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simulation ludology narrative Xbox 360 PVE



Gamevironments from the perspective of an actant. ChatGPT (prompt: "gameenvironments").

10th Anniversary Issue

Gamevironments Revisited

Issue 21 (2024)

introduction

Gamevironments as an Analytical Lens for Studying Gaming and Culture. A Critical Revision

by Kerstin Radde-Antweiler, 1-33

articles

A Ludic Litmus Test. *Sara Is Missing*, Gameenvironments, and Gregory Bateson's Theory of Play

by Gregory Price Grieve, 34-59

Cultural Heritage, Video Games and Video Gaming. Researching Global Actants with Gameenvironments

by Xenia Zeiler, 60-83

Ludonarratology and Gameenvironments in Dialogue

by Zhange Ni, 84-118

Community, Alienation and the Experience of Networks. Gameenvironments and Theories of Community

by Dom Ford, 119-143

cultural heritage. For example, Smith reflected on uses of heritage (2006) and emotional engagement of museum and heritage site visitors (2020), Harrison (2012) provided a study on critical approaches to heritage and Vecco (2010), in her definition of cultural heritage, stressed the move from tangible to intangible.

Cultural heritage studies as an academic subject is thus multidisciplinary and includes various themes, questions, methodical and theoretical approaches and subfields. One of these is critical heritage studies which as an underlying approach informs this article’s understanding and definition of cultural heritage. It also forms the basis of discussing cultural heritage in relation to video games, video gaming and gameenvironments. Critical heritage studies (e.g., Winter and Waterton 2013) seems particularly suited here, as it highlights the “need for heritage studies to account for its relationship to today’s regional and global transformations by developing post-western understandings of culture, history and heritage and the socio-political forces that actualise them” (Winter 2013, 532).

(Research on) Cultural Heritage and Video Games – and Video Gaming?

This article defines video games in a very broad sense, including VR, AR and all other gamified applications. A starting point for discussing video games related to cultural heritage then could be to, very broadly, divide them into two groups:

Group A

Games developed and produced directly for and in the immediate vicinity of (and often also directly commissioned and financed by) a specific heritage site (such as an archaeological or historical site, building, castle, etc.), heritage

always and necessarily result in portraying the developers' views first and foremost (for the complex relation between different actors involved in a *heritage game's* production process see e.g., Copplestone 2017). A game's rule system and mechanics define how a player can move through a game, as well. As such, and of course, even games with an explicit educational claim can never be neutral.

Group A

Regarding Group A, we can see that countless heritage sites as well as locations showcasing heritage, such as museums and other spaces subsumed under the term GLAM (galleries, libraries, archives and museums), have developed their own games. Heritage games developed specifically for intangible heritage are much more seldom; "intangible heritage is seldom virtual heritage" (Champion 2022, 24). Often, the existing games are AR or VR applications; however, at times, we also see other formats from almost the entire range of video games and gamified applications. The main goal of such games is not necessarily only to transport straightforward knowledge (for example, to give dates for a museum artifact, background knowledge on a painter, the historical context of a castle ruin, etc.). Rather, many such games have been developed to promote visitor engagement or motivation (e.g., Ye, Wang and Zhao 2021). Additionally, such games often try to tap into the level of senses by aiming to enrich experiences in multisensory ways (for example, music heritage or outdoor heritage, such as archaeological sites). Recently, VR applications have become a more researched field (see e.g., Paolanti et al. 2023 who evaluated learning outcomes of VR applications in digital cultural heritage education).

Today, an entire academic subfield studies cultural (and natural) heritage and serious games, most often dealing with the development and/or utilization of gamified solutions for the GLAM sector. Some important early studies include Mortora et al.

(2014) on learning cultural heritage by serious games and Bontchev (2015) on serious games for and as cultural heritage. More recently, Holloway-Attaway and Vipsjö (2020) studied the use of AR, gaming technologies and transmedial storytelling for local cultural heritage experiences and Grufsted and Trenter (2023, 190) discussed cultural heritage and game design as “natural friends.” Cultural heritage education is also a focus of the work of Camuñas-García, Cáceres-Reche and Cambil-Hernández who recently published on maximizing engagement with cultural heritage through video games (2023) and mobile game-based learning in cultural heritage education (2022).

As many studies on educational games point out, it is difficult to pin down the precise educational outcomes and along with that, some argue, the precise value of educational games. While more studies (applying, among other things, new measurement and analysis methods) will provide more information, cultural heritage and video game studies also at least indicate that such games can bring about some push in engagement, a learning curve and, certainly, enjoyment (see e.g., Kidd and McAvoy 2019, who review research findings on immersive experiences in museums, galleries and heritage sites). Overall, we find agreement on the facts that video games can support and enhance cultural heritage experiences and that, in fact, video games themselves have already become part of cultural heritage (see e.g., Barwick, Dearnley and Muir 2011 on playing games with cultural heritage and digital game preservation and Zeiler and Thomas 2021 on the relevance of researching video games and cultural heritage).

In the development and production of games around cultural heritage or *heritage games*, as well as, consequently, in their academic study, unsurprisingly, we find regional and national differences. Many games, including smaller apps, have been

released in Europe and other world regions, such as parts of Asia, North America and South America, increasingly produce *heritage games* as well. Numerous factors contribute to the development and production of *heritage games*; they include, but are not limited to, available financial resources and cultural and social acceptance of games and gaming.

Group B

Regarding Group B, we know that video games have incorporated heritage themes on many levels and in different ways for a long time already. Cultural heritage-related topics, along with history, have been and continue to be frequently portrayed, discussed and constructed in games. This is true for smaller productions (e.g, indie games) as well as for large and often internationally successful AAA games. How was Stonehenge built? What did ancient Egyptian pharaohs wear? What instruments did the Vikings play? Such and many more similar questions are taken up in games. Heritage references in games, just like heritage references in other media genres like films and TV series, then may find their way into broad pop culture.

That is, games belong to pervasive media genres that intensively take up cultural heritage and, in doing so, contribute to the construction of popular notions of heritage. The popular understanding of what constitutes cultural heritage and what is characteristic of specific cultural heritage sites or items is, among other things, (partly even heavily) influenced by representations in games. Consequently, it is equally valid and important to research what and how games portray and construct cultural heritage (with, for example, media-centered approaches and methods), as well as to research how different actors perceive and deal with these representations and constructions (with, for example, actor-centered approaches and methods).

When it comes to the existing research on Group B, we can detect, just as for research on Group A, a clear tendency towards media-centered approaches. Many studies on *games with heritage references* have focused on in-game representations, researching in which ways especially tangible cultural heritage (sites or items) and, to a lesser degree, intangible cultural heritage (music, practices, etc.) have been incorporated in game aesthetics, landscapes and narratives. For example, Liu, Miao and Ying (2022, 89) state that while “cultural heritage within games remain an understudied avenue in gaming literature,” overall, “often overlooked, however, are the depth and profundity of commercial games which contain cultural heritage elements.” These authors offer a quantitative, metric instrument for what they call commercial games with cultural heritage.

Another similarity to Group A is that many game depictions and/or representations take up heritage sites and elements that are geographically situated in the Global North. For example, important European cultural heritage sites such as Notre-Dame (*Assassin's Creed Unity* (2014)) or Manchester Cathedral (*Resistance: Fall of Man* (2006)) were featured and, consequently, also popularized in highly successful AAA games. Unsurprisingly, such success stories also caught the eye of researchers. But additionally, and fortunately, we also find some geographically and culturally diverse and complex examples. Among them are games produced either in collaboration with or even entirely developed or commissioned by indigenous groups. For example, LaPensée (2021, 281) discusses the North American video game *When Rivers Were Trails* (2019) as a “sovereign game, meaning that it was directed and informed by Indigenous creatives who maintained the role of final decisions during development” and describes the “game’s design, development process in regard to the game writing, and the resulting themes which emerged as a result of engaging Indigenous writers in self-determined representations.” This study also is an important example

for research going beyond a media-centered approach, as is Laiti et al. (2021, 296), whose work “explores how game jams, a rapid collaborative game production format, can work to support the revitalisation of Indigenous self-narratives in the context of Sámi culture.”

This discussion of some important points regarding (the existing research on) cultural heritage and video games already indicates that two things are yet underrepresented in this field: research on video gaming (that is, on the gameenvironments of the studied games) and research on global contexts (that is, on contexts beyond world regions in the Global North). This statement applies equally to games from both groups, Group A and Group B.

This is not to say that such research is entirely non-existent, as also seen in Holloway-Attaway and Berg Marklund’s (2020) research on performing heritage and creating community through digital games, narrative agency and critical play. Yet, academic engagement in this field still largely focusses on case studies presenting individual examples and/or discussing best practices for successful game development for *heritage games*, respectively studying in-game representations of heritage themes in *games with heritage references*. Extending the lens to better integrate video gaming – or, in a broad way, to look beyond the games themselves – can tweak our reflections towards a more holistic view of the complex relationship between cultural heritage and video games.

We have also seen that most games from both Group A as well as Group B have been developed in and/or as related to, and incorporate and showcase, cultural heritage from the Global North. It is hardly surprising then that studies on almost all aspects of cultural heritage and video games and gaming beyond these regions are still

underrepresented. Fortunately, research increasingly catches up, also because new interesting games are developed beyond the long dominant settings. Such so-called global (that is, geographically, culturally, linguistically, etc., more diverse) developments are visible, for example, in indigenous games. Among the new conceptual frameworks offered to research such games (and useful for both *heritage games* and *games with heritage references*) is, for example, Ensslin’s (2024) qualitative approach or lens of folk mechanic that she discusses as transregional Anthropocene criticism in indigenous video games.

The following part will demonstrate that the gameenvironments approaches, both old and new, can effectively support shifting our analytical lens and perspectives regarding what to include in our future studies, as well as the reasons and methods for doing so.

Cultural Heritage and Gamevironments: Researching Global Contexts with an Actant-Centered Approach

When it comes to the study of cultural heritage, video games (from both groups, *heritage games* and *games with heritage references*) and video gaming, both the original gameenvironments concept from 2014, as well as the critically revised 2024 version, hold merits. This is mainly, but not exclusively, because researching gameenvironments in both versions means to move beyond studying games only and including their environments. What differentiates the 2014 and 2024 versions are their individual additional foci and reflections that can support specific research interests. To exemplify this, let us reflect on the applicability and usefulness of the gameenvironments approach for studying cultural heritage and video games and gaming. Can research on cultural heritage and gaming benefit from the

gameenvironments concept, old and new and, if so, how? Why and how is a gameenvironments lens or approach relevant in such research, also, but not only, in or as related to global contexts?

To begin with, and broadly speaking, it will undoubtedly be beneficial to include the study of gaming as a practice more intensively in the academic study of cultural heritage and video games. This is true for both Groups A and B as specified above. As we have seen, studies especially on games that were produced in the direct vicinity of cultural heritage sites or items still very often focus on the games and their production. Academic engagement with matters of game development abounds, often in combination with reflections on game design and how gamified solutions can support the transmission of cultural heritage-related information and experiences. Such studies also often presuppose that gamified solutions are overall beneficial and tend to discuss singular or a small number of specific games. Critical voices about cultural heritage and gamification (e.g., Champion 2022) and theoretical studies moving beyond case study levels (e.g., Holloway-Attaway and Berg Marklund 2020) are still few in numbers. Yet, when interested in a more holistic picture, the critical study of games that have been developed and produced to promote, support learning about and enhance the experience of cultural heritage (Group A) would profit from more intensively looking beyond the games and their production (only). Here it is exactly where we have one opening for beneficially applying a gameenvironments approach, as this entails acknowledging that we live in a deeply gametized society (Radde-Antweiler 2024). This is based on the understanding that in times of deep mediatization (e.g., Hepp 2020) no single media format (such as games) alone brings about transformations and that mediatization is one metaprocess among several ones, such as individualization or globalization, that all influence society.

In the cultural heritage field, this would mean to even more strongly build on the understanding that, while video games produced for specific heritage sites or items are a logical move forward and that the new formats support new and likely enhanced forms of participation and experiences, we need to keep in mind that this is a complex interlaced process:

“So, with this in mind, we have to ask how communicative practices change in times when actors live in a qualitatively and quantitatively expanded media environment and – looking at the development in digital technology, especially but not exclusively in fields of education – in a more and more gametized environment. In line with the term deep mediatization, we can speak of deep gametization.” (Radde-Antweiler 2024, 6)

Connected to this, *gamevironments* stressed already in 2014 that studying gaming includes studying various levels of actors and their relation to games. These “people who play games and who are interested and influenced by them in their gaming environments” (Radde-Antweiler, Waltemathe and Zeiler 2014, 14) may be players, game developers and many others. Importantly, this level of actors contains not only persons directly but also those indirectly linked to games. For Group A, this includes, for example, actors from GLAM spaces (such as museums and exhibition curators), academic advisors, boards or private actors (such as sponsors that decide on funding issues), heritage site management teams, guides at such sites and visitors. On an even broader level, it would include, for example, local, regional or national administrations that have a say in management and financial matters related to specific heritage spaces. In Group B, the diverse level of actors may include, for example, the entire fanbase of a certain game, actors that are directly or indirectly in touch with merchandise and other pop culture products, such as filmic adaptations derived from a specific game, and actors in public discourses, such as reviewers and journalists.

We can summarize and postulate: To better understand the increasingly expanding and complex relationship of cultural (tangible and intangible) heritage and video games/gaming, it is indispensable to extend research more intensively beyond studying games to studying gaming and to recognize the vast and complex spectrum of actors involved. When applying a gamevironments approach, this lens is inherent, per definition.

Deriving from this shared starting point – to intensively acknowledge the environments of games – both gamevironments versions of 2014 and 2024 additionally each highlight specific foci. For the future study of cultural heritage and video games and gaming, two seem especially relevant, timely and promising: to acknowledge the increasingly important and complex global contexts and to move from an actor-centered to an actant-centered approach. These two lenses happen to stem from one of the versions each; the first one was established in the original 2014 version and the second one originated recently, in the revised 2024 version.

To acknowledge global contexts, ascertaining “whether these gaming processes are the same worldwide or whether there are different criteria for designing experiencing, valuing and presenting games and gamer-generated content in different regional settings” (Radde-Antweiler, Waltemathe and Zeiler 2014, 15), has been one of the important foci in the 2014 definition. Combining the “analysis of video games as digital artefacts with the broader cultural and social context in which these games are produced and consumed” (Zeiler 2018, 7), as the 2014 version explicitly stresses, remains highly relevant in today’s global scale of gaming practices, in relation to cultural heritage and beyond.

Moving to the revised concept from 2024, we see that it offers two main adjustments of the original 2014 concept: it proposes to move from an actor-centered approach to an actant-centered approach and, connected to that, it postulates that gameenvironments can be analyzed as communicative figurations. These two novel foci allow us to reflect in different ways and better grasp the ever-evolving gameenvironments.

Applying an actant-centered approach can fruitfully contribute to the study of cultural heritage and video gaming. The move from the actor-centered (2014) to the actant-centered (2024) approach builds on the understanding of the original concept from 2014 which states that:

“Gameenvironments is an analytical concept based on the actor-centered approach, which integrates the analysis of the game narratives with a view to combining the narrative and the ludic approaches. Thus, ‘games/gaming’ - ‘environments’ – in short gameenvironments – comprises two levels, as follows.

75

- I The technical environment of video games and gamers. ...
- II The cultural environments of video games and gaming.” (Radde-Antweiler, Waltemathe and Zeiler 2014, 14-15)

The critical revision from 2024 adjusts, specifies and advances this in the way that it draws both levels together, stating that “[m]edia and actors form together the actants and are carriers and triggers of communicative practices” (Radde-Antweiler 2024, 22). The revised version introduces an additional extension in relation to individual human actors and suggests studying actants in contrast to actors. The reason behind this is that “it is not sufficient to focus on human individual actors as the only ones producing meaning,” but this happens also with “the participation of non-human

entities,” such as technical equipment (hardware, software, etc.) that need to be considered when asking certain research questions (Radde-Antweiler 2024, 16).

This refinement is significant when studying the gameenvironments of cultural heritage as “also technical possibilities are socio-culturally conditioned” (ibid.). An actant-centered approach enables researchers to better understand the complete gaming environments in a holistic way. These include the level of involved actors, their media practices and the level of involved media formats. In cultural heritage and gaming research (and beyond), this can support, among other things, an understanding of the complex web of contributors and their interactions in the gameenvironments more comprehensively. When studying *games with heritage references* this concretely means to more profoundly consider actors such as creators of gaming videos or fan communities (as examples for the level of involved actors), streaming practices or cosplay (as examples for their media practices) and the (technical and otherwise) details of the used platforms (as example for the level of involved media formats).

This again relates to global contexts, as stressed in the 2014 original. Many factors influence media environments and these factors vary in different world regions (and within them, in different locations). Related to that, game production and gaming practices differ in different world regions (e.g., Šisler, de Wildt and Abbas 2023, Zeiler and Mukherjee 2022, Zeiler 2020). While this was correctly postulated already in the original 2014 concept, the revised version of 2024 goes one important step further by including the technical environments as part of the cultural environments of video games and gaming, thus allowing a more differentiated view on globally diverse contexts.

Conclusion

This article revisited the past and present state of cultural heritage and video games and gaming research and, based on this summary, offered suggestions for new ways forward. To do so, it brought cultural heritage and video games and gaming research into conversation with gameenvironments. It found that a gameenvironments lens is advantageous as the approach stresses the benefit of moving beyond studying games only, to including their environments. Additionally, and more concretely, a gameenvironments perspective can support especially two so far less studied aspects in the study of cultural heritage and video games and gaming: researching global contexts with an actant-centered approach.

Research on cultural heritage, video games and gaming has always been, and will continue to be, interdisciplinary. Approaches, foci and methods are necessarily defined by the interests and precise research questions in individual studies. Yet, whatever the very legitimate and important detailed questions (and answers) might be, it is important to acknowledge and, wherever possible, integrate reflections on broader perspectives. This includes the understanding that video games and gaming are but one media format of many that shape actors' perceptions of cultural heritage and larger debates around, and constructions of, contemporary popular culture. The analytical lens or frame of gameenvironments can support this. In the revised version of 2024, this means broadening the research perspective to three levels:

- “1. research on *gaming*, not on games only,
 - 2. research on *gaming-related actants*, not on gamers or game developers only, and furthermore, not only on human actors,
 - 3. research on *gaming-related media practices*, not on game practices only”
- (Radde-Antweiler 2024, 26)

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78

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82

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