

# Archaeological Storytelling in Games

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## ABSTRACT

Digital games have been increasingly recognized in recent years for their existing and potential contributions as a medium for promoting engagement with history and cultural heritage. Rather than focus on how games can help the public engage with a known (to scholars) past, here we consider instead how the core problems and processes of archeology themselves might be applied as a story-telling technique in games. We consider what this might look like in games and contrast with archeogaming, existing environmental storytelling approaches and examples. Finally, we consider how these techniques could also be applied to developing games to support students learning about archaeology and material culture.

## Keywords

Games, Storytelling, Archaeology, Archaeogaming, Environmental Storytelling

## INTRODUCTION

Archaeogaming (Reinhard 2016) is a broad term that covers both the process of conducting archaeological explorations inside of games and the archaeological exploration of the games themselves and their related artifacts. Archaeogaming might apply archaeological approaches to the designed (direct or procedural) artefacts that intentionally exist within a game, to the history of versions of a game including aspects such as the history of glitches and errors, to the broader version history of a game or even to the merchandise and packaging of games.

Encompassed within this definition, then, are activities such as conducting archaeological fieldwork inside a game within the games fictional lore and history (e.g. Linde & Robra 2016). Linde & Robra use this approach to demonstrate the limitations of what archaeology can reveal about complex societies based solely on the residual (digital) material culture – and this is perhaps the most important lesson that can be taken from applying an archaeological approach to a computer game. This is a valuable idea, as the detailed lore and history of a fictional world such as that presented in Dwarf Fortress is perhaps of questionable value outside of the history of this particular fantasy world – but the ability to use digital worlds as platforms for learning how archaeological fieldwork is conducted undoubtedly has potential as an educational opportunity.

In this paper we consider the use and potential of *archaeological storytelling* – the intentional development of, and focus on, the use of artefacts within a game world as the primary mechanism for storytelling. Here, the player is required to study the artefacts

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found within the world in order to develop an understanding of the world and its histories. The examination of objects is relatively common in mainstream commercial games for providing additional flavor to a game world, and may be part of the set of mechanics for puzzle solving in adventure games, but is almost never required for learning about the game world itself – with the exceptions of diaries, logs and other written or oral records. We consider archaeological storytelling as a specific form of storytelling and narrative construction, and compare it to related forms.

## **STORYTELLING AND NARRATIVE**

There are many forms of storytelling and narrative, and many ways in which these can be constructed. Stories, as described by Roland Barthes (Barthes, 81) can be viewed as a universal concept reaching out to all throughout a multitude of formats and media and thus range from a collection of images, through interactive fiction, or more traditional linear formats. Through *Digital Storytelling* (Alexander, 2011) individuals and communities might use any of a wide range of tools and techniques to tell their own stories through written, spoken, visual or other means.

In computer games, story exposition is still commonly told through sequences that have either limited or no interactivity. Bates (2004) lists just three key techniques for storytelling: cutscenes, dialogue and scripted events. Cutscenes are effectively short movie segments, and are non-interactive. The player watches an action unfold, revealing some elements of a story's progression. Scripted events typically occur as a response to some player action and have some in-game action or dialogue occur near or around the player – while the player is still in control of their game character, the scripted-event will play to completion once triggered regardless of the players subsequent actions. These events may have smaller contributions to the overall story plot than contained in cutscenes, but can provide further depth and development to the narrative (Bates, *ibid.*). Finally, dialogue can inform and flesh-out a story whether overheard or participatory. In games where player choice can impact on the story, dialogue options presented to a player may alter the development of the plot itself (Jordan, 2011).

Murray (1997) and Ryan (2005) provide more holistic views of the relationship between the player and a story in interactive settings. Murray describes player narrative involvement through the interconnected relationships between agency (e.g. meaningful game-player interactivity), transformation (e.g. player motivation to engage) and immersion while Ryan provided a reflection on the nature of interactions between player and interactive narrative artifacts (i.e. peripheral interactivity, narrative discourse, player-narrative navigation structures and story generation). Furthermore, Jordan (*ibid.*) notes the existence of a tension between video games as a medium – through which a story may be told – and video games as an activity. Jordan argues that the narrative is continued through the players actions and interactions, blurring the distinction between the story as told through cut-scenes and as played. The narrative is not simply the plot presented to the player, but encompasses the story of the player's actions.

Jenkins (2004) relates how Environmental Storytelling is used in the design of theme parks to infuse story elements into the physical environment itself, and relates this to storytelling in games through the concepts of evoked, enacted, embedded and emergent narratives. Jenkins proposed that evoked narratives build on players' memories and prior experience through the depiction and representation of the physical space (e.g. a nightmare version of a familiar setting), while the space itself may be the stage for enacting a sequence of narrative events. Emergent narratives arise through the interactions and

actions within a game, most notably within sandbox type games. Finally, embedded narratives are told through the settings, surroundings and contents of the environment – and we will consider this form of environmental storytelling in more detail shortly.

Embedded and emergent narratives are often used alongside more direct forms of exposition, and form the basis of Worch and Smith's (2010) definition of environmental storytelling. Worch and Smith note that the virtual environment itself and the objects within it are used to relate or suggest additional elements of the game narrative, beyond the story related more directly. Environmental storytelling, in its multiple forms, provides clues for player interpretation, and there is a reliance on the players to make the associations required to reveal the story told through the game environment. The risks here are that the players might make the wrong interpretations or might completely fail to make associations between the disparate objects and signs that are intended to reveal the back story of the game world. However, this is countered with some strong positives. Environmental storytelling encourages active problem solving, building player engagement, investment and immersion in the story. We can also consider the invitation to players to create their own interpretations to be a positive result – through the resultant awareness that the story is understood through a process of interpretation and the resultant ambiguity and uncertainty that this implies.

We can also compare the idea of environmental storytelling to how museums attempt to provide a narrative through the physical placement of artefacts. Mulholland and Collins (2002) consider how the arrangement of artefacts can be used to provide a narrative – and how re-arrangement can develop alternative narratives. Here, the narrative might be limited in terms of a fictional structure – lacking in plotting and narrative arc. But seeing a collection of items can itself tell a story through a viewer's active interpretation. Placing items within a broader context or juxtaposing select items can have dramatic impact on the understood narrative. Supporting viewing as active interpretation further supports effective learning. Fred Wilson's work at the Historical Society of Maryland in the project 'Mining the Museum' (also see Talbot, 2013) is noted as an example of how placing objects associated with slavery alongside already displayed objects provided a very different alternative historical perspective, one that was seemingly normally repressed and hidden by the normal museum narrative.

Mulholland and Collins (ibid.) argue the case for digital narratives in museums to meet some key objectives, including:

- Support viewing as active interpretation, and represent objects in context to reveal associations, as noted above.
- Reveal the domain as a dynamic process, through making visible the archaeological or production processes themselves or through presenting unfinished works to reveal more about the biographies of artefacts.
- Meet the challenge to of being both entertaining and educational. This is a problem familiar to many in game-based learning, but an old problem for museums which are not just store rooms for antique objects but which exist to serve a public. Learning requires motivation, and engendering curiosity through entertainment can help drive this.

These objectives are useful not just for museums, but we would suggest that these objectives could apply equally well to educational games.

## ARCHAEOLOGICAL GAMES

Archaeology can be understood as a series of techniques that when applied to material culture reveal something of the cultures in which they were created, or subsequently used. While archaeology often applies very sophisticated scientific techniques and logical reasoning, it also relies heavily on interpretation which is ultimately a subjective process. A key component of archaeological thinking is the creation of multiple narratives of the past (multi-vocality) whereby the lives of different ages, genders and classes are given equal weight and no single version of the past dominates. This runs counter our common experience in films, novels and games where the archaeological past and archeological objects are often used only to create kind of surrogate history of social elites.

Archaeology, or a version of it, is a well-represented domain in video games – most famously in the Lara Croft *Tomb Raider* series of games (Core Design, 1996). Nathan Drake of the *Uncharted* (Naughty Dog, 2007) series is a treasure-hunter rather than an archaeologist, although as represented in the games there is disturbingly little difference between their approaches to treasure hunting/archaeology.

In both *Uncharted: Drake's Fortune* (Naughty Dog, *ibid.*) and *Tomb Raider* (Crystal Dynamics, 2013), players find themselves in control of characters trapped on islands populated with enemies to be killed, environments to be explored and many treasures to be found. The handling of treasures and historical artefacts is similar in both games – visual flashes indicate the position of items scattered around the environments. Picking up these items allows the player to view the item in 3D, alongside some explanatory text. The player may even be encouraged to inspect the item to find additional 'hidden' information (Figure 1), and yet these treasures have no impact on game other than being optional player trophies or achievements. In both examples, the developers appear to have put some effort into researching specific periods and into presenting authentic objects that relate to the backstories of the games. Players can read about these, and perhaps learn some more of the historical background of the settings used in the games. However, finding these objects has no real impact on the narrative of either game, and provides little information on the history of either island that is not more explicitly revealed using other means.

Similar collectible treasures to be hunted out feature in many other games, generally as a means of extending or adding to the game play, while having minimal impact on the narrative itself. So, for example, *Shadow of Mordor* (Monolith, 2013) features a functionally identical system of collectibles, but where hidden 'memory points' give the player direct access to memories from their previous owners to provide a more detailed and richer backstory.



**Figure 1:** A relic in *Tomb Raider*. The information gained has no bearing on the overall game narrative, serving as a bonus and optional reward rather than integral element of the game.

As with Linde and Robra (2016), in these games it is possible to explore and examine the artifacts and to attempt to use these to understand the past of the game world, however this is a fixed ‘known’ story that does not require archaeological reasoning for its discovery.

## **TOWARDS ARCHAEOLOGICAL STORYTELLING**

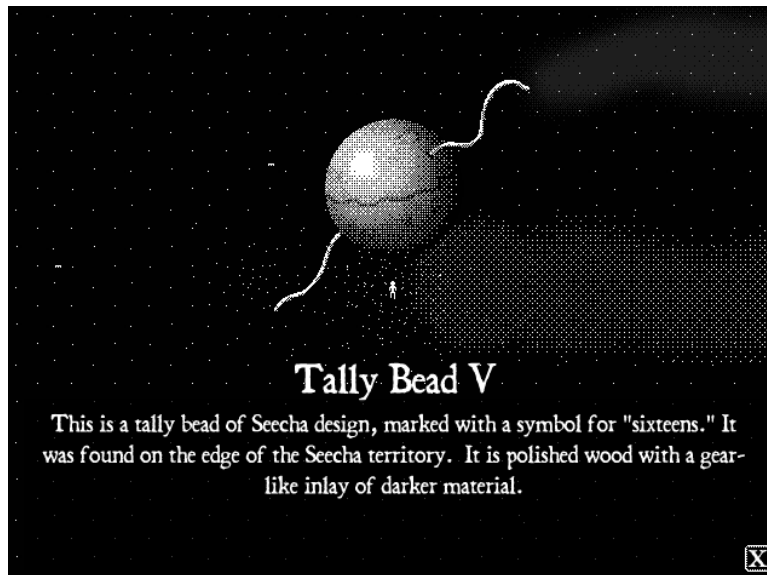
These games, then, have unmet potential for storytelling through archaeological means – storytelling through the exploration and investigation of objects and the process of attaching meaning to artefacts and inference about their significance and the societies and stories behind them. What might a game that genuinely attempted to use archaeological thinking, i.e. the analysis of material culture, for storytelling look like?

*Buried* (Copplestone & Botham, 2014) presents a text-based Interactive Fiction story through which players can learn about and reflect on archaeological processes and work – though the objects presented are more the tools and belongings of an archaeologist than those of the societies they study. This game also provides insight through direct access to the thoughts and feelings of an archaeologist – rather than only through their artefacts.

*Aporia* (Benvesee et al., 2012) is an unusual game that tasks players with the exploration of a static environment, with story solely revealed through its artefacts. *Aporia* was developed with a design intent to completely avoid the use of textural or oral exposition. The narrative space is explored through artifacts, each having one of three levels of representation and narrative significance. At the first level, artifacts have an immediate and obvious story, with no deeper connection to the narrative. At the second level, players need to interpret drawings or other clues, open to some degree of interpretation to construct the story. Finally, third level artifacts relate metaphorically to the meaning of the concealed story and lead the player towards narrative resolution, although different players may develop different interpretations. In testing only a minority of the play-testers were able to reconstruct the concealed narrative.

However, the focus of this project was on exploring how artifacts might reveal a concealed metaphorical story, rather than a more typical archaeological challenge of learning about a society from the remnants of its material culture – that it succeeded to the degree it did shows promise for the use of similar techniques for archeological storytelling in games.

*Looming* (Avery-Weir 2010), Figure 2, is a simple web-game that perhaps more closely achieves a form of archaeological storytelling. In *Looming* the player controls an archaeologist exploring an alien world in which remain inexplicable structures and odd artefacts – the only remaining evidence of two extinct civilisations. The story of how these two civilisations co-existed and interacted and what happened to them is only revealed through collecting the artefacts scattered around the game world, and even then the story is somewhat incomplete and ambiguous.



**Figure 2:** A Tally Bead in *Looming* (Avery-Weir 2010). A gradual understanding of the world is built up from a collection of found objects.

To understand this story at all, even in an incomplete form, requires players to very actively engage in trying to learn about the different objects, their relationships to each other and to try to understand what these reveal about the societies that created them. While even here the text reveals more than would be found when uncovering an archaeological artefact in the real world, the player is more faithfully engaging with archaeological practice than in games such as *Tomb Raider*.

These games all hint at the possibilities for archaeological storytelling, a form of storytelling in games told through the examination and study of the material culture of lost civilizations. Such games should avoid pushing the player to choose or commit to a single interpretation – let alone present such a singular vision. But a balance needs to be found between presenting overly specific and authoritative information for the game relics versus offering no information at all – and risking presenting players with an impenetrable puzzle.

There are a number of possible ways to develop story through artifacts. Instead of presenting one history for each object, players might be able to discover multiple histories – related through dialogue, text or flash-back cutscenes. These might be fragmentary in nature, inconclusive or mutually exclusive – ensuring that players are aware that not all explanations can be correct, but without any certainty over which one(s) are. Newly discovered artefacts come not only with their own fragments of story, but might lead to new possibilities for previously discovered objects – or allow the player to conclude that previously held ideas need rethought.

Being able to apply different methods from the archaeological toolkit to objects might reveal hidden details about objects and allow greater understanding of their relationships to each other – such as through placing them in time or by linking them to specific societies and sources. The tools and methods available to real world archaeologists – stratigraphy, use-wear analysis, dating, isotope analysis, lipid analysis, etc. – might have their game world analogues for use on digital artifacts, and their careful use might help players develop a more detailed view of the societies and cultures that once inhabited a virtual game world.

## **CONCLUSIONS**

Archaeology and archaeologists are surprisingly popular themes and characters in computer games – here we picked out only a few well known and a couple of less well known examples. However, the typical representation of archaeology in games is distanced from any form of archaeological thinking, rarely allowing for more than one well defined understanding, closed to any degree of subjectivity. Indeed, with *Aporia* the failure of the majority of players to infer the correct and intended story was reported as a limitation or failure of the work (Bevenssee et al., 2012).

In contrast in archaeology, it is important to pay heed to the limitations of trying to learn about lost cultures only through the remnants of their material culture. A single ‘correct’ story may never be discoverable, instead it may be that a collection of plausible and possible stories may be found. Learning how to build and develop these stories, to evaluate alternative explanations and to be prepared to rethink in light of new evidence are all key components of archaeological thinking.

We feel that archaeological thinking is a skill worth nurturing – helping students accept that there are unknowables while developing skills and expertise in interpretation through limited, and potentially contradictory, evidence.

As a possible method for developing educational games for archaeology students, we feel that archaeological storytelling has particular, and unexplored, potential. It will also be of value in educating wider audiences about how we develop our relationship with the past. Finally, we argue that archaeological storytelling is also a valid storytelling approach in its own right – but one which to date has only just been touched on by game developers and researchers and has yet to be explored in depth.

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