

15 Critical Game Heritage

On Collaboration, Controversies, and Contextualization

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Introduction

The history of digital games in Finland has been studied since around the turn of the millennium (Suominen 2019). Around the same time, collectors began assembling notable collections related to digital games – computers, game consoles, games, and other related, diverse items. The collections also started appearing at events and temporary museum exhibitions. Similar trends occurred simultaneously in several other countries, too. Although game history had previously been presented in computer magazines, the focus was rarely on Finnish gaming phenomena (e.g., Suominen, Reunanen, and Remes 2015). The popularity of amateur and professional studies coincided with increased public attention on digital gaming and the international successes of the local game industry.

In this chapter, we explore game cultural heritage and the work surrounding it. By *game cultural heritage work*, we refer to all the activities and forms of operation aimed at preserving games and game cultures, researching their history, and publicly presenting them to various audiences. We ask which factors, approaches, and areas researchers have recently highlighted as central to game cultural heritage work and, in contrast, which areas have been less explored. We relate discussions about game cultural heritage to broader debates on cultural heritage and heritage communities, which are not new but have been less prominent in the context of games. Throughout the chapter, we refer specifically to Finnish case studies in game cultures, while drawing comparisons to developments in other countries.

We first discuss, from a theoretical perspective, what games are as heritage objects. Then we examine the community aspect of game cultural heritage work. Next, we reflect on the significance of gaming as part of preserving game cultural heritage. Toward the end of the text, we address the theme of rescuing game cultural heritage objects, followed by a discussion on how the value of game cultural heritage objects can change and how we should approach controversial aspects of game cultural heritage.

We call the approach taken here *critical game heritage* (see also Nylund, Prax, and Sotamaa 2020; Sivula and Suominen 2023). Critical game heritage focuses increasingly on the political, social, and cultural contexts of

cultural heritage. It also examines the historical changes in game cultural heritage thinking and practices. Critical game heritage stems from the tradition of critical cultural heritage studies, which aims to diversify the theoretical examination of the concept of cultural heritage and bring different voices into defining questions about cultural heritage (e.g., Smith 2006; Gentry and Smith 2019).

Games as Heritage Objects

For some time in Finland, the commonly held belief was that the first commercial computer games were published by a company called Amersoft in 1984, and research focused on the publication order of Amersoft's games (for more on Amersoft, see Pasanen and Suominen 2018). However, a much older first commercial game was later discovered: a chess game called *Chesmac*, released by Raimo Suonio for the Telmac 1800 kit computer in 1979. According to Suonio, it sold just over 100 copies (Reunanen and Pärssinen 2014; for more on the search for the first commercial Finnish game, see Suominen and Sivula 2016). Suonio and *Chesmac* gained attention in computer and gaming magazines, as well as in widely circulated newspapers. *Chesmac* is also featured in the Finnish Museum of Games, which opened in 2017 [Figure 15.1].

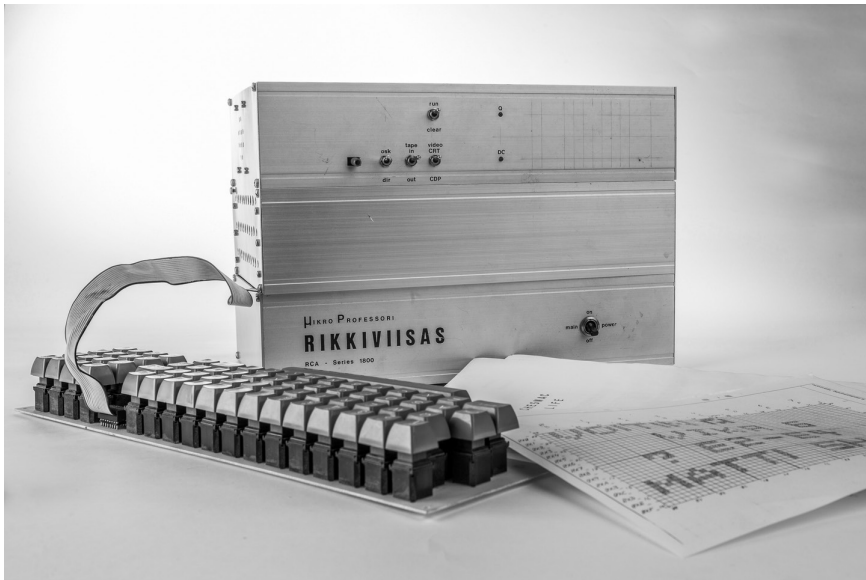


Figure 15.1 Rikkiviisas (‘Smartass’), Raimo Suonio’s original Telmac 1800 that was used for developing *Chesmac* (1979). Photo by Saarni Säilynoja, Vapriikki Photo Archives.

Interest in being the ‘first’ is common across many fields of historical research. On the one hand, it reflects a desire to pinpoint the origins of certain phenomena and to recognize pioneers whose stories often attract wider public interest. On the other hand, it can also involve economic reasons: in some industries, inventors may demand compensation if others commercially exploit their invention or work (Lee 1996; Suominen and Sivula 2016). The search for the first commercial computer game in Finland was likely driven by the need to locate the starting point of what had become a significant industry, although the question of what is meant by ‘commercial’ is not straightforward (Suominen and Sivula 2016). The search for a starting point was part of the so-called cultural heritage process, where the shared significance and value of an activity are identified, and ways to present, document, and preserve its history are sought.

Pioneering popular, or otherwise noteworthy games often poorly represent the overall game industry of their time, which may have predominantly produced conventional, quickly made, and unambitious clones. Furthermore, it is dangerously easy to equate the pioneering steps with *progress*. Technological determinism, the belief that society is unavoidably shaped by technological progress, has become intertwined with digital gaming through the development of information technology. The improvement of games’ audiovisual technical quality, as well as the increasing storage capacity and processing speed of digital devices, has often been seen as making digital gaming better year after year (see also Newman 2012).

However, technological advancement does not automatically mean games improve, and constantly acquiring new, more powerful, and thus more energy-consuming gaming devices has become questionable in the age of human-caused climate change and biodiversity loss. Therefore, questions about game cultural heritage must also be considered from the perspective of sustainability (Garda et al. 2020). Likewise, instead of only focusing on the firsts, we could just as easily turn our attention to what was the last of its kind, and why it was the last (Garda and Grabarczyk 2021).

Teleological determinism is a close relative of technological determinism. It refers to the idea that technology develops toward a specific goal. Causal determinism, on the other hand, suggests that technological progress determines society’s historical development without any particular endpoint (Lehtinen and Luotola 1986; for more on technological determinism, see Karvonen 1999). The pervasive influence of technological determinism and its imperatives also affects how different people approach questions of game history and game cultural heritage. Carl Therrien (2012) asks in his essay on game historiography: ‘How is one to avoid a progress-laden teleological discourse when faced with an object that seems to be defined by its constant evolution?’ Thus, in game heritage work and historiography, we must be able to challenge the progress-centered narrative of history. We must also consider the connections between games and other phenomena, such as changes in media usage, leisure activities, and the digitalization of society. Likewise,

instead of focusing on game industrial or commercial success stories, we have to deal with failures and their reasons as well (e.g., Jungman 2024).

There is another practice that should be examined critically. Game preservation, or more broadly, practices related to game cultural heritage, often carry a feel-good ethos. Although many people interested in games are genuinely concerned about the preservation of game cultural heritage, the common shared starting point tends to be a nostalgic and positive attitude toward games and gaming. Games offer experiences, and when possible, there is a desire to return to old gaming experiences, at least partially. In this sense, *Chesmac* and its story of origin represent solid material for game cultural heritage.

On the one hand, *Chesmac* is harmless and easy to understand as part of the millennia-old history of chess games and the centuries-old history of chess automata. Since the 1940s, chess has also been associated with the development of information technology and experiments in artificial intelligence (Suominen 2022, 158–61). On the other hand, *Chesmac* tells a ‘proper’ story of hobbyist-driven microcomputer cultures, complete with early resellers and productization. Furthermore, as a starting point, it is strange enough to spark interest. After *Chesmac* was again revived to a playable state by Jari Lehtinen, it was found to be a game that progresses at a painfully slow pace by today’s standards, created for a crucial but ultimately rare kit computer of its time. Since *Chesmac*, computer chess games have evolved and even defeated human grandmasters. For the purposes of this text, *Chesmac* has one difference from many other games: it is not featured as a playable object in the Finnish Museum of Games but is presented in other ways.¹

A nostalgic relationship with games does not fully or even partially explain the cultural heritage processes related to games – that is, the phases and the work of various actors through which some gaming phenomenon begins to be cherished as cultural heritage (Suominen and Sivula 2016; Nylund 2020). Nonetheless, nostalgia is one possible starting point for studying the need for game preservation, as old game products evoke positive longing in a number of players.

Today, one of the most well-known authorities on nostalgia research is Svetlana Boym. In her 2001 book *The Future of Nostalgia*, she introduced the distinction between restorative and reflective nostalgia. Restorative nostalgia refers to actions aimed at restoring some previously cherished thing. Reflective nostalgia, on the other hand, is more playful and questioning. Its practitioners understand that a return to the past is not possible in its entirety. Rather, reflective nostalgia blends elements of the past and present (for more on restorative and reflective nostalgia in game design, see Garda 2013). In this chapter, we apply Boym’s distinction more broadly, writing about restorative and reflective approaches to game heritage and game history.

Preserved by Whom – or Together?

Previous research has consistently emphasized that multiple groups of actors are involved in game preservation and the shaping of game heritage, working with it in various capacities. Besides researchers and museum professionals, there are gaming enthusiasts, collectors, game developers, their companies and partner organizations, game educators, a wide array of players, and many others (e.g., Swalwell 2017; Nylund 2020; Suominen, Sivula, and Garda 2018). It has often been recognized that enthusiasts identified the need for digital game preservation and heritage work before researchers and memory institutions did. Enthusiasts have also developed methods for this work, created databases related to games and gaming hardware, and opened their own collections for public viewing and use (Swalwell 2017, 213, 2021, 164–6).

Likewise, the significant role of collaboration between enthusiasts, researchers, and museum professionals in cultural heritage work related to games has often been highlighted. However, existing research has hardly addressed the challenges that can arise in such collaborations. There has been a certain fear that criticism might break the trust between parties, which is essential for participatory collaboration (Steel and Koskinen-Koivisto 2019, 40). James Newman (2012, 26–31), likewise, acknowledges the importance of ‘amateur’ activities, yet notes how their longevity is not a given.

Researchers have directed their critique more strongly at the ways in which game history is written. They have pointed out the shortcomings and issues with hegemonic, canonizing, and Western-success-focused historiography, which are often evident in game history publications produced by journalists or enthusiasts. However, specific representatives of this perspective have not necessarily been directly called out (Therrien 2012; Suominen 2017; Swalwell 2021). Because of the simplicity of this viewpoint, there has been a desire to create game histories that also reinforce and engage with different player identities (particularly Kultima and Stenros 2018, 2023).

From the perspective of researchers and museum professionals, the idea of collaboration fits well with the ethos of participatory research. According to Tytti Steel and Eerika Koskinen-Koivisto (2019, 36–8), participatory methods have been used in the humanities and social sciences to empower individuals and communities, as well as to help companies and organizations achieve better results by streamlining work processes and improving the usability of products. Steel and Koskinen-Koivisto further note that participatory research has often been approached quite idealistically. Participating communities, for example, may be seen too much as harmonious wholes, without recognizing their internal hierarchies and power relations, and participation may not necessarily benefit the entire community, only its leaders.

In game heritage work, too, collaboration is not always easy or straightforward; it requires time, adjustment, and building trust. All communities

– including the communities working with game heritage from various perspectives – experience power imbalances, struggles, and strife. Heritage institutions need reflective tools when building networks of cooperation (Nylund 2020).

The challenges of cooperation can be related to the ownership of game heritage, key research questions and objectives, the appreciation of expertise and the division of labor, leadership and decision-making, resources, or even the ethicality of practices. Different stakeholders may, for example, have differing views on the relevance of copyright legislation; enthusiasts do not have to consider such factors as carefully as official institutions. Conflicts may also arise if multiple projects with similar goals are concurrently underway in the same country: do they compete for funding, attention, and collections? Who claims to have the best expertise and the most comprehensive collections to establish a museum? Who will be the first to achieve a recognized institutional status as a preserver of game heritage?

The concept of empowerment characterizes research on game heritage. It has also been typical in this research to group and typologize the various actors involved in game heritage processes. It has been a way to clarify that different groups, with differing views on the significance of games, the changes in gaming phenomena and the needs for preservation, are indeed involved in game heritage, history, and preservation efforts (e.g., Lowood 2016; Swalwell 2017; Suominen, Sivula, and Garda 2018; Redhead Ahm 2020).

It is important to critically examine such classification practices. We must ask what their purpose and significance are, and what risks they carry. Typologizing may, for example, oversimplify the complexities of the real situation, as individuals may have multiple identities and move between groups or exist outside or between them (Suominen, Sivula, and Garda 2018). Classification is merely a tool to aid in analysis and the interpretation of the specific characteristics and changes of the phenomenon at hand.

In general, the collaboration of different people and groups in game heritage work is fruitful. It empowers all parties, provides a sense of participation to various stakeholders, and helps to clarify and expand knowledge in a triangulative manner. The expertise of different individuals complements one another, resulting in a more diverse and deeper understanding of gaming phenomena. Olle Sköld (2018, 45–9) has also noted that collaboration between different organizations in game heritage work can lead to cost savings, as different parties avoid duplicating work.

When Is It Too Late to Preserve and Does It Even Matter?

Cultural heritage work related to games can be reduced to two partially separate but in many ways intertwined areas: historiography and presentation, and preservation. These come together, for example, in exhibitions about

game history (for different forms of game historiography, see e.g., Suominen 2017, and for exhibition issues, Nylund 2020). Next, we will briefly focus on the transformations and justifications of preservation.

The concept of preservation and cultural heritage work can be guided by various historical approaches, such as monumentalizing or antiquarian ones, which can also be referred to as canonizing or archiving. A canonizing or monumentalizing approach involves elevating specific games and gaming phenomena to a pedestal, making them more significant cultural heritage objects than others. The antiquarian or archival approach refers to an effort to find and preserve as much as possible (e.g., Suominen 2017; Redhead Ahm 2020).

When discussions on game preservation began around the turn of the millennium, the main focus for many stakeholders was on how the playability of digital games could be maintained or restored. Roughly four solutions have been identified:

1. Maintaining the original hardware and software through repair and upkeep.
2. Running the original game code in new hardware environments, i.e., *emulation* (see Newman 2012; Woods and Brown 2008).
3. Modifying or recreating the original code for new hardware environments (*migration*), which can be designed to externally resemble the original or not.
4. Documenting, for instance, compiling metadata (Sköld 2018, 40–5; Wands 2006).

Before all this, however, the reason for preserving old games and keeping them playable must be understood. The starting point for game preservation has often been that gaming is considered culturally significant, widespread, and unique, an activity different from other cultural forms. Another key argument for preservation emphasizes the vulnerability and volatility of games (Sköld 2018, 35–7). Preservation has, thus, also been justified with dramatic claims. It is thought that digital games must be saved and protected before it is too late, meaning before those who know about them pass away, the material is lost, and in this case, before the games become unplayable.

Several so-called white papers related to game preservation are titled according to this logic: ‘Before It’s Too Late: A Digital Game Preservation White Paper’ (Lowood et al. 2009), ‘Game Over? Videogame Preservation, Exhibition and Curation’ (Newman and Simons 2018), and ‘TIME EXTEND! The Future of Curating, Preserving and Exhibiting Videogames’ (Newman and Simons 2020). ‘Too late’ is when something is finally lost and forgotten, and these titles are, on the one hand, genuine distress calls but on the other hand, a way to draw attention to a phenomenon that is considered socially important and requires both visibility and funding.

The perceived need to preserve a certain phenomenon before it is too late is familiar from other contexts. Folklorist Jyrki Pöysä (1997, 40–2) has written about the promotional rhetoric of cultural heritage material collections. People are invited to participate in material collections, that is, to share their memories and knowledge about a desired topic, by encouraging them and removing barriers to participation. These methods are generally intended to create individual motivation to participate, but in addition to appealing to the individual, social need and responsibility can be emphasized. According to Pöysä, ‘saving’ is a noble justification, which, in addition to real need, is partly rhetorical: it becomes the shared duty of the community – ‘us.’ Olle Sköld (2018, 36–7) also writes about the socio-cultural reasons for game preservation.

In the context of new media, the idea of saving something before its final disappearance is somewhat contradictory. New media, like film or television in their time, or later websites or video games, were not initially considered important enough to warrant attention to the preservation or archival viability of recordings. These aspects typically gain attention only later – when it seems that it might indeed be ‘too late’ (Mäkelä and Suominen 2012). It can also be asked whether planned obsolescence is applied to digital gaming devices, as it is to many other products. This means weakening the mechanical, psychological, and social durability of products so that people feel the need to constantly acquire new ones (for more on planned obsolescence in the context of games, see Sihvonen 2020).

However, it could also be argued that discussions about the preservation of digital games began early enough – perhaps precisely because enthusiasts, researchers, and museum professionals were alert to the issue. Digital games and gaming are also part of recent history, and information about them is still available, unlike many older phenomena. For example, it is much harder for us to obtain information about the user experiences of board games or other games from the early 20th century or earlier because we cannot interview the original players or developers, and our knowledge of actual play situations is based on very fragmentary source material, such as letters, diaries, and photographs. We may only know the name of a game, or conversely, we may have an image of a game without knowing its name (e.g., Suominen 2022).

This ‘too late’ call concerning digital games seems to be a kind of cry for help or, as Pöysä (1997) puts it, a marketing tactic. It may be that the passage of time does not affect non-digital culture in the same way since old physical objects can still be used. They ‘work,’ whereas digital artifacts stop functioning for various reasons. The chemical aging process of a physical object is usually much slower than the aging process of a digital file, whether caused by chemical, technological, market-driven, or legal reasons. Thus, the statement ‘too late’ prompts reflection on the vulnerability of digital cultural heritage.² However, we argue that even if all old games stopped working, we would still be able to understand them and talk about games and game cultures.

At the beginning of this section, we referred to how the initial focus was on solving the technical challenges of game preservation. Sometimes this happened as part of a broader whole, such as virtual worlds, especially those connected to massive multiplayer game environments. Soon researchers began emphasizing that, in addition to games, attention could also be paid to other materials related to gaming, their use, availability, and preservation.

Some researchers also began to criticize the idea that returning to an original gaming experience and preserving it would be possible, even if the original games and devices were available. Scholars started asking what could be preserved and why. Thus, the focus began to shift from restorative game heritage to reflective game heritage. At the same time, however, museum exhibitions, for example, sought to maintain connections to the original contexts of games.³ This was done, on the one hand, by explaining the situational aspects of game creation and play through interviews and texts. On the other hand, museums began constructing period rooms, typical of museum practices, in which games were placed among objects from their respective time periods [Figure 15.2]. This has been done in institutions such as the Berlin Computer Games Museum and the Finnish Museum of Games, as well as in some temporary exhibitions. In the next section, we discuss the playing of old and new games as part of museum exhibitions, since a central part of game heritage work is the presentation of games and game cultures, not just their preservation.



Figure 15.2 A thematic period room at the Finnish Museum of Games depicting a demoscene hobbyist's room in 1995. Photo by Saarni Säilynoja, Vapriikki Photo Archives.

Presentation and Audience Engagement

The original idea of being able to play games in institutional museums and exhibitions was quite revolutionary. At least the stereotypical view of traditional museums has been that exhibition objects are only meant to be viewed and perhaps accompanied by some written information. However, science centers have long challenged this perspective. Similarly, museums have, for several decades, placed increasing emphasis on public engagement and participation. According to Mari Viita-aho, the goal in increasing public engagement has been to improve exhibition design, make museum content more relevant to visitors, and create more rewarding experiences. She continues that while these aspects have been studied, less attention has been paid to how the idea of participation changes museum work and knowledge production as a whole. With this shift in thinking, the social role of museums also changes (Viita-aho 2021, 310). This perspective is also worth considering in the context of game exhibitions and game museums.

It is also important to question the currently widespread assumption that hands-on experimentation and playing are essential to understanding games. How are the games selected for play and what is left out? Is it always necessary to play the games to understand them? When might playing cause more confusion or harm than benefit? Sometimes confusion and frustration are steps toward learning and even changing one's thinking, but in such cases, the gameplay must be well contextualized – though not perfectly or with a predetermined framework. We must consider whether we want people to understand games in a certain standardized way, or how much interpretive freedom we allow, accepting that things might feel strange, unfamiliar, or even silly.

Strangeness can provoke unease, as illustrated by the following example: *Game On* is perhaps the world's most famous touring exhibition on game history, first held in 2002 at the Barbican Centre in London, and among the first to be shown at the Helsinki Art Museum in 2003. The popularity of the *Game On* exhibition has contributed to the idea that playability has become an essential element in game-related exhibitions. In 2010, the exhibition concept was updated to *Game On 2.0*, and since then, it has continued to tour in dozens of locations.

Lina Eklund and colleagues (2018) studied the *Game On 2.0* exhibition and visitors' experiences at the Swedish National Museum of Science and Technology in Stockholm, where the exhibition was on display from 2013 to 2014. They noted that old games and the exhibition as a whole could feel incomprehensible to those without personal experience of the games in question. These visitors did not know how to play the games on display or understand their nature and significance. Eklund and colleagues argue that it is essential to maintain a balance between playability and other game-related information in exhibitions. If exhibitions focus too heavily on playable games, they draw attention away from the contextualizing information,

which is critical in game exhibitions and museums (Eklund, Sjöblom, and Prax 2018, 140–2; see also Nylund and Suvanto 2023, 36).

We claim that there may be an obsession in game museums and exhibitions with making sure that the games are playable. Playable games are, for instance, a way to attract visitors who might not otherwise come to the museum. If there are no playable games in the main exhibitions, a separate arcade space is often dedicated to the games. As an illustrative example, when a diskette of the *Promille* alcohol education game (1990) was sensationally discovered in the Kauppi forest near Tampere in 2017, one of the first questions from the media was when the game would be made playable at the Finnish Museum of Games (see Garda, Nylund, and Suominen 2023).

James Newman and many others have highlighted examples such as massive multiplayer games and games requiring extensive collaboration, emphasizing the diversity of original gameplay experiences and the difficulty of recreating them. It is easy to play one- or two-player games, but how can you convey the experience of a gaming environment that once involved thousands of players at the same time? Newman (2024, 3) concludes that ‘at least part of the project of videogame preservation might be best understood not in terms of servicing or recreating hardware and software but rather as a documentation practice dedicated to revealing, collecting and archiving experiences.’

Although playing games is important for understanding them, games can also be understood in several other ways. Those ways can include observing games, reading documents and descriptions about them, listening to game sounds and music, or watching recorded game footage. Documentation describes games and players, often relating them to other games or game phenomena. While descriptive documentation is interpretive, through documentation users can relate the game being studied to their previous gaming experiences and, for example, their experiences with other media forms.

When presenting games and related cultures to the general public, one will almost inevitably face their controversial side, which has been called, for instance, difficult heritage, dark heritage, contested heritage, and heritage conflict. These terms have slight differences in meaning, but they all refer to cultural heritage that has negative aspects from the perspective of certain groups or communities (e.g., Sivula and Suominen 2023). The starting point is not that we should completely forget, destroy, or remove from sight games and gaming phenomena that are considered controversial, difficult, or harmful. Instead, they must be handled the right way (see also Eklund, Sjöblom, and Prax 2018, 141–2). This theme has not been extensively explored in game preservation research yet. No single ‘correct’ approach works for all cases: should museum visitors be able to play a game with racist or misogynistic content?

A classic Finnish example of this is the 1951 board game *Afrikan tähti* (*The Star of Africa*, designed by Kari Mannerla and published by Kuvataide 1951), which became one of Finland’s most popular games and a cross-generational

cultural heritage object. For a long time, the game was seen mainly as an exciting adventure game set in an exotic location. However, in the late 1990s and increasingly in the 2000s, the game's premise and its colonial and racist imagery began to be questioned (e.g., Harrer and Harviainen 2022). In addition to *Afrikan tähti*, other examples of questionable content include amateur-made pornographic, violent, or discriminatory games (e.g., Paasonen and Karhulahti 2021).

The ever-changing nature of social norms is underlined by the fact that titles that nowadays clearly appear racist, extremist, or otherwise controversial did not stir notable controversy at the time of their original release. Such games often cannot be treated restoratively. Instead, reflective and critical perspectives on game cultural heritage are particularly important in these cases.

Conclusion: Toward Critical Game Heritage

In recent years, researchers have extensively examined the objectives of cultural heritage work related to games, the role of preservation within it, and the extent to which games should remain playable in the future. Scholars have questioned the idea of a single original or authentic gaming experience as a foundation for preservation and cultural heritage work. Many have also emphasized the importance of collaboration between different actors in cultural heritage work, preservation, and the presentation of games and game cultures, both in public institutions and other contexts. Researchers have also noted that, in addition to having distinct strengths, different stakeholders often have diverse goals and varying perceptions of the nature and aims of game cultural heritage work.

In this chapter, we have discussed restorative, reflective, and critical approaches to game cultural heritage. We have also argued that there is a need to move the discussion and research on game heritage forward. It is no longer sufficient to highlight the diversity of game cultures and their participants, the importance of game preservation, or the central role of communal and participatory methods. Nor is it enough to focus on evolving practices of game preservation in response to changes in games and game cultures. The study of game cultures or game heritage cannot be viewed solely as an internal question, as a matter of demonstrating uniqueness or as an identity-building exercise. Game heritage work must be connected to much broader issues concerning cultural heritage processes, such as difficult and contested heritage. The ways in which contested heritage is handled and presented, as well as the methods of collaboration, must be developed more concretely than before. We need more concrete examples of how game cultural heritage work can be empowering, inclusive, and beneficial to all parties involved.

We also argue that today the biggest challenges in preserving games are not only technical but also legal, as there simply is no permission to archive games. Server-based games are disappearing rapidly, and examples like *Puzzle*

Pirates (Three Rings Design/Ubisoft, 2003) and *Warhammer Online* (Mythic Entertainment/Electronic Arts, 2008), where player communities have continued to maintain the games, are exceptions. Even these communities still do not have the legal right to do what they are doing. Therefore, exceptions to copyright law are needed for institutions other than just national libraries. Exceptions are also needed for presenting games. Collaboration between memory institutions and the communities that play these games is a must, even though at the same time we must humbly accept the fact that the magnitude and plurality of game cultures are so overwhelming that no efforts – even with considerable determination or funding – can ever be enough.

Notes

- 1 The display at the Finnish Museum of Games is curated in collaboration with the game's original designer Raimo Suonio. It includes Suonio's original Telmac 1800 kit computer named *Rikkiviisas* ('Smartass') as well as handwritten code and flow charts. Most games at the museum are playable, but *Chesmac* is not, largely due to practical reasons, as an original Telmac 1800 would need up to 20 minutes to calculate moves.
- 2 In addition to dying hardware and physical media, commercial and legal issues are notable concrete problems for today's preservation efforts. The EU petition called *Stop Killing Games* (<https://www.stopkillinggames.com/>) is an example of an attempt to introduce legislation that supports both consumer rights and preservation.
- 3 Focusing on game cultures and the contexts of gaming is, of course, just one trend. In recent years, there have been exhibitions on topics such as the representation of sexual minorities in games (e.g., *Rainbow Arcade*), the design culture of games (<https://www.vam.ac.uk/exhibitions/videogames?srltid=AfmBOoqhyUWV9APIS3AoGPZX6imPCFz-lqcIXQUzHGjHIMzDjTyxRBfv>), and ethnographic presentations of game cultures (<https://www.varldskulturmuseet.se/utställningar/varldens-spel/>). In other words, gaming-themed exhibitions are being created from perspectives beyond just retro nostalgia, and the approach represented by the Finnish Museum of Games is only one example of how games can be interpreted and enriched in museum exhibitions.

References

- Boym, Svetlana. 2001. *The Future of Nostalgia*. Basic Books.
- Eklund, Lina, Björn Sjöblom, and Patrik Prax. 2018. "Spel på museer: Erfarenheter från spelutställningar [Games at Museums: Experiences from Game Exhibitions]." In *Dataspelens världar. Digitala spel som kultur och kulturarv*, edited by Peter Du Rietz, 122–43. Tekniska museet.
- Garda, Maria B. 2013. "Nostalgia in Retro Game Design." In *Proceedings of DiGRA 2013: DeFragging Game Studies*, edited by Celia Pearce, John Sharp and Helen W. Kennedy. DiGRA. http://www.digra.org/wp-content/uploads/digital-library/paper_310.pdf.
- Garda, Maria B., Niklas Nylund, Anna Sivula, and Jaakko Suominen. 2020. "From Cultural Sustainability to Culture of Sustainability: Preservation of Games in the Context of Digital Materiality." In *Proceedings of DiGRA 2020 Conference*. DiGRA.

- <http://www.digra.org/digital-library/publications/from-cultural-sustainability-to-culture-of-sustainability-preservation-of-games-in-the-context-of-digital-materiality-2/>.
- Garda, Maria B., Niklas Nylund, and Jaakko Suominen. 2023. "Unexpected Monument: Media Attention and Maintenance Work behind the Restoration of the Finnish Educational Game Promille (1990)." *ROMChip* 5 (1): The Maintenance Issue. <https://romchip.org/index.php/romchip-journal/article/view/190>.
- Garda, Maria B. and Paweł Grabarczyk. 2021. "'The Last Cassette' and the Local Chronology of 8-Bit Video Games in Poland." In *Game History and the Local*, edited by Melanie Swalwell, 37–55. Palgrave Macmillan.
- Gentry, Kynan and Laurajane Smith. 2019. "Critical Heritage Studies and the Legacies of the Late-Twentieth Century Heritage Canon." *International Journal of Heritage Studies* 25 (11): 1148–68. <https://doi.org/10.1080/13527258.2019.1570964>.
- Harrer, Sabine and J. Tuomas Harviainen. 2022. "Where Are the White Perpetrators in All the Colonial Board Games? A Case Study on Afrikan Tähti." In *Representing Conflicts in Games: Antagonism, Rivalry, and Competition*, edited by Björn Sjöblom, Jonas Linderöth and Anders Frank, 171–87. Routledge. <https://doi.org/10.4324/9781003297406-14>.
- Jungman, Heikki. 2024. *Fantastinen floppi. Nokian pelibisneksen käynnistys, romahdus ja perintö* [A Fantastic Flop: The Rise, Fall and Heritage of Nokia's Game Business]. Vastapaino.
- Karvonen, Erkki. 1999. "Teknologinen determinismi [Technological Determinism]." *Media & viestintä* 22 (4): 82–9. <https://journal.fi/mediaviestinta/article/view/162762>.
- Kultima, Annakaisa and Jaakko Stenros. 2018. *Minun pelihistoriani: Henkilökohtaisia tarinoita suomalaisten pelaamisesta ja leikkimisestä* [My Game History: Personal Stories on Finnish Gaming and Play]. TRIM Research Reports 25. University of Tampere. <http://urn.fi/URN:ISBN:978-952-03-0656-4>.
- Kultima, Annakaisa and Jaakko Stenros. 2023. "My Game History: Teaching Against Hegemonic Game History." In *The Proceedings of DiGRA 2023 Conference*. DiGRA. <https://dl.digra.org/index.php/dl/article/view/2052>.
- Lee, John A. N. 1996. "Those Who Forget the Lessons of History Are Doomed to Repeat It", or, Why I Study the History of Computing." *IEEE Annals of the History of Computing* 18 (2): 54–62.
- Lehtinen, Juha and Tapani Luotola. 1986. *Matka informaatioyhteiskuntaan* [The Journey to Information Society]. Tampereen yliopiston julkaisu A 53. University of Tampere.
- Lowood, Henry. 2016. "It Is What It Is, Not What It Was." *Refractory: A Journal of Entertainment Media* 27: themed issue: Born Digital Cultural Heritage. <https://refractory-journal.com/henry-lowood/>.
- Lowood, Henry, Devin Monnens, Zach Vowell, Judd Ethan Ruggill, Ken S. McAllister, and Andrew Armstrong. 2009. "Before It's Too Late: A Digital Game Preservation White Paper." *American Journal of Play* 2 (2): 139–66.
- Mäkelä, Janne and Jaakko Suominen. 2012. "Audiovirtual Oblivion: Media Archaeology of Early Finnish Music Web and Its Vanishing." In *Navigating Landscapes of Mediated Memory*, edited by Paul Wilson and Patrick McEntaggart, 155–66. Brill. https://doi.org/10.1163/9781848880900_016.
- Newman, James. 2012. *Best Before. Videogames, Supersession and Obsolescence*. Routledge.
- Newman, James. 2024. "What Do Videogames Want? Preserving, Playing and Not Playing Digital Games and Gameplay." *MAP: Media Archive Performance*, 14. <https://doi.org/10.25969/mediarep/23000>.

- Newman, James and Iain Simons. 2018. *GAME OVER? Curating, Preserving and Exhibiting Videogames: A White Paper*. Bath Spa University and The National Videogame Foundation. https://drive.google.com/file/d/11vWx_5LMK6qxW-3rqqvB-MemW6Sk-Ep3/view.
- Newman, James and Iain Simons. 2020. *TIME EXTEND! The Future of Curating, Preserving and Exhibiting Videogames*. The National Videogame Foundation. <https://vhs-thenvm-org.stackstaging.com/wp-content/uploads/2022/06/Time-Extend-White-Paper-Newman-2020.pdf>.
- Nylund, Niklas. 2020. *Game Heritage. Digital Games in Museum Collections and Exhibitions*. PhD diss., Tampere University.
- Nylund, Niklas and Eljas Suvanto. 2023. "Demoscene (digitaalisenä) kulttuuriperintönä" [Demoscene as (Digital) Cultural Heritage]. *Suomen Museo* 147: 27–45. <https://doi.org/10.51808/suomenmuseo.143057>.
- Nylund, Niklas, Patrick Prax, and Olli Sotamaa. 2020. "Rethinking Game Heritage – Towards Reflexivity in Game Preservation." *International Journal of Heritage Studies* 27 (3): 268–80. doi:10.1080/13527258.2020.1752772.
- Paasonen, Susanna and Veli-Matti Karhulahti. 2021. "Finnish Fuck Games: A Lost Historical Footnote." In *Perspectives on the European Videogame*, edited by Víctor Navarro-Remesal and Óliver Pérez-Latorre, 75–90. Amsterdam University Press. <https://doi.org/10.1515/9789048550623-005>.
- Pasanen, Tero and Jaakko Suominen. 2018. "Epäonnistunut yritys suomalaisen digitaalisen peliteollisuuden käynnistämiseksi: Amersoft 1984–1986 [A Failed Attempt to Launch Finnish Digital Game Industry: Amersoft 1984–1986]." *Lähikuva* 31 (4): 27–47. <https://journal.fi/lahikuva/article/view/77932>.
- Pöysä, Jyrki. 1997. *Jätjän synty. Tutkimus sosiaalisen kategorian muotoutumisesta suomalaisessa kulttuurissa ja itäsuomalaisessa metsätyöperinteessä* [How the Jack Was Born. A Study on the Formation of a Social Category in Finnish Culture and Eastern Finnish Forestry Tradition]. Suomalaisen Kirjallisuuden Seuran toimituksia 669. SKS.
- Redhead Ahm, Kristian. 2020. "(Re)Playing (with) Video Game History: Moving Beyond Retrogaming." *Games and Culture* 16 (6): 660–80. <https://doi.org/10.1177/1555412020955084>.
- Reunanen, Markku and Manu Pärssinen. 2014. "Chesmac: ensimmäinen suomalainen kaupallinen tietokonepeli – jälleen [Chesmac: The First Commercial Finnish Computer Game – Again]." In *Pelitutkimuksen vuosikirja 2014*, edited by Jaakko Suominen, Raine Koskimaa, Frans Mäyrä, Petri Saarikoski and Olli Sotamaa, 76–80. University of Tampere.
- Sihvonen, Lilli. 2020. "'Classics Age' – The Flexibility of Planned Obsolescence in Terms of the Classic Finnish Board Game Kimble." *WiderScreen* Ajankohtaista 14.10.2020. <http://widerscreen.fi/numerot/ajankohtaista/classics-age-the-flexibility-of-planned-obsolence-in-terms-of-the-classic-finnish-board-game-kimble/>.
- Sivula, Anna and Suominen, Jaakko. 2023. "Heritagisation and Heritage Conflict: The Finnish Afrikan tähti Board Game and its Change to Contested Heritage, 1951–2021." In *Heritage, Memory and Identity in Postcolonial Board Games*, edited by Michal Mochocki, 90–108. Routledge.
- Sköld, Olle. 2018. *Documenting Videogame Communities: A Study of Community Production of Information in Social-Media Environments and Its Implications for Videogame Preservation*. PhD diss., University of Uppsala.
- Smith Laurajane. 2006. *Uses of Heritage*. Routledge.
- Steel, Tytti and Eerika Koskinen-Koivisto. 2019. "Läsnäolevaa ja sitoutunutta: Osallistumisen hyöty ja mielekkäys etnologisessa tutkimuksessa [Present and

- Committed: Benefits and Sensibility of Participation in Ethnological Research].” In *Liikettä rajapinnoilla: Keskusteluja etnologian osallistavuudesta*, edited by Hanneleena Hietä, Karri Kiiskinen, Maija Mäki, Päivi Roivainen, and Ann-Helen Sund, 36–68. Ethnos.
- Suominen, Jaakko. 2017. “How to Present the History of Digital Games: Enthusiast, Emancipatory, Genealogical and Pathological Approaches.” *Games & Culture* 12 (6): 544–62. <https://doi.org/10.1177/1555412016653341>.
- Suominen, Jaakko. 2019. “Digitaalisen pelaamisen historiantutkimus Suomessa [The History of Digital Game Studies in Finland].” *Läbikuva* 32 (3): 63–74.
- Suominen, Jaakko. 2022. “Digitaalisen pelaamisen tiloja ja vaihteita [Spaces and Phases of Digital Gaming].” In *Pelit kulttuurina*, edited by Usva Friman, Jonne Arjoranta, Jaakko Stenros, and Katriina Heljakka, 151–73. Vastapaino.
- Suominen, Jaakko and Anna Sivula. 2016. “Participatory Historians in Digital Cultural Heritage Process – Monumentalization of the First Finnish Commercial Computer Game.” *Refractory – Australian Journal of Entertainment Media* 27: themed issue: Born Digital Cultural Heritage. <http://refractory.unimelb.edu.au/2016/09/02/suominen-sivula/>.
- Suominen, Jaakko, Anna Sivula, and Maria B. Garda. 2018. “Incorporating Curator, Collector and Player Credibilities: Crowdfunding Campaign for the Finnish Museum of Games and the Creation of Game Heritage Community.” *Kinephanos – Canadian Journal of Media Studies*: special issue Preserving Play, edited by Alison Gazzard and Carl Therrien. <https://www.kinephanos.ca/2018/incorporating-curator-collector-and-player-credibilities-crowdfunding-campaign-for-the-finnish-museum-of-games-and-the-creation-of-game-heritage-community/>.
- Suominen, Jaakko, Markku Reunanen, and Sami Remes. 2015. “Return in Play: The Emergence of Retrogaming in Finnish Computer Hobbyist and Game Magazines from the 1980s to the 2000s.” In *Kinephanos*: special issue Cultural History of Video Games, 77–102.
- Swalwell, Melanie. 2017. “Moving on from the Original Experience. Philosophies of Preservation and Display in Game History.” In *Fans and Videogames: Histories, Fandom, Archives*, edited by Melanie Swalwell, Angela Ndalians and Helen Stuckey, 213–34. Routledge.
- Swalwell, Melanie. 2021. *Homebrew Gaming and the Beginnings of Vernacular Digitality*. The MIT Press.
- Therrien, Carl. 2012. “Video Games Caught Up in History: Accessibility, Teleological Distortion, and Other Methodological Issues.” In *Before the Crash: Early Video Game History*, edited by Mark J. P. Wolf, 9–29. Wayne State University Press.
- Viita-aho, Mari. 2021. “Participating How, Why and in What? – Analysing Nordic Museum Research Case Studies 2008–2018.” In *Museum Studies – Bridging Theory and Practice*, edited by Nina Robbins, Suzie Thomas, Minna Tuominen, and Anna Wessman, 310–32. ICOFOM and University of Jyväskylä.
- Wands, Bruce. 2006. *Art of the Digital Age*. Thames & Hudson.
- Woods, Kam and Geoffrey Brown. 2008. “Virtualization for Preservation of Executable Art.” In *Proceedings of the 2008 DOCAM Summit and Symposium*. DOCAM.