Chapter 2

Playing as Archaeologists

You Play an Archaeologist

Lara Croft. Indiana Jones. A big part of archaeogaming is actually playing an archaeologist in a synthetic world. For some players, that means role-playing as archaeologists in games not specifically designed with archaeology in mind. For others, games provide a space for serious archaeological inquiry. And then there are those games that feature at their core a central player who is supposed to be an archaeologist; those games hang their plots on that premise. For many of these games, the choice of casting the main character as an archaeologist seems to be one of convenience, giving the developers a reason for trapping someone in a haunted temple. Other games use the archaeologist as a catch-all for paleontologist, gemologist, or geologist.

Video games enter into the academic field of reception studies (or reception theory), which seeks to understand how an audience interprets something in order to extract meaning from it. For example, within the subfield of Classical reception one can research how ancient audiences might have received the plays of Aeschylus and then investigate how those plays' meanings might change when presented to modern viewers via both traditional and new media. With video games featuring archaeologists, we need to understand how developers and players perceive archaeologists and archaeology and how those assumptions affect game creation and gameplay. How is the popular notion of archaeology received and then used to create interactive digital entertainment, and how do those perceptions differ from actual, real, professional archaeology and its practitioners?

Cornelius Holtorf has made it part of his life's work to study this question, focusing on archaeological communication and media representations of archaeology and archaeologists. "Academic archaeology owes its own existence and establishment to a widely shared popular fascination with archaeology, rather than vice versa. Academic archaeology is one of many systems of meaning" (Holtorf 2005: 12). This is a provocative but not inaccurate statement. How many archaeologists

have been asked what they do, and when they say, "I'm an archaeologist," are met with the astonished reply of, "Wow! Like Indiana Jones?" The best known archaeologist in the world is a work of fiction. It would be a safe bet to say that few non-archaeologists could name any nonfictional archaeologists from any point in history, women or men.

It is to the archaeologist's benefit to take the comment "like Indiana Jones" as a compliment and to seize on that initial enthusiasm to gently disabuse the person of the idea of a gun-slinging, Nazi-punching academic, describing instead a little bit about what one does in the field, lab, library, office. But what a "real" archaeologist does is, as Holtorf says above, "one of many systems of meaning." Archaeologists have a very good idea about what they and their colleagues do, which is just as valid as the public perception of what it is archaeologists do. These perceptions often contradict each other, but this can lead to perception and knowledge through dialogue, debate, and public engagement.

Most people when asked to describe an archaeologist will mention clothing, typically gender-neutral and practical. Holtorf observed that "how you dress as an archaeologist will immediately be read as a statement about what kind of archaeology you (want to) do" (Holtorf 2007b: 88). This of course starts with headgear, which changes over time based on how the popular media decides to depict the archaeologist in the field (and it is almost always in the field) (Holtorf 2007b: 86). The hats could be the pith helmet of the British archaeologist in Egypt, or the fedora of postwar America (and Indiana Jones), or perhaps we are finally beginning to see a change with archaeologists in hard hats and Class 2 high-visibility vests getting depicted in modern media, although that has yet to make the jump to video game character design. Other typical clothing includes sturdy trousers and a work shirt, both khaki. Pair these with a fedora or pith helmet for an Instant Archaeologist.

A sense of adventure and discovery invests the idea of archaeology, as if some lost temple is waiting just around the corner. The tropes persist of the archaeologist-as-adventure-hero, dressed in the colonial style. The archaeologist is imagined to be well traveled and to have visited and stayed in exotic locales (Holtorf 2007b: 80). In video games, though, these tropes are a necessity in order to create via uncomplicated, visual language the simplest idea of what archaeology is (Aldred 2012: 100). For video games such as Atari's *Raiders of the Lost Ark,* most players have already seen the eponymous film and know the character of Indiana Jones. The iconography of the character most easily rendered in 8-bit art? His famous hat. For games based on films and other popular media, designers are greatly assisted by earlier reception that can be ported easily into a game-space (although they may not necessarily be

able to complete the job of making the game as enjoyable as the film). Divergence between film and video game characters and action may have been ultimately responsible for the limited success they achieved as converged content (Aldred 2007: 102). Players do not get the charm and laughs out of the playable Indiana Jones. Instead, it is all action. Promotional materials for *E.T.* and *Raiders of the Lost Ark* video games show how their central characters came to the game's screen loaded with excess baggage (Aldred 2007: 98). Players already know the backstory and expect to find all of the film's action packed into a playable adventure. There is no archaeology in the original *Raiders* game.

What other games include archaeologists as playable characters? One might expect that many such games would feature white men dressed as Indiana Jones. This is not to be the case. At this writing, most games are played from the first-person perspective so that players do not actually see their character onscreen. However if the game developer creates a playable avatar of an archaeologist, it likely will be male, white, and wearing a fedora (with rare exceptions). At least three games (not including those in the *Tomb Raider* series) have a woman archaeologist as the central character. It might also be surprising for some to learn that many of the archaeologist-driven games are not action-adventure games but instead fall into the category of *Myst* clones, point-and-click puzzle games. Others are casual games, typically of the hidden-object variety. Developers perceive (perhaps correctly) that archaeologists are good at finding things, although the objects the players are sent to find often have no archaeological context at all and no purpose for recovery other than to complete a level.

Below is a short alphabetical list of representative games (and game-types) that feature archaeologists as the main, playable character.[1] The main criterion for selecting the games on this list (as well as game series and one game development company) was that the publisher/creator clearly states that the main player is indeed an archaeologist. The games in the list are from major game developers and from indie houses. The list contains games from 1984 until 2014 developed for various hardware and operating systems. At least one example of interactive fiction is included:

Amaranthine Voyage: The Tree of Life *(Big Fish Games, 2013)*

From the publisher: "During your career as an archaeologist, you firmly believed that the Tree of Life was simply a myth. However, once you uncover a magical artifact, you open brand new worlds of possibility. You are whisked away to a lush world that is slowly being poisoned by a mysterious dark force. Your artifact is the key to restoring this

beautiful world, but dark forces stand in your way. Protect the artifact and save this dying world in *Amaranthine Voyage: The Tree of Life,* a thrilling Hidden-Object Puzzle Adventure game."

This is a casual point-and-click hidden-objects game populated by mini-games and completed from the first-person perspective. As will be seen in many games in this section and in the following one on archaeological reception, the archaeologist is defined in name only as a device to activate and advance the game's narrative. No archaeology is really done in the game, but there are places such as temples to explore and artifacts to recover, typically with magical attributes.

Baal *(Psygnosis, 1989)*

From the publisher: "You are an archaeologist of the future (1999) sent in Baal's hideout, a powerful demon, [*sic*] to prevent him from putting his paws on an ultimate weapon, whose parts are scattered around everywhere."

The game's archaeologist in this 2D platformer is of indeterminate gender and race, wearing a red adventure suit and helmet and carrying a very large gun. There is no reason the playable character should be an archaeologist, except that there is work to be done underground and a shattered weapon-artifact to reassemble.

The Ball *(Teotl Studios, 2010)*

From the publisher: "*The Ball* is a first-person action adventure game. The player controls an archaeologist trapped in an underground city, armed with only an artifact that can attract or repel a large metal ball. To progress in the game, the ball must be guided to trigger the puzzle mechanisms, act as a platform in platforming or defend the player in combat. As the player progresses, the ball will gain additional abilities, strengthening its combat ability or allowing the player to progress in platforming and puzzles."

Developed for Steam, this puzzler recalls Valve's *Portal.* As with many other games, the fact that the playable character is an archaeologist only serves to explain why this person is underground and interacting with an artifact, again one imbued with characteristics not easily explained by science.

Buried *(Tara Copplestone and Luke Botham, 2014)*

Free-to-play Twine text-based, in-browser game developed by Tara Copplestone and Luke Botham for the July 2014 Heritage Jam.[2] The player

actually plays the role of a real archaeologist making life decisions an archaeologist would make. The game is gender-, age-, and race-neutral. Players can be who they want to be as they balance work with academic and social life within a complex and emotionally invested story. It is arguably unique that one has the ability, unlike in other games, to play an archaeologist with emotional resonance, learning what it is like to inhabit that three-dimensional role.

Dig-It! Games (development studio)

Dig-It! Games has created eight titles (as of 2016) for PC and iOS that combine archaeology with education and include themes such as "beat the looters," repatriation, learning about the Maya, and learning about a Roman village. These are largely point-and-click first-person puzzle games with an educational angle, originally starting with *Roman Town,* an actual archaeological fieldwork simulation, and later branching out more into edutainment with archaeology as a backdrop. Dig-It! Games remains the only developer focused exclusively on archaeological themes for its games.

From the company's website: "In 2005, Dig-It! Games founder Suzi Wilczynski began her quest to create fun, interactive learning experiences for middle school students. As an educator and trained archaeologist, Suzi had used archaeology to bring history to life while calling upon a wide range of skills, including math, science, and language arts. To make these subjects relevant to 21st century kids, Suzi set out to create entertaining, interactive digital games that could be played at school or at home. Her goal was to use games to engage children in an immersive way that goes beyond what they can experience from a textbook, film or lecture. After learning everything she could about game design and playing more games than she cares to admit, Suzi released *Roman Town* in January 2010 to critical acclaim from parents, educators and the education industry. In 2012, Dig-It! Games produced *Mayan Mysteries,* an award-winning puzzle-based adventure game about the ancient Maya. 2013 was all about math at Dig-It! Games, with the releases of math-based games *Loot Pursuit: Tulum, MayaNumbers* and *Can U Dig It!*"

Glowgrass (Nate Cull, 1997)

From the developer: "*Glowgrass* is a xenohistorical expedition to recover artifacts of 'the Ancients,' which takes on a surprisingly human and personal tone in this far-future sci-fi story. Simple *Planetfall*-like

puzzles, thoughtful prose that establishes moods with parsimony. Short but not rushed."

Glowgrass remains a free-to-play interactive fiction title written in the style of Infocom text games containing puzzles. It is one of the few games that feature archaeology on an alien world.

Hunt the Ancestor *(BBC, 2014)*

From the publisher: "Time and money are running out and the developer's diggers are wanting to move onto the site of a dig. Experience some of the realities of being an archaeologist by playing *Hunt the Ancestor*."

Players assume the role of dig director (not depicted) and make all archaeological and budgetary decisions on where and how to dig a barrow in England. The game includes archival research, aerial photography, geophysics, and more, and hits quite close to home with budgetary decisions that affect how the excavation ultimately unfolds. The BBC continues to dabble in fun, realistic games such as *Ancient Britain* and *Roman Britain,* adding historical and archaeological verity to short, playable scenarios.

Indiana Jones *(series, various publishers, fifteen titles as of 2016)*

Raiders of the Lost Ark, Indiana Jones in the Lost Kingdom, Indiana Jones and the Temple of Doom, Indiana Jones in Revenge of the Ancients, Indiana Jones and the Last Crusade (The Action Game and The Graphic Adventure), *Indiana Jones' Greatest Adventures, Indiana Jones and the Fate of Atlantis, Indiana Jones and the Iron Phoenix* (canceled), *Indiana Jones and his Desktop Adventures, Indiana Jones and the Infernal Machine, Indiana Jones and the Emperor's Tomb, Indiana Jones and the Staff of Kings, Indiana Jones Adventure World.*

Players play as Indiana Jones (who happens to be an archaeologist) as he fights his way into tombs and temples in search of artifacts.

Lego Indiana Jones *(series, Lucas Arts, 2008 and 2009)*

Lego Indiana Jones: The Original Adventures, *Lego Indiana Jones 2: The Adventure Continues*

As above, players play as Indiana Jones (but can swap to other characters from the films as they play). Again, the character is less of an archaeologist than an adventurer, with the player using a bullwhip and pistol more often than a shovel.

NiBiRu: Age of Secrets *(The Adventure Company, 2005)*

From the publisher: "Martin Holan, a linguistics and archaeology student, finds himself enwrapped in a mystery involving Nazis, Mayans, and extraterrestrials. The full game features 20 to 30 hours of gameplay over 80 different locations."

Martin is played from the third-person perspective, is white, and wears a jacket and jeans. *NiBiRu* is one of the few games that feature an archaeologist who specializes in something, in this case archaeolinguistics. Typically archaeologists in games are painted with a single stroke, but this game adds a bit of depth, which contributes to the game's mechanic.

Oh Mummy *(Amsoft, 1984)*

From the publisher: "You play an archaeologist, looking for treasure, as archaeologists are wont to do. Sadly, mummies are after you. To find the treasure you walk round all 4 sides of the squares while avoiding the mummies to complete. The Streets of Cairo is the theme tune."

The game is a mix of *Pac-Man* and *Concentration,* with the dungarees-clad, white male archaeologist avoiding mummies while walking around blocks to identify treasure. The lead character could be a clown instead of an archaeologist, and it would not make any difference to the gameplay or narrative. But it makes sense to have an archaeologist looking for artifacts in a haunted pyramid. The narrative drives the choice of character. The treasure-hunting trope is addressed in the looting section of this chapter.

Riddle of the Sphinx II *(Dreamcatcher Interactive, 2004)*

From the publisher: "You're an archaeologist whose colleague has just discovered an ancient scroll bearing ominous warnings that prophesy the end of the world. Discover the secret linking ancient civilizations. From Mayan codices to Stonehenge to Easter Island, from the Lost City of Atlantis to additional chambers under the Sphinx, and the mystery of Devil's Triangle, your discovery will bring you to . . . The Omega Stone."

This game is one of several first-person point-and-click *Myst* clones published for Mac and PC. The player assumes the mantle of archaeologist and attempts to act accordingly during exploration of famous archaeological locations while attempting to solve puzzles. While these games are fun (and often befuddling to play), they do not reflect any archaeology conducted in the real world. If only archaeologists could

align notches on a dial in order to gain access to a secret room filled with the rescued papyrus scrolls from the Library of Alexandria.

Sphaira *(UBI Soft, 1989)*

From the publisher: "You are an archaeologist who is looking for a lost civilisation which lies underneath the Atlantic Ocean."

One of UBI Soft's (later Ubisoft) earliest games, this puzzle-platformer is set off the coast of Peru. It runs in MS-DOS and is in French. Ubisoft would later become one of the largest and most successful game developers of all time, thanks in large part to its *Assassin's Creed* series, which places emphasis on the re-creation of historically accurate play environments.

Tomb Raider *(series, various publishers, sixteen titles as of 2016)*

Tomb Raider, Tomb Raider II, Tomb Raider III, Tomb Raider: The Last Revelation, Tomb Raider Chronicles, Tomb Raider: Curse of the Sword, Tomb Raider: The Prophecy, Tomb Raider: The Angel of Darkness, Tomb Raider: Legend, Tomb Raider: Anniversary, Tomb Raider: Underworld, Lara Croft and the Guardian of Light, Lara Croft and the Temple of Osiris, Rise of the Tomb Raider.

Lara Croft is second only to Indiana Jones as being identified as the world's most famous, recognizable archaeologist, albeit still a work of fiction. She remains almost unique in being a female archaeologist in games where players can actually see the avatar they manipulate. While Indiana Jones is a professor, Lara Croft has chosen to pursue archaeology outside of academia (except in *Rise of the Tomb Raider* where she is a PhD candidate), reflecting a life choice most archaeologists are faced with.

With games such as those in the *Tomb Raider* series and in *Indiana Jones,* it is clear that the archaeologist is never really the classical ideal of the hero. Instead, the hero has the profession of archaeology as an attribute, part of the heroic assemblage that comprises the eponymous character (Holtorf 2011: 56).

Uncharted *(series, Naughty Dog, seven titles as of 2018)*

Uncharted: Drake's Fortune, Uncharted 2: Among Thieves, Uncharted 3: Drake's Deception, Uncharted 4: A Thief's End, Uncharted: Golden Abyss, Uncharted: Fight for Fortune, Uncharted: The Lost Legacy.

Nathan Drake is third on the list of video game "archaeologists" behind Croft and Jones, even though he is a treasure hunter throughout the series, albeit one who finds himself embroiled in historical mysteries. As with the later *Tomb Raider* games, *Uncharted* does provide players with some historical information on the things they find.

Archaeologist NPCs

On occasion, games will include characters identified as archaeologists. These non-player characters (NPCs) exist either to give quests to players or to advance the story, and on very rare occasions they do archaeological things. Three notable games feature archaeologist NPCs, although there are a handful to be found in other games.

World of Warcraft arguably has the most archaeologist NPCs of any game. This includes nearly two dozen archaeology skill trainers (eight to nine per faction) such as Harrison Jones, Doktor Professor Ironpants, Belloc Brightblade, and Otoh Greyhide. The race of Dwarves, characterized by their digging nature, have half a dozen more archaeologist NPCs, including Hollee (the only female archaeologist in the entire game), Grof, Flagongut, Andorran, and Chief Archaeologist Greywhisker. Perhaps the funniest (or saddest) manifestations of archaeologist NPCs in *WoW* are the Dying Archaeologists and Enslaved Archaeologists.

The *Mass Effect* series (and particularly *Mass Effect 3* [BioWare, 2012]) features a major NPC, Liara T'Soni, a female Asari archaeologist who, as part of her backstory, visited the Minoan site of Knossos for her research. She is instrumental in the adventures she shares with the lead character Shepard, and she uses her knowledge of ancient technology frequently.

Bungie's 2014 title *Destiny,* a first-person space shooter, features NPCs known as crypto-archaeologists (shortened to "cryptarchs" in the game; see Figure 2.1). As described to the players in *Destiny* when initiating dialogue with these archaeologists, cryptarchs "decode the past and our enemies, seeking new discoveries in matter engrams and artifacts returned by guardians." In *Destiny,* players often discover rare items that must be decoded in order to use. The cryptarch examines each find, revealing its function to the player who can then choose to use, sell, or destroy it. There is no real interaction between the player and this NPC, only one of commerce and information exchange. The cryptarch serves much the same role as an expert on *Antiques Roadshow.*

With the cryptarch we begin to see ethics and politics creeping in to game archaeology. Artifacts are to be used to understand the enemy

Figure 2.1. Cryptarch in *Destiny* (Bungie, Inc.) Screen capture by author.

(making archaeology political), and they can be sold. The next section will discuss the public perception of archaeology and how those attitudes are reflected in games, followed by a note on looting and auctioning artifacts found in-game.

Public Reception of Archaeology

As has been seen earlier in this chapter, archaeology (or the idea of archaeology) can make for a good video game, especially when it involves adventure, danger, locating items, solving puzzles, and saving the world from ultimate evil (or at least from a misused magical artifacts). That archaeological narrative, the idea that archaeologists are well-traveled, think quickly on their feet, care about the sites they visit and the artifacts they find, and occasionally work as part of a colorful team of misfits, can be true to life for many professionals in the field. The fact that evil and/or magic work their way into the games is another matter, but one could argue that if this ever happened in reality, most archaeologists would be up to the task of defeating it.

Archaeology holds a fascination for non-archaeologists just as it does for archaeologists themselves, and some in the profession were likely drawn to the field because of ideas communicated through me-

dia, including video games. We return to Holtorf's consideration of the public's perception of archaeology and why it captures the imagination more than most other professions. Holtorf calls archaeologists the "cowboys of science" because there are the elements of surprise and adventure mixed with professional certainty and reassurance (Holtorf 2011: 57). Archaeologists can handle themselves in a crisis, which includes dealing with either Nazis (in fiction) or crumbling balks (trench walls) (in reality).

Holtorf (2005) distills the public's perceptions of archaeology and archaeologists, describing those perceptions as:

- Archaeology is about searching and finding treasure underground.
- Archaeological fieldwork is about making discoveries under tough conditions in exotic locations.
- The archaeologist is a detective of the past.
- Experiencing archaeological practice and imagining the past constitutes the magic of archaeology.

Video games such as those in the *Tomb Raider* and *Indiana Jones* series continue to exploit and prolong these ideas of what archaeology is. Millions of players engage with these games and conceivably come away with a vague notion of what it means to "do" archaeology. The games (and also the films) perpetuate the "archaeological romance of eerie adventures involving exotic locations, treasure hunts, and fighting for a good cause" (Holtorf 2005: 44). Archaeology is a verb, and interactive entertainment confirms the active voice of the discipline. As discussed in the introduction, archaeologists can either accept that games and archaeology will never quite agree or use games to open a dialogue with developers and players to inform them on what archaeology is and how to integrate it into gameplay. Archaeologists can also decide to make their own games and take complete control of the archaeological narrative and mechanic. It is likely that the most successful tack is to combine all three of the above approaches into one.

Archaeology is perceived as fun by non-archaeologists because of the supposed "wow" factor in discovery and problem solving, typically on a grander scale than what is perceived as amazing by professional archaeologists. Both players and archaeologists get similar feelings from similar completed tasks, but in games the rewards are more immediate and tangible (an achievement or trophy or cash as opposed to a publication or tenure). According to research conducted by Brittain and Clack, the most valued archaeologies appear as those who "hold the key to mysteries unsolved, unravelling the truth behind the oldest, grandest,

or most splendid of ancient wonders" (Brittain and Clack 2007: 15). It is human nature to be curious and to explore, to finds things, to learn about the unknown. The fact that archaeologists can do this as a career is viewed as lucky, not just for these kinds of opportunities of discovery but also because it is realized how difficult it is to become an archaeologist. But when it comes to communicating plainly what we do as archaeologists, many of us fail. As Holtorf says, "The problem is not one of a lack of public understanding of science, but increasingly one of a lack of scientific understanding of the public" (Holtorf 2011: 58–59).

Because of this lack of proactive communication by archaeologists to the public about what we do, we abdicate that job to media, specifically television. The single most significant source of information about archaeology (for the time being) is TV (Holtorf 2007a: 52). "[On TV], archaeology is portrayed as a process rather than a set of results. Archaeology is about adventure and discovery, it involves explorations in exotic places (near or far) and it is carried out by digging detectives" (Holtorf 2007a: 45). When archaeology happens on television, Holtorf notes that for many archaeologists, "the key issue in this context appears to be that they feel fundamentally misrepresented regarding the depiction of both the existing knowledge about the past and their own occupation. They would like to change the way archaeology is portrayed" (Holtorf 2007a: 105). The question is how. Every archaeologist will have an opinion on how they would like the field promoted to the public, but they need to be able to explain why.

"Engagement with the mass media has precluded a conglomeration of concerns regarding representation of archaeology and archaeologists, accuracy of information and reportage, the 'dumbing down' of information, individual credibility in one's own discipline, and the legitimization of archaeological narratives as recognized by a mass audience" (Brittain and Clack 2007a: 13). The academic appeal of archaeology to many professionals is, as Holtorf puts it, "not obvious to the rest of the population" (Holtorf 2007a: 140). But is it necessary to communicate the academic side of things? It might be enough to encourage the popular idea of archaeology in order to maintain it as a discipline and continue to secure funding for projects. That social enthusiasm is perhaps the most underutilized asset to the professional archaeologist who can perhaps take that goodwill and convert it into preservation, excavation, publication, and more. Holtorf has observed that the "archaeologist cliché has an impact on self-perception of archaeologist, effecting recruitment, specialization and preference for certain professional activities. The archaeologist remains clearly recognizable in pop culture" (Holtorf 2005: 42).

Graduate students at the University of Leiden's archaeology department comprise the VALUE Project, which is dedicated to studying video game archaeology.[3] In 2015 they conducted a survey of department staff and students (169 total respondents) regarding the portrayal and use of archaeology in games and of archaeological/historical games generally.[4] Their findings included the fact that most players associate "history" with games that are set in the past, and "archaeology" with the profession and with methods. History is something you visit; archaeology is something you do. Roughly half of the respondents (51 percent) found archaeology in games to be quite enjoyable, but they felt neutral about archaeology's actual importance within the games being played.

As we think about how archaeology is perceived in video games, there are three models for relations between science and society:

1. Education: collection and dissemination of data by elites to the public;
2. Public Relations: improve image of science in order to increase social and political support for science;
3. Democratic: participatory with non-scientists to emphasize responsibility and sustainability (Holtorf 2007a: 107).

Do archaeologists want to maintain an us/them binary relationship where archaeological ideas and discoveries are handed down from the site? Probably not. Improving public relations will help, possibly by working to break down the barriers between so-called "elites" and the interested public, which leads to the democratic angle. As we found at the Atari Burial Ground, people wanted to help the archaeologists, not only with sharing information but also in the activity of fieldwork. They wanted to participate. It was the thrill of a lifetime for Tony Johnson to share with me the joystick top he found in the Alamogordo desert, and to do that on camera for the documentary. He contributed in a meaningful way to the dig, added to the narrative of the excavation, and will carry that memory with him for the rest of his life.

Archaeology in video games can capitalize on that kind of emotion. Despite the trope that archaeology is "boring" (it's not, and you can read Colleen Morgan's blog to see why[5]), there is emotion tied to the discipline, not unlike the reason anybody pursues their career of choice: it's interesting, and they love to do what they do. For an excavation or survey, "a simulated participation in scientific practice and the magic of encountering enigmatic objects can provide [site] visitors with very powerful experiences" (Holtorf 2005: 155). This could conceiv-

ably translate to video games, where the act of digging, of field walking, of research, of labwork can all be done by the player to move the story along and to create both an intellectual and emotional investment in the game while at the same time making archaeology less mysterious, or less predictable, not only for the public but also for archaeologists themselves. Edward González-Tennant concurs: "Walking simulators successfully engage the public's imagination, and not in shallow ways. The topics, narrative style, and emotional impact of these video games can be harnessed by archaeologists for public education and outreach. Crafting virtual worlds based on historical pasts can similarly engage the public's desire for serious content" (González-Tennant 2016: 28).

While public outreach is one obvious avenue in which to exploit games for archaeology, games can also be used for archaeological research, namely as platforms for experimental archaeology, a "fertile environment for archaeological theory testing, for instance into human interaction with space or exchange networks" (Mol et al. 2016: 14–15). Shawn Graham agrees, noting that archaeologists can use game worlds to "reflect on practice, theory, and the perception of our discipline" (Graham 2016: 18). L. Meghan Dennis adds yet another argument for using games to understand and revise archaeological ethics: "Archaeogaming has the opportunity to look at the mistakes made in the past and to counter the errors of colonialism and ethnocentrism that marked the beginning of archaeological scholarship" (Dennis 2016: 29).

However, in order for archaeologists to contribute meaningfully to game development, "we must dispense of the trope that construes archaeology-as-excavation, that relies on the idea of a past that is buried and hidden" (Yaneva 2013: 121). Archaeology-as-surface-survey and as a process of assembly/reassembly are just as valid and important. But as described earlier, this kind of archaeology does not exist in most video games, at least not yet. The conclusion of the VALUE Project's initial survey led the team to write, "We feel that closer collaborations between game developers and archaeologists are needed if video games and archaeology are to be of greater mutual value" (Mol et al. 2016: 15). If Blizzard Entertainment's *Hearthstone* (2014) is any indication of the state of archaeology in games, however, we still have a long way to go.

Archaeological Reception in *Hearthstone*

John Williams–ish *Indiana Jones*–like music welcomes me to *Hearthstone: League of Explorers,* an "archaeology"-themed expansion to Bliz-

zard Entertainment's wildly popular free-to-play online card game (see Figure 2.2). The promise of archaeology is clear from the first screen:

> Scattered across ancient sites of Azeroth are the pieces of a powerful Titan artifact: the Staff of Origination. Join the League of Explorers to acquire it for the museum, and earn 45 cards unique to this adventure.

The League of Explorers is not unique to *Hearthstone* but is itself part of the lore of its parent game, *World of Warcraft.* The League consists of NPC archaeologists and adventurers who scour Azeroth (the world in *WoW*) for Titan (the original, ancient, and mythical race) artifacts relating to the beginnings of the Dwarves. Archaeological tropes abound in the game, mostly drawn from modern media (e.g., Reno Jackson, an "action archaeologist" who draws inspiration from the movie characters Indiana Jones and Remo Williams). The signal tropes are everywhere, from pith helmets to fedoras, utility vests to khaki trousers.

The reward cards that are earned for future use in the main *Hearthstone* game fetishize these elements, skills, and perceived goals of the archaeologist-adventurer. The Explorer's Hat (a *WoW*-style fedora), the Forgotten Torch, and the Jeweled Scarab are a few examples of these. The goal is to collect all of the reward cards, following the trope that archaeologists are collectors, in order to recover the ultimate prize, the Staff of Origination (modeled after the Staff of Ra from *Raiders of the Lost Ark*), which becomes a trophy and collectible card back (the decorative reverse of cards in a deck). This follows suit with other *World*

Figure 2.2. Opening screen to *Hearthstone* (Blizzard Entertainment) Screen capture by author.

of Warcraft artifacts earned in *WoW* itself: some assembled artifacts are trophies, while others do something useful for the player.

I begin the game in the Temple of Osris (not a typo, but playing on the Egyptian god Osiris), which rewarded me with a loading animation of a dotted arrow of travel made famous by the *Indiana Jones* films. I am then informed by the League's librarian/archivist that Reno Jackson is in trouble and needs my help to retrieve part of the Staff protected by a genii who was trapped in a lamp until Reno rubbed it.

Reno and I are formally introduced as soon as I arrive at the card table, which is itself designed to elicit the emotion of archaeology, or what most players feel when thinking about what archaeology might be: ruined columns, a pickaxe, coins, pottery. And there's Reno, "world renowned archaeologist, explorer, and treasure hunter." Throughout the gameplay, Reno regales me with tales of his exploits, including acquiring the Rod of the Sun, which he says is worth "thousands."

Typical to pop cultural perceptions of the adventure of archaeology, the second third of the Temple of Osris adventure takes me into a vault that contains the holy of holies, which we are here to rob. It's never made explicitly clear why we are actually stealing, other than that we need the artifact. The Egyptian-like lingo and art present throughout the adventure adds realism to an otherwise pretend place, allowing the player to populate the game-space with a bit of Egyptian mythology, adding that extra dimension of lore. But generic archaeological tropes continue to fill that space: a collapsing temple, boulders, pit of spikes, carnivorous insects, a cursed tomb. If games are anything to go by, we dig at our peril.

As the game progresses into the mines of Uldaman, I encounter the ugly face of colonialism featuring the subjugation and ultimate genocide of the Trogg race. To begin this part of the game, I meet the founder of the Explorers' League, Brann Bronzebeard. Predictably dressed in khakis and fedora, Brann has a colonial attitude that recalls a nineteenth-century British explorer encountering "savages" whose purpose (to him anyway) is to bar him from taking their cultural heritage. The level concludes in a boss fight with Archaedas, guardian of the Titans. He perpetuates the myth of the ancient/magic protector of a tomb/vault and uses the archaic term for Titans, "makers." Brann takes a moment to reflect on all of the Titan knowledge he's about to lose by killing the only being around who has this data at the ready.

While the Temple of Osris harkened back to nearly every single stereotype contemporary players have come to expect of archaeologists in games, Uldaman raises the darker side that comes with a colonial approach to archaeology. Granted, one could argue that Brann was only

reclaiming what was his by the fact that Dwarven archaeologists had the digging rights and that the Troggs were squatters, but the history is that of the Titans, which belongs to Azeroth as a whole.

The third part of the game amplifies colonialism. We are faced with helping the imperial conqueror if we want to complete the game. Sir Finley Mrrgglton is dressed as the prototypical jungle explorer, complete with pith helmet, khaki shorts, backpack, and machete. He's also wearing a monocle, and when he speaks he uses colonial British English affectations. He is a Murloc. Murlocs are original citizens of Azeroth, a race of amphibious creatures with a distinct language consisting of burbles and gargles, which in this fight are deployed for ridicule by Sir Finley. It's institutional racism: Sir Finley is an "educated" Murloc fighting against the "savages" of his race, willing to kill those "inferior" to him to get what he wants. This is made completely clear after we dispatch the boss. "A shame," Sir Finley says. "With a better upbringing he could have been a decent sort." So far in *Hearthstone* we have encountered the issues of repatriation, colonialism, and racism, all of which are themes of nineteenth- and (many would argue) twentieth-century archaeology. Archaeology can (and has) been used to forward political goals, and here in *Hearthstone* we see it again. It is fun to play of course, to collect those cards. But there is not a little darkness at the heart of the theme.

At the end of the game, I fight a protracted battle with Rafaam, the "Supreme Archaeologist." Rafaam is an archaeologist reclaiming artifacts from those who had taken them. During the fight, Rafaam begins to sack the explorers' Hall for its artifacts. Rafaam states that he will reclaim "just the good things." He continues the nineteenth- and early twentieth-century trope of archaeologist-as-collector, which is in line with the behavior of the other characters in the game. Not unlike other cultural heritage professionals acting to protect their institutions under siege in the real world now, however, the League's members begin to secure the artifacts.

Winning earlier parts of the fight rewards players with two of the Hall's artifacts to keep. This is an example of the earlier real-world practice of "partage," when archaeologists and governments come to an agreement where each party gets to keep a portion of the finds discovered on an excavation. Again we have another example of a hundred-year-old practice from early archaeological culture.

As the final showdown continues, Rafaam brags that he has "collected artifacts from hundreds of worlds," continuing his race's (Ethereal) predisposition for appropriating cultural heritage, but without context. The behavior harkens back to the Nazis of *Raiders of the Lost*

Ark who were tasked to find artifacts of occult use to aid the Third Reich's war effort.

The corruption of Rafaam from archaeologist to thief mirrors those archaeologists who succumb to various pressures to loot their own sites or sell off artifacts (see the next section). While rare, the behavior exists, and it is reflected in this card game. Although there are tropes aplenty throughout *Hearthstone,* the darker aspects of archaeology do appear, largely from the discipline's distant past. Whether these whispers and themes were intended by Blizzard is unknown, but they are eerily prescient when considering the reception of archaeology and of archaeologists past and present.

Looting

It all goes back to *Dungeons and Dragons.* In 1979, Gary Gygax published the first edition of the *Dungeonmaster's Guide,* instructions for people running their friends through modules containing monsters, mayhem, and, of course, treasure. Kill an enemy? Loot the corpse. Someone in the party dies? Loot the corpse. The noun, "loot," and the verb, "to loot," are no strangers to real-world battlefields and warfare, and the lingo carried over easily into fantasy books and then games, both analog and digital.

Although the earliest video games (including 1980's *Adventure* by Atari) had a loot mechanic (walk over an object to add it to inventory) as well as a drop mechanic (a slain enemy drops something of value), the game documentation does not specifically mention looting by name. Even the manuals for 1982's and 1983's *Advanced Dungeons and Dragons* games licensed from TSR by Intellivision are mute on identifying player actions as "looting." This is true even into the early 1990s with *AD&D*-licensed titles such as *Eye of the Beholder.* Even a loot-intensive title such as the original *Diablo* by Blizzard Entertainment (1996) does not use the word "loot" as either a noun or a verb in its official documentation. But the concept of looting—of taking treasure or other forms of portable wealth or of lifting weapons, armor, and magic/practical items—was well into the gaming vernacular by then. So how does this translate into gameplay, and are there real ethical issues at work when considering that some loot is actually classed as an artifact and even has in-game archaeological context?[6]

When I am personally in-game, I am a bad archaeologist. Indiana Jones bad (especially when I am playing him as my Lego alter ego). I do not take notes. I do not measure. I do not photograph. I do not doc-

ument. Truth be told, I am just into archaeology for the loot. Dig in, dig out. Loot whatever is there, and leave a hole that in many games just fills itself in after a few minutes as if nothing ever happened. But I know what I did. I am guilty in other games, too. I took that piece of Dwemer machinery from an underground city in *Skyrim*. I took that Night Elf artifact from a corpse in *World of Warcraft.* I set those ancient wheels in motion in the dungeon in order to get to that end goal, to finish that quest, to get that experience. And whatever artifacts I cannot use, I sell them at the auction house or even online for either virtual or occasionally real currency. I might as well be starring on a televised episode of *Kalmidor Digger.* As Iggy Pop once wrote, I am using technology, and I am using it to search and destroy, which is a bit like what proper archaeologists do, but at least they keep good notes.

Perhaps treating in-game artifacts as loot helps desensitize gamers to real-world finds and what to do with them ethically. In games, we are often taught to collect and/or sell out of self-interest, or to add to the guild bank. This is not excavation out of enlightened self-interest either. It is plain greed. It is extremely satisfying to be rewarded for a job well done in a game such as *Skyrim* with a Daedric artifact. Who does not want the Mace of Molag Bal that not only drains both the stamina and magicka of the enemy you are fighting but also steals its soul (if you kill it fast enough)? Given the choice, do I equip it (or give it to my minion to carry), drop it on the ground, or stash it in one of my houses in Tamriel? Those are my choices. There is no museum I can go to if I suddenly find myself with a conscience and realize that I have just found a sacred relic of incredible power that also bears huge spiritual meaning for the race or family to which it once belonged. There is no place to turn it in for an equally fabulous, not-looted weapon, piece of armor (or cloth), buff, or the like. Finders keepers. Or I can drop it and watch it fade away.

"It is only a game. There are no ethics in the archaeology of the gaming world." That statement used to be true, but some scholars—most notably L. Meghan Dennis at the University of York's Centre for Digital Heritage—are now actively engaged in understanding issues of cultural heritage in-game and how looting and trade manifest in a game-space. What if there were ethics in the archaeology of the game being played? Dennis writes that "working within a game world is not that different from more traditional archaeological fieldwork. . . . The same issues of ethical practice arise. Those the archaeologist interacts with . . . still have to be considered as a community and treated as actors with agency and rights" (Dennis 2016: 30). This is true when interacting with cultures created in-game, but it is especially resonant when

working within a game-space that features other human players and groups. In single-player games, the archaeologist must consider "how she behaves within the narrative and world presented by the game's designers" (Dennis 2016: 30).

What if a player incites a mob of creatures that they have positive reputation (rep) with because they detected you trying to pry loose a sacred gemstone in their hometown? That might make players think twice about trying it. What if by looting, players lose rep with factions? What if players are no longer able to enter towns safely? What if players are forced to pay higher prices for things in the marketplace? Or in the most severe cases, what if players were banned from the auction houses all because they stole an artifact that is too hot to do anything with, or nobody wants to buy it from the player because they don't want that stain on them? So much thought is put into aggro mechanics (player proximity that draws enemies out to attack) and in-game reputation with factions (doing good deeds makes other races friendly to you) that it should not be too difficult to include this kind of quid pro quo for bad archaeology in-world. People might stop digging altogether. They might choose not to level up an archaeology skill. Many players would probably attempt to sneak in and steal these objects, behavior that amoral realms such as those in the *Elder Scrolls* series or in *World of Warcraft* support, just as they support leaving things alone. It is up to the player to decide. But there should be consequences. And not all of those consequences should be bad for the player.

What if the player recovered a stolen artifact and returned it to the race or village from whom/where it was stolen? What if the player found something of great importance to the lore of the world and turned it in to a museum curator (much like the find-and-return-lost-books-to-the-library repeatable quests at the College of Winterhold in *Skyrim*)? What if players did this for things they found that were completely unrelated to quests in their diaries/logs? Would players do it? What would the rewards be? Skill points maybe. Improved rep perhaps. An unlocked quest chain.

In some online games (mostly combat games, but even *No Man's Sky* with its grenades and terrain manipulator tool), real-time physics can destroy buildings and landscapes. Imagine what would happen if a *Call of Duty* title pits a squad against Taliban fighters where a museum or UNESCO World Heritage Site is in the line of fire. Do players protect it? Does it become collateral damage? And what are the repercussions in the game if this is part of the story, or do players earn an achievement/trophy by preserving a cultural heritage site, monument, or museum?

In a game, especially one within a massive environment, players are always trapped in an endless cycle of rewards (or punishments). It is black and white. This applies to archaeology in these games, too. Using archaeology in a game to solve a puzzle leads to a prize, or poisoning, or something else. But how many players will "do archaeology" in a game just because? Who will pay sixty dollars on a game just to catalog ruins, collect books, and look for artifacts to draw (or take screengrabs of) and record? I would argue that whenever archaeology is explicitly included in a game, it is there to (1) give players loot (or the ability to trade loot in for something else of equal value), and (2) to advance the story. To AAA game developers and players, this model is a universal. Archaeology equates to either treasure or knowledge.

I would argue, too, though, that players can opt to ignore both of those predefined archaeological outcomes and instead explore and document worlds and their lore just because it can be fun. It is certainly interesting. Players not only are exploring whatever happened to a vanished race but they also are paying attention to how the game architects approached that culture, lore, and material remains. In a way, players are asking questions of the gods of the game, those on the outside looking in, asking those universal "why" questions and, more often than not, receiving no answers. Chapter 4 explores these concepts in more detail.

The next time a player logs on to an MMO they love (or when they play *Elder Scrolls Online* for the first time), they should stop treating archaeology as something that has an objective and instead take a fresh look at those ruins and think about why they are there, who put them there, for what purpose, and what informed their design. Are they ruined just to be ruined, or did a great dragon arise from below the surface to fracture the world? And if no reasons manifest themselves from these observations, question the invisible makers then and wonder what kind of gods would build an imperfect world. Shake that HD fist and begin to doubt that in some games there is no such thing as intelligent design.[7]

Looting and Ethics: *Elder Scrolls Online*

I put in-game looting ethics to the test in *Elder Scrolls Online.* The storied and vast *Elder Scrolls* universe continues to delight and surprise the archaeologist in me, and one day's adventuring led me to the Ayleid ruins of Rulanyil's Fall, a public dungeon in Greenshade offering two heritage-themed quests, both of which seemed to be ripped from the headlines. The Ayleids (wild elves) are a Daedra-worshipping ancient

race in the world of Tamriel, and in *Elder Scrolls Online* (*ESO*), these ruins, a prime example of Ayleid architecture, have been repurposed as "Endarwe's Museum of Wonder and Antiquities."

Endarwe, the museum's director, has a problem: the Worm Cult. Think of the cult as ISIS/ISIL/Daesh, but with the power to raise and enslave the dead. Much like what happened in the real world at Palmyra in August 2015, the Worm Cult has engaged in a campaign of looting, destruction, and death.

As the conversation with Endarwe proceeded, I learned the Worm Cult's true purpose, as well as the main attraction of the museum: Warlord Ceyran. The museum serves as a reliquary, preserving the remains of the feared warlord as a revenue maker (think Lenin). If the Worm Cult gets its way, it will raise and enslave the warlord for its own ends.

I also learned a little bit more about Endarwe. He is not just a keeper of the museum but also a collector, historian, and the leader of the Merethic Society. The Merethic Society aggressively collects antiquities, presumably for preservation and display. The note about government intervention with collection resonates with real-world laws such as various memoranda of understanding between governments regarding the trade in antiquities, as well as the 1970 UNESCO Convention outlining rules governments should follow when dealing with antiquities collection and sale. To the Merethic Society, all is fair in collecting, and what is collected goes on display for the public, perhaps not before being laundered first.

The Museum of Wonder and Antiquities was the first official museum I found in *ESO,* and this comes after leveling my character to fifty and punching out every item on every map prior to arriving in Stonefalls. This means that for the citizens (and players) in Tamriel in *ESO*, there is only one public museum to share, and only one focused on Ayleid culture to the exclusion of other races in the game. I found myself wondering if there are other public collections within the world, and I will continue to look for them.

The museum is windowless, lit with ambient light and candles and glowing crystals. There is no signage to be seen and nothing to explain the antiquities on display, not even a QR code. There is a historic sword in a historic fountain. Who owned the sword? What was the fountain's function before this place became a museum? There is no didactic text. There is a horse-art reliquary, but again, it is fun to look at and adds to the feel of the space in the game, but there is nothing more.

Halfway through the museum I stumbled upon a Khajit (race of cat people) named Dulini, one of the few things alive (or undead) in the museum not trying to kill me. He had a quest-giver icon over his head,

so we spoke. He thought I was a cultist, which is reasonable seeing as the space is currently overrun with them. Dulini asked me to find four items of historic importance that she hid in advance of the Worm Cult's arrival. One can easily draw a parallel with the occupation of Timbuktu by Ansar Dine and the partial destruction of manuscripts in the archives, partial because of the efforts to secure thousands of other manuscripts by Abdel Kader Haïdara and others. Another parallel is the hiding of antiquities in Palmyra and their defense by senior archaeologist Khaled al-Asaad.

I agreed to help, and the hiding spots were revealed on my map. Dulini dedicated his life to save these artifacts, and I agreed to do the same. Note that this is an optional quest, and also note that the player does not have to turn in the antiquities once recovered, although Dulini is putting his faith in the player to do the right thing.

I set off, still looking for the remains of the warlord Ceyron for my original quest. I quickly came upon the first hiding spot, a vase. Searching the vase revealed an artifact: Compass of the Lost Fleet. I collected it and continued. Around the corner, I approached some suspicious rubble. Digging revealed the Crown of Mansel Sesnit. I collected that artifact, too. Getting closer to the holy of holies, I noticed a loose tile and pried it up. Underneath was the Sword of Aiden Direnni. I took it. Lastly I found the Horn of Borgas stuffed in a bookcase, and placed it in my rucksack. The four artifacts secured, I continued to the chamber holding the body of Ceyron.

The warlord rested face-up on a stone dais with lit candles and two tall candlesticks nearby. He wore a chestplate and "shoulders" as well as a spiky crown. His hands met over his heart. Nothing but bones remained. Further examination awakened a spirit, but not of the Warlord Ceyron. Instead, it was the spirit of a dead archaeologist, Nanwen. Were the bones of Ceyron switched? Stolen?

Nanwen was a hired hand, killed in a cave-in. As with most of the archaeology-themed quests in *ESO*, safety issues are a priority, but they are often absent from excavations. I told him what his body was being used for. As it happens, the museum's keeper was looking for the warlord, but any set of bones would do. This meshes nicely with the trade and promotion of fake relics in the Middle Ages, drawing in crowds while making piles of cash for the owners.

I decided to complete the quest, turning the items in. I received 265 gold for my trouble, about average for this kind of quest in this kind of environment for characters normally leveled to between twenty-five and thirty. I also got the opportunity to learn about the recovered items. Finally there is some history to be had. The Merethic Society follows

the bent of nineteenth-century antiquarianism, finding extraordinary pieces for an exquisite collection. "We leave the archaeologists and the Mage Guild to fawn over potshards and jewelry" (see Figure 2.3). The society buys and sells on any market, black or otherwise, but these artifacts recovered for the quest will not be sold, and will be publicly displayed.

I asked about each of the relics. I learn about Borgas and his horn, about Aiden Direnni, Manel Sesnit, and the Lost Fleet. All of this is Elder Scrolls canon, the series of six games being incredibly rich in lore. Finishing this conversation, I made my way back to Endarwe with the ghost of Nanwen in tow. Endarwe, surprised to see us, dressed himself as a Worm Cult member, admitted to his fraud of switching the bones of the warlord with those of his dead archaeologist colleague.

I was used to protect the ruse. Killing the members of the Worm Cult was not done for ideological reasons but a strictly pragmatic one: money. If the hoax was made public, the money would stop coming in. This final reveal in the quest was, for me, breathtaking in its cynicism.

As with the completion of all quests, I was given a cash award as well as a prize. I am offered this as hush money, and Nanwen's Sword is a decent weapon, which I could choose to use, sell, or deconstruct for my blacksmithing skill. I have to complete the quest in order to complete the dungeon on my map, get the achievement, and earn experience. It is a trade-off easily done in the synthetic world. Why? Because in MMOs, the relics always repopulate in their original spaces after a certain period of time has passed.

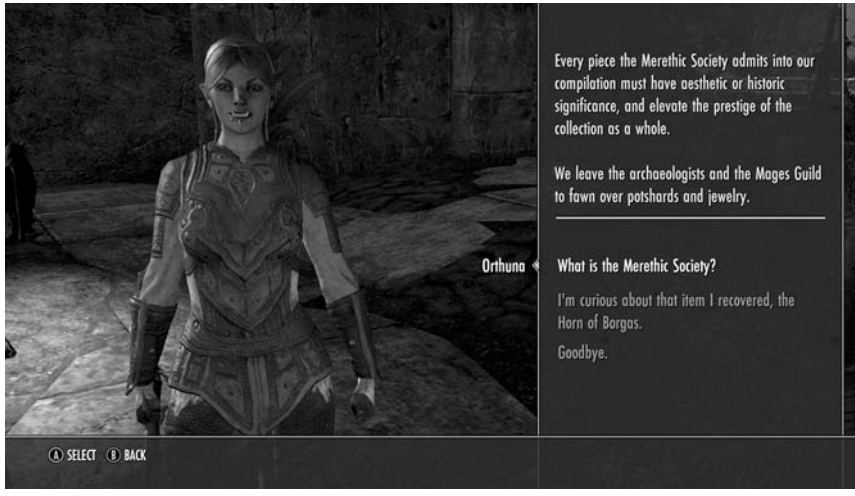

Figure 2.3. Archaeological dialogue in *Elder Scrolls Online* (Zenimax Online) Screen capture by author.

How many adventurers choose not to complete the quest, or choose not to hand in the four artifacts, taking the moral high road even though the Worm Cult was defeated within the walls of a museum it sought to rob and destroy? And what other meaning do players take away from this surprisingly complex duo of quests? For most players, it is grab-and-go, cash-and-carry, quickly on to the next adventure. If we are to consider games such as *ESO* as places to educate players about looting and about conflict antiquities, the space is correct, but player habits often mean that these nuggets of wisdom, these in-game morality plays, get glossed over and dismissed with the press of the "A" or "B" button. Getting players to pause and let something like this sink in is a tall order, but at least *ESO* makes the effort to at least try, more than most of its contemporaries.

Conclusion

Video games, as other media before them, afford the public the chance to play at archaeology as archaeologists. It also offers archaeologists the chance to critique how they themselves are portrayed, and potentially to get involved in the game-making process in order to apply ethics to games and to add more realism to what archaeology is and what archaeologists do. Unlike books, television, and film, however, games allow consumers to actively engage with characters and situations within an imagined archaeological or historical setting, which should require critical thinking from developers and players about what appears on-screen. Archaeologists have the power to address and update media stereotypes, but this will require entertainment companies to meet them halfway in order to begin changing public perception.

The next chapter describes how actual archaeologists can conduct real fieldwork within the games themselves, something that might also help change public perception of what archaeology is and what archaeologists do while encouraging them to help.

Notes

1. Two long lists are available both at the Archaeogaming and Gaming Archaeo websites: https://archaeogaming.com/2014/11/08/you-play-an-archaeologist/ and https://docs.google.com/spreadsheets/d/1xf-J_Ao9ZPS__S30TvBSr1v4eOtgOgkJ_zxMpJlxlPQ/edit#gid=0 (retrieved December 8, 2016).
2. Play *Buried* here: http://taracopplestone.co.uk/buried.html.
3. http://www.valueproject.nl/.

4. Read the full article and see the complete results in Mol et al. 2016.
5. C. Morgan, "Stop Saying 'Archaeology Is Actually Boring,'" https://middlesavagery.wordpress.com/2014/03/05/stop-saying-archaeology-is-actually-boring/ (retrieved December 7, 2016).
6. Archaeologist and ethicist L. Meghan Dennis (University of York) focuses on archaeogaming ethics with an emphasis on archaeological representation and looting. A growing list of her work can be found here: http://york.academia.edu/LMeghanDennis.
7. For a thorough analysis of pre-ruined ruins in video games, see Lowe 2013.

Further Reading

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