a fixed meaning and transcendental value" (154). Furthermore, amid the Anthropocene, ruination on a planetary scale becomes a possibility, as once fruitful ecosystems are increasingly pushed towards collapse.

The allure of ruins has made them an enduring and prominent feature of speculative fiction. Appearing across speculative media, ruins can be a central aspect of worldbuilding or more peripheral, taking on a variety of forms ranging from the planetary scale down to cities, castles, crypts, and cottages. This influence, and variety, has extended in recent times to include video games, leading to scholarly engagements which foreground virtual ruins. In an article on depictions of urban decay in games, Emma Fraser notes that "since the development of three-dimensional video games in the early 1990s (and to some extent, even prior), settings of ruin and decay have been a staple of a number of game genres" (178). Similarly, while discussing the relationship between gender and ruins in games, Evan Watts emphasises that "ruin aesthetics serve as the primary setting in many popular games" (247). The successful action-adventure series *Tomb Raider* (1996–present) is one example, wherein players navigate ancient tombs in search of lost artefacts. Other popular games, like *The Last of Us* (2013), utilise ruins to frame their post-apocalyptic landscapes. Ruins also appear in the games of quintessential science fiction franchises, including *Star Wars Jedi: Fallen Order* (2019), where otherworldly ruins are investigated in search of hidden knowledge. The prominence of virtual ruins also extends to the fantasy genre, including classic franchises like *Final Fantasy* (1987–present), *The Elder Scrolls* (1994–present), and the critically acclaimed *Elden Ring* (2022). In these games, players venture into ominous ruins and dungeons in pursuit of powerful items, often battling monsters in the process. Such examples demonstrate the multiplicity of ruins in games, whereby ruins come to symbolise the treasures of lost pasts, the aftermath of horrific catastrophes, the faded wonders of alien civilizations, and the lairs of fiendish creatures. However, despite the diverse and substantial role that ruins fulfil in many popular games, Fraser emphasises that "video games have received comparatively little attention in relation to ruinscapes and spaces" (178). With this in mind, this article considers the significance of ruins in the *Horizon* video games, whilst making connections to broader understandings of ruination.

Horizon Zero Dawn was released in 2017, with its sequel *Horizon Forbidden West* being released in February 2022. The *Horizon* games are of interest to scholarship on ruins because of the significant role of ruination in marketing, gameplay, and worldbuilding. In a post-catastrophe setting that blends elements from science fiction and fantasy, these open-world role-playing games produce an engaging science fantasy story, with *Zero Dawn* being described as 'techno-fantasy' (Maher n.p.). *Horizon's* narrative is set in the United States in the thirty-first century as the world recovers from war with a haywire artificial

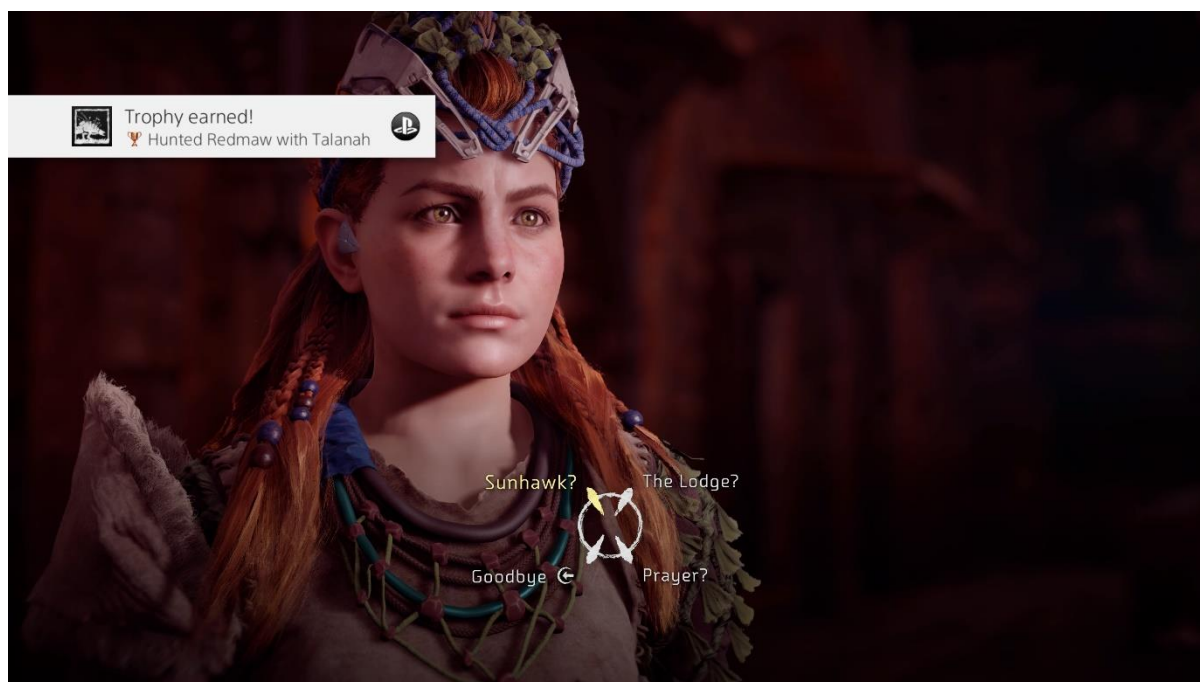


Figure 1: Aloy during a conversation. She is white with red hair and her clothing is primarily made up of animal skins. (*Zero Dawn*, Screenshot by author).

intelligence: more specifically, *Zero Dawn* takes place in what is present day Colorado, Wyoming, and Utah, while *Forbidden West* takes the story to California, Nevada, and Utah. Society is now divided into diverse tribal groups who have carved out lives amid the ruins of their forebearers, referred to as the Old Ones. The player takes control of a young, orphaned outcast named Aloy (see figure 1), setting out to solve the mysteries of the Old Ones and their technology, all while directing her on quests through a landscape overrun by strange animal-like machines. The machines take various forms, mimicking modern animals and prehistoric creatures, and are part of a complex system set up by the Old Ones to restore, and then maintain, Earth's biosphere. However, the machines are generally hostile and equipped with advanced weaponry, including lasers and explosives. In order to survive, the player engages in combat with bows, spears, slingshots, and tripwires. The combat is just one example of how, in this fantastical future, past technology is no longer fully understood; technological expertise has given way to superstition, with holograms seen as spirits, and the machines often perceived as gods or demons. Characters use scrap in their clothing and settlements are built upon ruins, such as Plainsong, which has taken root amid an ancient radar array (see figure 2). This mixture of technology and tribalism extends to much of *Horizon's* world, producing an unusual speculative setting for players to explore.

There currently exists a range of academic work on *Zero Dawn*, exploring religion, gender, and the nonhuman. This article instead examines the prominence of ruination in the *Horizon* series, taking into account both *Zero Dawn* and the more recently released *Forbidden West*. This article in particular foregrounds *Horizon's* ruinous landscapes, drawing upon the ideas of Fraser: "that ruins might be one avenue through which to detect critical potential in games" (178). By comparing Edensor's and Brettell's accounts with my own experiences of *Horizon*, this article examines how exploring ruins in the real-world



Figure 2: Settlements like Plainsong epitomise the speculative setting (*Forbidden West*, Screenshot by author).

compare and contrast to ruins in video games, arguing that encounters with virtual ruins facilitates thought around entropy and the future. More broadly, this discussion emphasises the interdisciplinary value of the fantastic, whilst also contributing to geographic understandings of video games which “remain under-represented in studies of the geographies of popular culture” (Ash and Gallacher 351).

Motivations and Movements

The openings of both *Horizon* games immediately and intentionally indicate to the player the thematic importance of ruins, setting the scene for the rest of the playthrough. The start of *Zero Dawn* has the player guide a youthful Aloy through a research laboratory that has succumbed to calcification, its surfaces partially coated in stalagmites and stalactites. Similarly, the beginning of *Forbidden West* has Aloy explore an old space shuttle launch facility overwhelmed by vibrant vegetation, including vines, moss, ferns, and trees (see figure 3). These initial experiences are replicated throughout both games as the player investigates ruins in main missions and side quests, crisscrossing a world defined by sublime landscapes and decaying architecture. The player traverses along dirt tracks and unkempt roads, whereby the ruins of *Horizon's* world emerge in diverse forms, from gas stations, houses, and hotels to the larger laboratories, stadiums, factories, and skyscrapers. These ruins exist amid varied biomes, including grasslands, forests, deserts, snowy mountainsides, and tropical beaches. The assortment of these environments means the player will come across deteriorating structures that are overgrown, inundated with water, buried under sand, or encased in ice. This environmental and architectural variety adds to the distinct aesthetic and experience of each ruin within the world.



Figure 3: Aloy overlooking the ruined shuttle launch facility (*Forbidden West*, Screenshot by author).

Horizon's open world format enables flexible exploration, with players enticed into ruins as part of the story and to obtain useful rewards. Key objectives have the player guide Aloy through overrun research facilities to access lost technologies, hunt machines to obtain their components, and help locals by clearing out bandit camps. As such, the main narrative, secondary objectives, and freeform exploration all draw players into encounters with ruins. Outside of central tasks, players are encouraged to collect vintage artefacts and access ancient data files that reveal snippets of life pre-catastrophe. More specifically, in *Zero Dawn*, the player can search for long lost objects in the form of antique mugs and old figurines, which can then be exchanged with specialist vendors for resources. In *Forbidden West*, further motivations for engaging with older forms of material culture are implemented, as Aloy climbs abandoned signal towers to find valuable lenses; explores 'relic ruins' to collect vintage ornaments (see figure 4); locates rusted military planes to retrieve black boxes; and breaks open corroded automobiles to collect useful materials. Thus, the tasks and objectives in these games frequently function to encourage an engagement with the ruins of the Old Ones, whereby these encounters contribute to driving forward the story, building a sense of the pre-apocalypse past, and obtaining valuable supplies.

Alongside providing the player with unique settings to undertake objectives, the multiplicity of *Horizon's* ruins also provides variety regarding movement. In the real-world, daily life involves linear patterns of movement through regulated spaces and ordered architectures. When walking through ruins, these conventional patterns of movement are unsettled by disordered structures that have been overcome by nonhuman process, as "the physical structure of ruins invites and constrains walking in a distinctive fashion" (Edensor 127). The disorderly layout of most ruins means that simply walking is often not enough, and other forms of movement must be adopted to successfully bypass obstacles.



Figure 4: Exterior of the Restless Weald relic ruin (*Forbidden West*, Screenshot by author).

As Edensor writes, “the ruin prompts the body to stoop, crouch, climb, slither, leap, swerve and pick its way to avoid lurking hazards” (127). Especially in indoor spaces, “numerous obstacles from fallen masonry and old machinery to debris of all descriptions must be manoeuvred around, jumped over, avoided or balanced upon” (128). In the context of virtual ruins, this need for exciting movement is amplified in order to produce gameplay that engages the player. This can be seen in *Horizon* as its ruins force Aloy to enact risky, and at times unrealistic, movements. The player climbs ladders in rusted elevator shafts, clambers up crumbling walls, and crouches through tight air vents. Navigating puzzling pathways, Aloy must leap between outcrops of debris, glide across cavernous gaps, and pull twisted beams to dislodge blocked passages. Consequently, in these virtual ruins, the player is not only breaking from everyday life through the fantastical setting, but also the significant presence of ruins, which, just like in reality, must be confronted through unconventional methods of movement.

As well as being unusual spaces to traverse, the challenging and hazardous nature of derelict sites means that there are people who struggle to engage at length, or at all, with ruins in a physical sense. In either case, through the *Horizon* games, players can experience ruins in a virtual and accessible format, with exploration enhanced by Aloy’s talents and gadgets. Aloy possesses superhuman endurance, impeccable climbing skills, and faultless front-crawl, and all of these features enable her to move swiftly through her world and overcome obstacles in a manner impossible to most people. As the story progresses, Aloy gains access to various tools that further aid her exploration. In *Forbidden West*, this includes a ‘Pullcaster’ to dislodge debris (see figure 5), a ‘Shieldwing’ to glide across gaps, a ‘Diving Mask’ to breathe underwater, an ‘Igniter’ to detonate combustible minerals, and a ‘Vine Cutter’ to remove vegetation. Additionally, players are able to tame and ride some of the animalistic machines, providing other ways to move through open



Figure 5: Aloy using the Pullcaster to clear a path through the fragile wall (*Forbidden West*, Screenshot by author).

areas. This includes a pterosaur-like machine in *Forbidden West* that allows the player to fly, making it possible to observe the landscape from above (see figure 6). The combination of these physiological characteristics and mechanisms empowers players to experience *Horizon's* ruins in unique and fluid ways that are often impossible in the real-world. On top of these considerations, when exploring ruins in the real-world, one must also be vigilant



Figure 6: Aloy flying between ruined tower blocks on the pterosaur-like Sunwing (*Forbidden West*, Screenshot by author).

of any onsite security and be wary of other people in the ruins, such as anybody using those spaces for illicit activities. Ruins can also be treacherous spaces for people to move through due to loose debris, unstable flooring, and exposed substances. Whilst these factors rarely stop the exploration of ruins, they are nonetheless inconveniences and dangers that those wanting to walk through ruins must contemplate (Edensor 128). Thus, the possibility of catastrophic injury, and even death, can further affect the movements of people exploring ruins simply because they want to avoid getting hurt. In *Horizon*, certain gameplay mechanics, like instant healing and endless restoration, means that players can afford to be bolder and more reckless. If Aloy is harmed, the player can use medicinal plants or potions to restore her health. In the event of a more serious setback that kills Aloy, the player can simply respawn and go again, returning Aloy to an earlier point with her life restored. Overall, *Horizon's* virtuality, the abilities provided to Aloy, and the fact that the player has endless lives affords players opportunities to engage with ruins in imaginative and thrilling ways. In turn, the significance of ruins in *Horizon's* story and landscapes highlight the broader significance of video games as a medium for people to contend with ruination, free from the logistical and physiological limitations that may deter them in the real-world.

Curating Ruination

Arguably, one of the most significant differences between real and virtual ruins comes through their design. In reality, ruins emerge through unmanaged, nonhuman processes, where “there has been no assiduous attempt to keep up appearances” (Edensor 134). Yet, in the context of virtual ruins, such a statement is questioned. While virtual ruins mimic the form and aesthetic of their real-world counterparts, they are nonetheless the product of human process, crafted and assembled by the game’s development team. As such, the ruins of games, and fiction in general, unsettle established understandings of ruins as disordered spaces because they have been shaped by the human imagination. While giving the illusion of being disorganised and chaotic, such ruins are in fact carefully curated. Rather than being sites that encapsulate a lack of care and attention, they are the reverse, crafted by diligent work. Thus, virtual ruins stand as symbols of a deliberate dereliction: representative of a curated ruination, wherein structure and interaction has been thought-out from the ground up.

By curating a sense of ruination, games unsettle further understandings of ruins and the behaviours associated with them. In the case of *Horizon*, this can be well articulated in relation to themes of play and wayfinding. In the case of play, “interstitial spaces such as ruins serve as venues for adventures, den making and imaginative play” (Edensor 128). As such, ruins are spaces that accommodate diverse forms of ‘playful exercise’ (128). The capacity of real-world ruins to host playful encounters is also pointed out by Brettell, who reflects:

My mooching about among these ruins and obituaries of industry has interested a photographer who has been positioned along the hedge line: He tells me that he’s waiting to capture a train on the northern bank as it

passes through. He also tells me that he used to play here as a child—pirates being the favored game—particularly around a vessel called Mary (418).

Of course, video games also generate playful encounters for people and ideas regarding this playful potentiality apply to virtual ruins as well. Edensor's statement that "feats of balance, agility and bravery may be accomplished in these unsupervised playgrounds which, full of risk, clash with the regulated, recreational spaces of the more ordered world outside" (128), pertains to the ruins of *Zero Dawn* just as much as it does the industrial ruins of Britain. However, while the playful qualities of real ruins come about as a by-product of their unconventional form, in-game ruins are designed with play at the core of their being. In essence, unlike in many other artistic mediums where ruins perform a purely aesthetic role, in video games, ruins are ultimately made to be played in with human engagement as a key consideration. In turn, ruins in *Horizon's* world promote a sense of playful adventure in an imaginative setting, where specific patterns of play come through distinctive and reoccurring interactions, demanding that the player overcome obstacles in resourceful ways. Therefore, rather than being an unintended consequence, playful encounter is the primary purpose of the ruins.

When it comes to wayfinding, as noted already, ruins are chaotic spaces that break from the ordered spaces of contemporary life and generate unusual forms of movement. This is because "under conditions of continuous decay, material structures and routeways are not distributed according to an ordering scheme but emerge according to happenstance" (Edensor 127). The presence of deformed pathways and passages means that the way forward can be unclear. As Edensor explains, "with the erasure or blockage of once carefully maintained sequential routes, along with the collapse of walls and doors, large ruins often resemble labyrinths in which path-making is arbitrary and open to multiple options" (127). Wayfinding becomes a more spontaneous affair, whereby "a path evolves as the walker is called forth by curiosities, potential channels of movement, tempting surfaces and gradients, and peculiar impulses" (127). As a result, for the avid explorer of ruins, the route emerges and evolves throughout the experience as points of interest are discovered and obstacles identified, influenced by the hurdles that can be bypassed and those that cannot.

In the *Horizon* games, while the open world format provides the player with freedom to explore as they see fit, the paths players can take are still controlled to an extent. Players can choose when to explore ruins whilst on their travels, they may venture inside, or simply keep moving on. Yet, despite this freedom, once within a ruin there may only be a couple of linear paths for the player to follow. As such, players' movements are influenced by the structure of the game's world itself, especially in the enclosed spaces. Of course, this is true of the real-world, where "visitors to ruins [are able] to walk without being regulated by others. We can stop for long periods, dawdle or run, with no objective at all" (Edensor 128). However, whilst the linearity of those once human places is formed through nonhuman processes, virtual ruins have been crafted in a precise manner by the developers. In *Horizons'* ruins, each space is designed to drive the player towards objectives, collectable items, and enemies. Even if not immediately clear, when obstacles block the way, players

can be assured that there is almost always a way through, around, or over. Additionally, while undertaking quests, players follow specific directions provided by the on-screen quest marker. These factors mean that the primary route different players follow will be similar as they move forward through a predetermined path of puzzles or give up altogether forcing them to backtrack. Thus, despite the ruins of games still appearing labyrinth-like, wayfinding has already been conducted for the player, directing them along scripted paths to accomplish certain feats and complete specific objectives. Consequently, in *Horizons'* ruins, the trajectories that players follow and the actions that they utilise along the way become predetermined. Ruins are no longer spontaneous spaces but instead curated to direct engagement, movement, and narrative. Rather paradoxically then, while ruins in video games, and art more broadly, represent human spaces overcome by erratic nonhuman processes, they emerge in an orderly fashion through human creativity. Such insights unsettle wider understandings of the ruin as disordered spaces deficient of human agency.

Encountering Entropy

When moving through ruins, human corporeality is brought into encounter with entropy, as spaces of maintenance give way to realms of indifference. According to Brettell, the second law of thermodynamics

introduces the idea of entropy as a measure of randomness on the spectrum of order and disorder [...] For example, bodies grow old and objects lose heat; without work and effort put into the maintenance of things, they become disorganized [...] The universe (as a closed system) is gradually moving toward disorder, and entropy is increasing (422).

Just as ruins have the capacity to reflect the transience of human beings, they also stand as a microcosm of broader entropic processes that weave through our universe. Through the ruin, entropy is manifest on a spatio-temporal scale that humans can engage with, while illustrating grander transitions that exist beyond our agency. As such, ruins reveal the universal fate shared by bodies and buildings, planets, and stars, and eventually, even the universe itself: of decay, erasure and forgetting. In *Horizon*, entropy fulfils a purely aesthetic function, as its ruins are not actually produced by disorganised, nonhuman processes but coordinated human designers. Nonetheless, although entropy in *Horizon* is an illusory occurrence, for the human onlooker, these landscapes still work to embody the transience of material being and life. Such a sentiment is further compounded by the post-apocalyptic backdrop wherein even the existence of humankind is fragile.

By bringing players into encounter with ruination and entropy, *Horizon* communicates broader existential anxieties regarding environmental change. For instance, in *Forbidden West*, the player eventually comes across the ruins of San Francisco, now partially flooded by the ocean (see figure 7). The ruins take on almost Atlantean qualities, both aesthetically and thematically, as the once influential American city lies submerged, its exteriors and



Figure 7: Some of San Francisco's sunken ruins (*Forbidden West*, Screenshot by author).

interiors now home to kelp and bright corals. While swimming through these ruins, it is hard not to draw parallels between this imaginary future and the predicted outcomes of climate change (see figure 8). This is just one example, but most of the landscapes across both games have similar, prophetic tones. Whilst in many ways *Horizon's* existential crises have already happened, such as the ecological devastation wrought by European colonialism on Indigenous communities (Whyte 226), *Horizon's* ruins also embody a

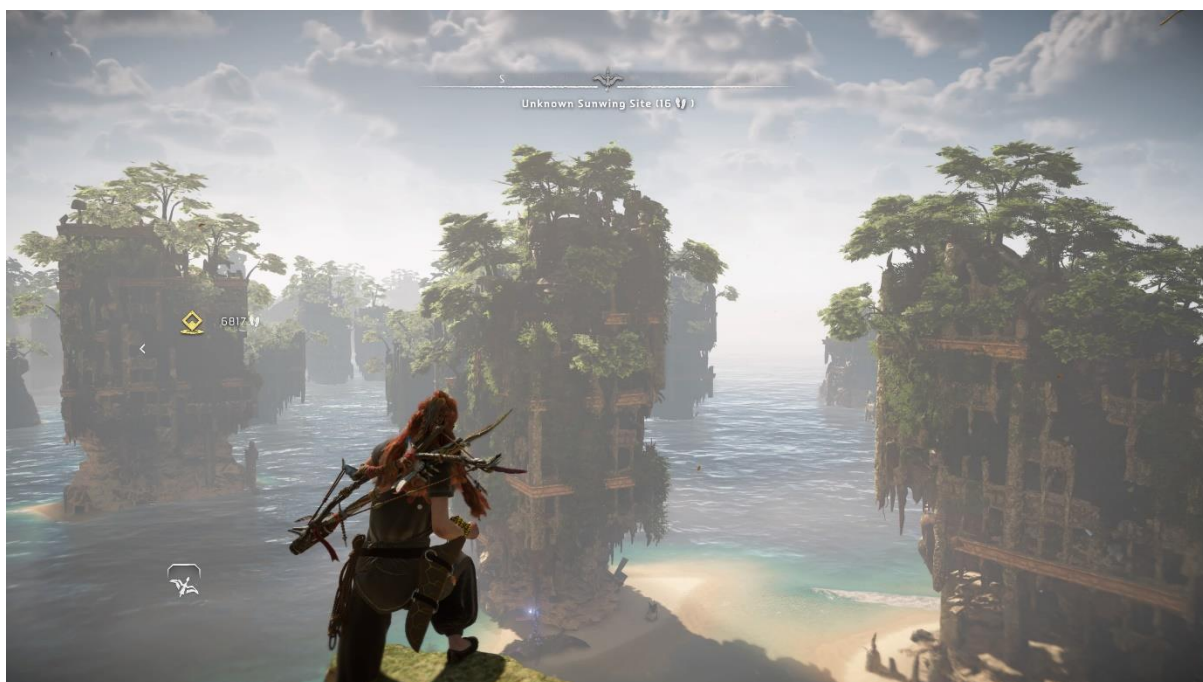


Figure 8: Aloy looks out over the ocean where overgrown tower blocks, corroded by rising coastal waters, endure in the shallows (*Forbidden West*, Screenshot by author).

relatable future. Despite humankind living on, the promises of technological progress have given way to nightmarish near extinction. Little remains of twenty-first century culture aside from dereliction and mystery; and, while Aloy's world can still be saved, the player's world has already ended. In this way, the science fantasy of *Horizon* arguably conveys the truth of our 'ruined Earth' (Beuret and Brown 332), an acknowledgment that the ruin has become "the ontological condition of our planet" (Pohl, "Ruins" 82). In its portrayal of distorted ecosystems and the entropic encounters provided to players, *Horizon* emphasises that "the whole environment (in the Anthropocene) is itself an artefact needing care, fixing, and manipulation" (Hodder 21). Thus, rather than just being a source for fanciful escapism, *Zero Dawn* and *Forbidden West* draw attention to the vulnerability of society, culture, and the biosphere.

Despite this, amidst the ruins of the old world, life goes on in new ways. In the breakdown of certain materials and forms, entropy has the tendency to generate alternatives. More specifically, although ruins stand as traces of their fading pasts, in their evolving dereliction, "they are also full of new forms of life" (Edensor 129). As observed by Brettell, "the ships were beached and will decay, but in doing so trap sediment and make possible the accumulation of new ground" (418). In this way, through their ongoing decay, ruins generate further modes of being that are constantly being altered through messy, nonhuman processes. As such, the ruin is a space wherein "entropy fluctuates, relations are formed, transformed, and reformed, and such a pattern of history therefore becomes nonlinear" (422). In essence, despite the eventual heat death of the universe, reality is still undercut by constant cyclical transformations, including those that rather paradoxically create through destroying. This is to say that the end of our world does not necessarily entail the end of all worlds. *Horizon's* Earth is a ruined planet rising from its own ashes, as the relics and scraps of the forgotten are reclaimed and repurposed by the living. Whilst *Horizon's* landscapes can at times be stark, they also come alive with life from vivid meadows to dense jungles. The settlements Aloy encounters come perched on cliffs, rising from murky swamps, and clinging on in dusty wastelands. The residue of one society becomes the literal foundations for a new one as Aloy encounters animated communities forging lives amidst the old world's ruins, including radar arrays, skyscrapers, and solar energy plants (see figure 9). "Wreckage then, can also be constructive" (Brettell 417), and in this regard, *Zero Dawn* and *Forbidden West* help to highlight the constructive side of ruins, while also conveying a resilient humankind. At this intersection of ruined pasts and emergent futures, *Horizon* captures how ruins have the capacity to take on new meanings, whether this be through reinvigorated human attention or an onslaught of nonhuman processes.

Conclusion

The *Horizon* games offer players opportunities to explore ruins in varied ways. Traversal through the ruins of *Zero Dawn* and *Forbidden West* requires players to utilise unconventional patterns of movement that break from those seen in everyday life. These movements are further enhanced and rendered unique by superhuman strengths,

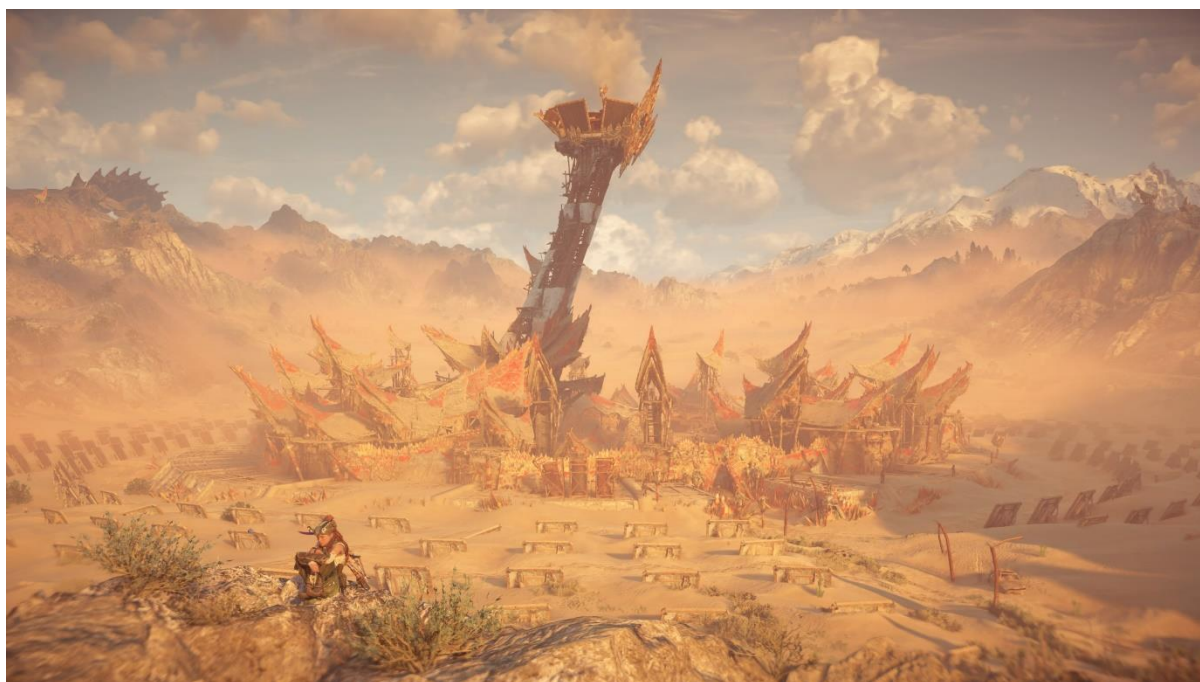


Figure 9: Scalding Spear is a settlement situated among an ancient solar energy plant (*Forbidden West*, Screenshot by author).

gadgets, and the ability to respawn. In contrast to the ruins of the real-world, which are generally shaped in a disorganised fashion by nonhuman processes, *Horizon* demonstrates how ruins in games are moulded by human thought, through careful and deliberate game design that curates the players experience of ruin. While moving through these games, the player encounters entropic settings which, like their real-life equivalents, provide opportunities to reflect on individual and collective futures, including those related to our planet's ecological horizons. Thus, *Horizon* generates unique opportunities for players to experience moving through ruins; and, in bringing players into contact with this ruined future, these games arguably open up an engaging space for players to reflect upon contemporary existential anxieties and the future of their own world.

By examining virtual ruins in *Horizon*, through the textual analysis of *Zero Dawn* and *Forbidden West*, this article has laid the groundwork for future research. For example, *Horizon Call of the Mountain* is a virtual reality game currently in development that promises to add a first-person experience to the series. Additionally, the concept art and marketing for both *Horizon* games also feature ruins and examining the role of ruination aesthetics in the promotion of fantastical video games would be a valuable effort, especially in relation to broader concepts around the fetishisation of ruins. Such possibilities further underscore the productive potentiality of speculative media as a means of reflecting upon the place of ruins in popular culture. Overall, by highlighting existing geographic ideas and considering them in relation to the *Horizon* video games, this article has developed its own understandings of how people encounter virtual ruins and emphasised the value of such experiences. It has argued that *Horizon* produces imaginative encounters with ruins that are both comparable and contrary to the real-world. In doing so, *Horizon* provides players with an opportunity to think about ruination and Earth's future. Finally, and more broadly, this article demonstrates how the fantastic can

contribute to interdisciplinary knowledge, especially significant at a time when diverse thought is required to tackle global crises and ensure a prosperous future for all of humankind.

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