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The Pile of Shame: The Personal and Social Sustainability of Collecting and Hoarding Miniatures

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ABSTRACT

Collecting is a major part of the miniaturizing pastime, in which enthusiasts collect, paint, and play games with small historical and fantasy wargaming and role-playing figurines. Miniaturists often have large collections of miniatures, and many buy more miniatures than they have time to paint. This quantity of unpainted miniatures is often referred to as a *pile of shame*. In this chapter, we explore the collecting of miniatures and the pile of shame phenomenon through a thematic analysis of qualitative survey data (N=127). Our analysis suggests that an amassed collection of miniatures poses both practical and existential potential and challenges and may be both beneficial and detrimental to personal sustainability. Although the concept of a pile of shame is typically a shared source of humour, it is also a relevant part of the miniaturizing pastime, and an important aspect of how miniaturists curate and view their collection.

KEYWORDS

miniaturizing, wargaming, collecting, hoarding, adult play, Warhammer, consumer behaviour

INTRODUCTION

For my favourite army I hoard everything though. It's some weird thing, you have to have too much and even more. (ID 125)

Collecting is a major part of *miniaturing*, the pastime of engaging with small fantasy wargaming and role-playing figurines that lies at the intersection of games, toys, play, and crafting (Meriläinen, Stenros & Heljakka 2020). Miniaturing enthusiasts commonly amass collections of hundreds or even thousands of miniatures, often buying miniatures faster than they can paint them. As a result, the topic of the *pile of shame* or *lead mountain*, referring to significant amounts of unpainted miniatures, is a common source of both humour and anguish among enthusiasts, with references to hoarding behaviour. This is only a part of the picture, however, and there is a multitude of buying and collecting behaviours directed by personal preferences and finances as well as external influences.

This widespread practice of accumulating miniatures has interesting implications for personal, social, and environmental sustainability. The miniaturing pastime pivots around the material miniature figurine (Meriläinen, Heljakka & Stenros in press). They are bought, stored, assembled, painted, displayed, and toyed and played with. In the circular economy of miniaturing, there is little waste resulting from the activity: unused miniatures and miniature components are treasured, and miniature builders often re-purpose waste materials, such as soda cans, plastic containers, and scraps of cardboard packaging materials in building figurines or dioramas¹. Yet it is not uncommon to have piles of unpainted miniatures, possibly from numerous decades. There is a significant monetary cost involved, and this activity, which can look like hoarding, requires negotiation in family relationships, for example, in terms of investments in finances, time, and space, but also bargaining with oneself to justify the decisions related to buying, trading, and selling miniatures. Recently, digital miniatures and 3D printing have further complicated the issue of collecting and hoarding.

In this qualitative study we examine miniature enthusiasts' collecting behaviours and the views associated with them with a thematic analysis (Braun & Clarke 2006; 2012) of rich online qualitative survey data from 127 Finnish adult miniaturing enthusiasts. Our self-selected group of respondents mainly situate themselves in the post-*Dungeons & Dragons* fantasy wargaming and role-playing scenes, with Games Workshop's *Warhammer* as the most popular, though not only, commercial franchise. This data is used as a foundation for a discussion of miniature enthusiasts and their accumulation of physical figurines.

This article first explores the background of the miniaturing pastime and its connection to collecting and consumption. This is followed by a discussion of the research method and data. We then move on to analyze the practical and existential dimensions of collecting miniatures. In the discussion and conclusions we consider the life cycle of a miniature and the phenomenon of the pile of shame as a starting point for negotiating personal sustainability of the pastime and one's collection as a personal imagination.

BACKGROUND

¹ Diorama, in the context of fantasy and historical miniatures, refers to a three dimensional scale model of a situation, containing miniatures in a scene, such as a fantasy battle or a moment on an adventure.

Wargaming is a practice that has a long and complex history drawing on toys and games and stretching back to tin soldiers, Prussian military simulations, and *chess* (e.g. Peterson 2012; Lewin 2012). Our study, however, concentrates on contemporary miniaturists. These miniature enthusiasts have received relatively little attention in game studies (e.g. Cova, Pace, & Park 2007; Harrop, Gibbs & Carter 2013; Carter, Gibbs & Harrop 2014; Carter, Harrop & Gibbs 2014; Kankainen 2016; Meriläinen, Stenros, & Heljakka 2020; Meriläinen, Heljakka, & Stenros in press; Williams & Tobin 2021). In this background section we discuss miniatures and miniaturing especially in the context of toys, the “pile of shame” phenomenon in miniaturing and its comparable manifestations in other craft and play cultures and discuss the consumption and sustainability of miniatures.

Miniatures and miniaturing

In this chapter, we define miniatures as scaled-down plastic or metal representations of historical and fictional characters, creatures, and objects, typically used in wargaming, role-playing games, and for display purposes. Miniatures are typically either single-part castings or prints, or otherwise non-poseable after construction from parts. There are different sizes of miniatures available, usually using the height of a typical humanoid character in millimetres for reference. Common sizes used for gaming are 10mm, 15mm, and especially the loosely defined 28–32mm bracket, while larger sizes such as 54mm and 75mm typically find more use as display pieces.

A miniaturist is someone who engages in the miniaturing pastime (see Meriläinen, Stenros & Heljakka 2020) by, for example, painting miniatures, playing games with them, or discussing them with other people. It is important to note that we use the word “miniaturist” as a broad, inclusive descriptor. Although it is likely also a social identity for some, we have elected for this interpretation as the topic has not yet been studied sufficiently. The word covers a broad selection of ways to engage with miniatures, from passionate collectors to tournament players and from professional painters to role-playing gamers for whom miniatures mainly serve as gaming tokens.

While miniatures function as game pieces and collectibles, they are also toys. Traditionally, toys are considered a material, tactile, and narrative medium and as such miniatures are part of the wider material cultures of play. Their primary affordance is to be playable – physically, spatially, and narratively manipulatable objects – both as toys and as game pieces. Furthermore, as vintage toy researcher Jonathon Lundy (in press) has noted, “[t]he materiality of toys is also at the root of their collectability”. In adulthood, toys are often employed as part of collecting practices, but also in the performative acts of curation and creative cultivation. Toy collecting in adulthood can be coloured by nostalgia, with key valuations born in childhood, but in essence, this practice is more complex than sentimental. For some toys, collectability is deeply embedded in both the plaything as well as the logic and mechanisms of play characterizing these objects.

The longevity of miniatures as physical objects allows individuals to track down and acquire miniatures from their youth or childhood, although often at inflated prices; with time these originally relatively cheap gaming pieces have become valuable out of production collectibles. With older miniatures produced in the 1970s and 80s this is not a case of artificial scarcity, as the rubber moulds used to cast miniatures eventually decay with use and time, master castings and original sculpts are destroyed in the moulding process or simply lost, making it impossible to reproduce old miniatures in their original form.

What differentiates engagement with miniatures from playing with mass-produced toys, such as action figures, is the centrality of the crafting aspect (see Meriläinen, Stenros & Heljakka 2020): most miniatures are provided unpainted and, in some cases, unassembled, and there is an implicit, or even explicit, notion that they will be painted. Pre-painted miniatures are an exception to this, as they are marketed as both collectibles and as gaming pieces. Even with pre-painted miniatures, however, the crafting dimension is present. For example, Wizkids, a company that produces miniatures compatible with the popular *Dungeons & Dragons* tabletop role-playing game, produces both unpainted and painted versions of their miniatures. The pre-painted ones are labeled “premium” - implying that the work required to paint the miniatures has already been done and the models are ready to be used (WizKids 2021).

Miniatures often form parts of transmedial complexes, either in a central or in a peripheral role. An example of centrality are the miniatures of Games Workshop’s *Warhammer* franchise and its various extensions. Here, a transmedial world consisting of digital games, books, comics, films, and other toys has been constructed around miniatures and the tabletop games played with them. Miniatures can also be peripheral, as in the above case of *Dungeons & Dragons*, in which miniatures can be used to support gameplay and to visualize imaginary characters, or when miniatures are either officially or unofficially created from existing intellectual property, such as Micro Art Studios’ miniatures depicting the characters of the popular *Discworld* series of fantasy books.

The Pile of Shame

Miniaturizing is very material: the diverse activities miniaturists engage in as part of the pastime all revolve around the physical miniatures to some extent (Meriläinen, Heljakka & Stenros in press). Miniatures are acquired for different purposes, such as for painting, gaming, displaying, toying, and collecting, and for most miniaturists their engagement with the pastime features several of these dimensions. As a result, many miniaturists amass considerable collections of miniatures consisting of hundreds or even thousands of miniatures, which sometimes poses challenges in terms of use of time, storage, and personal finances.

In adult toy cultures, toys are sometimes referred to as “plastic crack” (see Lundy in press). Collecting toys costs money and while they are not addictive per se, collecting is a strong play pattern across generations of toy enthusiasts and it is certainly encouraged by the toy industry and many toy cultures. In miniaturists’ vernacular, the amassed collection of unpainted miniatures is often affectionately referred to as a “pile of shame”. Despite the use of the word

“shame”, the pile of shame appears more as an in-joke, a convenient shorthand for the fact that it is often much quicker to acquire than to paint miniatures. The topic of an excess of unpainted miniatures is a common source of humour in miniaturist communities: it appears often in memes, and Games Workshop, the world’s current leading miniatures manufacturer, even published a video titled *Fifty Shelves of Grey* - satirizing the popular *Fifty Shades of Grey* novels and movies and referring to shelves full of the miniatures they produce, which are grey plastic in their unpainted state.

Miniatures are obviously not the only adult toys that people amass enough to feel bad about, and the pile of shame is not an expression limited to miniaturizing, or even hobbies more generally. Regardless of whether it refers to discount clothes (Shell 2009), digital games (Johnson & Luo 2019) or tabletop games in the form of the *shelf of shame* (Coward-Gibbs 2021), the meaning is typically the same. Interesting parallel practices related to the thinking of the miniature collection as a material resource offering affordance for both actual crafting and the imagination could likely be found in other craft communities. For example buying more yarn than one can ever knit seems like an interesting point of comparison.

We suggest here that the pile of shame is the collection of things one has acquired and not yet used – and it weighs particularly heavily when one acquires new things even if old ones are still waiting to be used. Owning something for the sake of collecting, for example, is not seen as a viable use: a miniature should be painted, or a board game should be played.

Collecting is an important part of miniaturizing, but it appears that for most miniaturists collecting also implies using miniatures in other ways besides hunting them down in the marketplace, owning or storing them. As Williams and Tobin (2021) note in their article on Oldhammer, the miniaturist subculture centered on retro Warhammer miniatures: “To Oldhammer is to be active, to craft and to play with things, not just appreciate them; Oldhammer is not really antiquarian.” Seen against this backdrop, the idea of a pile of shame is understandable – as long as a miniature remains unpainted, it has not seen “proper” use.

In recent years some miniaturists have discussed moving away from the framing around shame, and considering an alternate framing as the *pile of potential* (see davekay 2020; Wudugast 2020; see also Coward-Gibbs 2021). This approach seeks to dissolve or remove the dimension of shame, even if joking, from the equation, and encourages miniaturists to enjoy their enthusiasm even if not every project gets completed. Attention is drawn to the miniatures’ potential: although tastes may change and interest may wane, the miniature still offers potential enjoyment in the future.

Sustainability and consumption

The sustainability of the miniaturizing pastime has not been studied previously. In this article we concentrate on the personal and social sustainability of the activity (e.g. Dhar, Liu & Boyatzis 2021). From the point of view of sustainability and consumption, toys are a complicated subject. While play in general is widespread in the animal kingdom, and quite a few species even play

with objects, humans are the only species that specifically makes toys, objects for play (Burghardt 2005). Toys need not be useful in goal oriented activities, but playful in activities that are meaningful in themselves. It is difficult to assess their sustainability from a usefulness or efficiency point of view. Yet in general, toys offer a multitude of possibilities for skill-building and cultivating personal creativity through physical manipulation and narrative meaning making, which makes toys an interesting case to study topics such as adult imagination and crafting.

That said, most contemporary toys are no longer made by the humans who use them or their parents. They are commodities, manufactured for consumption. According to play scholar Brian Sutton-Smith (2017, 233–234) this goes even further, from toys to play. According to him the most obvious modern manifestations of play appear as *consumable experiences* – for example, as toys and computer and video games. So-called *commoditoys* (Langer 1989) stimulate consumption by design.

Hannah Arendt (1968/2019) has commented that collecting is a passion of children (things need not be valued as commodities or seen as useful) – and a hobby of the rich who do not need things to be useful and can afford to make "transfigurations of objects". While collecting today can be an investment as well (see Belk et al. 1991), for the most part the collectors can dream with their items in a way that "things are liberated from the drudgery of usefulness". This points towards collecting, in itself, as play (see also Heljakka 2013). Just as a bibliophile may not read their collected books (Benjamin 1931/2019) or a digital gamer may not play the games they've bought (Johnson & Luo 2019), a miniature enthusiast may not need to actually play with their figurines, or even assemble them.

Assessing toys from the point of view of usefulness is complicated. Can owning be "use"? What form does this "use" take? Is a miniature "done" when its crafting has finished and it is being displayed, or does it continue life as a gaming piece and a pivot of fantasy and imagination, drawing from transmedia universes, play experience, and personal meaning making? These are some of the questions we address in light of the data collected. Miniatures invite long-term play behavior – engagement with their materiality and multiplicity. Toys and toy collections have an existential aspect as well, functioning as mirrors for the collectors and potentially outlasting them. Miniature hobbyists struggle with the dilemma between being buried with one's toys and being buried in toys.

METHOD AND DATA

In this study, we explore miniaturizing and the pile of shame phenomenon utilizing a qualitative data set (N=127) collected in 2019 with a Finnish language online questionnaire. The questionnaire consisted of seven open questions and six demographic questions, and was distributed online on Facebook groups, hobby forums, and Twitter.

Most of the self-selected respondents (91.3%, N=116) identified as men, with only 7.9% of respondents (N=10) identifying as women and a single participant (0.8%) not disclosing gender information. This appears to reflect the gendered nature of the miniaturizing hobby (see Körner &

Schütz 2021; Singleton 2021). Our participants were between 18 and 56 years of age, with a median of 35. As the questionnaire was aimed at adult miniaturists, the minimum age for participation was 18. Our participants can be described as experienced miniaturists, as the median year for starting miniaturing was 1998, and the earliest one 1970. This is a relevant feature of our sample, as it means that many of our respondents have had time to amass considerable collections of miniatures.

To explore our data, we conducted a thematic analysis. Thematic analysis is a qualitative research method, in which researchers identify both novel items and recurring patterns in a set of data and organize these observations into broader themes (Braun & Clarke 2006). Our thematic analysis was a semantic one; we focused on what was actually written by the respondents. We had previously conducted two thematic analyses on the data (Meriläinen, Stenros & Heljakka 2020; Meriläinen, Heljakka & Stenros in press). These two analyses, one a general exploration of the data and the other focusing on the materiality of miniatures, served as a starting point which we then supplemented with a new round of analysis. Instead of utilizing a pre-existing theoretical frame, we conducted an inductive, exploratory analysis, focusing on responses discussing either the pile of shame phenomenon directly or addressing issues such as the collecting and storing of miniatures.

The coding was conducted using the *Atlas.ti* software, a qualitative data analysis tool. After coding, the codes were organized first into smaller subthemes which were then combined to form two main themes, that provide distinct points of view into the collecting of miniatures: *Practical sustainability* and *Existential sustainability*.

RESULTS

In our analysis we identified two distinct dimensions related to how miniaturists view their miniature collections and their acquisitions of miniatures. *Practical sustainability* addresses miniaturing as a situated activity. In the theme we explore miniatures as material objects that occupy space, demand time, and have monetary value, and the everyday concerns and considerations related to these aspects. *Existential sustainability* examines the personal meanings miniaturists assign to miniatures and miniaturing. Interestingly, while many of the responses detailed the “pile of shame” phenomenon, only a single individual explicitly discussed it in their response with that name.

We have presented quotes from the data to illustrate our themes. The quotes have been translated from Finnish, and minor corrections such as capitalization of sentences have been made. However, we have sought to preserve as much of the form and the tone of the quotes as possible.

Practical sustainability

Although the pile of shame is an abstract notion and can mean anything from tens to thousands of unpainted miniatures, it is not imaginary. While miniatures may not literally be stored in piles,

they take up physical space whether stored in glass cabinets or storage boxes (see Meriläinen, Heljakka & Stenros in press). They need to be bought with money or acquired through trades or as gifts, and time must be allocated for painting them. Space, time, and money are all limited resources, and miniaturists need to negotiate all three to keep their pastime sustainable. The theme illustrates miniaturing as a situated activity (see Apperley 2010): miniaturing takes place in the confines of everyday life and is influenced and regulated by many things other than the miniaturist's personal wants, needs, and preferences.

Practical considerations are tied to place and time. Many of our respondents considered both their current and former practices, sometimes stretching over several decades. With changes in living conditions, life situations, and available finances, their miniaturing practices had also changed. Many respondents mentioned that they had started to consider their purchases more carefully compared to a less restricted and reflective past, as they had already amassed what they felt was enough miniatures for the time being. Informants reflected on their resources, both monetary and miniature materials. As shown in the quotes below, many informants regulated their spending, bargained with themselves, and set up personal systems and rules for miniature purchasing and crafting.

I nowadays try to avoid buying big expensive new sets. I think about recycling a lot - can I mod [modify] something for a new purpose? Can I take apart a vignette and how can I use that? My buying behaviour has changed - when I was younger I wouldn't have given any extra thought to it but would've just thrown all of my money into some new expensive set because it's nice without any thought to whether it was necessary. Now I think more about use and recycling. If there's something I have to have, I ask my friends whether anyone knows about second-hand availability, I can't bring myself to buy almost anything new. (ID 7)

Nowadays I don't buy [miniatures] at all, because I have tens of unpainted ones left from my "wild years". [...] My most intensive buying period was probably as a 14–25-year old, when I was more of a hoarding type anyway. (ID 13)

Views on the use of money differed based on personal priorities and available finances. Many of our respondents had stopped miniaturing at some point because they felt it was too expensive. Referring especially to Games Workshop and their increasing prices was common, reflecting anti-corporate sentiments expressed by a segment of miniaturists (Williams & Tobin 2021). A recurring narrative in the data was that of increasing personal finances providing more affordances for miniaturing. Although actual sums used on miniaturing varied, many respondents explicitly mentioned that their buying behaviour was not excessive compared to their available money. Some were actively keeping track of their spending or had an allocated budget for miniatures. Spending money was also considered in relation to available time: some respondents had very limited time available, so they went for a "quality over quantity" approach.

If I compare my [current] buying behaviour to the early 90s it's like day and night. As a student, GW's [Games Workshop's] new price changes practically made the hobby so

expensive that it was a major reason for a 20 year break. Nowadays even though the prices are high, they're not as considerable in relation to my income as a child/young adult. (ID 17)

Oh boy. My favourite topic. It's because I have kept track of all of my spending on miniatures and associated activities as carefully as possible, and I can tell you that in almost 17 years the accumulated sum is horrifying. I also relate money spent on a given game system to the amount of gaming sessions, so I can calculate a mean for every game played. When the sum is under a certain amount, I am "permitted" to buy miniatures for said game. (ID 91)

I have realized that in this life situation time is the resource used to pay for things. I'm happy to pay several tens of euros for an especially nice mini that I know I'll have many amazing painting sessions with and eventually finish, whereas even the idea of painting a hundred orcs, even if I got them for free, horrifies me. (ID 119)

Excess miniatures, whether painted or unpainted, were sold off for a variety of reasons, such as lack of space, interest, or time. Selling a project could also provide a sense of completion and closure: owning the miniatures was sometimes seen as secondary to working on them.

I don't care much about selling them, mainly I sell off miniatures I no longer need. I feel like selling them takes too much time and effort. But sometimes I also have to sell things, a person living in the city, in an apartment does not have too much storage space. (ID 35)

I also sell off finished armies as used ones (as well as unopened projects...), so maybe it's more about finishing projects rather than collecting. (ID 51)

Being middle-aged I've started selling off some of my miniatures, the idea being "if I haven't managed to paint this in 20 years then maybe it's time for it to go to another owner". (ID 53)

Not all miniatures were viewed as equal, and extremely relevant to considerations of the pile of shame phenomenon was the idea of miniatures becoming surplus at some point. There were a variety of reasons, sometimes overlapping, for surplus miniatures: some were the results of shopping sprees or sales, others resulted from stalled projects, waning interest, or changes in game preferences. At the other end of the spectrum were very specifically purchased models, whether old out of production pieces, specific representations of role-playing game characters, or collectibles. When getting rid of miniatures, it was the surplus that was cut.

We [refers to respondent and their partner] haven't sold a single mini, and because of sentimental reasons the minis of old player characters will probably never be sold. (ID 88)

Special offers in online stores often bring about temptation. If I buy, I concentrate my buying and buy a little bigger lot at once. I do sell off miniatures I no longer use or ones that ended up being wasted purchases. (ID 31)

As collections of miniatures cost money and take up domestic space as well as time, some respondents had to negotiate their hobby with their partner. Although most partners appeared to have a positive view of miniaturizing or even participated in it themselves, space sometimes became a point of contention. Any conflict mentioned appeared to be minor, however.

The wife is also a miniature hobbyist, before [having] kids we gamed and painted together approx. on a weekly basis, that has dropped off now. We dream that when the kids are older, we'll get it back. (ID 63)

The minis are in a large cabinet, not especially on display but not hidden either. My wife doesn't want there to be tanks or Roman cavalry on the bookshelf. I accept this. [...] My wife's statement is: "I accept but I don't understand". (ID 92)

My partner doesn't quite understand my hobby and feels that I own too much stuff related to it. It annoys them that I have many boxes full of miniatures, but they nevertheless support me in my hobby, they just wish there wasn't so much stuff. It is because of this that I keep my minis hidden in the basement and advertise it when I finish something or sell it off (meaning that there is less stuff). (ID 130)

As the examples above show, the miniature collection prompts several practical and social considerations apart from any additional meaning attributed to it. Regardless of the miniaturist's personal views, the availability of space, time, and money can all place very concrete limitations and provide affordances for the pastime. From the point of view of these practical factors, the sustainability of miniaturizing lies in balancing available time, space, and money. Ideally, the miniaturist can afford those miniatures they want, have space for the miniatures they have and intend to purchase, and have time to enjoy their miniatures. This practical dimension, however, is only a part of the whole. It is the less tangible but extremely relevant personal meanings attributed to miniatures and miniaturizing that we turn to next.

Existential sustainability

The importance and worth of miniatures are often detached from their monetary value and other practical considerations. This theme addresses miniatures and miniaturizing as something given personal value. Hence, it deals with *personal sustainability* (e.g. Dhar, Liu & Boyatzis 2021) and how collecting miniatures is tied to different pleasurable activities and experiences that help reduce stress, drive everyday renewal, and improve well-being.

As discussed above and in previous research (Carter, Gibbs & Harrop 2014; Meriläinen, Stenros & Heljakka 2020; Meriläinen, Heljakka & Stenros in press; Williams & Tobin 2021), miniaturizing consists of multiple activities such as painting miniatures, playing games with them,

socializing with friends, and displaying miniatures at home or online. For miniaturists, these activities can be psychologically very rewarding. Reducing stress is a key element of personal sustainability (Dhar, Liu & Boyatzis 2021), and many of our respondents explicitly posited miniaturizing as a counterbalance to the demands of other life areas, typically work but also family life. Miniaturizing provided different ways to reduce stress, often formed around immersion either in the activity itself, the fiction related to it, or both. Moreover, miniaturizing provided avenues for creativity and self-expression not just through the crafting aspect, but also through tactical gaming and prompting storytelling, as illustrated by the quotes below.

It is a sandbox of creative activity where I can move those elements of imagination and tactical ambition that I find it difficult to find a space for in the rest of my life. (ID 22)

A large part of it is distancing yourself from everyday life and other things. Painting, assembling, and planning take much more time than the gaming itself and you feel quite “zen” when you can immerse yourself in the painting of a new miniature - or just planning the colour scheme with a pen and paper. It keeps the mind lively ;) (ID 72)

Painting is often a very relaxing, meditative experience for me. I usually listen to music or podcasts while doing it. I also like problem-solving related to painting and assembling: how do I paint a glowing torch? What about pallid skin or rusty armour? Solving these small problems provides me with experiences of success. The nature of my day job is that nothing ever really gets finished, there are no projects or deadlines. Finishing miniature projects provides satisfaction compared to that. (ID 124)

As the above quotations show, miniaturizing is a controlled province of meaning for the informants; it is something that they feel mastery over, something that is their own, and where they can let their imagination run free. Miniaturizing allows miniaturists to learn new things as need arises, take on limited projects and succeed in carrying them out, and set their own pace. Miniaturizing, especially the crafting aspect of it, is about shaping material figurines and the fantasy around them and exerting calm and control over them.

In this chapter the focus is on collecting miniatures. However, the context provided by the quotes above is crucial to understanding why people accumulate miniatures: they are often acquired for their promise of pleasant activities such as painting and gaming. As one of our respondents summarizes it:

Every serious hobbyist has the same problem with a lead/plastic mountain, but that is perhaps more due to unrealistic ideas about future projects than pure shopping euphoria. (ID 32)

The topic of projects and planning is prevalent in the data. Many of our respondents described their miniaturizing through different projects, whether these were entire armies, units, warbands, or individual player characters. Miniatures were acquired to fit these projects, something that the respondents often framed as *having a use for* or *needing* something, and posited as an opposite

to hoarding, or buying miniatures for the sake of having more miniatures. The surplus miniatures mentioned in the previous theme were typically miniatures that no longer had this type of use, or had never had it to begin with.

I only buy those [miniatures] that I have some kind of use for, even though I'd like to buy this and that just for the joy of painting. (ID 12)

I don't necessarily think about the price of something if I really want it. However, I don't blindly buy whatever I run into, but it has to have at least some use, even if it's just cutting it up for conversion [miniature customization] parts. (ID 70)

A while back I bought quite a lot of minis in one go, I have enough minis in the cupboard to finish 3 large armies and for several smaller projects. I have now intentionally limited my buying, I try to finish minis I've already bought first. In that sense I try to keep my miniaturizing hobby sustainable in that sense, so I try to avoid hoarding. However, in my head there are constantly future projects and all the things I should get for them. In my gaming group most appear to be hoarders, in other words they buy much more than they have time to paint. (ID 124)

Respondents reflected on their buying behaviour, relating it to their life and well-being. Even though many spent considerable sums on miniatures, this was seen as an investment into personal sustainability. While they were spending money on miniatures, they were also spending money on themselves by enriching their leisure time and fulfilling their dreams.

Money spent on the hobby can easily be thought about in relation to the time spent. That I pay e.g. 15 EUR for a miniature and spend approx. 8–20 hours painting it is quite a good relative price (especially if I spend that number of hours several times over on the game the aforementioned mini is part of). I guess 15 EUR is nowadays the norm for a movie ticket...or a couple of pints of beer. (ID 89)

I spend too much [money] on the hobby, but I'm not out of control. [...] As I've grown older and there's more money, buying has turned more towards shopping for quality than for price. I consider money spent on miniaturizing as money spent on mental health and resting your mind and that's valuable :) (ID 72)

Collecting miniatures was sometimes as much about the past than it was about the current moment, and some respondents mentioned buying miniatures out of nostalgia. Here, miniatures took on new meanings: they were links to the past in terms of both the respondents' youth and the pastime itself, and reminders of a bygone era (see Williams & Tobin 2021).

Furthermore, many of the new minis looked pretty miserable to me; boring and unimaginative. Yes, I'm pretty sure time has gilded and polished my memories and my hunger for nostalgia is not sated by the newest of new things. (ID 45)

Our gaming group collects so-called oldhammer/middlehammer miniatures created during the 80s–90s. This is in part due to our fondness for the aesthetics of miniatures from that era and in part because it's resistance to contemporary cookie cutter moulded heroes. (ID 82)

Alongside the many positives associated with miniaturing, many respondents identified factors likely contributing to the pile of shame phenomenon. Many recognized impulsive buying behaviours and mentioned situations in which they had overspent on miniatures and supplies. Some respondents explicitly mentioned being aware that they had more miniatures than they needed or had time to paint. There were also mentions of respondents giving themselves permission to make new purchases only under given conditions.

When I restarted miniaturing about ten years ago, I noticed that I was spending quite a lot of money. I started to keep track of my miniaturing hobby costs. When I started to have a lot of minis and less time due to kids, I felt that buying new minis didn't make sense anymore. I started selling off the minis I had collected. From that time I've balanced buying and selling, aiming to rein in my yearly miniaturing budget and keep it comparable to e.g. my physical exercise hobbies. I try to be very rational when it comes to the money (and time!) I spend on minis, but there are a lot of temptations. At times I notice getting new nice stuff exceeding my budget. That's followed by a "remorse period", during which I rationalize my collection, sell off surplus and motivate myself to finish minis. (ID 27)

For some odd reason there always seem to be more [miniatures] than what you can finish painting. In recent times I've tried to curb 'extra' purchases and rather get something finished instead. It's just the number of projects is quite something already to begin with. My unpainted material consists of maybe a few hundred miniatures (and I believe I represent the more moderate school of hobbyists) but being a hoard...uhmm, collector by nature, I'm not about to give up anything anytime soon. (ID 89)

I buy almost everything second-hand because the hobby is so very expensive. I currently need to limit my spending a little. Once these miniatures and supplies have been used and the projects are done, I give myself permission to purchase more. (ID 56)

Usually the things I acquire have been considered so I don't regret them. I'm currently much more deliberate when it comes to my figure purchases. I'm better aware that it's something that I have a passion for, but in the end not enough time or energy. (ID 52)

Some responses revealed our participants' awareness of the fundamentally limited nature of time. The difference between mentions of time between this theme and the *practical sustainability* theme was perspective and scope. Whereas responses in the previous theme discussed the availability of time in everyday life, these responses mentioned time on a more existential level, as a finite resource in the life of a human being.

I've also considered partially selling my collection, because realistically I'm not going to paint many of them anymore, being in my forties my shaking hands and degrading sight give me enough trouble already. (ID 13)

Today I have almost 1900 figures fit for gaming as well as 500 vehicles in 20mm scale, mostly for the Second World War and subsequent conflicts. In addition I have more unpainted and unbuilt [miniatures and kits] than I'll ever be able to paint during the rest of my life. (ID 69)

Providing an interesting contrast to the practical considerations of the first theme, the examples in this theme highlight the less tangible aspects of collecting miniatures. Here, miniatures are not only physical objects. Instead, they represent investing in oneself and personal well-being, an escape from everyday worries and stress, a nostalgia trip, and an avenue for creativity and self-expression. This personal dimension can also bring with it self-reflection, prompted for example by buyer's remorse after shopping, and lead even to profound considerations of life's priorities.

DISCUSSION

Buying and collecting miniatures is an important aspect of miniaturizing. Despite some respondents reporting that they were accumulating, or had accumulated, miniatures in disproportionate amounts in relation to their painting output, our data does not suggest pathological hoarding behaviour (see Nordsletten et al. 2013) or compulsive buying of miniatures and miniaturizing supplies but rather a high level of engagement with the pastime. The results suggest a similar dynamic to other activities such as digital gaming (Domahidi & Quandt 2015) or even work (Schaufeli, Taris & van Rhenen 2008): high engagement shares elements with problematic behaviour on the surface, but there is a difference between the two also in a collecting context (Belk et al. 1991).

The phenomenon of the pile of shame, or the regret and discomfort over the excess accumulation of miniatures, certainly exists. In our data, negotiating with oneself about how and when to purchase new miniatures and justifying these purchases, was common. Respondents made sense of their accumulated collection by talking about a past when they were lax about acquisitions but discussed their present habits of purchasing as result of consideration, sometimes according to complicated rules and regulations they had set for themselves.

The two themes explored above illuminate how both the pile of shame and the miniature collection overall are both tangible and intangible. While miniaturists may take a very practical view towards their collections, miniatures are rarely just matter devoid of meaning. Instead, the collection represents an amalgamation of the material and the immaterial. The practical and the existential dimensions both shed light on the piles of shame.

From the practical point of view the pile of shame is simply excess consumption – the purchase and ownership of miniatures surplus to a miniaturist's personal needs. They represent wasted

money that could have been spent on something else and likely cannot be regained by selling them, they take up space that is limited to begin with, and due to their unimportance, time and energy are unlikely to be spent on painting them or playing with them. This kind of surplus can form because of different reasons: sometimes they are a poorly considered purchase from the start, sometimes changes in interest and preferences or newer and better versions render them obsolete. As there is a limited aftermarket and miniatures cannot be easily recycled, often this surplus just ends up sitting in storage, taking up space. The pile of shame limits the pastime in practical terms, rendering it less sustainable.

From the existential point of view the pile of shame can be seen as a testament to failures of personal character, and represents things that render the pastime personally less sustainable. Whether the pile of shame reminds the miniaturist of the excess of impulsive purchases and passed fads or the disappointment of abandoned and forgotten projects, it is less about the practicality and more about the experience: a group of ten untouched miniatures can be a source of guilt despite not taking up much space, not requiring considerable time to paint, and not being particularly expensive. In contrast to the space physically taken up by miniatures, the pile of shame represents miniatures occupying mental space in a negative manner. The playful promise and invitation to fantasy an unpainted miniature offers can turn sour when lack of time, the size of the task ahead, or waned interest crushes the joy out of the anticipation. Miniatures that are not part of imagined future projects start to weight on the miniaturist.

While these observations may sound dramatic, perspective needs to be kept in mind. Although words like “guilt”, “shame” or “need” are used by miniaturists in our data, the responses as well as the authors’ experiences of miniaturizing culture suggest that these are typically not very intense experiences. Although a miniaturist may refer to their excess miniatures as a pile of shame and consider it a negative aspect of their pastime, it is almost certain that this usually represents fairly minor frustration rather than profound feelings of shame and personal failure.

Life cycles of miniatures and miniaturizing

During our study we discerned a life cycle for a miniature from the point of view of a miniaturist², as well as miniaturizing as an activity, the two often running parallel. The miniature starts out as a non-tangible dream, story, or idea, and typically ends with the model either being sold onwards or put more or less permanently into storage, whether in a glass cabinet as a display piece or packed into a box with countless others, or very rarely permanently disposed of. In between the miniature finds many uses: it is a monetary expense, an outlet for creativity and self-expression, a tool for stress relief, a toy, a gaming token, an anchoring point for the imagination and an object taking up space – often many of these at the same time (Meriläinen, Heljakka & Stenros in press; on toy life-cycles, see Heljakka 2013, 307).

According to our data, miniatures are not only purchased new (or printed new) but are often acquired second-hand and rarely thrown away. This means that the life cycle indeed becomes a

² The life cycle of the miniature as a physical object, starting from its manufacture and ending in its physical disintegration, would be very different.

cycle, as one miniaturist's dwindled interest becomes the starting point of another's new project, ends up as a crowning piece of a collection, or is stripped of paint, cut apart and reassembled into something new. Many miniatures have been in this kind of circulation since their original casting in the early 1980s, a testament to their longevity in terms of materiality, commercial, and sentimental value (see Williams & Tobin 2021). The materials have their limits, of course, and both plastic and metal alloys eventually start to show degradation after several decades. Miniaturists talk about, for example, "lead rot", lead oxidization affecting older miniatures that leads to visible miniature decomposition (The Toy Soldier Museum n.d.).

Running parallel to the miniature's life cycle is the hobby life cycle: for many of our respondents, interest in miniaturizing had waxed and waned. Sometimes miniatures had been sold off or they had sat in storage for years with paints drying up, only for interest to be renewed in a new life situation or with a new source of inspiration. To illustrate through the first author's personal experience: there is something magical about a miniature being cast in Nottingham, UK in the early 1980s, getting bought at a small-town book store in Finland, finding years of use unpainted in role-playing games and imaginative play, sitting at the bottom of a shoebox for two decades and eventually ending up painted in a display cabinet in 2021, imbued with not only childhood nostalgia, but also contemporary value as an aesthetic object, a collectible and a gaming piece. The metal miniature as a physical object has remained the same throughout its life cycle, while the author has grown from a newborn baby into an adult and a scholar writing about miniatures, and the world has fundamentally changed around both. On the shelf, miniatures cast from lead alloys during the Cold War march side by side with modern resin figures, 3D printed at home from digital files downloaded off the internet.

As many of our informants have done miniaturizing for a long time, decades in most cases, they have a personal relationship to the history of the miniature pastime, miniature communities, and the miniature wargaming industry. They have seen the re-cycling of the miniatures, as well as dreams and plans relating to the miniatures, many times. They often have a nostalgic attitude towards the past and see childhood as a time when they might not have had all the toys, but they had time to play (see Williams & Tobin 2021). However, while nostalgia is a significant element and influence, it is not a determining factor. Temporally miniaturizing is both something that has happened in the past, informing their taste and style, and an activity occurring simultaneously in their present and future lives. That said, the accumulation of miniatures can also be an indicator of the growth of leisure options and personal finances *and* the reduction of leisure time: while participants have the means to purchase more miniatures, they lack the time to actually paint them. The monetary and temporal resources of the miniaturists go through cycles as well.

This cyclical nature of miniatures and miniaturizing holds great relevance for both collecting miniatures and the pile of shame phenomenon. It is common for miniatures to be stored, sometimes for long periods, only to be used again as a new project emerges or when the miniaturist has more time or energy available. During this period of not being in use, a miniature can come to be viewed as being a part of the pile of shame, but this is not necessarily a permanent condition: the appearance of a new project or other suitable use can immediately

reframe the miniature as extremely useful instead of surplus – or if it is curated out of the collection, another miniaturist can incorporate it into their collection and imagination. This tension is an important part of the balancing between collecting and amassing a pile of shame and seems to be at the core of suggestions for using the formulation “pile of potential” instead.

Limitations of the study

It is important to note that our data on the miniature life cycle as well as the collecting of miniatures is skewed as our informants are self-selected enthusiasts. Miniatures are important to them and they both search for them and appear to care about where their discarded figurines end up. Due to the lack of data we do not know how representative these respondents are of the general miniaturing population. For example, it is likely that there are numerous people involved in the pastime that are not as reverent of their miniatures or as fastidious with the recycling.

Recycling and re-selling of miniatures is not as organized and systemic as with, say, the circular economy of books or furniture. Stores specializing in selling second-hand miniatures are extremely rare, although there are social media groups devoted to buying and selling, and there is for example a thriving miniature aftermarket on the online auction site eBay. While previously owned miniatures can occasionally be found at thrift stores, flea markets, or used toy stores, it is possible that miniatures do end up in trash more often in the wider miniaturing population than amongst our informants.

Another important observation relates to finances. Miniaturing can require significant financial investment through the purchase of not only the figurines themselves, but also crafting tools, paints, terrain pieces, and rulesets. This presents a very concrete barrier for participation in the pastime, and shapes participation for individuals based on their personal finances. For some miniaturists, accumulating quantities of miniatures far beyond their needs is simply not an option. Collecting miniatures is clearly connected to disposable cash.

A number of informants reported that they had taken breaks from the pastime, or significantly altered their engagement with it due to monetary restrictions and worries over the personal and social financial sustainability of the practice. Simultaneously numerous respondents stated that miniaturing is not an expensive pastime, at least not the way they practice it. Most of our respondents were in their 30s or 40s and many of them mentioned working full-time. Several explicitly mentioned having well-paid jobs. This is likely a bias in our data: people who cannot afford to participate in miniaturing are obviously unlikely to do so.

It needs to be underlined that we have chosen to focus on the miniaturists' personal experience, approaching sustainability from the point of view of the individual miniaturist and their hobby practices. Environmentalism or ecological concerns featured seldom in the data, and amassing miniatures was seen more as a practical challenge (“how to store?”) or an existential problem (“will I die before all of these are painted?”), than a question of environmental sustainability. The environmental sustainability of a pastime where a single miniaturist can amass collections of

thousands of metal and plastic miniatures and the assorted tools and materials is an important topic for future research.

From a pile of shame to a curated collection

In this chapter and in miniature communities, the accumulation of a superfluous amount of miniatures is discussed as the pile of shame. An unpainted, unconstructed miniature is a promise of many kinds of enjoyment and material for play and self-expression, but it also takes up room both physically at home and mentally as a task to be finished, as excess and waste. However, the pile of shame is also a pile of pride and potential, promising fantasy, relaxation, and play. One day the unpainted miniatures are a joy, another day they feel like an impossible chore. Then it is not the miniaturist who owns the toys, but the toys that own the miniaturist.

Our respondents' experiences suggest that the way to temper the shame of the pile is to curate one's collection. Selecting which miniatures to keep and what to sell off or gift both addresses the practical challenge of managing a large physical collection and helps maintain a selection of miniatures centered on one's own interests. Indeed, curating is what turns an assortment of things into a collection. We can see from our data that our informants place a value on their miniatures that is separate from their value as commodities, as objects for play, as craft material, or even as collectibles. As part of a collection they have an intrinsic value as parts of a larger whole. The miniatures have *culture-value* (see Johnson & Luo 2019) which goes beyond their use as objects to be gamed with, painted, or displayed (cf. Williams & Tobin 2021).

The goal of the collector is not to simply amass as many miniatures as possible, but to make conscious, informed choices about new purchases, but also selling off both painted ("used") and unpainted and unconstructed figurines ("unused"). Arguably curating is always a part of collecting, which has been characterized as the "process of actively, selectively, and passionately acquiring and possessing things removed from ordinary use and perceived as a part of a set of non-identical objects or experiences" (Belk 1995, 67) and as an "active and discerning process" (Geraghty 2014, 14; see also McIntosh & Schmeichel 2004; Heljakka 2017).

The curation follows self-created rules – which can be negotiated and bent but still stand – which further civilize, organize, and give meaning to the collection. The collection is imagined by the collector, and when it no longer makes sense, when there are too many miniatures that do not fit current and future plans, re-imagining and pruning is needed. Indeed, during the past years, amateur curation has gained interest in various fields of object interaction from popular music heritage studies (Withers 2018) to fashion curation (Petrov 2019). A curator offers an interpretation of how objects relate to one another. Essentially, objects tell a story (Wolff and Mulholland 2013). For many informants crafting a story with the figurines that is influenced by play and game play is very concrete – and central to the pastime. However, storytelling also happens metaphorically. Collections are in a constant state of becoming; this defines the processual nature of the collecting pastime.

A curated collection, imbued with meaning by the curator, is a reflection of the collector. For some informants, the mass of unpainted figurines acquires transcendental meaning when they state that they know that they will never paint them all before they die. Even in their passing, the miniatures remain, the collection a reflection of its collector. In game cultures some collectors have made plans to turn their collections over to be archived after passing away, this meaningful resignification of game-related objects and the process of donation transforming the relationships with those objects (deWinter & Kocurek 2017). The plans miniaturists have for their collections after their own death are not addressed in our data, but it is likely that after years of amassing a collection, miniature enthusiasts do not want the life cycle of their miniatures to end when theirs does, and such plans present a fascinating topic for further research.

CONCLUSIONS

The relationship between the miniaturist and their collection is often a very meaningful one. The pastime of miniaturizing is something that provides an opportunity for self-expression and play, for solitude and reflection, and for socially shared and recognized creativity and meaning-making. The key material building blocks of the pastime are commercial objects created for consumption, encased in both shifting trends and nostalgia and often connected to proprietary intellectual property and its storyworlds. The miniaturist also incorporates materials that would otherwise be considered trash, remixes products from different manufacturers and transmedia worlds, prints and even designs their own miniatures, and assembles new and personal wholes. The miniaturist's collection is composed of painted and unpainted miniatures, armies, and dioramas, but also of imagined but not yet completed projects and miniatures that are still waiting to be incorporated into an actual or imaginative project. While miniaturizing draws on the past and nostalgia as well as completed projects and materials, it is future oriented and moving towards a personal goal and vision. Most importantly, the collection makes, and needs to make, sense to the collector.

At times the miniaturist may amass more miniatures than they have plans for, the titular pile of shame, and this produces anxiety and unease. The miniature collection which is supposed to be a positive force in their lives becomes a burden and threatens to become unsustainable. While owning miniatures that are not yet part of a practical project and owning miniatures that are part of an imaginative one is meaningful, having too many miniatures without a meaning is taxing. The miniaturist gains mastery over their collection by pruning and curating it, by rationalizing, planning, and constructing rules. In a word the miniaturist re-imagines the collection and lets go of the miniatures that no longer fit this new vision of their collection and its future. The collection continues to be imagined by the collector until the collector is no more; then only the collection remains.

From the point of view of global ecology and environmental sustainability it is easy to question a transnational pastime industry centered around plastic miniatures. For the miniaturist, however, their playful leisure pastime is sustainable when it functions as a source of joy. Strictly speaking toys, especially adult toys, do not make sense in the frameworks of efficiency and functionality.

Miniatures are, among other things, toys, and toys are frivolous, useless, extra, in a word: waste. Yet at the same time toys are at the heart of humanity. Creating toys marks us apart from other animals, and the connected meaning-making is meaningful. Struggling to keep this pastime as a positive force for the miniaturist in the pressures of limited resources of time, space, and money, social obligations, fads and fashions, capitalistic incentives to overconsumption, and personal limitations is challenging. Even so, when successful, the pile of shame transforms through the collection's re-imagining into a pile of potential.

REFERENCES

Apperley, T. 2010. *Gaming Rhythms: Play and Counterplay from the Situated to the Global*. Amsterdam: Institute of Network Cultures.

Arendt, H. 2007. "Introduction" In Benjamin, W. *Illuminations. Essays and reflections* (H. Zohn, trans., H. Arendt, ed.). New York: Schocken Books, 1–55. (Original work published 1968)

Belk, R. W., Wallendorf, M., Sherry, J. F. & Holbrook, M. B. 1991. "Collecting in a consumer culture." In R. Belk (ed.) *SV - Highways and Buyways: Naturalistic Research from the Consumer Behavior Odyssey*. Provo, UT: Association for Consumer Research, 178–215.

Benjamin, W. 2007. "Unpacking my library" In Benjamin, W. 2007. *Illuminations. Essays and reflections* (H. Arendt, ed.) New York: Schocken Books, 59–67. (Original work published 1931)

Braun, V. & Clarke, V. 2012. "Thematic analysis" In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf & K. J. Sher (eds.) *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological*. Washington, DC, US: American Psychological Association, 57–71.

Braun, V. & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2), 77–101.

Burghardt, G. M. 2005. *The Genesis of Animal Play. Testing the Limits*. Cambridge: The MIT Press.

Caillois, R. 2001. *Man, play and games* (M. Barash, trans.). University of Illinois Press. (Original work published 1958)

Carter, M., Gibbs, M. & Harrop, M. 2014. Drafting an army: The playful pastime of Warhammer 40,000. *Games and Culture* 9(2), 122–147.

Carter, M., Harrop, M. & Gibbs, M. 2014. "The roll of the dice in Warhammer 40,000." In F. Mäyrä, K. Heljakka & A. Seisto (eds.) *ToDIGRA. Physical and Digital in Games and Play*. Pittsburgh: ETC Press, 1–28.

- Cova, B., Pace, S. & Park, D. J. 2007. Global brand communities across borders: the Warhammer case. *International Marketing Review* 24(3), 313–329.
- Coward-Gibbs, M. 2021. Why don't we play Pandemic? Analog gaming communities in lockdown. *Leisure Sciences* 43(1–2), 78–84.
- davekay. 2020, June 20. Shame, or possibility? [Web log post] Retrieved from <https://scentofagamer.wordpress.com/2020/06/20/shame-or-possibility/>
- deWinter, J. & Kocurek, C.A. 2017. "Repacking my library" In M. Swalwell, A. Ndalianis & H. Stuckey (eds.) *Fans and Videogames: Histories, Fandom, Archives*. Taylor & Francis, 165–179.
- Dhar, U., Liu, H., & Boyatzis, R. E. 2021. Towards personal sustainability: Renewal as an antidote to stress. *Sustainability* 13(17), 9945.
- Domahidi, E. & Quandt, T. 2015. "And all of a sudden my life was gone...": A biographical analysis of highly engaged adult gamers. *New Media & Society* 17(7), 1154–1169.
- Geraghty, L. 2014. *Cult Collectors. Nostalgia, Fandom and Collecting Popular Culture*. Routledge.
- Harrop, M., Gibbs, M. & Carter, M. 2013. Everyone's a winner at Warhammer 40K (or, at least not a loser). *Proceedings of DiGRA 2013 Conference: DeFragging Game Studies*. Atlanta, GA, USA.
- Heljakka, K. 2013. *Principles of adult play(fulness) in contemporary toy cultures: from wow to flow to glow*. Helsinki: Aalto ARTS Books. Aalto University publication series DOCTORAL DISSERTATIONS 72/2013.
- Heljakka, K. 2017. "Toy fandom, adulthood, and the ludic age" In J. Gray, C. Sandvoss & C. L. Harrington (eds.) *Fandom: Identities and communities in a mediated world*. New York University Press, 91–105.
- Johnson, M. R. & Luo, Y. 2019. Gaming-value and culture-value: Understanding how players account for video game purchases. *Convergence* 25(5–6), 868–883.
- Kankainen, V. 2016. The interplay of two worlds in Blood Bowl: Implications for hybrid board game design. *Proceedings of the 13th International Conference on Advances in Computer Entertainment Technology*, Article No. 8. New York, NY: ACM.
- Körner, R. & Schütz, A. 2021. It is not all for the same reason! Predicting motives in miniature wargaming on the basis of personality traits. *Personality and Individual Differences* 173, 110639.

- Langer, B. 1989. Commoditoys: Marketing childhood. *Arena* (87), 29–37.
- Lewin, C. G. 2012. *War Games and their History*. Stroud: Fonthill.
- Lundy, J. In press. *Toying with Identity: Adult Toy Collectors, Material Fandom, and Generational Media Audiences*. Drexel University.
- McIntosh, W. D. & Schmeichel, B. 2004. Collectors and collecting: A social psychological perspective. *Leisure Sciences* 26(1), 85–97.
- Meriläinen, M., Heljakka, K. & Stenros, J. in press. "Lead fantasies: The making, meaning, and materiality of miniatures" in C. Germaine & P. Wake (eds.) *Material Game Studies*. Bloomsbury.
- Meriläinen, M., Stenros, J., & Heljakka, K. 2020. More than wargaming: Exploring the miniaturizing pastime. *Simulation and Gaming* OnlineFirst.
- Peterson, J. 2012. *Playing at the World. A History of Simulating Wars, People and Fantastic Adventures from Chess to Role-Playing Games*. San Diego: Unreason Press.
- Petrov, J. 2019. *Fashion, history, museums: Inventing the display of dress*. Bloomsbury Academic.
- Schaufeli, W. B., Taris, T. W. & van Rhenen, W. 2008. Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology* 57(2), 173–203.
- Shell, E. R. 2009. *Cheap: The High Cost of Discount Culture*. New York: The Penguin Press.
- Singleton, B. E. 2021. "We offer Nuffle a sausage sacrifice on game day". Blood Bowl players' world-building rituals through the lens of theory of sociocultural viability. *Journal of Contemporary Ethnography* 50(2), 176–201.
- Sutton-Smith, B. 2017. *Play for Life: Play Theory and Play as Emotional Survival*. Rochester: The Strong.
- The Toy Soldier Museum (n.d.) Caring for your figures. Retrieved October 20, 2021, from <http://www.the-toy-soldier.com/index.cfm?siteid=259&itemcategory=31947&priorId=31841&pid=31841>
- Williams, I. & Tobin, S. 2021. The practice of oldhammer: Re-membering a past through craft and play. *Games and Culture* OnlineFirst.

Withers, D. M. 2018. "DIY institutions and amateur heritage making" In S. Baker, C. Strong, L. Istvandy & Z. Cantillon (eds.) *The Routledge Companion to Popular Music History and Heritage*. Routledge, 294–302.

WizKids. 2021, January 21. WizKids, Critical Role partnership brings Exandria to life. Retrieved from <https://wizkids.com/2021/01/21/wizkids-critical-role-partnership-brings-exandria-to-life/>

Wolff, A. & Mulholland, P. 2013. Curation, curation, curation. *Narrative and Hypertext Workshop (NHT'13)*, 1-3 May 2013, Paris, France.

Wudugast. 2020, June 20. A right pile of potential [Web log post]. Retrieved from <https://convertordie.wordpress.com/2020/06/20/a-right-pile-of-potential/>