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Abstract

Drawing inspiration from discussions on the relationship between archaeology and video games ("archaeogaming"), this article argues that contemporary games address three central concepts of archaeological theory: the uncertain materiality of archaeological finds, the way in which caring for artifacts complicates a linear or chronological understanding of history, and the open-ended quality of archaeological interpretation. The "archaeogames" I examine—which include *Heaven's Vault* (Inkle, 2019), *Outer Wilds* (Mobius Digital, 2019)*, The Forgotten City* (Modern Storyteller, 2021), and *Elden Ring* (FromSoftware, 2022)—capture these concepts by implementing a variety of gameplay and narrative mechanics. In addition to embedding archaeological objects at the level of representation, these games turn archaeological theory into a gameplay practice—a process potentially leading to the emergence of collaborative and creative storytelling within what I call archaeological fandom.

Key words

Archaeology; history; narrative; environmental storytelling; uncertainty; objects

Introduction

Archaeology has become a central metaphor and imaginative practice in an important strand of contemporary video games. Andrew Reinhard's *Archaeogaming* (2018) offers a comprehensive examination of this intersection of game studies and archaeology.[1] One of the takeaways of that book is that "archaeologists need to reach out to game studios to lobby for the inclusions of various archaeological mechanics [in games] without sacrificing the intended entertainment value" (2018, p. 17). My argument in this article is that video games have already started drawing inspiration from archaeology not only on the level of the simulated world but also through the formal and imaginative affordances of gameplay. I will call games that engage with archaeology both thematically and formally "archaeogames," and I will explicate how they resonate with contemporary archaeological theory and some of its philosophical underpinnings. In particular, I am inspired by New Materialist philosophy (Barad, 2007; Bennett, 2010) and by how it prompts a reconceptualization of material things as agential and potentially disruptive of human interpretation and appropriation.

My argument is two-pronged, moving from how archaeology informs the mechanics of gameplay (including those responsible for delivering digital narratives) to the excavatory practices that surround gameplay in online communities—what I will refer to as "archaeological fandom." In the games I will examine, both gameplay and the subsequent interpretation of gameplay can be viewed as "archaeological" in that they display a combination of characteristics: (1) an investment in and foregrounding of the simulated materiality of the game world, for instance through increased attention to objects and the instability of their meanings; (2) a historical logic of temporal stratification, which frequently aligns with innovative (nonlinear) ways of delivering a game narrative; (3) an openness to interpretation that fuels the player's imagination through gap filling or the creative extension of game narrative. I will first explore a number of recent archaeogames: titles like *Heaven's Vault* (Inkle, 2019), *Outer Wilds* (Mobius Digital, 2019)*, The Forgotten City* (Modern Storyteller, 2021) have developed innovative storytelling mechanics to probe notions of history and materiality. In the final section, I turn to the reception of FromSoftware games (particularly *Elden Ring* [2022]) to illustrate the exploratory engagements of archaeological fandom.

Before developing these ideas, I will contextualize my discussion vis-à-vis existing work in the humanities that embraces archaeological metaphors. I will also draw on recent archaeological and New Materialist theories to unpack the meanings of the word "archaeological" in my argument. As I will show in the following pages, archaeogames do not merely thematize archaeology but encourage gameplay and interpretive practices that tie in with archaeology as a discipline focusing on the entanglement of human societies and material things. From this perspective, which is inspired by Olsen et al.'s (2012) work, materiality provides a point of access into a past that can never be definitively explicated but only sampled in its multiplicity—hence the interpretive openness of archaeological objects that the games I will study seek to recreate within a digital medium.

Clearly relevant in this connection is the field of historical game studies, in which scholars such as Adam Chapman (2016) and Jeremiah McCall (2020) have started interrogating the value of video games for the imaginative exploration of the past.[2] While not explicitly framed in archaeological terms, this work also tends to highlight the

importance of both game mechanics and the player's agency in shaping access to the historical past. McCall, for instance, uses the concept of "historical problem space" to emphasize the way in which the historical questions raised by games, through their own ludic and narrative means, can remain interpretively open—an idea that resonates with my discussion below. Nevertheless, it is important to keep in mind that archaeogaming practices extend beyond historical games in the strict sense. Archaeogames need not deal with real-world history; even when they touch upon it (as in the case of *The Forgotten City*), they may favor a philosophical, speculative mode of engagement with the past over historical accuracy.[3]

Archaeology Between Metaphor and Material Practice

In the wake of Michel Foucault's seminal work in the 1960s, archaeology has become a generative metaphor in many areas of the humanities. Foucault's (1969, 1971) "archaeology of knowledge" was a method of discourse analysis that placed emphasis on the embedding of ideas and practices—including conventional disciplines—within historical contexts. It is hard to overstate the significance and influence of Foucault's thinking, but it is also hard to miss that the reference to archaeology remains loosely metaphorical in his work. When, for instance, he writes that "archaeology tries to define not the thoughts, representations, images, themes, preoccupations that are concealed or revealed in discourses; but those discourses themselves, those discourses as practices obeying certain rules" (1969, p. 138), it should be clear that the "archaeological" method he has in mind has little in common with archaeology as a set of practices that focus primarily on material artifacts, not on the rules shaping discourse.

Scholars building on Foucault's work have tended to revive the archaeological metaphor by shifting attention from discourse to materiality while retaining Foucault's interest in historical processes. This is perhaps most evident in discussions emerging within the field of so-called "media archaeology," whose history is helpfully reconstructed by Erkki Huhtamo and Jussi Parikka in the introduction to an edited volume (Huhtamo & Parikka, 2011; see also Parikka, 2012). As Huhtamo and Parikka point out, "media archaeologists have begun to construct alternate histories of suppressed, neglected, and forgotten media that do not point teleologically to the present media-cultural condition as their 'perfection'" (2011, p. 3). The archaeological dimension of this approach has to do with these researchers' ambition to "excavate" (to use another popular archaeological metaphor) media practices that are not mainstream by today's standards, combining an interest in the materiality of these media and in the discursive structures that surround them. Archaeology thus involves the uncovering of material practices obscured by the presentism of contemporary discourse, for instance in the form of surprising continuities between digital media and their analogue precursors. This is somewhat closer to archaeological methods, but the reference remains (as Huhtamo and Parikka acknowledge) partial and metaphorical.

To be clear, I don't see this metaphorical appropriation of archaeology as problematic. There is plenty of evidence that metaphors are essential cognitive tools and that they can steer the formation of new concepts, approaches, and areas of inquiry (Nersessian, 1992; Ortony, 1979). To some extent, my use of the concept of "archaeology" in this article is also metaphorical, an extension to digital games of some

of the core interests of archaeology as a discipline. However, in the games I will examine archaeology and its traditional objects of study (ruins, artifacts, etc.) also play an explicit role on the level of plot and theme. Thus, my category of "archaeological gameplay" is an extrapolation from the game's subject matter to the formal affordances of gameplay and digital narrative. This extrapolation is still a metaphorical gesture, but it is grounded in objects and environments that do resonate with an archaeological mindset in a non-metaphorical sense.[4]

Before detailing and exemplifying this notion of archaeological gameplay, I will spell out the theoretical and practical commitments of this appeal to archaeology. My main inspiration here is the archaeological theory presented by Bjørnar Olsen, Michael Shanks, Timothy Webmoor, and Christopher Witmore in a co-authored book (Olsen et al., 2012). For these archaeologists, the materiality of the excavated objects is central to the operations of their discipline. Drawing on Bruno Latour's (2005) actor-network theory as well as work in New Materialism (e.g., Bennett, 2010), Olsen et al. foreground the system of relations that binds together the researcher located in the present and the past as it is inscribed in the archaeological record. This system revolves around "care," which is another key concept in Olsen et al.'s discussion and can be defined as the "painstaking toll of cleaning, examining, and conserving artifacts by technicians and curators" (2012, p. 66). Care is a particular kind of attention brought to bear on the fabric of things in themselves: a work of conservation suggesting that, in archaeology, the materiality of an artifact is never dispensable or completely interchangeable with its interpretation.

This focus on materiality also involves a particular way of relating to the past. Olsen et al. acknowledge the benefits of chronological ordering, but they argue that any linear understanding of the past is necessarily a simplification, perhaps even a distortion. Instead, they suggest that "the past is amassed, aggregated, enrolled, mixed up, recirculated, unforgotten, or torn out. It is the exchange with things that gather the 'pasts' that is of importance and not an orientation with respect to a measured and passing temporality" (2012, p. 145). In other words, the archaeologist's access to the past is never direct but mediated by the meanings that coalesce around historical distance. Time is always relational and multivalent, a situation that Olsen et al. capture through the metaphor of "percolation" and that complicates more conventional stratigraphic metaphors: instead of each historical stratum being independent and sealed off, history seeps through the layers and influences, in often unpredictable ways, the present. Moreover, this entanglement is never merely epistemic but raises ethical questions—hence (again) the work of care as moral responsibility towards both things in themselves and the future human observers who will attempt to understand them.

Archaeological care involves preserving artifacts but also formulating hypotheses as to the artifacts' relations. This potentially introduces a sense of uncertainty and mystery, because some objects can never be accommodated within a coherent and complete historical narrative; even if they are, archaeological interpretation is subject to change over time, as new artifacts are brought to light or new theories are formulated. Put otherwise, materiality can never be completely "depleted" through human interpretation—a central theme in New Materialist thinking.[5] Concretely, this means that archaeological interpretation is defeasible and open-ended rather than a process admitting of final answers.

Orientation towards material objects, nonlinear view of history as "percolation," and interpretive openness: these are the main takeaways of Olsen et al.'s archaeological theory that can be extended to the gameplay of archaeogames. Again, it is worth drawing attention to the overlap with the field of historical game studies here: Holger Pötzsch and Vít Šisler (2019), for example, revisit concepts from film theory and memory studies to discuss the ways in which games use material artifacts to both build on and shape cultural memory. My examples differ from historical games in that they cultivate an imagination of materiality that remains relatively uncoupled from real-world history and nevertheless deeply resonates with an archaeological framework. These titles fall into a long history of games that engage with archaeological themes. The late 1980s and 1990s saw a slew of *Indiana Jones* game adaptations and other archaeologically inspired games, including the extremely successful *Tomb Raider* franchise, but also less familiar titles such as the science fiction game *The Dig* (LucasArts, 1995), which focuses on xenoarchaeology. Praised for their puzzles, cinematic qualities, and (especially in the case of the first *Tomb Raider* [Core Design, 1996]) level design, these games paved the way for the archaeological gameplay I discuss in the following pages. Contemporary archaeogames deviate from these forerunners in their self-consciousness and willingness to openly disrupt genre and narrative conventions. Games from the 1990s were largely tied to a linear model of puzzle-solving, combat, and storytelling; more recent, "indie" games do not hesitate to embrace nonlinearity and indeterminacy as centerpieces of archaeological gameplay.

Materiality

The concept of materiality has been theorized in two related but ultimately divergent ways in contemporary nonhuman-oriented philosophy. On the one hand, theorists such as Jane Bennett (2010) and Karen Barad (2007) have foregrounded the interdependency of material things and human societies: how the material is a frequently forgotten locus of agency—"thing-power," in Bennett's (2010, p. xvii) terminology—that is entangled with but also distinct from human agency. The man-made "debris" that Bennett draws attention to early on in *Vibrant Matter* (2010, pp. 4–6), and that embodies the strange agency of the material, is also a typical object of archaeological study. On the other hand, object-oriented ontology (e.g., Bogost, 2012; Harman, 2018) downplays human–nonhuman entanglement and instead highlights the inaccessibility of the material, how physical things elude human understanding: we can project human meanings onto the material world, but for thinkers like Harman our knowledge of things in themselves remains fundamentally limited. Materiality and mystery thus go hand in hand, in that material objects invite interpretation and contextualization vis-à-vis human practices, but such human-imposed meanings can never be considered definitive.

This double interest in material agency and mystery finds a variety of manifestations in contemporary games. Objects are, of course, everywhere in video games, where they can enhance the player's abilities (as temporary "buffs" or permanent upgrades), or they can help them solve puzzles and advance the story. In some instances, however, game objects can go beyond a merely utilitarian gameplay function, resonating with New Materialist ideas. My first example is *Heaven's Vault*, a science fiction game whose protagonist (a young woman named Aliya) is an aspiring

archaeologist in a galaxy known simply as the "Nebula." *Heaven's Vault* combines two separate mechanics: an interactive narrative in which the player makes a large number of choices through the game's dialogue system; and a decoding mechanic that involves translating inscriptions (found on ruins and artifacts) from a lost language known as "Ancient." This isn't the first game in which translation from a fictitious language plays a central role: already in *Sethian* (Duang! Games, 2016), the player is asked to decode an alien language by interacting with a computer—the only extant artifact of an alien civilization, whose history is gradually unpacked as the player's knowledge of their language deepens.

While *Sethian* is, largely, a puzzle game, the blend of language-based puzzles and interactive narrative in *Heaven's Vault* creates unique opportunities. First, the player's encounters with Ancient inscriptions in *Heaven's Vault* always take place in context, which guides their interpretation. We come across our first Ancient text when Aliya's advisor, Professor Myari, summons her in haste to show her an "eagle-wing brooch." This is clearly an important item, and it contains a two-word inscription, with the game interface suggesting two possible translations for each word: the first lexical unit, for example, could mean "friend" or "holy" (see Figure 1 for an example of the translation interface). It is not too difficult for the player to guess that this inscription means "holy emperor" based on the eagle symbolism and also on the importance of the task Aliya receives from Myari (finding the archaeologist who sent Myari the brooch and has recently gone missing). If the player got the translation right, Aliya will confirm their guess after leaving Myari's office, so that whenever the words for "holy" and "emperor" are encountered in an inscription their translation is shown automatically. Otherwise, Aliya will realize she has made a mistake and invite the player to revisit the translation.
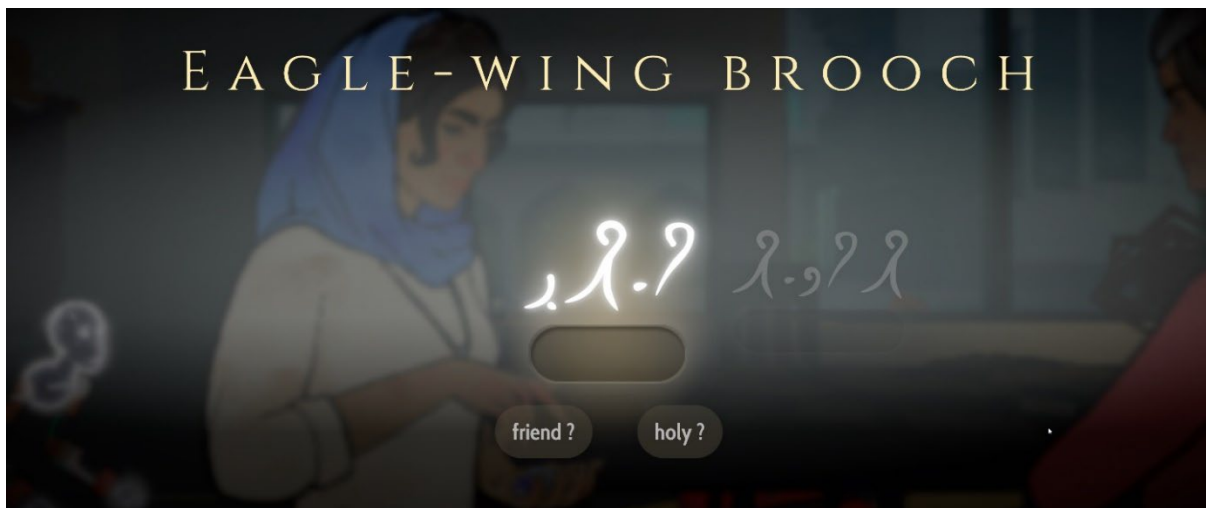

Figure 1: Translating the Ancient language in Heaven's Vault. *© Inkle.*

This, of course, is only the way the player is introduced to the translation mechanic: as the game progresses, the inscriptions become longer and more convoluted, with the player having to choose not from two but from a number of possible translations, and Aliya (or her robot Six) only occasionally confirming a given translation. Context remains an important factor in decoding inscriptions, and so is the visual resemblance

between certain words or glyphs. Nevertheless, it is impossible to decode all Ancient inscriptions by the end of a playthrough, so that a degree of uncertainty remains linked to the artifacts no matter how thorough the player was in exploring the game world: by the end of the game, not all of the player's questions will have been answered. The game even features a "New Game Plus" mode that allows the player to carry over confirmed words into their next playthrough: but here, the existing inscriptions change (including the language on key items such as the brooch) and become even more elaborate.

Translating the inscriptions isn't merely a puzzle minigame with no bearing on the game narrative. On the contrary, the Ancient language text, whether found on artifacts or on monumental buildings, is instrumental in making sense of the history of the world in which the player is located: in fact, the player will come to very different conclusions about the Ancient civilization based on the guesses they made while decoding inscriptions—many of which will never be ratified by the game. In this way, the language found on artifacts becomes a vehicle for an understanding of thingness that resonates with New Materialist insights: by destabilizing the player's attempts to decode the inscriptions once and for all, the material world of the Nebula eludes the player's grasp and creates a mystery that will not be dispelled by our interpretive efforts.[6] The sense of nonhuman agency that derives from the player's interpretive setbacks is, of course, enhanced by the algorithmic nature of the storytelling, which combines procedurally generated elements and an adaptive plot.

The text on some of the items collected by the player is procedurally generated, which introduces uncertainty and ensures that every playthrough is unique.[7] More importantly, the game world adapts to the player's translation decisions, with major locations receiving completely different names depending on the player's guesswork when attempting to read the inscriptions. For instance, one of the sites (known as the "Withering Palace") will be named "Early Empire-Period Moon" or "Dust-Blown Hospital Moon" for an entire playthrough if the player lands there without having correctly decoded a few key inscriptions beforehand. The adaptive nature of the game's narrative algorithm is a manifestation of what Ed Finn (2017, p. 36) calls the "magic" of computation, but in this case its primary function is to deepen the uncertainty and mystery that surround material objects and locations encountered in the game world. This is an example of how archaeogames can resonate with current archaeological theory: making sense of the material is an open-ended process that builds on the uncertainty and unpredictability of things—that is, the way they fall through the cracks of (current) historical narratives. *Heaven's Vault* doesn't merely embrace this idea at the level of subject matter but builds it into the mechanics that underlie digital narrative and gameplay.[8]

Nonlinear History

One of the many unanswered (and perhaps unanswerable) questions raised by *Heaven's Vault* is whether the temporal structure of the Nebula is linear, as the protagonist believes, or circular (as most of the Nebula's inhabitants insist). According to the doctrine of the Great Loop, history would repeat itself at regular intervals: the ancient past studied by Aliya is, effectively, the Nebula's future. The game interface seems to embrace Aliya's linear understanding of history, however: a timeline that fills

up as we play the game displays both the remote past (as reconstructed by Aliya through the decoding mechanic) and the choices made by the player in the course of the playthrough. This device integrates the Nebula's history and our interactions with the game within an explicitly linear structure. But if *Heaven's Vault* plays with a circular conception of time without realizing it on the level of gameplay, two other archaeogames adopt the time loop as a storytelling mechanic that challenges a chronological understanding of history: they are *Outer Wilds* and *The Forgotten City*.[9] Both games can be said to implement Olsen et al.'s metaphor of the "percolation" of archaeological time, but they do so in profoundly different ways: the former through a science-fiction scenario, the latter by revisiting real-world history in a speculative vein.

In *Outer Wilds*, the time loop is entirely predictable: every twenty-two minutes, the Sun explodes and destroys the known universe. Instead of dying, however, the player character is sent back to the beginning of the game, when they are about to set out on a journey of space exploration. The Solar System consists of five planets and a number of smaller astronomical bodies. The player's goal is to use the twenty-two-minute cycles to explore as much as possible of this universe and break the time loop. While the player's home base is an Earth-like planet, the rest of the Solar System is strewn with the remains of an ancient civilization, the Nomai, who disappeared after a mysterious cataclysm. Much of the Nomai's backstory is delivered through environmental storytelling, particularly scrolls and recordings scattered throughout the universe (and often in remote locations).[10] This text can be instantly decoded with a translation tool: *Outer Wilds* doesn't ask players to engage in the kind of guesswork we have encountered in *Heaven's Vault*.

Rather, the main challenge here has to do with locating and accessing the Nomai ruins that hold the key to this civilization's demise (and to game's time loop). Very few of these sites are on the planets' surface: the player can locate them only by visiting locations that are hidden deep inside the planets or not obviously visible at first glance. Finding these sites is made more complicated by two factors: first, operating the spaceship requires precise maneuvers and, second, the time loop returns players to the starting location at the end of each cycle, limiting time for the exploration of the outer reaches of the Solar System. This is a game that rewards patience and curiosity reminiscent of the archaeological "care" discussed by Olsen et al.: it is by paying close attention to the regularities of this game world that the player gains access to most of the key locations. For example, two planets—the so-called Hourglass Twins—are locked in a fixed cycle over the course of the time loop, with sand falling from the Ash Twin to the Ember Twin (see Figure 2). This means that the player only has a few minutes at the beginning of the time loop to explore a cave system on the Ember Twin before the planet starts filling up with sand; and, conversely, that the Ash Twin only becomes accessible after most of the sand has drained away. Because this miniature universe has the regularity of clockwork, making progress in *Outer Wilds* involves learning to predict and exploit the planets' movements in order to take full advantage of each twenty-two-minute cycle.
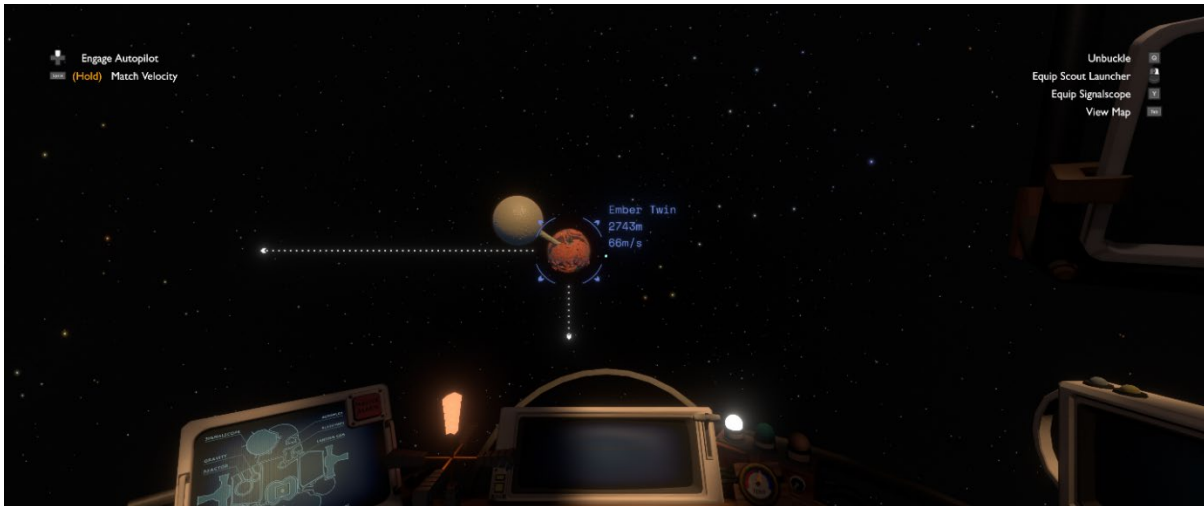
Figure 2: The Hourglass Twins seen from the spaceship of Outer Wilds*.*
© Annapurna Interactive.

The spaceship computer is the only object in the Solar System that is *not* reset at the end of each loop, allowing players to keep track of important information they have acquired in previous traversals of the game. One of the main findings is that the time loop has been initiated by the Nomai themselves, who were hoping to avert the supernova causing the end of the Solar System. The player discovers that the Nomai were looking for a mysterious location known as the Eye of the Universe, which would hold the secret to preventing the supernova, but they were unable to reach it. "Beating" *Outer Wilds* means completing the Nomai's quest, making one's way to the Eye by following a long series of carefully timed steps. Doing so breaks the time loop, bringing about the end of the universe, and sowing the seeds (as the credit sequence suggests) of a *new* universe. Knowledge from the Solar System's remote past, recovered through archaeological exploration, thus helps the player shape the fate of this game world, evoking the percolation of the past into the future, or the impossibility of drawing a clear-cut distinction between the player-archaeologist's observations and the realities that are being observed. Learning about the Nomai means determining (or at least having the power to determine) the course of this universe beyond the repetitive loop in which it is accidentally stuck. However, when this loop ends circularity isn't eliminated completely but rather "scaled up" to a cosmic principle: effectively, the player "resets" the known universe and paves the way for a new universe of which none of the game characters are part.

The time loop of *The Forgotten City* isn't tied to a fixed countdown but rather to a law known by the characters as the Golden Rule: "The many shall suffer for the sins of the one." Concretely, this means that whenever a sin is committed, everyone dies and the world goes back to its initial state (hence the time loop). If the player does *not* take any action or commit a sin themselves, one of the characters *is* going to break the Golden Rule in a way that inevitably leads to a new beginning, so there is a hard time limit to each loop (even if it is less stringent than the twenty-two-minute cycles of *Outer Wilds*). The setting is the titular forgotten city, a Roman settlement to which the player is magically transported at the beginning of the game. First developed as an *Elder Scrolls V: Skyrim* (Bethesda Game Studios, 2011) mod in 2015 and later released as a stand-alone game, *The Forgotten City* starts in the present day: while exploring some Roman

ruins, the player character falls through a portal that takes them back in time to the Roman period. Here, they are welcomed by the town's leader, a character named Magistrate Sentius, who lays out the Golden Rule for the player. Sentius also mentions his fears that one of the city's inhabitants will soon break the Golden Rule, asking the player to identify the potential sinner and stop them.

This becomes the player's primary goal, along with finding a way of escaping the city and returning to the present. Soon, the overarching mystery of the Forgotten City crystallizes into a series of leads to be found and puzzles to be solved by the player: for instance, tracking down the Magistrate's daughter, who has gone missing, or finding certain key items that give access to secret locations. Advancing the game involves exploring the game world, solving spatial puzzles, as well as learning what actions have an effect on the main characters and unlock new dialogue options while talking to them. Crucially, the game cannot be completed without restarting the loop a number of times, because knowledge of what is going to happen often provides the player with new leads on how to approach the game's mysteries. The time loop of *The Forgotten City* is also unlike that of *Outer Wilds* in that the player gets to retain more than information across loops: items picked up during a traversal will stay in the player's inventory after the loop is reset, unlocking new opportunities for interaction with the characters.

Just as foreknowledge of game world events, through familiarity with the loop, guides the player's puzzle-solving, so does the past of this Roman city. Hidden under one of the city's temples, the player encounters a character (referred to simply as the Hermit Philosopher; see Figure 3) who formulates the game's understanding of history, which is based on the layering of archaeological strata:

> Very few know this, but before the Romans came to this city, it was once entirely Greek. The architecture, the temples, and the people. When the Romans came, in typical fashion they claimed it as their own, built over everything that could be built over, and renamed the things that could not.

But even the Greeks didn't build the city from scratch. As the Hermit Philosopher explains, the existence of an "out-of-place Egyptian plaque among our people's possessions" points to an even older past. He continues: "we proud Greeks had thought the Roman beasts for stealing and corrupting our heritage… But it turns out this this game had been going on much longer than any of us imagined." In fact, as the player pursues this lead by exploring the city's catacombs, they discover an underground Egyptian temple. This vertical layering of the city reflects the chronology of the archaeological past, but the game invites the player to go beyond a merely sequential understanding of history. As the Philosopher articulates, the idea of civilizations following one another linearly is closely bound up with a logic of mastery, whereby every civilization erases or obscures the traces of past societies and therefore claims to have replaced them. The game is not framing this as a historical question in the strict sense: at stake here is not a particular conceptualization of the Roman world (or at least not primarily), since this is clearly a fantastical, speculative scenario. Rather, the game is pursuing a more abstract insight into the coexistence of cultures and versions of the past in conceptualizing *any* society, including this seemingly Roman city.

Figure 3: Talking to the Hermit Philosopher in The Forgotten City. © *Dear Villagers.*

The way in which this insight is delivered to the player (via dialogue with an anonymous Philosopher) may seem telegraphed and didactic. Yet the coexistence of multiple "pasts" isn't entirely detached from gameplay, as demonstrated most clearly by the quest linked to Priestess Equitia. This character reveals that the Golden Rule was created by Pluto, the god of the underworld, and that all the city's inhabitants are dead. Obtaining an audience with Pluto is a necessary step to achieve the game's most satisfying ending (the so-called 'Canon' ending). But for this conversation to take place, the player has to gain access to the Great Temple overlooking the city. As we learn from Equitia, the temple can only be unlocked by collecting four plaques dating back to Roman, Greek, Egyptian, and Sumerian times (the last one is initially referred to as the "mystery" plaque, but it bears a cuneiform inscription and it is later labelled "Sumerian"). Locating these items and placing them on the obelisk by the Great Temple is a gameplay puzzle with deep implications for the game's philosophy of history: it shows that the only way out of the city is through its past, and that this past should be understood as an interplay of histories rather than a single, teleological sequence from Sumerian to Roman times. This realization paves the way for the final confrontation with Pluto—a long dialogue scene in which the player's main task is to convince the god of the underworld that his Golden Rule is unjust and contradictory. The Hermit Philosopher's teachings are crucial in this conversation: if players pick the correct dialogue options, they can convince Pluto of his own double standard in applying the Golden Rule and trigger a chain of events that breaks the game's time loop and returns the player character to the present day. Thus, much like what happens in *Outer Wilds*, the game can end only when the nonlinearity of the gameplay loop is replaced by insight into the nonlinearity of archaeological time. History isn't partitioned into chronologically water-tight periods, but the past seeps through the layers of ancient civilizations, influencing present-day injustices (such as the existence of the Golden Rule) as well as the possibility of conceiving a future that isn't a mere linear extension of the past.

Interpretive Openness

As we have seen, *Heaven's Vault* uses the translation mechanic to bake a degree of indeterminacy into the plot, making it impossible for even the most dedicated players to fill in all the gaps at the end of a playthrough. FromSoftware games such as the *Dark*

Souls (2011–2018) series or, more recently, *Elden Ring* encourage players to engage in an even more radical form of gap filling, rewarding an archaeological approach not only to gameplay but also to game interpretation. This archaeological model underlies, as we will see, Internet-based practices of "fandom" directed at FromSoftware games.[11] On the level of representation, archaeology is evoked by FromSoftware's strategic use of ruins and secret passages throughout the games.[12] Perhaps most straightforwardly archaeological in *Elden Ring* are locations such as the "eternal city" of Nokron, an underground site that appears much better preserved than the ruin-strewn world of the surface. The player is thus transported to a time and a place predating the Shattering, a cataclysm in *Elden Ring* history that caused the devastation visible everywhere in the game world. The archaeological reference is intensified by the fact that the visual language of most FromSoftware environments (including Nokron) is heavily indebted to real-world historical sites: the architecture of this "eternal city," for example, is inspired by Renaissance elements, while other locations later in the game recall the Gothic architecture of the Piazza dei Miracoli in Pisa (see Figure 4). Through this combination of in-game lore and real-world art history, the foregrounded historicity of these spaces calls for an archaeological mindset—to use Bennett, Krupa, Minniti, and Vandewalle's (forthcoming) phrase—that values both visual and level design.

Figure 4: Gothic architecture in Crumbling Farum Azula, Elden Ring.
© Bandai Namco Entertainment

In *Elden Ring* and in other FromSoftware games, the archaeological imagination goes hand in hand with a fundamentally ambiguous narrative that requires constant input from the player. Not all players will be willing to put in the effort, of course: some will only value the challenging combat and pay little attention to the narrative.[13] But those who take an interest in the narrative face a particularly arduous task. As Hidetaka

Miyazaki, the creative director of *Dark Souls* and *Elden Ring* acknowledges in an interview, "*Dark Souls* is in some ways an incomplete game, and I like to think that it has been completed by players, by their discoveries, as they moved along" (quoted in Blain, 2015). The world of FromSoftware games abounds in narrative cues, but few story connections are spelled out. These cues are delivered through a combination of environmental storytelling, dialogue, cutscenes, and artifact descriptions. The locations visited by the players contain multiple spatial elements—for instance, a corpse-strewn battlefield, dilapidated village, or charred landscape—that point to a glorious past now in ruins. The dialogue and cutscenes are highly suggestive but ultimately rather sparse, whereas the most sustained narrative cues can be found in item descriptions that are entirely dispensable (from a gameplay perspective) but that convey most of the games' 'lore.'[14] The world of FromSoftware games thus requires the player's interpretive efforts more substantially than other games (including the archaeogames examined so far): instead of guiding the player through a largely predetermined story, these games function as a narrative sandbox allowing willing players to extrapolate a narrative from the scant information they receive (through gap filling), or even to come up with their own stories—a strategy that recalls Marie-Laure Ryan's discussion of "do-it-yourself" storytelling.[15]

For an example of basic gap-filling, consider the description of a quest item in *Elden Ring*, the "Black Knifeprint." It reads: "On the Night of the Black Knives, someone stole a fragment of Death from Maliketh, the Black Blade, and imbued its power into the assassins' daggers." The Night of the Black Knives is a key moment in the *Elden Ring* backstory also referenced by the opening cutscene, which sets the stage, introduces the main characters, and establishes a link between this Night and the Shattering of the Elden Ring. The Maliketh mentioned by this item description is one of the powerful enemies ("bosses") we fight in the latter half of the game, and we also learn here that a "fragment of Death" was stolen from Maliketh and used to enchant the assassins' daggers on this fateful night. From other narrative cues in the game, the player finds out that this "fragment of Death" (elsewhere referred to as "Rune of Death") was stolen by Ranni, a sorceress and another of the game's main characters introduced in the opening cutscene. By piecing together these disparate leads, the player can work out the game's backstory, but this is a slow process that requires thorough attention to both the physical features of the game world and the items that are richly described by the game's interface.

Some areas of the *Elden Ring* narrative call for even more player participation. Here the indeterminacy is so profound that the story cannot be pieced together in any conclusive way. Instead, players are encouraged to "do it themselves" (to use again Ryan's terminology) and tell their own stories inspired by the *Elden Ring* world and characters. On platforms such as Reddit and YouTube, players share and discuss a variety of "lore" stories that are certainly grounded in the games but also build on a good deal of speculation: these are frequently referred to as "theories" to flag their imaginative nature, how they go beyond what can be reasonably deduced from the games. YouTube user VaatiVidya, for example, has gained considerable following for releasing polished and well-written videos that explore, in a creative mode, the stories of FromSoftware games' major and minor characters.[16] Another YouTuber explicitly highlights the archeological dimension of his engagement with the game, promising "investigative archaeology in the service of *Elden Ring* lore hunting."[17] The popularity of these narrative practices within a significant subset of the FromSoftware player base

points to the openness of the games' underlying narrative. As a result, new forms of collaboration emerge as players share and debate their creative interpretations of the games.

One may compare this phenomenon to what Jason Mittell calls "forensic fandom" in a discussion of contemporary TV narrative: "Much of complex television fosters a mode of forensic fandom in which viewers are encouraged to solve [...] high-concept puzzles, to ask 'why?' and presume that there is an answer to be found by drilling down and analyzing" (2015, p. 65). In FromSoftware games, however, there are *both* answers to be found (when the story allows for gap filling) and narrative suggestions that cannot be simply "solved" but rather need to be shaped into new, player-created stories (the do-it-yourself approach). In that respect, Mittell's "forensic" metaphor for these narrative practices is less apt than the archaeological parallel I am exploring here. Archaeology, as Olsen and his colleagues discuss, is certainly a discipline invested in answers, but it remains aware of the defeasibility of any given answer: the past isn't simply a puzzle to be solved once and for all, but a multiplicity of "pasts" whose openness and ambiguity should be preserved even as the archaeologist attempts to fashion coherent stories out of what they know. Content creators like VaatiVidya and their audiences are thus engaging in what I call archaeological fandom: their shared interest in item descriptions and their meticulous attention to the details of the game world pursue a computer-mediated equivalent of archaeological care. This archaeological reading is, as I mentioned, supported by FromSoftware's foregrounding of ruins, which evoke a glorious past that can only be imagined by players (or tentatively experienced when visiting locations like Nokron).

Some of the practices surrounding FromSoftware games can be considered excavatory in an even more straightforward sense. Several players have taken to examining the source code to reveal cut content that complements (or in some cases contradicts) the narrative cues present in the games (see, e.g., Litchfield, 2022). The efforts of well-known dataminers such as Lance McDonald offer insight into the backstory of existing characters or even disclose how a given quest line would have progressed, had the developers decided to keep it in the game.[18] While this activity tends to fall into the gap filling category, it can also feed into the more speculative engagement of users like VaatiVidya. In different ways, FromSoftware games resonate with the archaeological imagination by using narrative ambiguity as a springboard for various practices specifying and enriching the game world's history.

Conclusion

Positioned within the growing field of archaeogaming (Reinhard, 2018; Bennett, Krupa, Minniti, and Vandewalle, forthcoming), this article has examined the ways in which the gameplay of contemporary games can be geared towards three concepts emerging from archaeological theory. These concepts are materiality, nonlinear history, and interpretive openness. I have shown how a variety of contemporary archaeogames address these ideas and integrate them not only thematically but at the level of their gameplay mechanics, including their narrative mechanics. This conceptual focus both defines the gameplay afforded by archaeogames and distinguishes them from games with a historical agenda, where the representation of the actual, real-world past takes center stage. Instead of raising questions about historical accuracy, archaeogames

foreground material artifacts and spaces that echo the uncertainty of the archaeological object—how it calls for but also resists interpretive appropriation on the part of the researcher. Further, they challenge a conventionally chronological understanding of history, evoking instead the way in which a plurality of "pasts" extends into the present and informs the future of human societies. Finally, archaeogames can build on a strategic lack of narrative determination to encourage participatory practices, from basic gap filling to the creativity of what I called archaeological fandom.

In these discussions, my use of the concept of archaeology has stretched from the representational level of games to the formal and imaginative affordances of gameplay. It is worth noting that my examples negotiate these concepts in different ways and, arguably, with varying degrees of success. While *Heaven's Vault* and *Outer Wilds* manage to capture archaeological concepts almost entirely through their formal mechanics, *The Forgotten City* raises questions about the philosophy of history in a dialogue sequence that can come across as heavy-handed, an attempt to spoon-feed the player instead of engaging them on the level of gameplay. Keeping these differences in mind, the innovations adopted by my case studies can become a blueprint for future applications of archaeogaming, including the use of "serious" or educational games in archaeology. Moreover, these devices demonstrate the game medium's ability to translate complex ideas into an interactive practice that is not only philosophically engaged but also, potentially at least, collaborative: as the FromSoftware game community demonstrates, some archaeogames call for sophisticated creative and interpretive efforts in dialogue with other players.

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Notes

[1]   See also this website, which was created by Reinhard and is now maintained by Kaitlyn Kingsland: https://archaeogaming.com/.

[2]   See also a comprehensive collection edited by Alexander von Lünen, Katherine J. Lewis, Benjamin Litherland, and Pat Cullum (2021). I would like to thank my colleague Alexander Vandewalle and one of the journal's anonymous reviewers for bringing to my attention this scholarship in historical game studies.

[3]   McCall (2020) already distances himself from concerns over accuracy in his discussion. For more on the difficulty of understanding and establishing "accuracy" in historical games, see Copplestone (2017).

[4]   For more on the phrase "archaeological mindset," see Bennett, Krupa, Minniti, and Vandewalle (forthcoming), whose discussion of environmental storytelling converges with many of my claims here.

[5]   See, e.g., Bennett: "*objects* appeared as *things,* that is, as vivid entities not entirely reducible to the contexts in which (human) subjects set them, never entirely exhausted by their semiotics" (2010, p. 5).

[6]   See, for instance, this discussion of "Ten Big Questions" raised by *Heaven's Vault* that, as the posts attest, many players could not answer definitively: https://steamcommunity.com/app/774201/discussions/0/1681441347871574341.

[7]   For more detail on the game's procedurally generated artifacts, see a blog post by the programmers (Inkle, 2017).

[8]   See also the discussion of uncertainty and digital narrative in Caracciolo (2022, Chapter 6), which includes a more sustained reading of *Heaven's Vault*.

9   See also Linda Lahdenperä's (2018) discussion of the time loop as a ludic strategy that is frequently remediated into contemporary film.

10   "Environmental storytelling" is the influential concept introduced by Henry Jenkins (2004) for narrative cues distributed in a game environment, instead of being delivered through introductory text or cutscenes. For a more recent approach to narrative meaning-making in game environments, see Thon (2016).

11   See the collection edited by Swalwell et al. (2019) for an introduction to the practices of video game fandom.

12   See Dunstan Lowe's (2012) helpful discussion of ruins in video games. FromSoftware's ruins would fall into what Lowe calls the "fantasy" category (2012, pp. 72–83).

13   For a phenomenological approach to competing values in video game experience (gameplay vs. narrative), see Caracciolo (2015).

14   Tanya Krzywinska offers a seminal discussion of lore, which she defines as "past events that constitute the world's current state of affairs, to which the player character is subject" (2008, p. 127).

15   See Ryan (2006, p. 671): "If the text is a game, it is less a puzzle to be solved than a construction kit that inspires free play with its elements".

16   See https://www.youtube.com/c/VaatiVidya/about.

17   See https://www.youtube.com/@tarnishedarchaeologist/about.

18   See Lance McDonald's videos at https://www.youtube.com/c/WarpChair/videos.