FAULTY CONNECTIONS:

AFFECTIVE IMAGINARIES IN PERIPHERAL DIGITAL GAMES

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Declaration

I declare that the content of this thesis is my own work and that it has not been submitted in any form for the award of a higher degree elsewhere. I also confirm that any quotation or paraphrase from the published or unpublished work of another person has been duly acknowledged in this work which I present for examination.

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Abstract

This thesis and associated exhibition view digital games as playful affective structures, which give users and developers a space for figuring out feelings. It is particularly generative to think about game design this way in contexts where there is uncertainty or controversy about how something should feel, or how one should feel about something. I explore figurations of "dynamics" and "aesthetics" in interactive design at the peripheries of games culture, particularly for emerging devices and interfaces with an ambiguous role in social life: early mobile games, recent VR software development, and my own installations of recycled computers and custom hardware in galleries and disused retail spaces. I view game design's social role as expressing and inscribing affective imaginaries, helping to shape human-human and human-device relationships.

An interdisciplinary analysis of affective imaginaries in peripheral games forms the written part of this PhD. Looking at early mobile games and virtual pets, I discuss affective actions such as nurturing, and affective narratives in developers' accounts of their players' relationships to their games, connecting these to broader ideas about how users practice "care" through mobile devices. I then look at narratives related to care in discourse around queer indie games, drawing on scholars' and artists' critiques of "empathy" narratives that position queer creators as an empathised-with "other". This informs my

analysis of early VR applications in which this "empathy machine" narrative has evolved into an imaginary of hi-tech virtual re-embodiment for social good.

I have found this way of viewing affect in game design helpful for reflecting on my own art practice, which in turn is a reflection of my research. Throughout the thesis, I discuss artworks that I present in the digital exhibition, which have recontextualised some of the strategies and themes that emerged from this research. Following my study of early mobile virtual pets, I created a "petting zoo" using recycled computers. To further explore affective imaginaries of care and empathy, I applied similar petting dynamics to non-fiction works representing transgender people's stories as "interactive portraits". Finally, following analysis of empathy discourse and queer embodiment in video games and VR, I created an ironic "self-portrait" that has the player interrogate how subjectivity is constructed.

This exploration of affect in game design is informed by developments in queer game studies, led by scholars such as Bo Ruberg and Adrienne Shaw and building on work on affect by queer theorists such as Eve Kosofsky-Sedgwick and Sara Ahmed. By combining practice and analysis, I hope to contribute to this field a sympathetic critique of the affective imaginaries of the games sector. I hope that through this practice-based approach, in which I notice a dynamic and observe what happens when it is recontextualised, there might be a way to avoid the temptation to fall into "paranoid readings" (Kosofsky Sedgwick) when critiquing the biopolitics of using interactive media to stimulate desirable affects in a player, even prosocial emotions such as empathy. The political significance of affective imaginaries has been clear in events such as Gamergate, which showed that what is at stake in game design and consumption is not just individual players' emotions, but an interdependent social meaning space that structures normative affects and marks, in Sara Ahmed's terms, recognisable strangers with alien affect. This thesis contributes a responsive and reflective approach to practising and critiquing interactive design that attempts to influence how someone else feels.

The online exhibition is the subject of the three Reflections included in the body of the thesis. It can be found at zoyander.cc/games/exhibition. Additionally, content including photographs, source code, and video footage are stored in Lancaster University Library.

Chapter 1: Introduction

Three recycled computers discarded by a local call centre sit in cages made of wire rack shelving. On the mismatched, beige computer monitors, flickering images of low-resolution cartoon animals are shown, their bodies moving up and down rhythmically as though breathing. They occasionally produce little 8-bit strings of melody, attracting the attention of people who walk by. After a little coaxing, a parent and child are encouraged to come in and pick up a game controller. The child doesn't know at first which way around the controller should be held and tries to point it at the screen like a television remote. The parent shows them how to orient the d-pad so that the cursor moves in accordance with the direction of the arrows, and the child quickly finds that by moving the cursor over the animal, it appears to laugh as though being tickled. On another computer, the parent is engaged in a conversation with a different animal figure, choosing dialogue options at the bottom of the screen and seeing how the animal responds. Some choices cause its breathing pattern to slow and its facial expression to fall. They pause before making a choice, appearing concerned about the impact their actions might have on the apparent mood of the creature.

This thesis, and the practice-based work attached to it, is guided by a handful of convictions: 1) that it takes discursive labour to configure new communication technologies, 2) that digital games are both objects in discourse, and discursive objects themselves, and 3) that to a significant degree the discourse about and in digital games is about the social use of emotion. This is particularly interesting to me at moments when an emerging technology's place in society is not yet settled, because at such times a great deal of financial speculation rides on something relatively unknowable and intersubjective – how another person is feeling, and what role you had to play in that (whether you are a designer creating a game that will affect players, or a player taking actions in a game that will impact characters). This interests me as a critical writer who focuses on videogames and other interactive media, because claims about emotion so often arise when people talk about technological products. It also interests me as an artist who works with these same media, because provoking emotions in others is a significant (perhaps the most significant) goal when showing art to other people. How do we figure emotions when working with

games, what is at stake, and what potentialities could be surfaced by paying attention to emotional responses that run counter to the commercial goals of media producers?

I am concerned with the role that games play in working out the affective imaginaries connected with new technologies; in particular, as part of the social and cultural work that precedes the establishment of stable platforms that support commercial businesses. I look at the state of mobile games development before the launch of Apple's app store in 2008, and I look at VR since 2012, when Oculus launched a Kickstarter campaign for the Rift headset. It was around 1998 when mobile phones started to achieve widespread use, and when the internet was transforming into an environment for new "dot com" enterprises; these major shifts contributed to a new context for thinking about the relationship between user and technology. VR platforms are still nascent, and it remains rare for VR development to function commercially without the support of venture capital or a larger company such as Facebook that can fund experimental, unprofitable projects. As with mobile games development before 2008, the goal of these projects is to work out a relationship between user and device, and the social context or purpose of that relationship.

I focus on one particular strain of alternate design principles that has gained traction in recent years in mobile and social games and appears to be influential in the emerging field of VR. It goes by a few different names, including affection, connection, and empathy. These names do not necessarily all refer to the same thing, but they are part of a closely linked set of what might be called *affective imaginaries* (see Chapter 2).

Regardless of their subsector, most game designers have an interest in player affect. When working in the mainstream or core of the industry, however, there is pressure from managers and publishers to stimulate high-octane excitement, the joy of achieving something, and related emotions such as empowerment and confidence. The games I am interested in differ in that they aim to stimulate joys that are ordinarily associated with one's emotional connection to other beings. Many of these games were made by developers who were not obliged to consider the commercial pressures impacting core games and could therefore explore ways to design for other affects. However, some games that centre pro-

social affects were commercial projects, created because of an imagined relationship between these affects and participation in emerging social infrastructures such as mobile phones and social media.

The focal points of mobile and VR both revolve around a shift in the embodied relationship with digital interfaces – the growth of mobile phones put users in the position of cradling a computer in their hands, while the imagined promise of VR rests to a great extent on the illusion of being physically surrounded by a media product, rather than simply witnessing it on a screen before you. I trace journeys whereby these novel embodied relationships were understood through affective tropes that had been established through similar embodied metaphors in other design projects shortly beforehand: early work developing mobile games aimed to generate relationships of care and connection that had been sketched out previously in the handheld Tamagotchi toy; several years later, a wave of VR developments aimed at generating empathy harnessed a discourse about embodying the "other" that had previously been used to make sense of the queer games movement.

In both this thesis and the accompanying exhibition, I am concerned with how games give shape to people's social and emotional connections with and through digital devices. The exhibition, presented online, shows work I have been creating that uses design patterns from virtual pets and roleplaying games to explore affective relationships with very simple simulated characters.

In the thesis I examine projects from a diverse set of locations, allowing a theoretically informed critical approach to develop across a wide breadth of contexts. This is partly because of my own experiences over the course of the PhD; I spent 2013-2015 living in California, attending tech conferences in Silicon Valley as a journalist and co-organising events with the queer games movement which at that time had its epicentre in the San Francisco Bay Area. I then briefly lived in Vancouver, Canada, before returning to the north of England and developing an art practice. I have throughout this time also had opportunities to work as a consultant with various kinds of games companies, which has given me first-hand experience of the creative and commercial goals and affective tensions at work in developing games. Japanese writers play a significant role in my thinking in the first part of this thesis, because of various experiences that connect me to Japanese writing, including an undergraduate degree in Japanese Studies. Since 2015 I

have been working as a Japanese-English academic translator, and in 2018 I took an intercalary break from PhD study to participate in an artist-in-residence programme in Japan. One of the benefits of these experiences of border-crossing is that moments of intercultural exchange frequently appear, where tension and ambiguity make tacit cultural norms explicit. The challenge when working with a diversity of contexts is to maintain an awareness of the multiple and specific conditions that give rise to the ideas and imaginaries that I study.

When I look at games engaged in new embodied relationships with devices, such as early mobile games and the more recent developments in VR, I see a public process of working out what kind of affective relationships with and through technology are possible, desirable, and productive. Before the stabilising forces of major commercial platforms emerged, multiple possible futures were tested and discarded, and competing norms and ideals were materialised in the form of experimental software. This early work establishes design patterns such as game mechanics, monetisation methods, and narrative tropes, that might be reproduced over and over again as they become normalised on a platform. Game design is a way of testing a hypothesis about how people might relate to another person or to a nonhuman object, and studying design change can make visible potential ways of being together.

Queer games and happy objects

My starting point for this research was a talk at the first Queerness and Games Conference in 2013, by writer Samantha Allen, who was at that time a PhD student and games critic. She introduced me to queer theories of affect – specifically addressing the affect of shame – primarily through Eve Kosofsky Sedgwick, as she cautiously applied those theories to the kind of shame that proliferates around gaming. Without claiming equivalence in intensity, significance, or in the depths of its roots in one's personal identity, she identified a "gamer shame" located in the fear or experience of being denied a shared joy in gaming (Allen, 2013). If I enjoy *Candy Crush*,[1] to a degree that I've invested myself into it and want to make

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[1] A glossary of games mentioned in this thesis is provided in the appendix, with brief descriptions of their aesthetic, gameplay, and context in the games sector.

games just like it, and you think it's a waste of time, then I might feel shame. In highlighting this, Allen connected the experience in games as a solitary player to the experience of games as a social subject.

This strand of affect theory was more recently elaborated upon by Aubrey Anable (2018), who makes a strong case for viewing video games as "affective systems", paying attention to the body, and situating the practice of play in a cybernetic fold, part of the production of a subject in response to the conditions of society.

Allen and Anable both draw heavily on Eve Kosofsky Sedgwick and Adam Frank's 'Shame in the Cybernetic Fold' (1995), which excavates an account of queer feelings from the affect theory of psychological theorist Silvan Tomkins. It was written in the context of a number of writings on gay shame, as a response to the commercialisation and political neutering of gay pride: reorienting queer theory toward shame put the focus back onto the affects and effects of heteronormativity. The "cybernetic" aspect of this model of psychology contributes to making this paper very appealing for those studying games from a queer perspective.

When I read 'Shame in the Cybernetic Fold' in 2013, I was working as the deputy editor on a website that advised developers on how to apply the "free-to-play" model to their games. In this business model, the game is provided for free, and after building a relationship with the player, mechanisms are introduced whereby the player can spend money to grease the wheels of a simulated system, decorate a personal avatar, or buy a mystery box that might contain a highly-prized virtual item that provides either or both of these benefits. In some cases, areas of the game are "paywalled", but it is more common for limits to be temporal than spatial: often, players can only play for free for a limited period of time each day. I spent a lot of time thinking about the prevalent criticisms of this model, which had become ubiquitous in games for mobile phones and social platforms. Strong language was sometimes used by game designers who felt that the free-to-play model was unethical, because at times it entails using game design techniques to generate emotional interest, and then demands payment from a player before their

gameplay session can be resolved in a satisfying way.[2] It occurred to me, reflecting on this work in light of

Allen's application of Sedgwick and Tomkins, that shame can be triggered not just by the social context

around a game, but by the design of game software itself. A cybernetic theory of affect offered a way of

thinking about the anger people were expressing about a game's denial of satisfaction: to return to the

hypothetical example I gave earlier, if I am enjoying *Candy Crush*, and suddenly the software shows me a

message saying I have reached an arbitrary limit on the amount I can play in one day, I might feel shame,

even though the feedback has come from my digital device rather than from another person.

Through affect theory, a game can be seen as not just a context or object of play, but a play partner,

whose responses to the player generate affective triggers that are interpreted using a theory of affect,

which may be a totalising, universal, "strong theory", or a personal, contingent, "weak theory" (Sedgwick,

2003, pp. 131-134). In my research, I am trying to see where such an account of affect in games might

take me. In particular, I am interested in ways of thinking about affect and player-device relationships

that take on board the models and structures set by the venture-capital-backed industry that spawned

free-to-play, while opening up space for a broader range of feelings that one might have towards an

inanimate nonhuman, and using that space to look critically at the expectations and disappointments of

the sorts of player-device relationships offered by this industry.

A 2017 article by human-computer interaction scholar Greg Wadley, first published on academic blog *The

Conversation* and then republished on computing enthusiast website *PC Authority*, argued that

videogames and other interactive media should be thought of as psychoactive (Wadley, 2017). "[I]t is

problematic to label a technology itself as addictive, since only some users are affected to that extent,"

Wadley argued, implying that to be addicted is to be affected by a trigger that affects all users the same

way, in contrast to other forms of emotional response that are more subjective and contingent. "If the

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[2] Today the criticism of free-to-play tends to focus more often on its proximity to gambling, with the increased ubiquity of "mystery box" type mechanics (known as "gacha", referring to real-life toy-dispensing machines popular in Japan). More broadly, at stake in many criticisms of free-to-play is the financialisation of ever more aspects of digital life, which has intensified significantly in the pandemic as blockchain models have proliferated with the promise of making money from digital goods.

defining characteristic of a psychoactive drug is the ability to alter mood," Wadley asked, "does this suggest a more useful way to compare drugs with technology? [...] many recent digital technologies can change users' mood [...] this is also true of 'old media'". In this article, psychoactivity is presented as a relatively benign quality for an object to have, in part because of the wide variance in precisely what kind of psychological response the user will have.

The unpredictability of affective response – not just in technology, but in any object – is a key part of Sara Ahmed's argument in her essay "Happy Objects" (2010a). She demonstrates that the assumption that happiness is located in particular objects – despite a long history of philosophical objections to this idea – plays a powerful role in the maintenance of normativities. For example, heteronormativity attaches happiness to particular life goals as objects, such as marriage and bearing children. Ahmed shows that it is the anticipation of happiness in these objects that has immense rhetorical power, not the felt experience of happiness or disappointment. In fact, how a person feels in response to an object is in large part a matter of happenstance, influenced by factors such as how they already felt before they came upon the object, and whether they had anticipated so much happiness that the object in reality became a disappointment.

Ahmed argues (2010) that a queer, "killjoy" response to these futurisms is not to pessimistically give up hope on happiness, but to recognise that there is political power in critiquing the promise of happiness; that perhaps there is something life-affirming about joy-killing. More broadly, for Ahmed affect offers ways of breaking past dichotomies, and looking at objects in a non-dualistic way.

Mainstream and core

As I have hinted above, the work of using game design to construct affective imaginaries for new socio-technical arrangements is part of a complex process of capitalising upon new platforms. If "platform" is a metaphor taken from construction, then it dovetails nicely with the metaphor of "stakeholder", which is also commonly used in developer-investor discourse, and which has origins in the demarcation of property boundaries: the platform is something that stakeholders build, and can build upon, in virgin "new media" territory that is through this very activity being simultaneously discovered, generated, and

claimed. This metaphor becomes even more apt when we think of its roots in gambling, as someone who "has a stake" in the outcome of a game. Nick Srnicek points out that the rise of "platform capitalism" directly followed the Great Recession; he argues that platforms are "extractive apparatus" that turn data into a raw material to be capitalised upon (Srnicek, 2016, p. 26).

Parallel to the platform discourse in industry runs a platform discourse in academia. Platform studies is a branch of digital media studies concerned with the material limitations and facilities that are leveraged and expanded when creating and consuming digital media. One of the earliest works in this vein is Ian Bogost and Nick Montfort's 2009 book *Racing the Beam: The Atari Video Computer System*, the first book in MIT Press's Platform Studies series. In an article published in December of the same year, they define a platform as "a computing system of any sort upon which further computing development can be done," (Bogost & Montfort, 2009, p. 3) but also mention that Tarleton Gillespie (Gillespie, 2007) had queried this narrow definition, describing a "Web 2.0" usage that seems more broadly infrastructural. In a 2017 article for *Culture Digitally*, Gillespie recounts this tension, implying that the term's evolution is now settled:

> As platform first took root in the lexicography of social media, it was both leaning on and jettisoning a more specific computational meaning: a programmable infrastructure […] The new use shed the sense of programmability, instead drawing on older meanings of the word (which the computational definition itself had drawn on): an architecture from which to speak or act, like a train platform or a political stage. Now Twitter or Instagram could be a platform simply by providing an opportunity from which to speak, socialize, and participate. (Gillespie, 2017)

In my own research, I find it crucial to think of platforms as social and economic arrangements as well as technical solutions; this has been unavoidable when carrying out interviews with developers (as "content creators") who have worked both before and after major platform shifts in their field, whose stories speak to not just the technical facilities of a new platform, but the commercial problems that platform-holders claim to solve. For example, Apple's iOS app store represents a computational platform in the important sense that access to the walled garden of Apple computing hardware and its "operating system" provided device uniformity, which in turn provided a cost saving for developers; but crucially, as

a "store", it acted as a solution to a commercial problem by creating a sales channel that connected developers with customers.

Although my thesis is not concerned with the study of platforms themselves, the context of the work I study is the emergence of new platforms. I am interested in the role of affective imaginaries in the collective practice of working out how to find audiences and create content for new platforms, and I am particularly interested in affective imaginaries that develop experimentally before a stable commercial platform has been built. I see the ambiguity and uncertainty of these moments in sociotechnical history as characteristic of "emerging platforms" – as mentioned earlier, mobile games before the 2008 launch of Apple's App Store, or VR since 2012, when the Oculus Rift VR kit launched through a crowdfunding campaign. Emerging platforms receive investment in anticipation of returns in the future, when stable commercial platforms have been established. In my view, smartphones are by now an established platform, whereas VR remains emergent; developers for VR do not have a clear business model, and VR projects by large companies such as Meta operate at a loss in order to establish a foothold and attempt to ensure a competitive edge in the future, when it is imagined that widespread use of VR will become the norm. Affective imaginaries play a significant role in this, because it is imagined that specific affects are related to users' participation in the platforms that are being constructed, and thus to the ability of stakeholders to extract value from users.

The objects of study that interest me might be contrasted with what is sometimes called the "mainstream" games industry, also referred to as "core games" or as "AAA games". The established platforms of the "mainstream" industry are PCs and consoles such as the XBOX and Playstation. This core of the games sector is smaller both in terms of number of users and capital turnover than areas that are figured as culturally peripheral, such as mobile, indie, social, casual, and VR games. This is something that perhaps makes the games sector peculiar:[3] blockbuster AAA titles are marketed to only a small portion of

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[3] In terms of media product, games are peculiar when compared with film for example: the equivalent phenomenon in cinema would mean that the Marvel movies only target a small core audience. In culture more generally, there are certainly similar core-periphery relations at work, as the term "global majority" suggests regarding the statistical minority status of privileged citizens of the imperial core in a cultural hegemony.

the total population of people who actually play videogames, once you include the casual and mobile games that are commonplace. Even though smartphones have been an established platform for more than a decade, mobile games continue to be culturally figured as peripheral in contrast to core games.

The "mainstream" games industry is essentially a subculture, as Adrienne Shaw demonstrated in her 2010 paper 'What is Video Game Culture?'. Shaw uses discourse analysis to critique how videogames culture has been described, highlighting how videogames are discussed as an outside force impacting upon "the regular" culture, and showing that part of how this cultural force is "othered" is through a narrow construction of games culture as a specific set of people playing a specific set of games in a specific sort of way (Shaw, 2010, p. 408). Market size estimates might position casual, mobile, and social games as culturally dominant, in terms of user base and revenue, but most of the discourse concerning videogames positions these on the periphery of a smaller "core" subculture.

AAA games did not become the core by representing the largest piece of the sector, but by becoming the highly pressurised focus of cultural attention, discursively positioned in contrast to various "others", and intensified by a high concentration of capital in a small number of studios. The metaphor of a main "stream" feels apt when discussing distribution and funding "channels". The mainstream industry is identified with large, big-budget games made to show off the technical capacities of new hardware. A great deal of money flows through a small number of channels to produce the games that are commonly identified with games culture – researcher in the political economy of games David Nieborg observes that across the industry, "only a very select number of actors is able to invest heavily both in game development and app marketing, thereby ensuring their market position" (Nieborg, 2015, p. 239). There is pressure for each game to be more technically impressive than the last, which causes an upward pressure on budgets. The higher the budgets get, the less appealing creative risks become, as Nieborg explains elsewhere: "Because console game development is such a capital-intensive mode of cultural production, if not the most capital-intensive instance within the game industry, the Triple-A commodity form is rather homogeneous" (Nieborg, 2011, p. 13). The dominance of first-person shooters, or games that vary the formula only slightly by switching the gun for another weapon, is often attributed to this – indeed, I have seen this in practice when providing consulting services to AAA game developers, as they

contrive justifications for shoehorning guns into narrative settings where they would not realistically be present. The prevalence of violence in core games is not reducible to a material affordance of the platforms. It is about developers' and publishers' imaginaries of player affect, which leads decision-makers to believe that the profitability of a game relies upon the high-octane sense of dominance and excitement that it offers to players.

Platforms that allow for smaller-budget projects have diversified the range of game designs available, by creating space outside of the intense gravitational pressure within the core of the games sector. Since game design is an affectively imaginative process of interaction design, it is tempting to speculate that more diverse device platforms foster not only a more diverse range of game designs, but also a more diverse range of affects available to people who play games. However, before committing entirely to this idea, which is itself an affective imaginary projected onto hardware platforms, I want to push back against the platform-centrist techno-economic determinism it represents. To attribute the inventive designs of, for example, mobile games to the existence of the iPhone as a platform, is to give the credit for invention away to an actor who already has a great deal of power to influence public narratives. It is politically concerning, since a story that makes developers and players completely dependent on platform-holders implicitly grants them license to exact a high price on developers, not just in terms of fees, but in terms of working conditions such as oversight procedures and community management. It is also implausible: the ideas, concerns, and creative interests that fed the growth of these subsectors of game design could not have been produced by the new platforms alone; there must have been roots in what came before. In this thesis, I locate a handful of these roots, that is, I identify some design principles that developed in the precursors to big platform shifts.

Like the designers I study, I value prosocial affective imaginaries, and I hope that by developing design strategies that foster a greater range of affective stories, creators of games can contribute to desirable social outcomes such as a reduction in prejudice and increased wellbeing. However, one of my aims is to critique the models of player affect that are used by designers. I also want to show the historical and ongoing economic arrangements that underlie a great deal of the work being done in this area, and make visible the connections between the interests of capital and these affective imaginaries that game design

exists in part to obscure. Knowledge of, and access to, the emotions of players has never been a purely benign goal. Moreover, emotions can be imagined outside of the boundaries that such knowledge might entail. I want to propose a queer lens for viewing these affective imaginaries, that can incorporate multiple possibilities for how users might connect emotionally with devices and each other through games, and resist the goal of quantifying and controlling those emotional connections.

Overview

In Chapter 2 I survey the conceptual frameworks that I adopt, examine, and critique in this thesis. This articulates a theoretical starting point for the transdisciplinary voyaging concepts that I will develop in the chapters that follow, including STS work on sociotechnical and affective imaginaries, queer affect theory, and queer games studies. I also give some contextual background to the discussions about affect that have developed in games studies as well as less formal specialist writing on games. Finally, I explain what sympathetic critique means to me as an analytical position and as a practice.

In Chapter 3 I focus on virtual pets as a lens on mobile game design. I summarise the "Mechanics, Dynamics, Aesthetics" (MDA) model of player emotion used by game designers as one key example of how the affective imaginary is constructed, and then carry out close readings of virtual pets, oral history interviews, and a survey of mobile game catalogues from 1998 to 2008. I also examine the temporality of virtual pet interactions, along with data from user studies carried out between 1998 and 2008 in order to locate play in the emotional and temporal connections that users had with mobile phones before the big platform shifts took place. This chapter also involves a reading of *Tamagotchi* and other mobile petting games that is in part auto ethnographic, as I examine the tensions that arise in my own relationships with virtual pets and other mobile games.

In Chapter 4 I widen my lens again, to look at how affective imaginaries were voiced in the discourse around early mobile games, by analysing blogs, media sources, and oral history interviews in order to generate a picture of the sorts of intimacies and affects that were imagined to be possible with early mobile game projects. In this chapter there is no longer a specific interest in virtual pets; instead, the

lessons learned from examining virtual pets in Chapter 3 inform a queer critique of the affective imaginaries of mobile games in general.

In Chapter 5 I recount my own memories of the so-called "queer games renaissance" of 2012 and its aftermath, which established a discourse about game design as "empathy machines" that has since been redirected towards virtual reality: I build a critique of this discourse and its affective imaginaries up to the present day, through auto-ethnography and textual criticism. I then examine how the affective imaginaries of VR as an empathy machine come into tension with the work of creating social VR applications, making use of interviews with developers currently working in VR.

In Chapter 6 I turn to close readings of current VR applications. Using queer theories of affect developed in earlier chapters, I establish how queering affect offers alternative affective imaginaries to the discourse that is currently dominant in the industry; imaginaries that might involve embracing discomforts such as awkwardness, tension, and failure.

Chapter 2: Conceptual Frameworks

My methods and standpoints fit somewhere amid the connections between writing on games and writing on other media, feminist technoscience, and queer affect theory. This interdisciplinary or transdisciplinary perspective is further compounded by the blurry boundaries of the material that I address in this thesis, as I aim to critique imaginaries that are articulated in both scholarly and non-scholarly games writing. For example, when describing an imaginary that shows up in blogs and interviews, I will sometimes turn to similar examples from academic research into game development, where figurations of player agency and interface design might be articulated more explicitly and self-consciously. Although these different formats might seem to represent separate communities of practice, I would argue that this blurring of boundaries reflects the reality of professional and critical practice in the games sector, which has been described in some detail by Golding (2018, p. 2):

> The era of the videogame coincided with the decentralisation of knowledge and the decentring of experts and expertise from public discourse: knowledge in this period has been produced by an array of actors within the academy and outside it… when considering the cultural ecosystem of the videogame as well as how knowledge about the medium is produced, such interactions between scholarly and non-scholarly writing must be accounted for and acknowledged.

One of the tensions that Golding highlights is that for designers and others working in the industry academic game studies are often seen as irrelevant, whereas "non-scholarly videogame writing has attained the level of expertise for many, and is drawn upon and cited in a wide variety of contexts" (Golding, 2018, p. 6). Different writers have different audiences and write for different purposes, and these differences are not aligned with institutional boundaries. Some games scholars focus on providing utility to the industry, whereas others are engaged in analytic practices that do not directly point to specific design strategies. Some non-scholarly writing on games is likewise a way of tastemaking or developing and demonstrating expertise in the industry, whereas other writing aims to develop a critical literacy that contributes to broader normative goals beyond those attempted within game development, such as social justice, consciousness-raising, or socio-cultural understanding. I sometimes distinguish

between these two fields of practice using terms such as "design-oriented" on the one hand and "critical" on the other, but it is not uncommon for practitioners to move between different positions, as I myself have done. This is a "question of location" in Lucy Suchman's terms (Suchman, 2021, p. 16) that indexes the author's stance. Distinguishing between "design-oriented" (Suchman's "anthropology for design") and "critical" ("anthropology of design") is a contingent statement of the researchers' commitments, but critical researchers are nevertheless engaged in building the worlds they critique, and design researchers are nevertheless operating from a complex position that is not merely an expression of industry demands for "innovation".

Finding a conceptualisation with which to observe my own experience and the practices and products created by others offers the opportunity to take some distance from the dominant perspective. Reconceptualisation is part of the process I engage in when critiquing games, and a professional competency that I bring to making them. In this thesis, the main conceptualisation that I develop is that of "affective imaginaries".

Affective imaginaries

Scholarly work conceptualising imaginaries has drawn on a variety of disciplinary traditions, spanning Western philosophy, psychoanalysis, and contemporary sociopolitical theory. The latter leads to its deployment in Science and Technology Studies (STS) as Maureen McNeil et al. outline in "Conceptualizing Imaginaries of Science, Technology and Society" (2017) and that is what I am drawing on when I refer to imaginaries. Imaginaries are not just ideas; they are enacted, they are "what enables, through making sense of, the practices of a society" (Taylor, 2002, p. 91). They influence what is considered desirable as well as what is considered possible. Rather than only being dream-like artifacts of a single individual imagination, imaginaries are collective; this collective aspect might evoke Lacanian ideas of a collective unconscious imaginary but is also connected to a Heidegger-influenced notion of cultural imaginary, through which the subject "projects" themself into a future (Homer, 2004). Benedict Anderson's *Imagined Communities* (1983) is a foundational work observing the social imaginary as a collective project of crafting identities and trajectories. All imaginaries are to some degree marked by a futurity, though

they are really about what we are doing in the present day, and stories about the past figure heavily in the construction of imaginaries.

My understanding of affective imaginaries builds on a large body of work in the humanities and social sciences that looks for imaginaries, particularly sociotechnical imaginaries. The lens of imaginaries is well-suited to writing about games, since it brings into view "voyaging concepts" that allow for "theorizing across disciplinary boundaries" (Jasanoff & Kim, 2015, p. 321). Jasanoff and Kim's concept of sociotechnical imaginaries aims to "acknowledge the centrality of [science and technology] in constructing the futures toward which we direct our presents" (Jasanoff & Kim, 2015, p. 321). The contemporary technological imaginary is, like other social imaginaries, characterised by an orientation towards a future teleology – VR, cyborgs, transhumanism, etc. – terms that "function as indices for our future designations of the present" (Griffin, 2002, p. 121). Queer theory assists me in my thinking about the work futurities do in justifying, constructing, and contextualising the norms and conditions of the present, and affect theory helps me to consider how conceptualisations of emotions are mobilised by normative imaginaries, while also acting as sites of liberation. By working with/on a conceptualisation of affective imaginaries, I aim to observe the project of constructing a set of feelings, crafting and acting out narratives about the work emotions do and how emotions work in relation to designed objects or systems. Affective imaginaries describe a social dimension to neuroscientist Lisa Feldman Barrett's notion of "emotion stories", narratives about emotion that themselves figure the emotional reactions produced in the mind and body (Barrett, 2018).

Conceptualisations of affective imaginaries have been applied by scholars studying the representation of sociotechnical issues in other media forms. For example, writing about the portrayal of domestic care robots in a Swedish television drama, Ingvil Hellstrand et al. (2019, p. 518) use the concept to observe how sociotechnical imaginaries, usually connected to forms of social life or social order, can act as a medium or substrate for what Sara Ahmed refers to as the "move, stick, and slide" of affect (Ahmed, 2004, p. 14). They point out that affects "let us examine ambivalent and not quite formulated sentiments and attitudes that nevertheless have real political, cultural and social consequences for specific bodies," (Hellstrand, Koistinen, & Orning, 2019, p. 518) drawing particular attention to affective imaginaries that

figure labouring Others as both caring and frightening. By looking for the movement and stickiness of affect, the figure of the robot can be seen as a proxy for exploring and critiquing xenophobic narratives about immigrant labour; "the ambivalence negotiated through the hubots [humanoid robots] actively addresses and questions how debates, discourses and imaginaries of the Other in the Nordic countries are produced" (p. 529). Here, affects connected to the discourse about immigration "move, stick and slide" through imaginaries connected with speculative robot labour.

Affective imaginaries often describe a future in which a particular emotional state could be attained, and project into that future a practice, technology, or some other object that is seen as the key to unlocking this improved state. Often this is easiest for me to notice when the affective imaginary concerns an ideal emotional state, but as Hellstrand et al. demonstrate, an imaginary can also just as well project a dreaded future, in which the subject is besieged by threats to psychological wellbeing. I aim to critically analyse the expectations that have been voiced – by developers, journalists, and users – concerning how technologies will/should/could make users feel, and look for affects that "move, stick and slide" through imaginaries connected to games and new digital interfaces.

Although imaginaries tend to be oriented toward a sense of futurity, I do not see them as strictly limited to speculative scenarios positioned in the future. As Nichols and Colman (Nichols & Colman, 2020, p. 2) point out in their study on architecture and education, affective imaginaries are "not strictly speculative but materialized through practice". While proposing affective imaginaries as a "conceptual and analytic resource", they note that imaginaries "are also always already affective" (p. 4), clarifying that their goal is not simply locating affect or pointing it out, but "mapping how collectively held and enacted visions […] are dependent on the production, experience, and management of affective attachments" (p. 4). Through this conceptualisation, they are able to observe the construction and enforcement of disciplining norms that limit students' agency despite a shared vision focused on hopeful aspirations such as democratic sentiment, concluding that "affective imaginaries provide a frame for articulating the braided relations of affect, imagination, and power" (p. 14). This differs a little from my use of the term however, as they apply the term to affectivity more broadly, whereas I am interested in imaginaries that are projected onto or configured into particular objects.

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I complicate hopeful aspirations such as care and empathy in part by looking for the power relations that are upheld through the affective goals of designers, and that figure objects of care and empathy in contrast to assumed normative subjects. This production, experience, and management of affective attachments is enacted at multiple sites, including software development, hardware design, user experience, and critical appraisal in specialist press. One angle of critique I offer is to show that the affective imaginaries in which game developers have been invested would be impossible to realise in every encounter between a piece of software and a user because of the variety of contexts and personal experiences that are possible; rather than an accurate representation of player experience, what is narrated as a reading of player experience often turns out to be generalised speculation based on the writers' sense of what interfaces feel like. Fields like videogame development operate based on shared understandings of not just what users want, but how users' emotions function. These understandings are often contested, particularly as they come up against the permeable boundaries between videogames and other fields – in the VR sector, for example, documentary makers from the film industry might meet game developers with experience in console games, and work alongside social network professionals from Meta, and all three of them will imagine the user's emotions differently. These tensions and complications are not immediately evident in the unifying language of hopeful affective aspirations.

The emotional ways of being that developers and writers anticipate emerging between user and device may take many forms, but here I am primarily interested in the industry's hopeful aspirations for pro-social feelings, such as intimacy, connection, and empathy, which have been significant goals of design in mobile, social, and VR development, and which I play with and problematise in my own creative practice with videogame technology. In turning our attention to these kinds of affective imaginaries, the implications of game design theory become clearer: play, in the context of videogames, is part of an attempt to establish an affective relationship between user and device.

Models of affect in game design discourse

Players, and their feelings, are discussed directly when developers attempt to define types of games. These genre discussions are a frequent discursive trope in games blogging, and are typically organised

around attempts to solve ontological questions such as "what is a game?" Although these discussions are perennial, they can sometimes be articulated in different ways to reflect the specific concerns of a given moment. In the years 1998 to 2008, opportunities presented by the mobile phone as a computing platform after the turn of the millennium renewed the motivation to nail down definitional boundaries that could aid in navigating the new space of possibilities for design.

In one example, a researcher located in a games studio in Sweden, Craig Lindley, wrote a blog post in 2003 on GameDeveloper.com (at that time known as Gamasutra) outlining his proposal for a "taxonomy system" that would allow developers to "consider whether a game is a real-time strategy game or a warfare simulation, irrespectively of whether it is created for PCs, mobile devices, or technologically-supported physical environments" (Lindley, 2003). In doing so, he attempts to define a "gameplay gestalt", an overall impression left by a game that can be either subjective or generalised:

> A particular gameplay gestalt could be unique to a person, a game, or even a playing occasion. More generally though, recurrent gameplay gestalts can be identified across games, game genres, and players. Some examples of gameplay gestalts include:
>
> Action games: shoot while being hit, strafe to hiding spot, take health, repeat
>
> RPGs: send fast character to lure enemy from group, all characters kill enemy, take health, repeat
>
> Strategy Games: order peasants, send to work, order soldiers, send to perimeters, repeat while slowly expanding the perimeters (up to the point of catastrophic win/lose); OR: move x archers to tower y every n minutes to head off the enemy camel musketeers from the east who arrive every n+1 minutes
>
> In General: overcome barrier, save if successful, reload and retry if unsuccessful (Lindley, 2003)

Although players have a central position here, affect is relegated to the background. The focus is more concretely on what the player is doing than what the player might be feeling. Given the apparent absence of emotion in this vision of games, and since Lindley's proposed taxonomy separates narrative from

"gameplay", it might be expected that affect is simply separated out as a function of narrative, irrelevant to game design proper. But this does not seem to be the case.

Even for Lindley, affect is still of deep significance, but the focus is on an attentional dimension of affect, rather than a cognitive one. In emphasising the importance of gameplay over narrative, he describes the aesthetic or feel of a game as something influenced only to a limited extent by narrative: for Lindley, "the narrative adds little to player immersion and engagement (who cares, it's fun anyway)".[4] This affective dimension of immersion, engagement, and fun, seems for Lindley to be located in the "gameplay gestalt", not the "narrative gestalt" – specifically, the gameplay gestalt determines whether the game is fun, immersive and engaging by demanding from the player the required "range of effort", where effort can be "cognitive, emotive, [or] performative" (Lindley, 2003). This demonstrates that affective imaginaries can be at work even in texts that do not directly engage questions about how the emotions work, and instead focus on mechanical issues in order to serve affective goals that are seen as self-evident, such as "fun" or "emotive […] effort".

Lindley's article did not, as far as I am aware, become one of the more popularised taxonomies, models, or frameworks that developers have come to use to think about player behaviours, motivations, or emotions – I include it here as an example of the kind of discourse that was being shared on game developer blogging platforms in the early 2000s, contemporary with the early development of mobile games. Nevertheless, the overall approach echoes more well-known and widely-circulated work in the field. One example of the more popular taxonomies is Richard Bartle's, which arose out of text-based online worlds in the 1990s (Bartle, 1996) and has been widely applied to many genres of game since then. In his later book *Designing Virtual Worlds* (Bartle, 2004) Bartle described his taxonomy as "a proven model for player categorization that has sufficient theoretical underpinnings to allow for a predictive

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[4] This common sentiment among developers and players alike is often brought up to deflect criticism of the narrative content of games, for example in military shooters that portray the opposing side using stereotyped images of the Middle East. Locating affect in mechanics rather than aesthetics obviates the need to be accountable for the aesthetics, and suggests that aesthetic criticism itself demonstrates a poor understanding of videogames, since anybody who finds the setting or narrative of a game significant to its interpretation must be affectively alien, unable to feel the right way about videogames.

analysis of individual virtual worlds" (p. 171). The aim of a great deal of developer discourse about players is this sort of predictive analysis of what hypothetical players might want, do, or feel, and Bartle's emphasis on having a "proven model" points to a demand for the conceptual elegance and economy offered by a strong theory (Sedgwick 2002, p. 134) of player emotion or motivation.

Another of the most popular frameworks that arose between 1998 and 2008 was Mechanics, Dynamics, Aesthetics (MDA). The MDA framework was devised between 2001 and 2004 by a group of social and indie game designers and programmers, Robin Hunicke, Marc LeBlanc, and Robert Zubek, who then published their ideas in an academic context as well as leading workshops at major games industry conferences and at large studios (Hunicke, Leblanc, & Zubek, 2004). These workshops are still carried out on a regular basis today, such as at the annual Game Developer's Conference, and the academic paper is frequently cited in games studies. As a result, this framework has become one of the most influential of its kind, and though it has been criticised for lending itself to overly mechanistic readings of games as an art form, the language it established has come into wide use in both the academic field of game studies and the wider network of commercial and informal game creation. While remaining critical of totalising and instrumentalising ways of viewing affect, I also look for the potential in existing models such as this one for an approach that is relational, provisional, and specific.

The affective imaginaries of game design conceive of an idealised relationship between player and device, where there is some tension but not too much, some ease but not too much, in pursuit of a perfect fit. It is common for people writing about games to refer to Mihalyi Cziksentmihalyi's notion of "flow" in this regard.[5] The writing of Katherine Isbister offers a particularly interesting example of the bias towards emotion stories that describe an ideal interaction between user and device. Her highly instructive book *How Games Move Us* (2016) articulates a belief in the positive, and relatively disembodied, affects that game software can offer users. Forming an essential introduction to the field, Isbister aims to share findings from many years of in-depth research about how games "create emotion,"

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[5] I find criticism of this concept of flow from the perspective of game design very generative – one example that I particularly enjoy is Lana Polansky's (Polansky, 2015)

in order to improve media literacy and encourage more specific standards for games that aim to create pro-social affects (p. 16-17). The book introduces key terminology and concepts that appear repeatedly in discourse about games – for example, the importance of player choice, flow theory, the origin of the now-clichéd question "can games make you cry?", and the players' willingness to project themselves into an on-screen avatar.

Although this makes Isbister's book an excellent resource, it also presents many figurations of player emotion uncritically, when it might be illuminating to question and problematise them. For example, when discussing avatars, Isbister writes, "Consider, for example, a snowboarding game. The player viscerally feels like the snowboarding avatar…" (p. 30). The focus of Isbister's attention is a model of the ideal, intended interaction between user and device: the audio-visual representations of movement down a mountain, combined with a flow state connected with the software's ongoing responsiveness to player input, create a sense of identification that is felt in the body itself. When Isbister says that the player "viscerally feels" like a snowboarder, she does not mean that the player feels nervous, cold, inadequate, sore, or frightened, which are just some of the things I think I would feel if I was snowboarding in real life – she means that the game "allows her to enjoy performing and experiencing the fantasy identity of a champion snowboarder, winning races and conquering mountains" (p. 30). Just as there is no room in the fantasy simulation of snowboarding for aching joints and chapped lips, there is no room in this account of player interaction for frustration, dissociation, confusion, embarrassment, or any number of other feelings I have had when trying to demonstrate my affection for the snowboarding game *SSX Tricky* after a long hiatus. Isbister is one of many scholars who present game design as about making players feel desirable things, and models of player emotion used by designers often focus on representing this ideal outcome.

This is not to accuse Isbister of having illusions about how technology often makes users feel. In articles for the journal *Interactions* (Isbister, 2011; Isbister, 2016) she has articulated a number of the limitations of affective engagement with digital devices. For example, regarding her relationship with her work computer, she describes in detail how the bodily connection between user and device leads to negative affects and self-image (emphasis added):

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I must admit that my computer is my closest companion. Unfortunately, I feel I'm **not my best self** during the many hours we share; I'm hunched over, arms gathered closely in front of my body, staring silently ahead, movement limited to, for the most part, poking and prodding with my fingertips. I leave our time together feeling **drained** and **dissatisfied**; my intellect has been engaged, but my body has been **neglected**—maybe even mildly **abused**. (Isbister, 2011, p. 24)

Isbister's work benefits from this reflexive and embodied approach, as part of her work attempting to improve the affective connection with games and other interface modes. This makes her engagement in the designerly practice of constructing a technological imaginary involving joy, companionship, and becoming one's best self all the more instructive to observe. In Isbister's writing there is usually a future horizon being painted, with reference to emerging technologies such as movement sensors and handheld devices, in which she sees the potential to change how it feels to use technology. She warns against "the risk of recreating dissatisfying and unhealthy modes of engagement with computers" that are "joyless and demoralising" and calls for "standards to set a more sustainable and satisfying course" when designing new forms of interaction (Isbister, 2011, p. 24). For Isbister, new technologies, new devices, and new bodily engagements – more broadly, new platforms – can be leveraged by skilled designers to solve problems such as, in the example above, the alienation and exhaustion of a day's work at the computer screen. In response, a person could ask whether a healthy working relationship with a computer is necessarily free from joylessness and demoralisation, whether satisfaction and sustainability really go hand in hand; perhaps there is something to be said for the shared exhaustion of a tired body and an overheating CPU.

Affect in games studies

In the past several years, a number of other researchers have taken on the topic of games and emotion, building on Isbister's work as well as adopting different lenses altogether. In games studies, affect is often something to be evoked, managed, and simulated, through the design of game mechanics. Scholars take a variety of positions along the axis from design-oriented to critical work; some adopt a cognitivist understanding of affect in the search for improvements to game design practice, others take a descriptive

approach in observing how games mobilise affect, and some study affect as part of a critique of the biopolitical force of videogames.

A cognitivist understanding of affect figures emotions as the result of cause-effect processes that can be simulated and stimulated by algorithms. One of the common ways that affect is figured in games studies is in its overlap with "affective computing". Specifically, design-oriented work in games studies has taken an interest in the sub-field of affective computing that aims to develop virtual agents programmed to respond to input through a simulation of emotional processes. In this area of study, affect is imagined as an effect resulting from causes in the environment and in the interaction between user and device, a process that can be modelled programmatically. A special section of the IEEE Transactions on Affective Computing aimed to "demonstrate the application of affective computing within the games domain" (Yannakakis, Isbister, Paiva, & Karpouzis, 2014). The special section included one paper measuring the impact of player affect on learning outcomes in educational games, but primarily featured examples of applying affective computing to games in order to improve their capacity to respond to the player. Another paper describes a project creating non-player characters (NPCs) with "prospect-based emotions" following a "belief-desire-intention" model of behaviour, which views emotional responses as a cognitive mechanism that plays a role in processing information and enacting self-directed agency (Bosse & Zwanenburg, 2014). Another describes an "emotion engine for games" called GAMYGDALA that gives non-player characters "emotive capabilities" in a number of different types of games (Popescu, Broekens, & van Someren, 2014). In an emblematic example of the limitations of cognitivist imaginaries of affect, "GAMYGDALA" references the idea of the amygdala as the seat of emotion in the brain, a view that has been critiqued from a neuroscientific point of view (Barrett, 2019) and that perhaps implies a juxtaposition of technological futurism against the purportedly ancient "reptilian brain".

Further work developing an "emotion engine" connected to a figuration of agency is described and speculated upon by Geneva Smith and Jacques Carette (2019), who connect simulations of non-player emotion to outcomes such as "new mechanics whereby an NPC is given more agency for their own behaviour planning process", "emotional rapport with the player", and "association with reality – and consequently the player's emotional connection to the game" (p. 110). This suggests an imaginary that

figures simulations as potentially capable of having their own agency, and that views agency and emotion as intrinsically linked. It views rapport as built not just through the social and cultural practice of performing actions that please the player, but as a natural result of the simulated cognitive capacities of an on-screen character. Such an imaginary can be interpreted through the idea of emotional labour; the software is expected to simulate an emotion internally in order to effect emotional change in the user, performing the "management of feeling to create a publicly observable facial and bodily display" (Hochschild, 1983, p. 7).

This cognitivist approach does not preclude an understanding of emotion stories as contingent and discursively constructed. Smith and Carette (2019) note that no one theory or model of emotion has proved more reliably predictive than all others, and embrace this from a design point of view, arguing that it "affords the freedom to choose emotion theories that are more likely than others to achieve a desired effect – in the case of entertainment, these are the models that are closely aligned with how people construe emotion in imaginary and fictional scenarios" (p. 115). Although Smith and Carette's project is not itself critical, their more instrumental approach positions models of emotion as a fictive exercise within a larger worldbuilding and design project, which to me suggests scope for artistic and professional practice to benefit from critical lenses that focus on how affect is imagined and what kind of agency is attributed to it.

In contrast to this cognitivist mode, other branches of games studies have adopted relational methods of reading affect that have emerged in media studies as a whole. Introducing the 2020 collection *Affective Transformations: Politics, Algorithms, Media*, Bernd Bosel locates two affective turns in the history of media studies: one in the 1990s, when emotions became "foundational entities for questions in aesthetics, cultural studies, epistemology, and even ontology," and another in the 2010s, when the cyberutopianism of the 1990s came under scrutiny. In this latter turn, the affective power of digital media and affective computing were increasingly seen as an instrument of control and manipulation, often geared towards the production of unpleasant and anti-social affects such as "online hate speech,

cybermobbing, public shaming, 'felt truths', and resentful populism" (Bosel, 2020)[6]. This new affective

turn in media studies has brought to games studies a way of using affect critically to understand the

relationship to games as a media form. In a 2012 article published in *Cultural Studies Review,* John Frow

explores the player-avatar relationship in games. Beginning with the often-stated truism that games are a

unique medium because they give players an opportunity to act as, and identify with, an avatar portrayed

on screen, Frow observes that "if identification is involved here, it is less with the avatar than with the

process of a game", and instead suggests a "hierarchy of levels of identification, of 'layered positionings'"

(Frow, 2012, p. 369). Affect is mobilised in this paper as a way of locating those positionings through

kinaesthetic performance, extension and use of the body, and the orientation of attention or interest.

Making the case for a relational approach to affect in games studies, Aaron Trammell and Anne Gilbert,

writing in *Games and Culture* in 2014, connect the topic to the broader aim of articulating priorities for

games studies beyond media effects scholarship and positivist design research. They argue that affect

theories can offer an alternative way of looking at games beyond the narrow scope of cause-effect

scholarship: rather than being a linear result of a design decision, affect is instead being performed and

produced through the interaction with a game. Re-reading Huizinga's often-quoted work on the magic

circle as a description of how dispositions structure action in a social context, they argue that the

"affective worlds" produced by games create various choreographies of action and response (Trammell &

Gilbert, 2014).

Analyses of specific games bring out what this relational use of affect as a way of reading can mean in

practice. Cole Wehrle (2016) describes a similar set of diverse, choreographic performances as "affective

networks" in a paper published in *Analog Game Studie*s describing three tabletop games. Like Frow,

Wehrle accounts for movement among different positionings between player and object of play, looking

at how players' motivations and interpersonal interactions between players become layered in dynamic

affective structures. In the same journal issue, studying the tabletop and digital versions of the combat-

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[6] For more on the affective turn in media studies see (Clough, 2007; Clough, 2009; Carnera, 2012)

focused game XCOM, Evan Lauteria has compared game design, which he describes as "about the production of explicit fictional worlds", to the informal and affective social structures studied by sociologists such as Arlie Hochschild; for example, the "interpersonal commitments" performed by the player are tied to "affective drives" through "aesthetic frames" such as identifying different gameplay missions with different parts of the world (Lauteria, 2016). Applying a critical race studies lens to XCOM, Lauteria calls for more sociological approaches to the study of games: "Embracing these analytic strategies and research approaches, I believe game studies will be able to better account for nation and race as visible and functioning in game spaces even in the absence of formal game mechanics around race" (Lauteria, 2016). Here Lauteria positions affect theories as a reading strategy separate to the analysis of game mechanics, rather than viewing affect (or aesthetics, in the MDA model) only as a result of mechanics and dynamics.

Affect has also been read in connection with the biopolitics of capitalisation in the games industry and other connected fields. Such readings often critique the impact of the cognitivist approach, and the project of managing affect through algorithmic labour. This choreography or structuring of affect takes on broader political significance in writing that connects it to the structuring of affect and agency in other areas of life. Examining the AAA game *Call of Duty: Modern Warfare 3* in 2014, Pasi Väliaho looks for affective structures as an artefact of biopolitical reality; for example, this game (and its genre more broadly) structures action and response around the "affective anticipation of constant threats", and thus "the affective embodiment is based on rhythms that reify our primal need to survive" (Valiaho, 2014, p. 123). Väliaho offers a critical overview of the "neuroscientific imaginary" or "episteme" that constructs figurations of human capacities and behaviours, arguing that the "neuropower" of videogames is located "above all, over the conditions for perception, rather than over perceptions themselves" such as the design of gameplay to "modulate and regulate the conduct of individuals" (p. 134). This is a reading of game design as a way of structuring action and response, and views AAA games as embedded in a contemporary context of neoliberal subjectivity and "a reality where the next crisis is always already waiting around the corner" (p. 136).

Another scholar looking at affect in games as connected to the structuring of human capacities is James Ash (2015), who has described "Interface Envelopes" as "localized foldings of space-time" that shape the way users sense space and time, a concept closely related to the "attention economy" and "cognitive capitalism". Ash uses the term "envelope power" to describe the creation of value through the creation and management of interface envelopes. For Ash, games are a useful object of study when it comes to interface envelopes because they are an area of continual design change, often engaging new technologies, and because the interface modalities developed through game design often spread to other areas. Therefore, "videogames can be considered as a barometer for broader developments in interface design" (Ash, 2015, p. 3). This is something I have observed in my own research for this dissertation, which includes interviews with developers whose work in game design came to be applied to advertising platforms, or who anticipate work in VR game development influencing the design of training software for industrial purposes. Demystifying the affective imaginaries of interface design and game design offers the opportunity to reimagine the affordances of affect and think critically about what practitioners think affect can do for users and players.

Affect in Queer Games Studies

Queer Games Studies has emerged as a sub-field of Games Studies in recent years, responding to discussions about the representation of sexual and gender minorities in games, masculinities in gamer culture, and the use of games as expressive media by players and indie game developers. The field has been nourished by community spaces such as the Queerness and Games Conference mentioned above, and co-organisers Bonnie Ruberg and Teddy Pozo have published agenda-setting work on the topic (Ruberg, 2015; Ruberg & Phillips, 2018; Ruberg, 2019; Pozo, 2018). Adrienne Shaw has done vital work on the LGBTQ+ games archive and research on games culture, as I mentioned above (Shaw, 2010). Ruberg and Shaw co-edited the anthology *Queer Game Studies* (Ruberg & Shaw, 2017), to which I contributed a chapter (Street, 2017) and Shaw worked with curators Sarah Rudolph and Jan Schnorrenberg on the "Rainbow Arcade" exhibition at the Schwules Museum, Berlin in 2019, which showcased a history of queer games including some of my work. Ruberg co-edited a 2018 special issue of the *Games Studies*

journal on Queerness and Video Games with Amanda Phillips (Ruberg & Phillips, 2018). The 2018 anthology *Queerness in Play*, edited by Todd Harper, Meghan Blythe Adams, and Nicholas Taylor, featured writing on queer theory lenses for reading games, LGBTQ+ representation in games, and queer organising in multiplayer game communities (Harper, Adams, & Taylor, 2018). A 2019 special issue of middle-state (i.e., positioned in-between academic and popular writing) games studies journal *First Person Scholar* edited by Jess Rowan Marcotte highlighted practice-based work in queer games studies, alongside writing on issues such as representation and the queering of gameplay (Marcotte, 2019).

Some work in queer game studies has focused on affect, and how queering games can subvert the normativity that forms the template for which affects are figured as possible or desirable through game design and the discourse around videogames. Ruberg (Ruberg, 2015, pp. 110-111) explores "affective rhetoric" or "designing affect", an "interwoven" strategy that encompasses all disciplines in game development (writing, mechanics design, visuals, marketing, etc.). They point out that writing on games (academic and popular) focuses on emotions such as "fun" and the promise of "a good time", at the expense of a wider emotional range – a central part of their call to action for queer games is that "looking at games that go beyond fun creates new spaces for players, games, and queer worlds at the margins" (p. 110-111). They call this "no-fun" or "counter-affect", wilful engagement in transgressive affects as an "ecstatic rejection of mainstream power structures" (Ruberg, 2015), which they see reflected in the writing of queer theorists such as Jack Halberstam on the kinky pleasures of submission and self-destruction, mobilising this politically as a "radical form of masochistic passivity that . . . offers up a critique of the organizing logic of agency and subjectivity itself" (Halberstam, 2011, p. 187).

Looking at affective rhetoric for queerness in game design leads Ruberg to compare core or AAA games to casual games, queer games, or games that are positioned on the margins because of their target audience or platform. The design of counter-affective game mechanics shapes the temporality of play, which is key to understanding their affective rhythms and design strategies. Anable and Ruberg both highlight temporality as a defining feature figured as marking "hardcore" from "casual play": games with a longer play-through time, and likewise players who play for longer, are generally considered more "hardcore" (Ruberg, 2019, p. 184). Because time has this ability to define both the game and the player's

identity, Ruberg argues for a queer temporality that might accompany counter-affective play. This transgressive relationship to time shows up in practices such as speedrunning (competitive gaming broadcast online through streaming platforms in which single-player games are completed as quickly as possible, which often changes the affective quality of gameplay significantly) and "walking sims" (a minimalist approach to game design that has become popular for story-focused games, where time - constrained mechanics such as combat are left absent in favour of a focus on environmental exploration and narrative exposition, which proceed at the player's own pace) (Ruberg, 2019, pp. 184-186). I will take up this topic of temporality and affect in Chapters 3 and 4, with particular attention to mobile games and virtual pets.

Ruberg's "counter-affect" draws on Alexander Galloway's writing on "counter-gaming" (Galloway A. , 2006), which itself responds to film scholar Peter Wollen's concept of "counter-cinema" (Wollen, 1982, pp. 80-81). Galloway's work on affect and the affordances of media has had a significant impact on games studies, particularly studies of indie and countercultural games; "counter-gaming" has been a helpful intervention, making space for incoherence, glitches, and ambiguity in a field that can sometimes tend to prioritise user-friendly systems with clear rules, and his work connects these prerogatives to the material interests at stake in the development of interfaces. I have followed a slightly different lineage through queer theories of affect, resulting in an approach to affect theorising that is rooted in practice and on contingent, local, "weak" theories of affect rather than "strong" theories.

Queer games studies take the conversation about affect in games studies, which in Galloway's writing can sometimes appear to be a matter of abstract phenomenological inquiry into the affordances of media, into a context with immediacy and real stakes. Galloway's writing has sometimes foregrounded a technological landscape of muted affect (with reference to Fredric Jameson's notion that post-modernity brings about a "waning of affect"), for example mentioning in *The Interface Effect* that "we do not cry at websites the way we cry at movies", and emphasising that computers figure the subject as data; "the triumph of affect is also its undoing. The waning of an older affective mode comes at the moment of its absolute rationalization into software" (Galloway A. R., 2013, p. 12). Queer games studies, in contrast, look at an area with intense affect, where feeling the wrong way has had frightening social consequences.

In Chapter 5 I discuss the response in scholarship to the Gamergate incident, which directly targeted queer and feminist games scholars alongside journalists and developers, and which has been an affectively intense area of study in both its context and content.

In that chapter, I also highlight affect theories' contributions to queer games studies in formulating responses to narratives about LGBTQ+ representation that centre "empathy". The emotion story of "empathy" became dominant in popular and academic writing on indie games in which LGBTQ+ creators portray their own lived experiences; the empathy reading assumed that the player of these games would be cisgender, heterosexual, white, and male, and would therefore experience autobiographical games by creators such as queer woman of colour Mattie Brice as an opportunity to "walk in another's shoes". Empathy became a totalising theory of intentional negative affect – that is, any game designed to elicit a feeling outside of "fun" was imagined as a vehicle for "empathy", a way of feeling what it is like to be someone else.

This reading was actively resisted by Brice and other creators whose work was spotlighted in this way, as Pozo (2018) and Ruberg (2020) explain. Ruberg notes that both queer games and VR are "commonly framed by the rhetoric of empathy". In the case of VR, this is seen as connected with the illusion of presence or body transfer (sometimes described as "immersion"), and feeling like you are "really there". Ruberg and Pozo look to topics such as intersubjectivity, haptic visuality, and "living with" the suffering of another person, as alternatives to versions of empathy that erase the autonomy of the person who is the object of empathy: "Contained within the rhetoric of empathy—or, more accurately, 'passing' under the rhetoric of empathy, to borrow a term from discussions of sexuality and race—is a richer set of possible frameworks for challenging dominant notions about which feelings in video games matter and to whom those feelings belong" (Ruberg, 2020). In the latter part of this thesis, I explore the affective imaginary of queer games and VR as a rhetorical tool that domesticates emerging VR platforms by giving them an emotional job in social life.

Affect theories and sympathetic critiques

My goal in this thesis is a sympathetic critique of the affective imaginaries that have formed in videogame development and discourse. An explanation of sympathetic critique is called for, not least since the notion of "sympathy" can itself resemble an affective claim, one that might seem very similar to the notion of "empathy" that I will critically examine towards the end of this thesis. To put it briefly, a sympathetic critique understands and might even share the normative goals of a project or discourse, but also looks critically at issues such as how those goals are determined, what commitments are made in the imaginaries that structure the endeavour, how far those goals are really achieved, and what the cost of success might be. To echo the haptic metaphors used by Tsing (2015), Haraway (2017), and Sedgwick (2003), a sympathetic critique is about sticky, tactile engagement, rather than smooth, clean discrimination; it does not simply try to sort out which objects in the world are problematic, but rather it explores breakdowns, glitches, and untidy edges, in order to find possibility in the squishy spaces that open up between concepts that were once rigid and brittle.

My art-research practice is motivated by a desire to study things that were messy without being obliged to tidy them up. When I began the PhD, I knew that there were scholars skilled at doing this, but I did not know how to mimic them; every time I brought myself to arrange content for a piece of writing, I felt compelled to organise it along the same one-dimensional lines that had structured my formal writing since my teens, usually either chronologically or thematically. Such structures seem connected to the prevalence of metaphors like "uncovering", "surfacing", or "shedding light" – it is natural to assume that a chronological or thematic structure is a truth claim, and that the point of writing is to sort through disorganised raw material in order to discover facts about when or how things happen in reality. Similarly, many if not most of the Japanese academic texts that I translate for a living open with a sentence that involves the verbs "*akiraka ni suru*" or "*kaimei suru*" – often translated as "clarify", or "elucidate", these terms both make use of a relatively simple *kanji* that simply means "light". The implication is that there is something that has been hidden in a dark place (the catacombs of history, the depths of the unconscious, etc.) that must be brought out into the light – an underlying structure to

history or culture that can be correctly perceived, if events are categorised logically. If the site of an investigation seems messy, it is only because it has yet to be properly excavated and organized. I have learned to write from an "after" position, when the tidying up has been done; and as John Law (2004) argues, this "after" position produces and presupposes that what has been enacted through the research existed prior to, and independently of, the process of observing it (p. 145). I have been trained to present the asymmetrically entangled connections that comprise a situation as though they were passive little entities, discrete but also universal, all arranged neatly into a row.

My distaste for this obligation to tidy up comes in part from how easy it is to become paranoid about the hidden foundations that are being surfaced, or the unseen connections that are being traced. For Sedgwick (2003), "paranoia" describes a way of reading, rather than a diagnostic label for a mental state. She points to Ricoeur's work, which locates a paranoid, or suspicious, method of analysis in Freud, Marx, and Nietzsche – all three looked for hidden influences that underpin the complexes and superstructures that characterise surface-level experience, arguing that these greater forces were the cause of a widespread false consciousness (Ricœur & Savage, 2008/1961). Felski (2011) argues that Ricoeur's version of critique may be based in suspicion, but that it disavows any affective engagement with its subject matter; "Critique retains the adversarial force of a suspicious hermeneutics, while purifying it of affective associations by treating negativity as an essentially philosophical or political matter" (Felski, 2011). In Sedgwick (2003), the affective significance of different ways of reading stands out: paranoid reading is not contrasted with a neutral reading that is free of affective bias but is instead just one "cognitive/affective theoretical practice among other, alternative kinds" (p. 126). Affect is relational, and therefore describes a way of relating to a text; affect is seen by Sedgwick as a result of ways of thinking, rather than a pre-cognitive response to stimuli. Sedgwick points to "reparative reading" as an alternative to "paranoid reading", and I see this notion of "reparative" as closely related to "sympathetic".

The difference between paranoid and reparative readings lies in the scope or strength of their affect theories. For Sedgwick (2003), via Silvan Tomkins, "affect theory", or perhaps an affect theory, need not be a totalising "strong theory" that attempts to explain everything that could happen in the future, but a "weak theory" that is only held lightly for the moment. Paranoia is a "strong theory of negative affect"

that anticipates future pain (specifically, humiliation or fear) by theorising about the roots that can be traced back from present conditions (p. 133). It "places faith in exposure", which is to say, it tries to bring things to light, or trace the threads back to their origin points (p. 138). It is "mimetic", and therefore easily taught (p. 131), which might explain why my own mimetic approach to interpretation did not readily lead to alternatives to paranoid reading. In contrast, a "weak theory" is subjective and situational, rather than a traditional theory with explanatory power (p. 134). According to Sedgwick, we can shift from a paranoid reading to a reparative reading by changing our relationship to the temporality of a text: instead of using the past to anticipate a negative future in order to reduce unpleasant surprises, we use the present to add to the past, and imagine things differently. (p. 146)

What can I do that allows things to stay messy and complex, reflecting the state they seem to be in when I'm studying them? Alternative ways of imagining critical enquiry often call on textile metaphors. Do you "disentangle" separate things from one another in order to open space between them for new ways of thinking? Or gradually "unpick" knotted threads in order to see each one separately? Donna Haraway (2017) suggests instead making "string figures", whereby these tangles would be layered atop one another and manipulated through a process that is always intra-active, collaborative, and contingent. Sedgwick's discussion of "paranoid readings" brings to my mind the red string of a conspiracy theorist's diagrams, in a cinematic cliché described in humorous media studies wiki TVTropes as the "string theory", "a pegboard (or an entire room) covered in pictures of people, maps of places, and cryptic hints [...] Often the items are related, and these relationships are expressed by a complex web of strings connecting pairs of items; thus the name."[7]

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[7] See https://tvtropes.org/pmwiki/pmwiki.php/Main/StringTheory accessed 25/09/2023
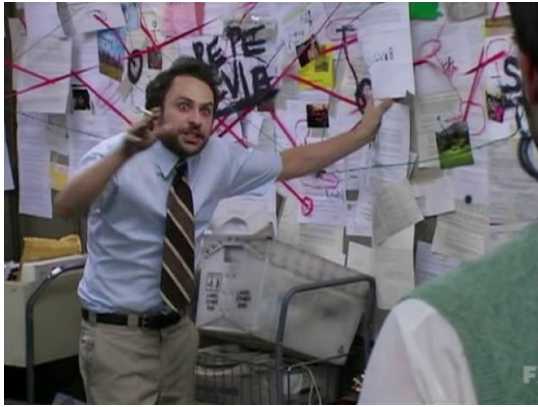
This image has often been used on social media to express paranoia or overly complicated explanations, making it an emblematic example of the String Theory trope

Figure 1: Still from 'It's Always Sunny in Philadelphia'

Ironically, the practice of identifying "tropes" could itself be understood as a practice in paranoid reading. TVTropes is an entertainment website where users humorously catalogue cliches and common narrative devices from popular culture. Although significantly influenced by scholarship in feminist media studies, it follows its own specialist folk terminology in many respects, rather than following the conventions of a specific academic media studies discipline. Similar to what Dan Golding (2018) has observed with non-scholarly games writing, the practice of trope identification in online writing has generated a popular, "spreadable" (Jenkins, Ford, & Green, 2013) form of knowledge production. Here, "a 'trope' stands for a frequently recognized part of a story, and not a figure of speech" (Krásová, 2020). TVTropes has influenced other popular pedagogy projects, most notably Feminist Frequency's "Tropes vs. Women in Videogames",[8] which shares with TVTropes the practice of citing examples from extraordinarily large volumes of primary sources to lend authority to claims about the cultural power of a particular trope. This "frames criticism as an activity that both produces and demonstrates desirable ideological mastery over the text under investigation," and thus provides "a pleasing sense of semiotic superiority over the texts analysed" (Loreck, 2018).

Affect theory is not a rarefied discipline for trained practitioners who are qualified to do the careful work of excavating the humiliating artefacts of our cultural history; for Sedgwick, "there is no distance at all between affect theory in the sense of the important explicit theorizing some scientists and philosophers

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[8] See https://feministfrequency.com/series/tropes-vs-women-in-video-games accessed 25/09/2023

do around affects, and largely tacit theorizing all people do in experiencing and trying to deal with their own and others' affects" (Sedgwick, 2003, p. 133). Affect theorising is something everybody does, and since an affect theory need not be a strong theory, it is a thing that can be done in different ways by the same person: "by Tomkins's account, a number of interrelated affect theories of different kinds and strengths are likely to constitute the mental life of any individual" (p. 134). In fact, Tomkins argued that a theory of negative affect becomes strong precisely because it fails to deliver on its promise to protect the subject from pain – seeking to avoid pain, it predicts pain, and then finds it, reinforcing the fatalistic theories of paranoia (Tomkins, 2008/1963).

Affect theory might be described as performative: it is a way of thinking that produces affect by theorising about its production. Sedgwick writes that reparative practices "surrender the knowing, anxious, paranoid determination that no horror, however apparently unthinkable, shall ever come to the reader as new; to a reparatively positioned reader, it can seem realistic and necessary to experience surprise" (Sedgwick, 2003, p. 146). I am drawn in particular to that opening phrase "surrender the knowing": what if theoretical practice or critical reading began at the outset from a position of having already given up on knowing any better? What is it that we are aiming to do when we write critiques? What is the goal of scholarship that does not aim to explain things or get at the truth?

For Felski (2011), criticism always occupies a secondary position, requiring an object of critique in order to exist. It is dependent on others and aims to be "symbiotic" with its object by "responding to the thinking of others", yet also "is far from subservient. It seeks to wrest from a text a different account than it gives of itself" and thereby "brings previously unfathomed insights to light": here we return to *akiraka ni suru*, and perhaps even a subtle reference to metaphors of depth ("fathom"). Perhaps a Haraway-esque "response-ability" (Haraway, 2017, p. 69) can also be read here. Felski imagines suspicion as a way of limiting negative affect in response to this dependence, "a muted affective state—a curiously non-emotional emotion of morally inflected mistrust—that overlaps with, and builds upon, the stance of detachment that characterises the stance of the professional or expert." Felski suggests that suspicion promises positive affect in the long term: "That this style of reading proves so alluring has much to do with the gratifications and satisfactions that it offers" (Felski, 2011).

Judith Butler (2001) also highlights the position of critique as a "secondary" activity, specifically characterising it as a constructive practice that responds to epistemic crisis, as opposed to a theoretical practice that produces crises by unpicking things: "Critique is always a critique *of* some instituted practice, discourse, episteme, institution, and it loses its character the moment in which it is abstracted from its operation and made to stand alone as a purely generalizable practice," (p. 1) such as strong theory or traditional theory. Butler's ideal notion of critique holds "strong normative commitments" without simply reinscribing the "grammars of normativity" (p. 2). Resembling the "sympathetic critique" that began this chapter, "the primary task of [such a] critique will not be to evaluate whether its objects —social conditions, practices, forms of knowledge, power, and discourse—are good or bad, valued highly or demeaned, but to bring into relief the very framework of evaluation itself" (p. 3).

Butler's description points to a critique that is affectively muted like Felski or Ricoeur's "curiously non-emotional emotion", but differs from theirs in that it is not oriented around suspicion, but contact – "bring into relief" seems like a notably tactile variation on the metaphors of "surfacing"; rather than focusing on the visibility of something that was once hidden, it calls to mind contrast, texture, and the bumpy reliefs carved into the walls of a building. For Butler, critique is practice – it is constructive because it is forged in the contact between the structures in which one lives, and the production of the self within those structures, "in the crucible of a particular exchange between a set of rules or precepts (which are already there) and a stylization of acts (which extends and reformulates that prior set of rules and precepts). This stylization of the self in relation to the rules comes to count as a 'practice'" (Butler, 2001, p. 7). Butler recognises that critique is concerned with the structures and power relations that produce a given order of things, but calls for a critical practice that goes beyond merely pointing that out, a constructive (reparative?) practice that builds familiarity with the consequences of that historically contingent set of circumstances, and looks for what happens on the messy edges of what once appeared to be a natural order: "not only is it necessary to isolate and identify the peculiar nexus of power and knowledge that gives rise to the field of intelligible things, but also to track the way in which that field meets its breaking point, the moments of its discontinuities, the sites where it fails to constitute the intelligibility for which it stands" (p. 9)

Judith Butler and Bruno Latour's attempts to recover critique suggest a similar remedy to one another, and it is a remedy that has some similarity to Sedgwick's: it is rooted in this view of critique as secondary and contingent, and a call to use critique as a constructive practice rather than only engaging in deconstruction. In "Has Critique Run out of Steam?" Latour (Latour, 2004, p. 232) asks "Can we devise another powerful descriptive tool that deals this time with matters of concern and whose import then will no longer be to debunk but to protect and to care, as Donna Haraway would put it?" Outlining clear examples of the spread of paranoid readings, Latour argues that whatever its intentions, critique seems always to risk weakening its object's claim to reality by revealing the goings-on behind the curtain. "We want to add reality to scientific objects, but, inevitably, through a sort of tragic bias, we seem always to be subtracting some bit from it" (Latour, 2004, p. 237). This worry about subtraction is comparable to Sedgwick, who sees the constructive role of reading practices as additive and locates some of the source of the paranoid position in that narrative about unmasking. For Latour, the answer is in 'gathering', a notion "that Heidegger had introduced to account for the 'thingness of the thing'" (Latour, 2004, p. 245). This vision of critique sees it as being about recruiting more actors into the production of its object – the "string theory" trope of connecting an object in a web of relations is here seen as not inevitably paranoid, but as a way of mobilising that vast web as an entourage supporting the object's claims to reality.

Like Butler and others cited above, Latour draws on tactile imagery in this vision of a critique that strengthens, stating that if critique were to successfully re-orient itself away from what might be described in the context of this chapter as the suspicious/paranoid affect of uncovering hidden facts, toward the sympathetic affect of concern, "we could let the critics come ever closer to the matters of concern we cherish, and then at last we could tell them: 'Yes, please, touch them, explain them, deploy them.' Then we would have gone for good beyond iconoclasm" (Latour, 2004, p. 248).

A significant portion of my work in videogames has involved advocating for the importance of critical writing as a practice engaged in by developers and players alike, arguing that it supports creative work by pointing to new possibilities, rather than simply cheerleading for the industry as consumerist fans or condemning it from the outside based on a broad-brush distaste for videogames as a whole. The worry Latour describes about feeling comfortable letting critics come close to matters of concern (whether they

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are academics in games studies, journalists at games websites, or independent bloggers) is a key issue that I often find myself responding to. I have been hired as a consultant to try to help AAA studios to avoid negative criticism, and heard developers say with frustration, "apparently we can't do that, because we'll be criticised for it." I have been trying to persuade them that instead of avoiding criticism, it might make more sense to aim to generate "interesting criticism", to challenge critics to come up with problems that hadn't been noticed before in their critical writing on other games.

One argument I use to support my case is that criticism often comes in larger quantity and with greater force when the object of criticism is seen as coming from more or less a good place – there is little point in criticising something that everybody knows is awful, but great ideas can come about when criticising something that is good in many ways, but has limitations. Even though paranoid readings are easy to mimic, sympathetic critiques might not be all that rare. In preparation for a presentation for a AAA games studio, when looking for examples of criticism of games similar to the ones they make, I found more sympathetic critiques than I expected. Far from the feared figure of the killjoy critic who treats developers with suspicion, writers are often generous towards the intent of developers. Such criticism identifies design and narrative decisions that, in their view, undermine the potential of the work overall. Looking for potential helps me to write more interesting articles about games and art, and helps me to solve problems as a consultant.

The fear experienced by developers might have less to do with the type of criticism that is generally practised, and more to do with a lack of familiarity with criticism as a practice. What might be missing in Latour's figure of the critic is that experiences of positive critique often come from practising it, not just being on the receiving end of it. My experiences of "crits" in the art world – gatherings of artists to look at each other's works in progress and offer feedback and suggestions for further development – have often been positive and generative. Rather than finding fault, many artists approach crits by responding with questions and recommendations of reading and other related artists. Part of the problem might be the figure of the "critic" as separate to a "player" or "developer", when even just in a simple practical sense, every critic is at least two of these three things. (In a more complex sense, it is interesting to observe that particular reading practices seem to produce particular subject positions, some figured as

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insiders and others as outsiders.) Rather than separating those who critique from those who make, practitioners from a variety of disciplines become more acquainted with sympathetic critique by practising it, reflexively with one's own work and responsively with others.

It is in this spirit that I aim to critique the affective imaginaries of videogame development, particularly looking at the periphery, the edges of the industry's structures and established practices. Rather than simply revealing the presence and implications of affective imaginaries, I hope to develop a familiarity with them, poke around at their limitations, and point to other potentialities in the new spaces that open up. The examples I study in this thesis come from industrial peripheralities such as emerging platforms and social peripheralities, such as LGBTQ+ creators and Japanese writers. The potentialities that I find in these specific cases on the periphery sometimes get pulled into the core, and sometimes remain peripheral. Often what happens is a complex dialectical relationship that leads to misreading and projection of affective imaginaries; for example, what is seen as "empathy" from the perspective of the core might for the marginalised developer be about fellow feeling between outsider subjects.

Chapter 3: *Tamagotchi* as a model mobile virtual pet

Sherry Turkle (2006) has described Tamagotchi as "the first relational artefacts to enter the American marketplace". Her concept of relational artefacts recognised a social, emotional, and symbolic role for these computer entertainment products. In contrast to the sociotechnical imaginary of artificial intelligences designed to emulate human abilities for reasoning and problem solving, Turkle sees relational artefacts as "computational creatures that evoke a sense of mutual relating. The people who meet relational artefacts feel a desire to take care of them. And with that comes the fantasy of reciprocation. They want the creatures to care about them in return." This chapter is about the affective imaginaries enacted in such fantasies of care and reciprocation, and how these fantasies are used for normative social purposes.

Virtual pets are an interesting starting point for looking at affective imaginaries in videogames historically, as their development gave shape to a design pattern that focused specifically on the work and play of a relationship. Starting with virtual pets might sensitize a games scholar to similar design patterns in other games. Virtual pets had their heyday around the same time as the early years of mass mobile phone uptake, perhaps reflecting a broader set of design interests in mobile virtual intimacy. As an object of study, they offer us ways of reading games more broadly not as puzzles, but as systems that figure a way of thinking about intimacy (an affective imaginary). Intimacy was pursued not just because of affective pleasure, but because its role as a care surrogate was understood as having pro-social value in the context of a normative pedagogy that aimed to train girls to be effective future parents. In this chapter I will focus on what Tamagotchi, and some other examples of virtual pets around that time, can teach us about this affective imaginary.

Tamagotchi (the name combines *tamago* (egg) and *wottchi* (watch)) was a virtual pet sold in a standalone handheld device by toy company Bandai that came to prominence around 1996, not long before the rise of the first widespread mobile phones for general consumers. Having similar internal components to a digital watch, it was a microcomputer in an egg-shaped plastic housing that came with small attachments that allowed it to be easily connected to a set of keys or an item of clothing. The whole thing fit snugly

into a child's hand. There was a tiny black-and-white screen that showed a low-resolution pixel art image of the imagined pet as well as icons representing actions and the pet's condition, and three buttons on the bottom were used to navigate menus in order to take actions such as feeding, playing, and cleaning up poop. Over time, the pet would grow into different forms, some considered to be more desirable reflections of good player care and others considered defective or incomplete results of poor care. Eventually the Tamagotchi would "return to its home planet" (represented on the screen by flying away with newly-sprouted wings) or die due to neglect.

Tamagotchi is a strong example of how affective imaginaries can function as part of a normative pedagogy that turns play into a kind of labour or training to create ideal productive subjects. Anne Allison (Allison, 2006) has argued that the design and marketing of Tamagotchi was connected to a "disciplining play" that bridged labour and leisure. Although Bandai first marketed Tamagotchi at girls aged around 12, with the normative, gendered goal of teaching the skills needed to raise a child, nevertheless it became popular with "young working women and even *sarariiman*" (Allison, 2006, p. 180). "Play here is a disciplining regime in which players become disciplined into assuming the subject position of (virtual) caregiver" (p. 172) – a project given ideological significance "in an age when the Japanese state is anxious about its low birthrate and the increasing reluctance of Japanese women to marry and procreate" (p. 182). In fact, a Japanese language official guidebook sold by Bandai was designed to resemble the health records used in Japan for "charting the growth of babies". This guidebook included advice that Allison describes as "ideological in imaginary family making (maintain your own health as a mother, never intentionally kill your pet no matter how it develops, remember that all Tamagotchi are brothers and sisters, so never mistreat one)" (p. 174). Allison reports that Tamagotchi users she spoke with mentioned a remarkable sense of emotional closeness, and she analyses Tamagotchi as transitional objects that "evoke the sensation of an interpersonal relationship" during "an age rife with dislocatedness, flux, and alienation" (p. 183).

Tamagotchi has thus been read as an object that communicates something about the subjective experience of changing social conditions, a technological intervention into the affective deficits of an uncertain world. A queer reading of Tamagotchi could critique the ways in which these toys, and the

relations they aimed to simulate/stimulate, were put to work in a normative disciplining of affect, as well as looking through Tamagotchi for the limitations of normative affective imaginaries around care, intimacy, and prosocial emotion.
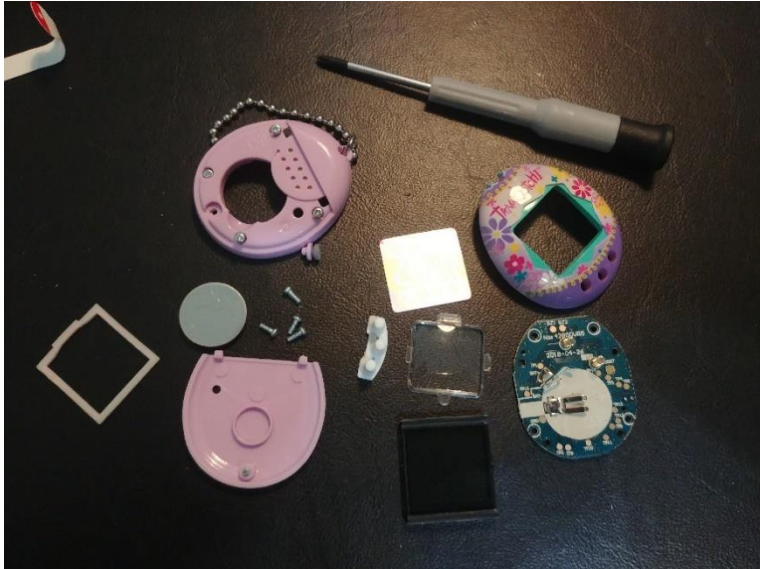
Figure 2: Dismantled Tamagotchi
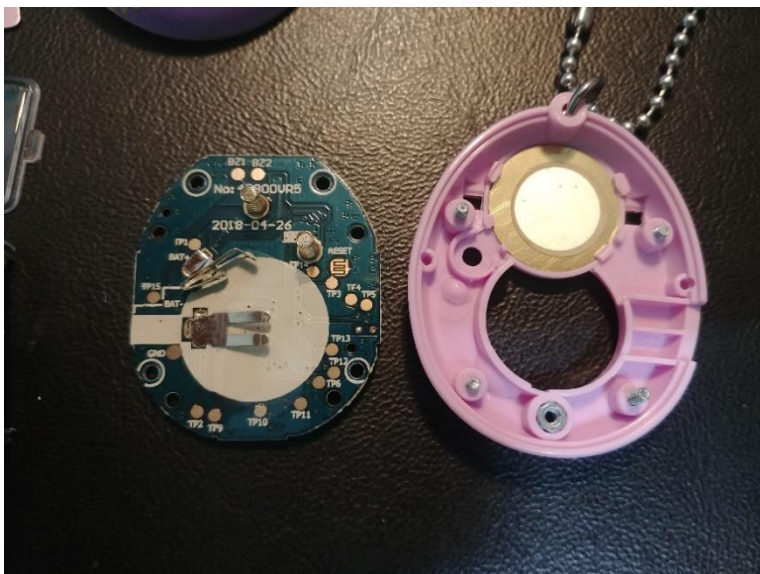
Figure 3: Dismantled view showing piezoelectric buzzer

To discuss the affective imaginaries coded into the Tamagotchi's systems of interaction, I will make use of the concept of "dynamics", from the Mechanics, Dynamics, and Aesthetics (MDA) model that games scholars have used as one way of conceptualising game design in terms of desired effects on the user. MDA is one way that games studies has formally articulated an affective imaginary, and I intend to use it

both sympathetically and critically. MDA aims to assist design practice by seeing the user as a recipient of the designer's intended "aesthetic" messages, which are experienced as a result of the "dynamics" of action that arise out of the "mechanics" or rules coded into a game (Hunicke, Leblanc, & Zubek, 2004).
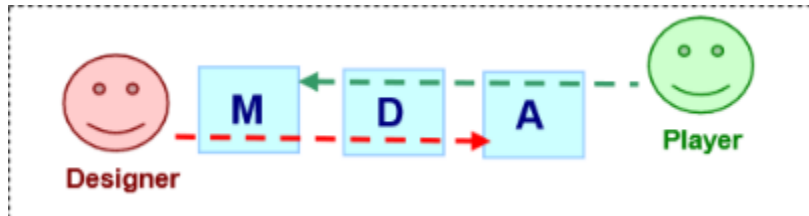
Figure 4: MDA diagram from Hunicke et al., 2004

It is an instrumentalist way of viewing design that looks for normative, desired outcomes; although it is used reflexively and descriptively as part of an iterative design process, it is not always well-suited to critical, descriptive accounts of games, since it generalises the user to an imagined ideal subject, and focuses on systems design to the exclusion of other aspects of game development. A theoretical question that I will return to at the end of this chapter is whether a non-instrumentalist, queer reading of affect in games through MDA is possible, and what reading techniques facilitate this.

I will develop a contextually-situated reading of Tamagotchi by bringing a queer affect theory approach into dialogue with early 2000s writing on mobile sociality by Japanese media scholars such as Kenichi Fujimoto (Fujimoto, The Third-Stage Paradigm: Territory Machines from the Girls' Pager Revolutiononto Mobile Aesthetics, 2005) and Ichiyo Habuchi (Habuchi, 2005), with a particular interest in more-than-human figurations of the body in their work that can be read as queerings of normative affect. In doing so, I hope to avoid relying exclusively on a Eurocentric lens, instead turning attention to the contentious new forms of mobile intimacy that surrounded the Tamagotchi's conception as a product in the context of 1990s Japan. To clarify the potentialities and risks articulated in discourse on mobile sociality connected with the heyday of the Tamagotchi, I will highlight three dynamics associated with the virtual pet design pattern that are mobilised in Tamagotchi's affective imaginaries: growing, checking in, and nourishing. I will then sympathetically critique these dynamics using queer theories of affect.

Mobile sociality

The imaginaries of care and intimacy bound up with the Tamagotchi were reproduced and amplified in relationships with and through mobile phones that were developing at around the same time. Research carried out through user interviews in 2002 (Dixon, Mitchell, & Harker, 2002) had suggested, as a specific example of the positive associations linked to the mobile phone, that mobile gaming was a comfort-seeking behaviour that users engaged in after social conflicts. They theorised that since the phone was associated with social needs being met, just being in contact with the phone provided some kind of social comfort, even if the user was not actively communicating with others. Users did not seem to be concerned about the content of the game, only the fact that this activity made them feel better.

From its early spread in the late 1990s, the mobile phone was an ambiguous object; it existed to connect people yet was criticised for cutting people off from one another. In fact, we can look a little earlier than that to the early 1990s spread of pager use among young people in Japan, which prefigured many of the "social problems" that later became associated with the mobile phone. Those problems include a worry about people connecting with each other less, and a worry about youths connecting with the wrong people. Mobile devices are therefore sold for their ability to facilitate some positive affective connections (maintaining contact with friends and family in the case of the cellphone or pager, or simulating intimacy and care in the Tamagotchi), while also becoming a problematic figure of anti-social or toxic affectivity. Mobile phones and mobile toys are both described as "addictive", suggesting that they are seen as affecting people in negative ways by generating positive affects in the wrong way or at a harmful cost to the user's normative participation in society.

One example of toxic affectivity attributed to mobile devices is the public isolation associated with appearing unavailable to others. The effect of using a digital device such as a phone, computer, or pager in a public space is the lowering of one's gaze, an indication that one is engaged with something (someone) else and not available for social contact. This helped to construct a private bubble within a public space: a role previously filled by novels and newspapers. Kenichi Fujimoto (Fujimoto, 2005) conceptualised this effect as a "barrier", using the term *kekkai,* which is used in Japanese religious

traditions to refer to a sacred area restricted from access by laypersons. He has also used Erving

Goffman's term "interaction shield" (Goffman, 1963, p. 39) regarding the mobile phone as a "super

interaction shield" (*suupaa kanyo shiirudo*). Fujimoto describes objects that have been used to create or

lower these barriers or shields as "territory machines" and argues that the mobile phone has a

remarkable capacity for transporting the user into a private, familiar space no matter how far from home

they may be (Fujimoto, 2008, p. 128). The metaphors of shielding and barriers suggest that the

availability of the body is a key question in interpersonal intimacy and the creation of private space.

Due to this combination of connectivity and disconnection, the mobile phone was associated in Japanese

scholarship with what has been described as "selective sociality" - choosing whom to build friendships

with, rather than connecting with the people in one's immediate vicinity (a recurring topic in Ito et al.

(2005)). The practices that created this form of digital intimacy began when pagers were co-opted by

young women in Japan as a way of keeping in touch with friends (Habuchi, 2005). Ichiyo Habuchi

described this as a "telecocoon" (p. 167): a conceptual, intimate space that is inhabited through mobile

communications practices. The metaphor of the cocoon figures a body being held within it, an

amorphous, liminal body in the process of being reformed as a new kind of being. Rather than identifying

this body with the sender or the receiver of messages, the body is an intermediate, relational entity

emerging through telecommunicative practices. At stake in the design of the Tamagotchi, and in

controversies about mobile device use more broadly, was a concern for the proper development of this

"cocooned" self, and affect was figured as instrumental in shaping that development.

Fujimoto and Habuchi both describe practices that have particular cultural heritage in Japan. Fujimoto

connects the mobile phone in Japan as a territory machine to a longer history of *shikouhin* - cultural

goods that are both luxuries and essentials. Although the term has no direct translation in English, such

goods are thought to exist in every culture, and each culture has its own different set of *shikouhin*;

traditional examples include tea and tobacco (Takada, 2008), but Fujimoto proposes that mobile devices

and entertainment media are also *shikouhin* (Fujimoto, 2008). Habuchi links the telecocoon to traditional

Japanese courtship traditions (*miai*). Without erasing the cultural specificity of these arguments, I find the

concepts raised by these scholars helpful for thinking trans-culturally about aesthetics of intimacy and

spatial practices connected with mobile technologies that have themselves travelled across cultural boundaries – the key will be to remain aware of cultural differences that may exist due to different histories of consumption and courtship.

The asynchronicity of mobile communication allowed it to be temporally and spatially ubiquitous. Fujimoto (Fujimoto, 2005, p. 95) refers to this as a "*nagara* (meanwhile) mobilism", (I understand "mobilism" to be a way of thinking about mobility) explaining: "*Nagara* (while-doing-something-else) refers to the state of multitasking separately, in parallel, and asynchronously while walking, moving, or playing." Matsuda elaborates on how *nagara* mobilism affects intimacy: "In theory, *keitai* can be used anytime, anywhere, but in reality people foster relationships with those whom they choose to contact" (Matsuda, 2005, p. 123). This suggests another way of looking at the affective tone of mobile communication – rather than being affectively muted and distant, mobile communication is an active choice to check in with someone, which has emotional significance because of the implied space that the recipient is taking up in the sender's mind – a space that grows as communication continues.

This multitasking, always-on contact spread globally, and soon became a part of Western European and North American youth culture as well. For example, one user who was interviewed as part of a study carried out in Edinburgh stated that she sent "pictures of random things" to a friend who was homesick (Marchant & & O'Donohoe, 2013). Such messages communicate limited information directly (I read the implication of "random" here as "frivolous, of little obvious use"). However, the message has a sense of immediacy and authenticity by virtue of being a photograph. The metamessage is "I am sending you a message" with a note of "I saw this and thought of you" and "this is what I'm doing right now".

Petting dynamics

MDA (first introduced in Hunicke et. al. 2004) presents a simplified model of the relationship between designer and player via the game as a communication medium. The designer sets up and refines the mechanics of the game: the rules, goals, thresholds for particular results, etc. The mechanics form a basis for dynamics: what the player does, and how the system responds. The dynamics create an aesthetic

experience: a game in which the player must do a lot of killing is likely to feel violent, whereas a game in which the player must do a lot of flirting is likely to feel cute.

The aesthetic experience of games involves considerably more hybridity than MDA could trick us into believing. Flirting can be toxic. Killing can be refigured to seem sweet and harmless – games scholar Brendan Keogh (2012) drew particular attention to this in his analysis of first-person shooter *Spec Ops: The Line*, centring the text that appears towards the end of the game, "To kill for yourself is murder. To kill for your government is heroic. To kill for entertainment is harmless". Keogh argues that what is remarkable about *Spec Ops: The Line* is the way its mechanics contrast with multiple other communicative strategies including dialogue, cinematography, and environment design, to reverse the usual frivolous affect that accompanies killing in videogames, recasting it as shocking and awful. Keogh's approach to analysis considers aesthetics to be the result of a multitude of design strategies, including but not limited to dynamics. Keogh's work demonstrates that the whole experience of aesthetics, affectivity, or of relationality cannot be reduced to mechanics and dynamics.

Nevertheless, looking for dynamics can shed light on communicative strategies and intertextualities that might be missed if focusing only on text and visuals. Despite my desire to critique analyses of games that suggest a mechanistic relationship between mechanics and emotion, I do appreciate that dynamics provide us with something that we can tentatively point to and track across different human-device interactions. This makes it possible to read in Tamagotchi social dynamics that were also at play in other interactive products. It can also make it easier to notice that even when similar kinds of dynamics are at work in different products created for different contexts, the mechanics may be tuned differently, which leads to different aesthetics and contributes to the specific social relations that develop around each product. I would like to identify here a handful of dynamics that make a petting game aesthetically resonate as a figuration of a human's relationship with their pet, as opposed to another kind of game that features an animal, such as the action puzzle game *Snake*. For the purposes of this analysis, I will call these dynamics *growing*, *checking in*, and *nourishing*.

Checking in refers to the tendency of virtual pet games to require regular bouts of contact. The *Tamagotchi* would call out for attention every few hours, through the loud beeping of its piezo-electric buzzer, requiring the player to attend to the device and feed, clean and play with the creature on screen. The verbs within the game refer primarily to manual labour tasks (provide food, clean up, throw a ball) and the framing of Tamagotchi as an object of care portrayed this demand for regular attention as a kind of reproductive labour. The responsibility for this labour was often paired with the real-world gendered division of labour in a household; many mothers found themselves the de-facto custodians of *Tamagotchi* while their children were in school, responsible for keeping the virtual pet alive to protect their child's feelings (Turkle, 2006).

Growing refers to the feedback provided by the system, whereby one gets a sense that the pet character is developing either physically or cognitively. This can exist separately to other petting dynamics, as in the case of Nokia's *Snake* – the creature grows as it takes in food under the player's guidance. *Tamagotchi* would grow as the player cared for it, with each stage of development representing for some players a different level of achievement. Similarly, the focal point of *Seaman* was the mystery of its growth from egg through to "mushroomer" and "gillman" to eventually become a full-grown, talking companion. In the case of *Seaman*, growth was both physical and cognitive, as the life form's ability to communicate verbally would increase over time. For the *Furby*, growth was solely cognitive. Growth functions as a reward for players' attention and provides a narrative trajectory, as well as, in some cases, a sense of surprise at what each new stage of development would look like.

Nourishing refers to any action that improves the comfort or health of the pet: this is usually covered by feeding but can also include the core *Tamagotchi* actions of training, cleaning, providing medicine, or another vector for demonstrating that attention has been paid by the human to the companion. This could be seen as a form of labour reframed as play; nourishing requires performing a rote action on a regular basis in service to the pet. There are many ways that a rote action can become playful in the context of a digital game – here, the projection of affectively-charged consequences plays a role in changing the very dull task of pressing a button when a device beeps into an act of imaginative play. It also requires action on the part of the pet, as without clear positive feedback, the nourishing action

would not feel rewarding, and players might not continue. So a pet that has been fed must eat, a pet that is being trained must show that it has learned something, and a pet whose environment has been cleaned must somehow appear relieved.

Failure to nourish a pet for long enough would lead to its "death", represented by an image of a grave. There may also be a dying process beforehand, during which the Tamagotchi is shown on-screen but cannot be interacted with or reset. Narrating the Tamagotchi's death through an on-screen animation reaffirms that ignoring the pet does not just make them no longer alive to the player in the sense of being an object of their imagination and attention, but also no longer alive in the sense of being available for interaction in the same way as they were before – the dead Tamagotchi cannot respond to the user's attention. This is in contrast to the "harmless" deaths of others that Keogh (2012) writes about, which do not stop interaction, but rather are required for interaction to continue.

Associating a state with the end of interaction connects it to negative affect in a way that can be read though Kosofsky Sedgwick and Frank's (1995) notion of shame in the "cybernetic fold," theorised by Silvan Tomkins through the idea of the relationship between parent and infant. This "cybernetic" theorisation of affect is relational and rooted in a need for (dynamic) movement and reciprocation, and shame is experienced in the denial of reciprocation. Like the problematic smartphone user who becomes unavailable to others by using their mobile device as an interaction shield, the Tamagotchi becomes unavailable for user interaction. So the death of a Tamagotchi is narrated as a failure to care for a vulnerable, smaller being, but the affective significance of this event is underscored by a dynamic reversal, as the user is denied a response to their own bids for attention.

Petting dynamics tell a story about how the sense that player and pet are mutually responding to one another can interactively construct affectively imaginative play. Virtual pets demand work from the user, and also contribute their own work in response, in order to generate dynamic intimacy. This labour-like quality is not unique to games; Takada argues that all *shikouhin* are a transformation of labour into play. To make something a *shikouhin* is to translate between economic sectors. In *shikouhin,* actions that in other times or contexts would be productive (labour) become an intrinsically pleasant activity (leisure).

This translation can occur across multiple possible spheres. It could be a translation through historical change, such as the rise of industrialisation bringing with it the rise of gardening as a leisure activity that transforms the labour of agriculture into play (Takada, 2008, pp. 1-2). Alternatively, labour can be translated into play through a change of context – fruit picking, for example, is essential labour that can be refigured as leisure at farms that allow visitors to pick fruit and take it home with them, which enhances the experience of acquiring and consuming the *shikouhin* of seasonal fruits.[9] This perhaps suggests that on the other side of the luxury-essential oxymoron is a play-labour dichotomy being troubled. The fact that an action is boring, and the sustained ambient attention paid to the device rather laborious, might not be entirely disconnected from the fact that it is playful – the transformation of labour into play through reframing or reimagining has an interest and appeal separate to the simple question of whether or not the mechanical design of an activity is intrinsically fun. Recasting the labour of care as play evokes a different affective imaginary, allowing the figure of the thing being cared for to do a different kind of work.

Growing

There is a smallness to the Tamagotchi that does not change. The device remains the same size no matter how long you play with it. Mobile virtual pets tend to be defined in part by the fact that they are portable and are designed to travel around with the user (i.e., mobility in the sense of the Japanese word *keitai*, a thing that you carry with you). Tamagotchi made its mobility explicit by being attached to a keychain, putting it right alongside the other items that a person carries with them in order to grant them the ability to go to and from their home, such as house keys.

However, the mobility of Tamagotchi has as much to do with the temporality of the loops of interaction that the software encourages: Tamagotchi will require attention regardless of what else the user is or is

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[9] Anna Tsing traces similar translations through mushroom picking, international trade, and gifting. For Tsing, this is about the alienation of human and non-human actants from their respective lifeworlds, and the return of connection through processes such as the translation of matsutake mushrooms from commodity into gift. (Tsing, 2015)

not doing, and if the user does not keep the Tamagotchi in mind it will "die". The point of carrying one of

these devices with you is to experience a change in behaviour, a playful change in perspective. This ties

into the Japanese *keitai* mobility as something that enables a *nagara* ("meanwhile") approach to

interaction, just like the friendships maintained over SMS messages sent regularly enough for the other

person to know that you have them in mind.

The long-distance relationships that can develop by phone are intangible, but there are certain points of

reference by which the strength of the connection can be measured by users. One is simply the length of

time that the relationship has lasted for – easy to trace in the growing interest in and anxiety about

friendships with "people from before" among high schoolers and university students, as observed by

Matsuda (2005). So here is one kind of growth that mobile phone users might be invested in as a kind of

corollary to the "growing" aspect of petting dynamics.

In Tamagotchi, the growth of the relationship is reflected in the growth of the pet represented on the

screen of the device. A small blob eventually turns into a creature with discernible body parts and slightly

more complex animations. This happens with remarkably little fanfare, and it is up to the player to notice

that the Tamagotchi has changed since the last time they encountered each other.

The feedback that users (or players) receive regarding the "growth" of a relationship or a set of social

connections is very highly mediated, whether it is in the pure fiction of a Tamagotchi or in the user

interface of a phone. It is a key point where developers have had agency to motivate certain user

behaviours, such as longer-term engagement with a relatively simple electronic toy. By focusing

Tamagotchi's feedback on this notion of gradual growth in response to care, long-term caring behaviours

could be prioritised.

Checking in

Tamagotchi simulated dependence and constructed behavioural loops by regularly crying for attention. A

Tamagotchi that was not fed regularly enough, or was not healed when sick, would "die", and the device

would have to be restarted to begin again with a newly hatched pet. The longer a Tamagotchi survived

for, the larger its image would grow. The survival and growth of the Tamagotchi relied on the user regularly checking in on its status, either when prompted by the device's beeping, or at regular intervals between tasks in their daily life. This meant folding Tamagotchi into the temporality of the rest of life and adapting one's behaviour on an ongoing basis for days or weeks at a time.

This is a dramatically different temporality to most videogames, which are usually played as a break from life during one's leisure time, rather than being an ambient part of the whole of one's life. The kind of attention demanded is also different: this checking-in loop requires holding the Tamagotchi in mind all the time while doing other things, whereas most videogames are praised when they can achieve a degree of "immersion" or "flow" that blocks out thoughts of anything else when directly engaging with the game. This temporal relationship to gameplay later became common in mobile games, particularly under the free-to-play model, where instead of paying one lump sum at the start in order to access a game, users are invited to play for free but can pay small sums of money on a regular basis in order to access upgrades or extend the length of a play session. *Tamagotchi* may have played a role in establishing this association between mobile devices and "checking in" dynamics.

Checking in is, understandably, an important part of maintaining relationships, especially in the digitally mediated context that Habuchi describes as the "telecocoon". Like a *Tamagotchi*, a friend will change without you being there to influence or witness the change – this is part of what gives the *Tamagotchi* a sense of autonomous agency. To continue to be a trusted source of support and nourishment, the relationship needs to be maintained at regular intervals. A point of difference between mobile phone users was whether their friends expected communication to be more or less synchronous, even if by SMS – some reported that their friends would be annoyed if they did not respond to a text message quickly, while others stated that they deliberately did not keep their phone with them at all times so as not to set up the expectation that they would be constantly available (Marchant & & O'Donohoe, 2013).

Checking in by SMS, and previously by pager, is about actively reaching out while also respecting distance and boundaries. It is about communicating the metamessage "I am trying to communicate with you" while also giving the other person space to respond or not as they wish – at the turn of the millennium,

this was theorised as a new understanding of what it means to be "kind" in Japan (Ito, Okabe, & Matsuda, 2005, pp. 29-30). The pace of checking in the with *Tamagotchi* was similarly forgiving, with users typically having an hour or so to attend to the pet's needs before its unmet demands become life-threatening issues. This meant that, despite the beeping that calls the user to pay attention to the *Tamagotchi* immediately, it was possible to leave the *Tamagotchi* aside for an hour, and only play with it during breaks between tasks. When a software emulation of Tamagotchi was released for smartphones, this was underscored as a key selling point, with *The Guardian* quoting Bandai directly: "For those who are hesitant to take the step toward parenthood, the mobile version of Tamagotchi is now resilient enough to withstand prolonged neglect" (Stuart, 2005). This sheds light on (or makes light of) a problematic metatextual framing that treats the Tamagotchi as a surrogate for a human child and highlights that small changes to the Tamagotchi's mechanics could be figured as remarkably affectively charged dynamic differences within this kind of framing.

Nourishing

The actions the user takes in the *Tamagotchi* software represent a focus on nourishing behaviours such as feeding and cleaning. The toys were in part developed with the intent of nourishing their users too, through effects such as education; some articles from the time suggested that Bandai had developed Tamagotchi in order to teach teenage girls what it would be like to raise a child. In one such article, adults were humorously reported to be getting a similar benefit from the toy. "We had a Tamagotchi, now we've got a cat [...] We're working our way up to having a kid" (Generation, 1997). This idea of education toward human reproductive futures reflects that nourishing and growing were carried out mutually by both the pet and by the human. As games scholar Seth Giddings has pointed out, "the Tamagotchi nurtures the carer through the process of its own care" (Giddings, 2020).

This might suggest a comparison with Virtual Infant Simulators (VIS), which have since the mid-1990s been used in secondary schools as part of a strategy to prevent teenage pregnancy and teach parenting skills. Like Tamagotchi, these are designed to cry when they are hungry, have defecated, or need attention (Divine & Cobbs, 2001) and users are required to symbolically carry out nourishing acts such as

feeding and changing diapers, using interface devices such as plastic keys that activate concealed buttons within keyholes on the doll's back. Despite having very similar "gameplay" mechanics, the affective imaginary motivating the design of VIS devices is very different to the Tamagotchi. Rather than being entertained by the device, or feeling any emotional bond to it, the "concrete and tangible experience" of caring for a virtual newborn is supposed "to impress on teens the personal sacrifice and challenges required of parenting infants and ultimately to delay risky sexual behaviour that can lead to early/unwanted childbearing" (Somers, 2014) – or rather to make it unwanted, that is, to reduce "the desirability of motherhood" (Kralewski & Stevens-Simon, 1998) by demonstrating its hardships.

This negative affective imaginary is materialised in part by the burdensome hardware design of VIS devices, with an early report on the implementation of Ready-Or-Not-Tots pointing out that they are "the size and weight of newborn infants" (Divine & Cobbs, 2001). Sound design is also a key difference – whereas a *Tamagotchi* will emit a few shrill beeps to indicate that they need attention, a VIS will cry loudly and persistently. This means that VIS do not fit into the user's life the way a Tamagotchi does; rather than co-existing with the user in a *nagara* fashion and mimicking the emotional patterns of a mobile friendship, they take up space and time and demand focused attention.

Nevertheless, there is very little evidence to support the efficacy of VIS in sexual education programmes; one report on an implementation with young people of low socio-economic status in the US Midwest found that although such a programme increased the group's "sense of realism" regarding parenting as a teen, this did not lead to a change in sexual behaviour (Somers, 2014). Another, carried out with a group in which 50% of participants personally knew a teen parent, found that students did consider the difficulty of caring for a VIS device to be analogous to the experience of raising a newborn, and therefore did not change their attitudes to parenthood (Kralewski & Stevens-Simon, 1998). In fact, one social worker involved in the implementation of such a programme in Rotherham, England reported that "for many young people at particular risk of becoming teenage parents the attention received whilst caring for the doll reinforces the desire for parenthood" (Chavaudra, 2007). This points to a similar role-reversal to the *Tamagotchi* – whereas the student is expected to feel depleted or discouraged by the demands of the simulator for attention, they are in fact nourished and encouraged by the experience of caring for a

virtual infant, as well as by the attention they receive from other people when they carry this unusual device around with them.

The possibility for mutual nourishing is underscored by a story told through the animation of the Tamagotchi and the accompanying manual, whereby the Tamagotchi is not completely dependent on the human for all of its life, but only needs a bit of help for the period of time immediately after "landing on earth" and "hatching from its egg". Eventually, a successfully reared Tamagotchi will fly back to its home planet, grateful for all it learned about the human world. So ideally, the Tamagotchi and the human would learn about each other and have a two-way encounter in which both parties are nourished. This is also the core story arc of *Seaman* – not only does the user nurture Seaman until he can return to his homeworld, but Seaman explains that his kind has come to earth to help humanity along in their development. This colonialist narrative suggests an association between nourishing and power, and normative ideas about what is healthy and nourishing and what is savage or toxic. The need to "scold" the Tamagotchi as part of the routine of nourishing it points particularly clearly to an association between care and discipline.

Writing on pagers and cellphones also drew a connection between mobile devices and nourishment; in a 2013 paper, researchers Caroline Marchant and Stephanie O'Donahoe likened smartphones to "electronic umbilical cords linking back to the family". This representation of emotional dependency echoed the slightly more toxic image evoked by Kenichi Fujimoto (2005, p. 80) of young girls "becoming parasites to parents and boyfriends" by spending money on mobile phone use and, purportedly, being more economically dependent on others as a result. Indeed, Habuchi's (2005) notion of "telecocoon" came out of a study aiming to address whether teenage girls who form or maintain friendships via their cell phones are more insecure. Habuchi found that users associated their mobile phone with "security" and felt "insecure" when they did not have it with them, but that telecocoons based on prior face-to-face relationships were not correlated with insecurity. The umbilical cord and the cocoon, metaphors of birth and metamorphosis, are also used strongly in the Tamagotchi storytelling, and refer to the developmental stage of the young mobile users being studied, as well as the nourishment being sought

from the devices and interpersonal connections, and the caring labour on the part of parents and partners that is siphoned off in the metaphor of "parasites".

Two things are happening in this reversal of the nourishment dynamic to make the user its recipient: one is the mutuality of companionate relationships in virtual pet games as well as virtual infant simulations. However, the appearance of this reversal in writing might also be connected to the writers' patronising attitudes towards the young people seen as the primary audience; throughout writing about virtual infants, Tamagotchi, or mobile communications, young people are pathologised for not feeling or thinking the right things in the eyes of researchers. The attention of writers may not have been directed towards the positive, prosocial feelings that teenagers expressed and enacted through their relationships with/through portable devices, as their emotions are more often figured as a social problem.

Affective imaginaries of petting dynamics

Through interaction design and a didactic accompanying guidebook with instructions on how to care for dependent beings, the Tamagotchi was created with a normative pedagogical goal in mind, of training girls to be better caregivers in the future. A similar purpose drove the design of virtual infant simulators to be deployed in schools, which attempted to achieve this through similar mechanics, but with a different affective imaginary: the Tamagotchi aimed to entertain and please users, but virtual infant simulators were meant to deter them by demonstrating the difficulties of childrearing. The work of raising a better Tamagotchi was treated as a tool in producing better children, by disciplining them into having the right affective attachments and attentiveness with their own children when they become parents. Even the adult Tamagotchi user was described as though they were an incomplete adult, on a developmental pathway towards becoming parents.

The cognitive and physical smallness of the Tamagotchi, as well as its figuration as a newly-hatched creature in need of care that could be understood as an infant surrogate, may be directly connected to the pedagogical power it was assumed to have for users. As Claudia Castañeda (2002) has pointed out, the figure of the child is able to "play a unique constitutive role in the (adult) making of worlds" because of the sense that children are "incomplete adults", or "entities in the making" (p. 1). The child is a

generative figure because every child has potential that must be effectively developed in order to become a successful adult: "the form that the child's potentiality takes is consistently framed as a normative one, in relation to which failure is always possible" (p. 4). Similarly, the Tamagotchi will develop in a different form depending on the player's performance as a caregiver, with a different pixel image on the screen and different patterns of behaviour such as how often it cries for attention.

Smallness exists in two different forms for the virtual pet: on the one hand, it remains portable and pocketable, and on the other hand, it grows and changes over time. In her discussions on the miniature, Susan Stewart's *On Longing* (Stewart, 1993) encompasses at least two ways that something can be made smaller. Her primary concern is a scaling down to a size that is small in relation to the human body, a physical miniaturisation. But she also discusses a scaling down in complexity, a cognitive refiguration which I will call "reduction". When we summarise our description of a complex state of affairs with the phrase "it all boils down to this", we are using this metaphor of reduction, making something smaller by processing it, letting the bulk of the material evaporate away so that all that remains is the part that we can taste.

These two forms of scaling down can co-occur, or they can exist separately from one another. A miniature book is no less complex in its contents than a book printed at trade book size (Stewart, 1993, p. 37) whereas a war game played on a table top is expected to be simpler and more manageable than the wars played out on the world stage (Stewart, 1993, p. 54). Crucially, whether it is scaled down through reduction or miniaturisation, the object is reduced to something "small" enough to be toyed with, either in the hands or in the mind.

It is important, when considering a miniature object, to avoid conflating these two types of miniaturisation. It is that sense of being "small enough to be toyed with" that makes the twin notions of miniaturisation and reduction so powerful as a lens for looking at playful experiences. We see this most clearly where cognitive and physical miniaturisation co-occur, but they do not necessarily both occur in the same way.

A Tamagotchi is both physically and cognitively miniature: it is smaller than the human body, contained within a device that rests inside the hands and travels with the user; it is also simpler than a life-size pet, and can be more easily comprehended and more reliably cared for than a biological being whose welfare can never be fully under the human companion's control. But while its physical size relative to the human body remains constant, its conceptual size increases over time.

Mobile communications have themselves often been seen as a cognitive reduction of human relationships – indeed, critic Roisin Kiberd has compared online dating to Tamagotchi, describing similar dynamics of checking in and trying to "grow" a relationship (Kiberd, 2015). The virtual pet is a second-order reduction of a social relationship: in one form of reduction, pets are given a reduced status as agents in an anthropocentric social world; in another, mobile interactions are a simplified reworking of face-to-face encounters. Mobile interactions with pets are reductions of both of these things, with the pet reduced into mobile software and mobile-mediated human-to-human sociality reduced into virtual sociality with a simpler form of liveliness.

The pervasive global spread of miniaturised forms of relating could be illustrative of the "making of worlds" that Castañeda describes in relation to the figure of the child, and figuration as a social practice more broadly. A world-making power could be read in Tamagotchi regardless of the claims that it might reproduce intimacies or responsibilities felt toward living pets or children; it could instead be its cognitive miniaturisation, or the simplicity of its limitations, that hinted at unrealised potential and thereby allowed it to be read as gesturing towards something significant. When the Tamagotchi was figured as playing a role in the affective development of children and incomplete adults, this could be because it was seen as an incomplete version of future imagined forms of digitally simulated or mediated intimacy. The dynamics and imaginaries of nourishing and checking in, with the Tamagotchi and with mobile-mediated communication, did not need to be understood as sufficient surrogates for more essential forms of intimacy, but had a distinct rhetorical power as incomplete gestures in their direction.

Toxic affectivity

There was worry in the late 1990s and early 2000s about virtual companionship (with virtual companions, or companionship with humans mediated through virtual communication) taking the place of "real" connections with other human beings. This worry died down quite considerably as it became clear that interest in virtual pets tends to be fleeting, and after the novelty wears off people return to their familiar habits, whether or not those habits involve healthy interpersonal relationships. Taking a queer theory perspective on these worries would be interesting however; what can we learn from these kinds of worries about our expectations of normative vs. toxic affect in human-device relationships?

Although the Tamagotchi was designed and narrated in a way that evoked normative developmental and affective outcomes, each of the three dynamics I describe in this chapter had their own contested boundaries between what is considered normal or healthy, and what is considered abnormal, excessive, or toxic. The Tamagotchi's growth had to reach an end point after which it would fly away, to make clear that the relationship was a bounded experience that would not overreach into normal life. The Tamagotchi had to be taught not to check in with the user too often, as part of learning good manners. And while the Tamagotchi and human could nourish each other to some degree, it was seen as a potential threat to healthy human development if too much nourishment was directed at or sought from a nonhuman companion. Game designers often say that their work is about balancing a game, typically to make it not too difficult and not too easy in order to put users in a flow state, but here the balance sought was not just about finding flow but about reducing friction with the wider social world.

One way of complicating and queering this dichotomy between healthy and unhealthy petting dynamics might be to recognise that intimate encounters are meaningful in part because of their capacity for toxicity. This is a capacity that comes along with the scope for a mutually transformative encounter, to borrow some language from Anna Tsing's writing on mushrooms (Tsing, 2015, p. 27). Tsing calls this transformation a kind of contamination, echoing Mel Chen's notion of toxic affectivity (Chen, 2012, pp. 189-221). Tsing discusses how encounters with humans and nonhumans of all kinds involve contaminations, sensory exchanges that "may or may not have violent bodily effects". If a kind of

vulnerability can be shared, if one can affect and be affected by another, there is a possibility for intimacy.

Chen addresses the taboo of feeling intimacy for an inanimate object, telling a story about when they believed that they had spent the afternoon cuddling with their partner, but had in fact simply been enjoying the comfort of their couch. "[...I]t is only in the recovering of my human-directed sociality that the couch really becomes an unacceptable partner", they reflect, and they go on to trouble the notion that intimacy with inanimate objects is antisocial. They discuss the short film 'In My Language' by neurodiversity activist Mel Baggs (2007), which explores non-linguistic communication with the material world. Chen argues in reflection on this video that when the inanimate is experienced vividly, normative sociality is not an opening up, but a cutting off of communication. In order to give one's full attention to fellow humans, one must divert attention from everything else; normative orderings that prioritise humans over other beings decide which objects of our attention should matter, or should be shown that they matter through the work of paying attention to them. Chen sees queer futures in "aberrant socialities", opening up ways to embrace interconnectivity (Chen, 2012, p. 218).

Conclusion

This chapter has served as an overview of three petting dynamics seen in the Tamagotchi that I will later be applying to other mobile games, including but not limited to games that are figured explicitly as virtual pets. I have tried to show how these dynamics were important concerns in the development of mobile devices more generally at the time of their introduction, and provide some theoretical underpinnings for reading these dynamics in relations with objects.

The examples of Tamagotchi and VIS demonstrate that technical objects figured as objects of care were described as mattering primarily as miniaturised surrogates for other relationships – even the virtual pet, which was figured as an animal (or alien) in need of care, was developed in a pedagogical context of disciplining girls to become skilled caregivers to future human children. The dynamics of growing, checking in, and nourishing were tuned to produce a challenging experience that nevertheless was hoped to generate positive affects. These positive affects were connected to certain types of technological

intimacy, such as a *nagara* mobilism of always holding another being in mind as you go about your day. In the context of early discourse about mobile communications producing social problems, the development of games or toys with normative affective goals established that there was a pro-social role to be played by mobile devices. Grounding this early example of a mobile game in the goals of reproductive futurism helped to recuperate socialities that might otherwise seem aberrant to normative orderings.

Reflections 1: Computer Petting Zoo

In August 2017 I participated in a residency in my home city of Sheffield that was co-organised by an arts organisation called Making Ways and a retail developer based in London that runs a shopping centre called Orchard Square. The goal, for the developer, was to use artistic engagements to encourage traffic to a relatively neglected part of the shopping centre, which was up some stairs and away from the street-level bustle. I proposed to use the residency to install videogame-like works, an idea that appealed to the panel of artists and arts administrators because of its intrinsic interactivity: the director of Making Ways remarked that there was little appetite for proposals centred on exhibiting static works, which they believed would not engage audiences as strongly. Three other artists were selected for stints in this retail space: a perfume maker who aimed to create perfumes representing visitors, a conceptual artist creating a shop selling "fast food" made of cardboard, and a textile artist sketching portraits of passers-by and stitching the resulting drawings as embroidery. A theme in the selection seemed to be a sense that the artwork created would respond to the presence of visitors.

My initial hope for the installation was that it would elicit an uncanny sense of self-recognition in the characters represented on screen. My videogame-like works were a series of virtual pets, which I intended to gradually alter over the course of the residency to increasingly resemble (in words and behaviour) the visitors to the space. I did make changes to their design, but these changes ended up responding to the expectations and desires of visitors, rather than directly imitating them; the project became relational, rather than representational. I also hoped to explore the temporality of the Tamagotchi design pattern by creating something with similar interactions, but different timescales of interaction — whereas Tamagotchi interactions go on for a long period of time in small sessions, my pets were designed for a single, slightly longer session and no long-term interaction. With Tamagotchi, the player sees the pet develop and grow – with my pets, the player would only see growth or change if they returned to the same place a week or two later.

Tamagotchi have no dialogue, but I decided to code in short lines of dialogue describing the pets' responses more imaginatively. Each description was connected in the code to an object called a "mood"

that also had corresponding breathing patterns and facial expressions, and different user choices would trigger different moods. The choices included "feed", "play", and "scold", which are actions taken from the original Tamagotchi. The result was a kind of interactive dialogue that focused on the Tamagotchi-like relationship of affective response-ability.

The disused retail unit I occupied for the month-long residency had previously been used as a therapist's office. It still contained two soft, large armchairs and some chintzy curtains. These upstairs retail units seemed better suited to use as offices — indeed, I fielded more than one inquiry from a visitor looking to rent office space in the building, unaware that all units were for retail. It was difficult to persuade visitors to treat the space like a publicly accessible place, which had the positive effect of bringing a sense of cosiness and privacy, even at the cost of limiting the number of visitors. Foot traffic was very low to this upstairs area, and the only people wandering up most days were on a specific mission to the record shop, the wargames shop, or the tattooist, all located up one more flight of stairs. I realised that I would need to have the pets make semi-musical chirps in order to attract attention, not unlike slot machines.

Once in a while, I'd get a visitor who was wandering aimlessly — perfect for my goals. They would play with the three pets, and then get talking about the project. They'd sometimes end up sat in the other chair, opening up about what was going on in their personal lives: their sick child's under stimulated and hopeless mood that had been briefly lifted by the pets, or their struggles as a young care leaver with dissociative identity disorder. I did not document these private conversations, but I did take video recordings of people playing the games, some of which I edited into a short film that is part of the online exhibition accompanying this thesis.

I displayed the pets on computers that had been rescued from landfill after being thrown out by a call centre. I had used these computers one year previously for an exhibition of other people's games, and learned that they needed a lot of refurbishment in order to run 3D games — these pets were not even close to challenging their capacities. I used a software platform called Pico-8, a solo project by a man living in Tokyo working under the name "Zep". Zep describes Pico-8 as a "fantasy console", working on the principle that the software is like an emulator – software that simulates different computing

hardware, to allow software intended for that hardware to be run. It is common for people with an interest in "retro games" to run emulators of games consoles and computers from the 1980s and 1990s on contemporary machines, in order to play old videogames. In this case, the hardware never existed in reality, but is an aestheticized and exaggerated version of an 8-bit computer. The point is to enforce severe constraints in order to inspire creativity, like a haiku. The screen resolution is just 120 x 120 pixels.

I kept the computers and monitors in "cages" made from a wire shelving system that is often used by guinea pig owners to make adaptable enclosures. Old-fashioned game controllers hung outside of the cages, allowing people to interact with the software. They were the simplest game controllers available, but even these are sometimes a little challenging for people too old to have grown up with videogames, or too young to have grown up with devices that are not sensitive to changes in orientation or touch. Older visitors tend to press the button labelled "start" when they pick up the controller, which immediately stops the game from running. Younger visitors sometimes hold the controller in a "portrait" configuration, leading to confusion when the "D pad" directional buttons do not point the way they expected.

Despite the very lo-fi presentation of the pets, visitors still projected a high degree of emotional complexity onto them — or perhaps, bought into the fiction of the situation and were keen to add more imaginative details. Observing the visitors, I had a sense of emotional commitment and reciprocity, particularly when people came in with friends, family, or a date. Several times, a visitor chose to "scold" a pet, and declared this to their companion. "NO, why!? Don't do it!" would often be the reply. This is documented in a short video, which is displayed as part of the online exhibition accompanying this thesis.

A reading of this installation that focuses entirely on software design, such as the MDA model that I discuss in this thesis, would suggest that the mechanics of player interaction, and the dynamics of response by the pet, engendered a sense of responsibility in players — additionally, it suggests that only a few simple emotional cues are required to elicit a sense of meaningful affective consequences.

The social context of the interactions was also significant, however. Player action was very visible to others in the room, because of the height and size of the monitors, and by declaring their behaviour,

good or bad, players were performing a dramatic role for their companions, exploring negative affect through play in a safe way.

One pet had a particularly significant emotional impact, and as a result received a lot of adaptations during the residency: the grumpy duck. I chose to represent a duck as a tribute to Vaucanson's Digesting Duck, an early automaton that gave the impression of being a functioning reproduction of a digestive system – in fact, it was a machine that responded to human input (placing a food pellet in a bowl) with satisfying output (ejecting a poop pellet). Tamagotchi could be read in the same way — emotional investment is possible because of the feedback we receive, and no matter how crude the simulation is, this emotional reality is described through the imaginary of the "lifelike" .

I had programmed the duck to respond to user input with unpleasant noises and disturbing facial expressions of various kinds. Part of this was for humour: I perceive ducks as intrinsically a bit standoffish, as they typically do not want to be petted by humans, so it seemed fitting to have the duck react badly to human interaction. I then doubled down on this approach after my first couple of visitors had spent a long time telling me about their sadness while sitting in the counsellor's chair. So, in line with my goal of making the pets mimic the humans, the duck became depressed.

To my surprise, some visitors immediately assumed that they must have been the reason the duck was sad, and that they had to try to find a way to make it feel better. Ironically, this brought up similar feelings of guilt in myself, since I had not coded in any way for those visitors to resolve that tension. The duck was incurably sad because my early visitors had told me that they felt that their sadness was incurable. To respond to this uncomfortable situation, I created some lines of poetry,[10] and programmed in a way that the player could perceive that they had helped the duck to feel better by allowing it to recite some cryptic verse.

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[10] I created the poetry through a form of procedural content generation that pre-dates computer arts, and can be traced back to the Dadaist movement. I found a cheap German-English dictionary, and used white correction fluid to erase words until the remaining words on the page formed a satisfying phrase.

Other visitors had a different approach to the duck — as soon as they saw that it did not like being touched, they put the controller down and interacted with a different pet instead. One visitor explained this to her companion as being about "respecting its needs".

The specific context in which these pieces were shown was very significant. Had they been in a space that wasn't a former counsellors office, the intensely intimate encounters with visitors disclosing personal matters might not have occurred. A tone was set that was very different to a video game arcade, despite the constant bleeping and chirping I had programmed the pets to emit in order to draw people in.

Visitors seemed to bring into this room with them assumptions about how simulated emotional systems function — they quickly caught on to an idea that emotions in the pets are caused by the player driving an interaction, and therefore felt a responsibility for the emotions of the pet, and a duty to do the right thing. This seemed tinged by the game-like goal of finding the solution to a puzzle.

It struck me toward the end of the residency that visitors seemed more willing to take on responsibility for the other's feelings in this playful context than in human-human interactions. Nobody instinctively blamed the duck for its sadness, but in day to day life I was encountering many discursive moves that locate blame for unpleasant feelings in the person feeling them. There was no question of simple emotional simulations being responsible for their own bad feelings, only the human agent could be responsible for failing to perform their dramatic role in a manner optimally tuned to the system's responses (or the responses that users assumed the system ought to have, such as the ability to recover from sadness). In the Petting Zoo, the unpleasant feelings could stay where they were, remaining an object to be worked on in the performance, rather than being passed around between candidates for blame. I started to think about how this dynamic could be used to provoke a gentle sense of responsibility when it comes to social harms in which we are all complicit.

Work in progress GIFs captured from Pico-8 engine
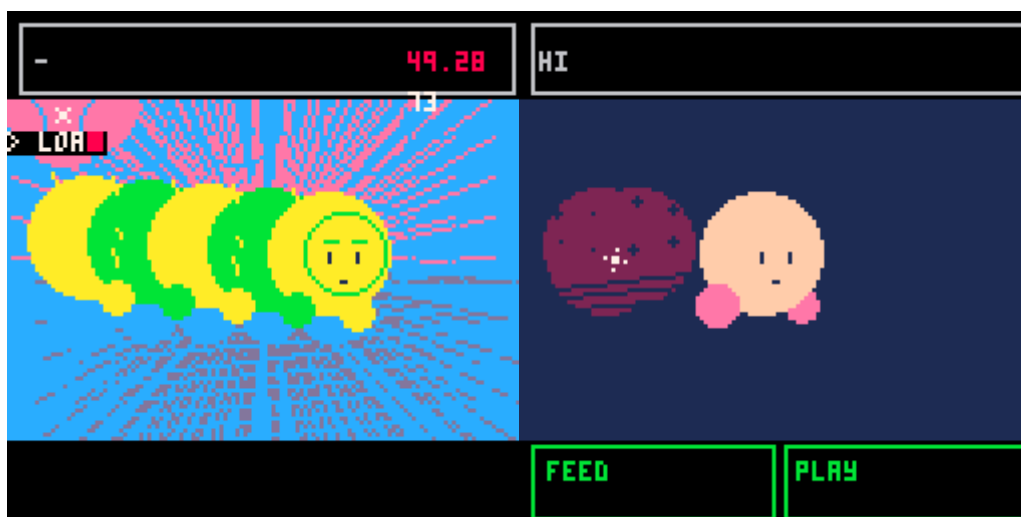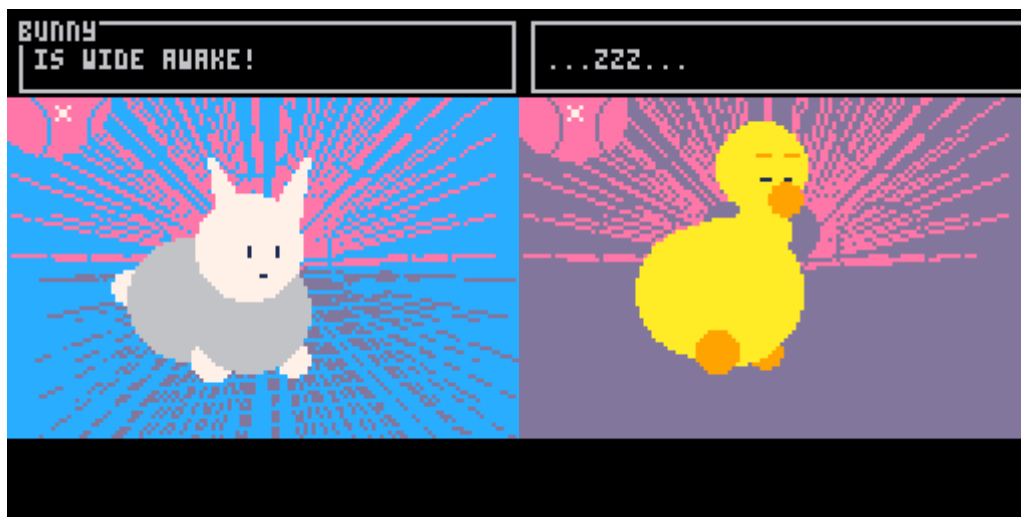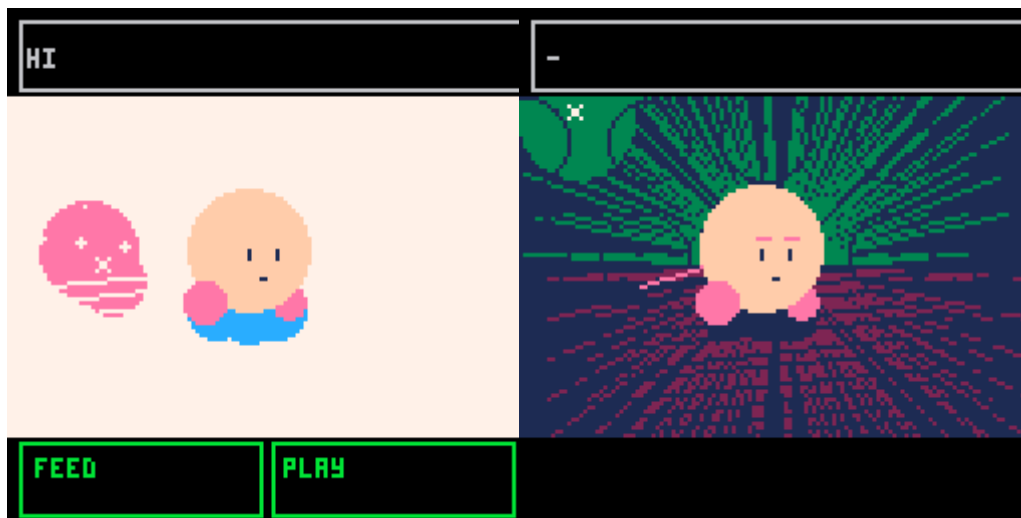
Installation photos
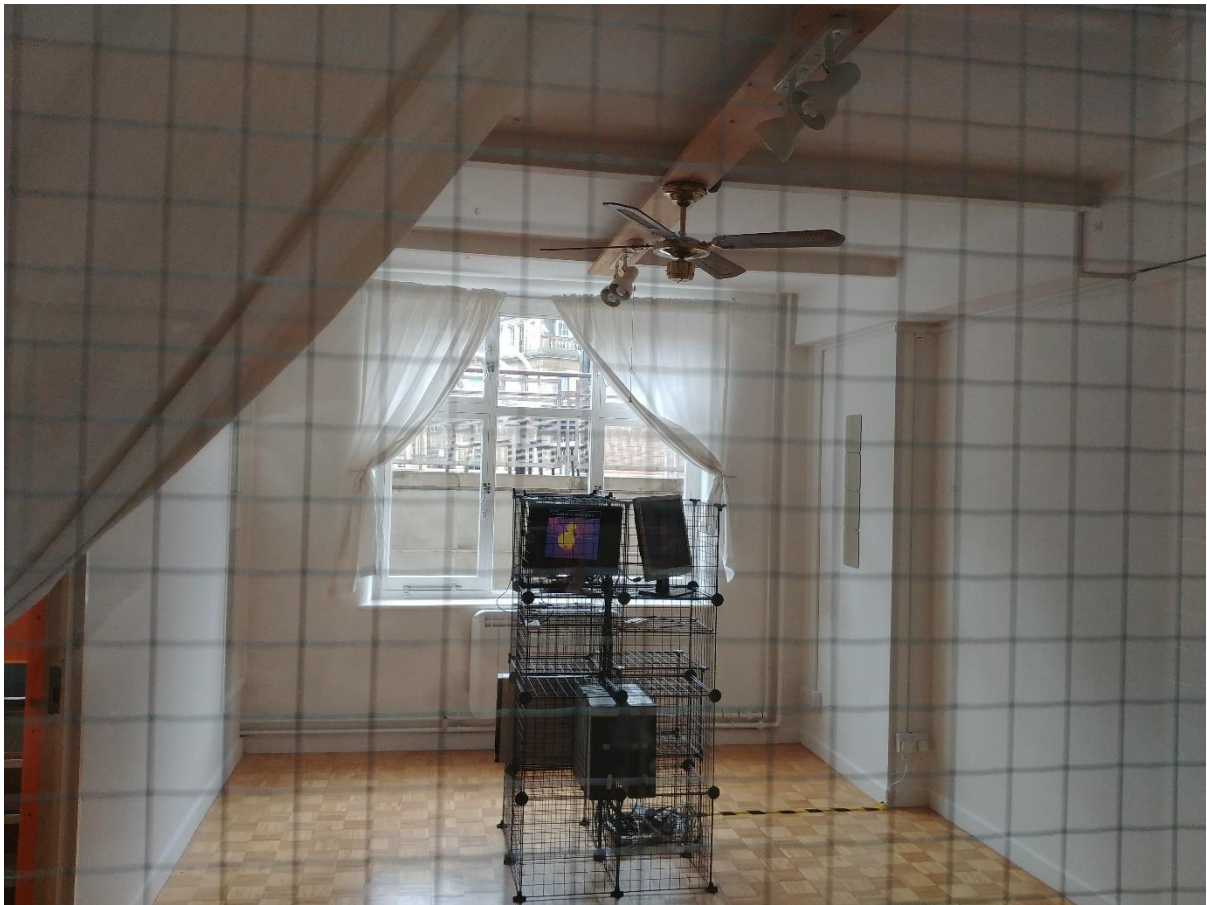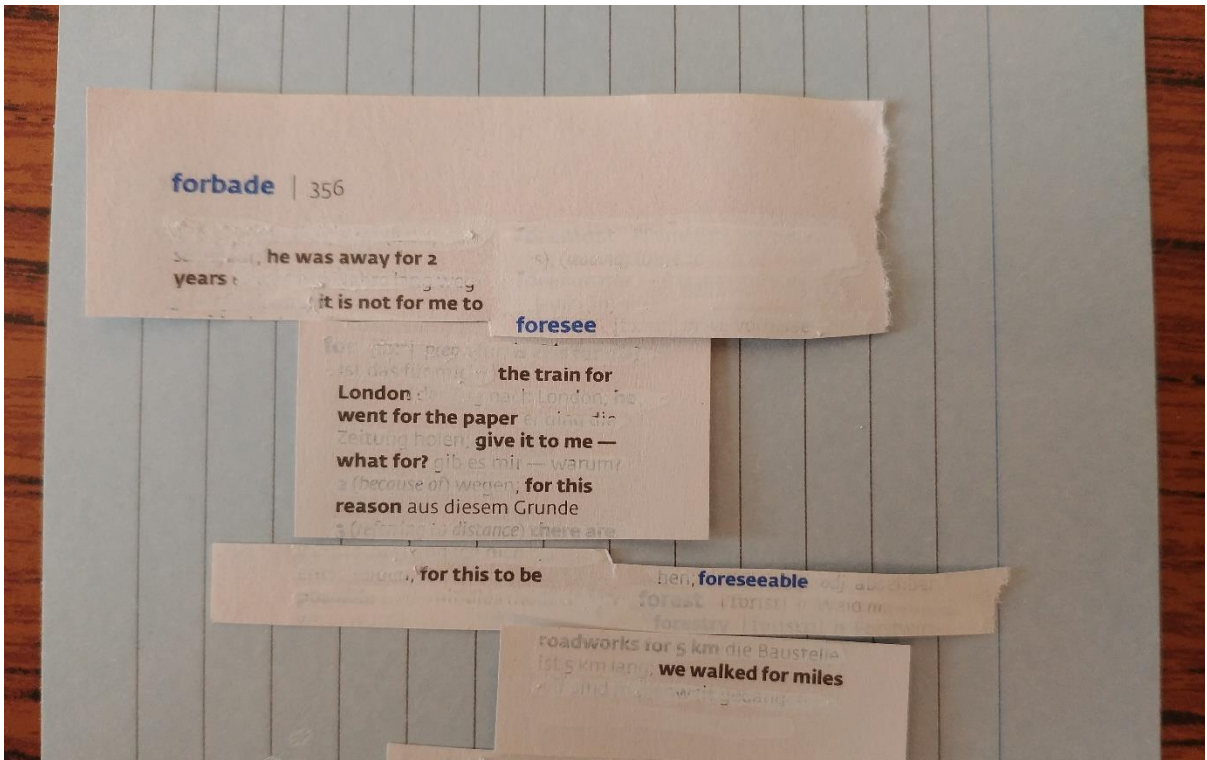
5 Erasure poetry

Chapter 4: Affective imaginaries in/on mobile games 1998-2008

[smiles] We just want to enable experience.

- Jani Karlsson, Senior Manager for N-Gage at Nokia, 2008 (Simons, 2006)

In this chapter I analyse discourse surrounding mobile games, primarily from blogs, but also making use of oral history interviews I have conducted with developers who were working in the mobile games industry before 2008. My analysis aims to articulate affective imaginaries, by highlighting discussions of what the imagined player thinks, does, wants, or feels. Alongside direct descriptions such as "fun", "excitement", and "disappointment", I consider frequently used keywords such as "engagement" and "experience" to be connected to the affective imaginary. Affective imaginaries are rarely stated explicitly, and are tied to tacit understandings of how emotions work. In the games industry discourse that I examine here, there is a tacit agreement that emotions can and should be instrumentalised as part of commercial enterprises and media arts. My analysis aims to point to these unexamined premises in order to make sense of the affective imaginaries that drove mobile game design in the years 1998-2008, when the social and commercial role of mobile games was not yet established, and developers aimed to be first movers in a nascent field.

I also look for affective metaphors that are used in connection with games as objects, including anthropomorphisations of software and hardware, and figurations of games and devices as animal-like creatures with their own agency. The affective imaginary constructs games not just as triggers for affect in humans, but as discrete entities that have their own affective properties. Few of the people contributing to this discourse would make a serious claim that games are living, feeling beings; most game designers would probably agree that a player/user must act upon interactive media for it to become an object with affective meaning. Yet in designers' discourse, games are emotional (twitchy, mellow, etc.) and players often invisible.

I argue that this demonstrates that affect is not merely something that game design aims to engender in players; it is a force with a significant role in the sociotechnical imaginary of digital games and the devices

on which they operate. Designers came to understand the affective qualities of their work through their own cultivated sensitivity, rather than through user testing or player analytics. In their articulations of affective imaginaries, affect is relocated from the subjective experience of developers to games as affective objects, and onto players as the final site of feeling.

Most of the material I examine in this chapter was produced between 1998 and 2008, and comes from blogs by industry commentators, interviews with industry figures by journalists, as well as game designers. At the time these pieces were published, the writers were distributed almost entirely in major urban areas of the USA, the UK, and Scandinavia, though their work often brings them into dialogue with major Asian economies such as China, Japan, and India.

The blog material comes from a handful of games business websites that were active before 2008, some of which have continued publishing to this day. GameDeveloper.com, previously Gamasutra.com, is a San Francisco-based games business site with a readership of game developers and investors. It has been running since 1997, operated by the same London-based company that publishes Game Developer Magazine and organises the Game Developers' Conference (United Business Media, which was then acquired by Informa in 2018). London-based MobileIndustry.biz was run by the Eurogamer Network (now Gamer Network) as an offshoot of GamesIndustry.biz, a site covering business news and opinion relating to game development; it launched in 2005, and though the domain is no longer in use the blog did not officially close, but by 2012 had been integrated into the main operations of GamesIndustry.biz. Inside Video Games was a blog with a particular focus on advertising and transmedia marketing, produced between 2006 and 2007 by New York-based VNU Business Media, a conglomerate that includes Adweek and Billboard, which was acquired in 2006 by British multinational private equity and venture capital company 3i. The Futures of Entertainment Convergence Blog was part of a set of projects run by MIT connecting academia with the media industry: it was launched in 2005, in connection with Henry Jenkins's book *Convergence Culture* (2006). In addition to this connection to Boston, Massachusetts, this blog also featured a large amount of writing by then MIT research assistant Parmesh Shahani, who often wrote about mobile technology trends in India.

In reviewing blogs and interviews with individual designers for this chapter, I selected subjects who either worked in mobile games before 2008, or who commented on them on a regular basis in public discourse. Raph Koster is a game designer who began his career as a pioneer of online social gaming in the 1990s, and began blogging in 1998. Much of the writing I focus on in this chapter comes from a period of time shortly following the release of his book *Theory of Fun* (2004), and includes original writing on his own website as well as interviews published elsewhere as part of the promotion of his book, which he reproduced on his website as blog posts. Robin Clarke is a game developer who worked at mobile games studio Morpheme until it shut down in 2008, and started blogging about game design and industry issues in 2005. In this chapter I analyse writing from his blog city-state.co.uk, as well as material from an interview I conducted with him in 2014. Finally, I use material from interviews I conducted with developers who worked on a mobile game called Sora for studio Tomo Software between 2003 and 2006: Chief Technology Officer Rich LaBarca, Lead Mobile Developer Brian Cavalier, and game narrative designer Jennifer Hepler.

Most of the material I study in this chapter shows that even while demonstrating a high degree of concern for player emotion, discourse about games keeps players at a distance, and even explicitly imagines players and developers at opposite ends of a network of connections. I will show that one way that developers have dealt with this distance is by relocating the affective qualities of games away from the player, either by honing their own affective sensibility as an embodied professional disposition, or by figuring inanimate non-humans as the carriers of embodied, affective qualities.

As part of this analysis, I also revisit Hunicke et. al.'s (2004) paper on their Mechanics, Dynamics, Aesthetics (MDA) framework that models the developer-player relationship. In Chapter 3 I examined the MDA framework, which serves as a model of the relationship between game designer and player as mediated via the game, and identified the "petting dynamics" of checking in, growing, and nourishing. In this chapter, the MDA framework forms a useful touchstone for the kind of ideas that were developing concerning game design and affect between the platform shifts of 1998 and 2008. My analysis in this chapter shows the context in which the MDA framework gains traction, and how approaches like it formed part of an imaginary in which developers manage player affect from a distance, via the game as

an affectively empowered object. In addition to MDA's mechanistic approach, developer discourse also sometimes features behaviourist tropes such as "positive reinforcement", reflecting the cognitivist model employed to manage player affect.

To focus on affect in studies of socio-technical imaginaries of the mobile games industry is to observe a productive tension: on the one hand, a great deal of the discourse surrounding this highly capitalised industry is dispassionate, focusing on numbers of users and technical details of network connectivity; on the other hand, the very purpose of game design is "engagement", or enticing users to spend money by offering some sort of emotional payoff. Affective imaginaries among game developers are not simply about how emotions are imagined in sum; they involve working out how emotions can be leveraged within the capitalistic and technological structure of the games industry itself.

1998-2008 in mobile games

I have focused my study for this chapter on the period between 1998 and 2008 because I am curious about how people make sense of things during a period of relative uncertainty. This was a period of experimentation and exploration, after the release of the widely popular Nokia 3210 handset which came preloaded with the game *Snake*, and before Apple launched an app store that allowed developers to directly access customers who owned an iPhone. During this time, the business model for mobile games was unclear, and designing mobile games was a new challenge. I am interested in the assumptions that developers brought to this unfamiliar situation, and the ways of thinking about games that emerged through practice. I view this approach as an alternative to the assumption often brought to histories of games, that any design change is a result of some innovative new technology or platform – a more conventional history of mobile games might treat the period before the app store as a cursory preamble, rather than a period worth investigating precisely because developers were working in difficult circumstances with a great deal of friction.

The platform shift to mobile devices involved a reconfiguration of the social environment. Designing games for mobile handsets meant designing for a differently situated kind of play. Game developers had already experienced a sociotechnical, temporal, and spatial shift in the 1980s, when gameplay was

translated from public games arcades to home consoles. This shift changed the ideal temporality of play, from short loops punctuated by prompts to insert more coins, to long, engrossing sessions in front of the home television. It also changed the sociality of play, from asynchronous competitive performance marked by high scores and showing off for spectators in the arcade (including strangers and friends alike), to playing alone or side by side with a competitor on the same couch (someone you know well enough to invite home). Mobile phones introduced similar shifts in the temporality and sociality of play; adjusting to this shift took at least a decade, as developers worked out how long and how often their players would engage in a mobile game and experimented with multiple social features, such as leaderboards and gifting.

Interest in emotions during this time was not limited to game development, and in fact demonstrates professional and discursive overlap with the field of user experience, which was gaining significant momentum in the late 1990s and early 2000s. By 2006, user experience (UX) and user-centred design had taken on "a wide variety of meanings, ranging from traditional usability to beauty, hedonic, affective or experiential aspects of technology use" (Hassenzahl & Tractinsky, 2006, p. 91). This was positioned in contrast to "usability" or human-computer interaction (HCI) as a whole, representing a shift "from technology-oriented design to user-oriented design" (Oudshoorn, Rommes, & Stienstra, 2004, p. 30); whereas HCI focused on configurations of devices and users that could complete certain tasks, user-centred design was "about technology that fulfils more than just instrumental needs in a way that acknowledges its use as a subjective, situated, complex and dynamic encounter" (Hassenzahl & Tractinsky, 2006, p. 95).

User experience therefore aimed to figure the user as a situated subject with needs that encompassed the affective domain. However, in user experience as in game design, users and players were hardly present during the design process: "Due to pressure to bring products to the market as quickly as possible, testing among users is postponed to the marketing phase. In this highly competitive sector, any effort to involve users in the design is considered as a risk that may slow down the speed of development" (Oudshoorn, Rommes, & Stienstra, 2004, p. 31). This produced the conditions for an ongoing concern for the affective state of an imagined user or player, a figure who was simulated

subjectively through the situated experiences of developers themselves, constructed through their own affective imaginaries.

Networked feelings before quantified feelings

Today, many developers dream that it could be otherwise – that player affect would not be merely hypothesised or imagined, but analysed with metrics tracking realtime user behaviour. My own experience in the games sector since 2011 overlapped with a period of time when the idea that user affect could be measured quantitatively and managed algorithmically gained increasing traction. During my work at the blog Gamesbrief, I interviewed multiple people working on software that aimed to help game developers to track their users' behaviour in ever more granular detail, with affective goals such as "engagement" in mind. I see the period before 2008 as notably different to this, as user quantification systems were not available to the same extent. The sociotechnical imaginary of quantified affect continues to have a significant impact on business practice in digital media and on users' day-to-day lived experiences, and has been the subject of critique in recent media works, such as the comedy film *Inside* by Bo Burnham: "maybe allowing giant digital media corporations to exploit the neurochemical drama of our children for profit… you know, maybe that was a bad call" (Burnham, 2021). This joke upholds an assumed connection between the actions and responses measured and analysed by digital devices, and the biochemical "drama" operating in the bodies of users.

While a connection between behaviourist optimisation and neurochemical change could indeed exist, these kinds of embodied materialisations of user affect are very rarely accessed by developers. There have been exceptions, with developers and researchers making use of eye tracking, heart rate, skin conductivity, and measures of electrical activity in the muscles and brain (Hughes & Jorda, 2021). However, these forms of quantification are still far from widespread, and it is much more common for player affect to be modelled subjectively based on the developer's own experience while making their work.

In the material I have examined for this chapter regarding mobile games, the most specific claims about player affect often appear where the compulsion to identify user needs meets the industry's demand for

quantitative data, and this is particularly relevant to venture capital's pursuit of "product-market fit".

Prior to 2008, most quantitative data cited by developers was based on user opinion surveys. In industry

discourse, the question of "what consumers want" from mobile games generates affectively suggestive

metaphors such as "connecting" and "sharing". For example, one article published in 2006 on *Inside*

Video Games reported on a study carried out by Nokia:

> Worldwide gaming trends show that connecting people, either as teammates or as opponents, is
>
> becoming an increasingly important part of what consumers want from their mobile gaming
>
> experience […] Not only do players want to defeat their foes, they also want to share game
>
> demos with their friends (62%). (Gaudiosi, 2006)

Here "connecting" is something that can be done from two dichotomous subject positions: teammates or

opponents. This is followed by verbs and objects/targets that befit each position: "defeat foes" and

"share […] with friends". This structuring of modes of interrelating through games as either combative or

collaborative is common in discussions of games in general, and a frequent point noted regarding mobile

games is the possibility of investing more in the collaborative mode than the combative. There was an

expectation that mobile platforms would provide a different kind of aesthetic experience, and while data

into player behaviour was often brought to bear when highlighting these differences, my study of the

discourse surrounding game development suggests that during development, the affective qualities of a

platform were understood not through data, but through sensitive, subjective feeling by the developer.

As discussed in Chapter 3, Mechanics, Dynamics, Aesthetics (MDA) aims to achieve "systematic

coherence" by aligning all aspects of a designer's aesthetic goals with the technical implementation of a

piece of interactive media (Hunicke, Leblanc, & Zubek, 2004). As a result, it models player emotions

("Aesthetics describes the desirable emotional responses evoked in the player, when she interacts with

the game system") as the product of a game's software design ("Mechanics describes the particular

components of the game, at the level of data representation and algorithms"), while the interplay

between player behaviour and game response generates "dynamics". "All desired user experience must

bottom out, somewhere, in code", state the paper's authors, emphasizing that mechanistic management

of player emotions is at the core of this vision of game development. This theme of "desired user experience", a goal that is largely concerned with affect, occurs repeatedly in the material I analyse in this chapter, but the material lacks a consistent sense of certainty that user experience has been managed completely through the work of designing interactions between player and game.

One strategy for managing this uncertainty that I see employed in the discourse is repositioning – affect is moved around between developer, player, and game, becoming an impersonal quality of the game as a commodity. Whereas the MDA model gives a direct linear path from mechanical design to dynamic behaviours to affective aesthetic, designers' discourse does not follow a strict process that transforms programmes into feelings – developer's own embodied affect is moved around the wider network, and affective agencies are attributed to games so that they can act as commodities that carry desirable normative affects to the end user. I describe these as the two repositionings of affect: one is the relocation of developer's "gut feel", and the other is the figuration of the game as an affective agent.

The affective relationship between player and game was a subject of such confusion during these decades in part because of the new kind of relationship that the mobile phone presented in contrast to consoles or PCs. In a particularly notable article written for *Gamasutra* in 2001, Finnish mobile game developer Lasse Seppänen presented a vision of how the developer engages with their work, through a "gut feel" that can be located regardless of the platform and that reveals the platform's unique qualities to someone who benefits from the right professional network. However, the image he presents of player affect is more disjointed and confused. He points out that because of billing systems, developers were motivated to try to encourage more "dedicated" or "glued" players:

> The mantra should probably be more on the lines of "stay with our game as long as possible".
> Due to the per minute billing system, the longer you can keep the player glued to one title, the
> more you are winning for the investment your company made in the development. (Seppänen,
> 2001)

Affective imaginaries take on another dimension when the temporality of interaction becomes a topic of concern, which was the case when adapting game design to mobile devices. Seppänen points out that

mobile games involve a different kind of temporality that does not lend itself to the same kinds of performances of affectively charged qualities such as "dedication":

> This is the core of mobile gamer behavior: mobile gaming remedies moments of boredom when there's no access to better gaming devices. The result is a completely different pattern of playing — whereas traditional gaming consists of a few long sessions, mobile gaming is all about multiple short sessions. (Seppänen, 2001)

The solution to this conflict, writes Seppänen, is "replayability", or "being able to enjoy the same game over and over again". Yet two things are frequently conflated when developers discuss this temporal aspect of user behaviour: the volume of time they spend with a game, be it in a single session or broken down into multiple short sessions, and their affective attachment to it, or the extent to which they enjoy the game. This manifests as a concern with two emotional phenomena: disappointment, and dedication.

Disappointment

Players' disappointment was a topic of significant concern for developers, whose livelihoods and perhaps also personal sense of satisfaction are dependent on the gratification of players' emotions. Until the launch of the iPhone, the most well-known platform built specifically for mobile games was a source of widespread disappointment – the Nokia N-Gage. The N-Gage was a mobile phone that had the physical appearance of a handheld gaming device, with the addition of a number keypad, and users could buy games cartridges for it in the same way as they would for a Nintendo or Sony handheld gaming device. However, it failed to satisfy Nokia's sales targets, and many N-Gage owners seem to have been frustrated by the catalogue of titles available. In an interview with *Gamasutra* in 2006, Nokia's Jani Karlsson uses research data to justify a positive reading of player feelings in relation to the N-Gage:

> GS: Looking forward, there must be a huge amount of consumer feedback to build from?

> JK: It's very interesting to see those results, we always do a huge amount of research to see what the consumers think about our products and actually the original N-Gage got some of the highest

rating on [sic] any of our devices. People who liked it really liked it a lot - some didn't, but those who did really loved it. (Simons, 2006)

The interviewer's question here could easily be interpreted as being about unsolicited feedback, whereas Karlsson responded by referring to in-house research. The implication of the question could be that disgruntled customers "must have" provided "a huge amount" of negative feedback. The expectation that such feedback would be negative is hinted at in Karlsson's use of intensifiers such as "actually" and "really". It seems likely that the research Karlsson refers to was focused more on opinions and impressions – "what the consumers think" – than affect, but Karlsson slides into the more general realm of feelings with the claim that those who like the N-Gage "really loved it". This call to research as the site of knowledge about what the user "really" feels came directly after a carefully-worded statement about users' "rejection" of the device:

Experience is the key. Not features for features sake, not power for power's sake - but always leading with the experience, with what the user actually wants and enjoys. We have something of a legacy in [N]okia to think in technology terms, we're a very human company but its [sic] often been very much about technology, now we're very much embracing the human experience side of technology even more so than before… Experience matters, and if you get only a tiny part of that wrong then the user rejects it. Perhaps our launch device, the original N-Gage, there were some challenges in the experience side. (Simons, 2006)

Here "technology" is contrasted with "human experience", defined as "what the user actually wants and enjoys." Karlsson's claim that Nokia was changing from a "very human company" that is often "very much about technology" to one that "embraces the human experience side" might indicate a conflict of priorities that had been ongoing for some years – three years before this interview was published, Nokia published *Mobile Usability*, a book collecting together years of research carried out into user experience at the company, including design studies, ethnographic studies of users in different countries, and descriptions of the principles guiding design work at the company. Again and again, the book's multiple

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authors come back to the theme of identifying users' "real needs", and the word "experience" appears 72 times in its 269 pages, as an object to be studied, "enhanced", and "engineered".

> By strategically balancing the level of evolutionary and revolutionary UI development, we can engineer hundreds of millions of positive user experiences – or else we can fail miserably. (Lindholm, Keinonen, & Kiljander, 2003, p. 42)

In the writing I have analysed for this chapter, disappointment is such a concern for developers that it seems to be the antagonist to the hero of "engagement", the main desired affective response from players.

> There is much, much more that we could have added in, but didn't. As a result, players moaned that there wasn't enough to do, and would stop playing if we didn't give them something extra.
>
> We simply didn't expect *Chop Suey Kung Fu* to be as successful as it was. We thought people might play a few dozen times, and get bored. We didn't anticipate people playing for hours at a time, and fighting literally thousands of bouts. Still, it's better to have been too successful and made a low-cost game that people enjoy than to have succumbed to feature creep! Sequels and patches are in the works, but why fix something that isn't actually broken? It's still getting the hits… (Kelland, 2001)

In the quote above, from a *Gamasutra* article by game developer Matt Kelland, engagement is positive – the game is "successful" because people were "playing for hours at a time, and fighting literally thousands of bouts" – but it is also a problem, because players ran out of new things to experience and started expressing disappointment by "moaning that there wasn't enough to do" (it's unclear how they accessed this feedback from players) and threatening to break the relationship by no longer playing. Success and enjoyment actually led to a sense of dissatisfaction expressed by a relatively loud subset of players.

Looking at the discourse around emotional commodities such as mobile games reveals contradictions in the imagined affective relationships between players, developers, and devices. Does the player want to

keep playing or not? Does the developer want the player to keep playing, or not? What is "enjoyment" here, if it leads to people "moaning" and threatening to "stop playing"? Moreover, it is not clear what the sequels and patches were aimed at resolving, if the developers had already concluded that they did not need to "fix something that isn't actually broken". There is an uncertainty throughout this quote about what it means for a game to "get the hits" – perhaps it is positive from a financial perspective, but there is an enduring attachment beyond this to the idea that extended periods of time playing a game will provide some form of enjoyment, an idea that is threatened by the complaints of disappointed players.

This is a moment that reveals the complexity that is enveloped by the "cybernetic fold" model of affect. In the systems-theory-like model of player affect, continued engagement is affirming. Just as Tomkins (Tomkins, 2008/1963) argued that continued interaction between people on the basis of shared desires allows them to enjoy each other, developers expect that extended interaction between player and game signals enjoyment. Yet there is no shortage of breakdowns that signal a conflict – for example, a player expressing their dissatisfaction about what came in the end from their hours and hours of "dedication".

Developers are in the business of rationalising the contradictory emotions connected to games into affective imaginaries that support further production and consumption. The developer has got what they wanted – the player spent their money and time on the game – but still has to process the new knowledge that many players were in fact unhappy. For Tomkins, such a mismatch in the desires of one person and another leads to negative affects such as shame or disgust – but typically this accompanies a breakdown in the cybernetic loop between one and the other, where "interest or enjoyment has been activated and [a barrier] inhibits one or the other or both […] any barrier to further exploration which partially reduces interest" (Tomkins, 2008/1963, p. 353).

Here, the loop may not even have been broken – the player may have been engaged for many hours – but the player was disappointed by a lack of novelty in the game's feedback. Despite rationalising that a low-cost game is "better" than getting carried away by a developer's enthusiastic imaginings, that is, "succumbing to feature creep", Kelland nevertheless seems conflicted about players' complaints, to the extent that, like Nokia's Karlsson, he takes time to articulate an argument that below the surface

appearance of dissatisfaction, players are in fact enjoying themselves. The affective imaginary involves finding a way to reason that success and pleasure go hand in hand, rather than requiring sacrifices of player emotion in order to serve financial goals.

Developers repeatedly state that their success or failure is dependent on player affect. This unquestioned belief is a key part of the affective imaginary of mobile games. However, interviews that I have carried out with developers also highlight other deciding factors in the success or failure of a mobile games company at this time, such as network operators and mobile phone manufacturers. When discussing the difference that the Apple App Store made to the mobile games industry, multiple interviewees indicated that before the App Store, their main barrier to success was getting their game accepted by carriers – according to Dan Silberberger, the dependency on generating a positive connection with players increased after the App Store eliminated that barrier, forcing companies such as Jamdat that had succeeded before the App Store to spend more on marketing (Silberberger, 2014). Yet these fundamental parts of the infrastructure of games are not imagined as part of the network of connections between developer and player in models such as MDA or in the texts that I examined for this chapter.

The imaginary of player and developer being connected intimately through a cybernetic loop of affect and action excludes any number of factors, in favour of foregrounding an emotional connection that motivates game development as a creative, affective profession. The instrumentalisation of developer affect is driven by a process of professionalisation that produces specialised sensitivities, such as a "gut feel". This is the first repositioning of affect – affect that is discursively projected onto the player is felt and measured through the developer's own embodied relationship to the game they are creating and to the wider economic network in which they operate.

Dedication

Dedication and disappointment are particularly noticeable in the story of a prototype mobile game called *Sora*, which began development in 2003. Its design reflected a growing familiarity with the contextual differences that influence mobile game experiences: unlike the N-gage and action games such as *Chop Suey Kung Fu*, *Sora* was designed for the temporality of mobile play, allowing players to take short actions

with personal narrative significance in a mobile virtual world. The plan was for players to instruct their avatar character to do something, and then return to the game later to see images and text describing the outcome of their choice and their interactions with other player-characters on the server. This may have been inspired by games for PC and Mac such as *The Sims*, that involve character-focused simulations of an absurdist version of daily life, and virtual pet games such as the browser-based *Neopets*, that involve making decisions to help an on-screen character grow and develop. In interviews carried out through text chat, CTO Rich LaBarca described it as "Like an MMO Tamagotchi" (Massively Multiplayer Online), and Brian Cavalier said, "the ultimate goal was to connect real people via their avatars" – when describing the game's design, they used terms such as "helping", further emphasizing that this game had affective goals related to caring for other beings (LaBarca, 2014; Cavalier, 2014).

Unfortunately, after beta testing with players, the game was shelved before commercial release; the company that had been making it rebranded from "Tomo software" to "Adhoc mobile", exchanging the Japanese word for "friend" for a term that refers to moment-to-moment actions. LaBarca explained that the core technology, an "underlying platform we called Mobile BEAST", was turned into an advertising platform, and the company was acquired by Convergent Mobile by early 2007 (LaBarca, 2014).

Writer Jennifer Hepler, who was working as a narrative designer for Tomo Software on a freelance basis, described *Sora*'s problems with reference to a behaviourist model of player psychology:

> You know there's always the problem in game development of players going through the content faster than you can create the content. [In *Sora*], everything happened in real time. So if you send your little guy on a ski trip, you literally couldn't play the game again until he came back from the ski trip, like 24 hours later. It was actually a negative reinforcement: the more often you checked in on the game, the less likely you were to have anything new happen in it. (Hepler, 2015)

Implicit in this description of "negative reinforcement" are a number of assumptions: first, that "checking in" is a desirable action that players ought to be "trained" to do; secondly, that "checking in" is not "playing the game"; thirdly, that to "have something new happen" would feel to the player like a reward,

and the opposite would feel to the player like a punishment. In the statement above "you" refers at first to the developer, and then to the player, a shift in perspective that is made without signposting – imagining oneself in the role of the user is central to the design process engaged in by game developers, along with people working in many other fields. But as the texts mentioned above show, the player is rarely close at hand; instead, the player is always being imagined and constructed through models of affect, in order to predict and manage behaviours, such as in this case, "going through the content" and "checking in". This model of affect employs behaviourist tropes about managing player engagement by rewarding certain actions – this is subtly different to the MDA model, but still legible through it in that a mechanic (you can only take a new action 24 hours after initiating a ski trip) gives rise to a behavioural dynamic (you don't bother checking in until at least 24 hours have passed) which leads to an aesthetic effect (an unrewarding connection, lack of novelty, disinterest, boredom, etc.)

Checking in is a temporal care relationship that is closely connected to a pet-like feeling of companionship, as I described in Chapter 3. This notion of the temporality of mobile games coalesced gradually between 1998 and 2008, such that by 2007 Robin Clarke wrote about it almost as a matter of fact, as in the quote below – the "traditional model" of games involved "dedication", whereas the new model involves "immediate" interactions.

> I'm not shooting down the whole idea of multiplayer or 'location aware' (or whatever the buzzword du jour is) games on mobile, but they introduce another layer of complexity which doesn't sit well with the immediate, dip-in-and-out nature of playing games on a phone. It might turn out that asynchronous games, or ones where communication with other players isn't vital for the game to progress, turn out to be a better fit than the traditional model where each player has to dedicate some time to playing the game. (Clarke, 2007)

Here Clarke's specific concern is for the design of multiplayer games for mobile phones – what's at stake here is the dependency of players on one another for sustained interest in a shared game. Clarke argues that in a situation where communication is "vital for the game to progress", the player has to take intentional steps to ensure that they keep up their side of the relationship. Mobile interactions are

fleeting, requiring a different kind of agreement between player and game in order to keep interactions moving forward. "Checking in" is part of that agreement – keeping the game in mind and remembering to come back to it at a later time. "Dedication" did not become less important with mobile games, but shifted temporally, from a single sustained commitment to a longer-term promise.

> If you can't get people who are already comfortable with the idea of paying money for computer games excited about your product, what chance do you have with the "expanded audience"?
>
> (Clarke, 2007)

This use of the term "audience" was uncomfortable enough to Clarke in 2007 to warrant being cushioned with rhetorical quotation marks, but by now it is an entrenched industry metaphor that I also use regularly, bringing discussions about games into the same sociolect as traditional broadcast media. It suggests that media is like a stage and performance, simply carried out at a distance. While an actor might describe feeding off the reaction of an audience, a developer can only respond to their mental model of what the audience might be thinking and feeling. As described above, quantitative data might give someone the confidence to speak with more certainty about player affect, but that does not mean that evaluation is actually withheld in the absence of such data. The "audience" is always there in the imaginary of developers, and the model of what the audience wants and feels – their "comfort" and "excitement", in this case – is essential to how people investing time and money in a risk-heavy industry evaluate their "chance" of success.

Developers applied a similar model of audience emotion when discussing other distributed forms of entertainment, such as television, as they too experimentally spread onto mobile platforms:

> I'd be excited, except that (a) I'm still not convinced that people are chomping at the bit to watch television on screens the size of post-it notes… (Askwith, 2005)

In this quote, which concerns cell-phone exclusive episodes of transmedia TV show and alternate reality game *Lost*, the writer's affect is tied to their model of players' affect – the developer would be excited if they thought the player was "chomping at the bit" (i.e., also excited, described using a metaphor from animal domestication). The writer is Ivan Askwith, who at the time was Head of Digital Media at

Lucasfilm. The conditions for his excitement imply a feedback loop with the players of any piece of media he might have a stake in, while also leaving open uncertainty about what the audience does want.

Another meaning of the term "audience" in this discourse relates to the active or passive state of the user. Posting the script for a presentation he gave for IBM in 2005, Raph Koster suggests that the ideal user would have different desires to the ones he perceives – they would not be simply part of the audience, but would engage in a way that "plays to the strength of the medium":

> Most players come from an audience point of view. They want to be told what to do. They want to be given a particular problem to solve. They want to approach things in that way. Right now, even though this isn't what really necessarily plays to the strength of the medium, a lot of the best-selling games out there are really hybrids between films and games. (Koster, 2005)

This relates to the affective imaginary of game development, not only because Koster is describing player desires, but because he is also describing a perceived inequality in the feedback loop between developer, game, and player: the players' desire to be instructed seems to be in conflict with Koster's own aesthetic goals for games as a medium. Again, developers are affectively and materially tied to players, but the relationship does not stop at games failing to trigger the correct affect in players – players' unwillingness to engage with sufficient interest, dedication, or curiosity causes dissatisfaction in developers.

Games as affective agents

The MDA framework positions the developer as the author of the whole system, and the player as its consumer. In MDA, the player and the developer are positioned at opposite ends of a chain of "lenses". Hunicke et al. (Hunicke, Leblanc, & Zubek, 2004) describe these two positions as "perspectives", such that in this metaphor, each participant is gazing at the other through a series of distorted looking glasses. An interesting feature of the MDA framework is that it positions affect, or "desirable emotional responses", within one of those "lenses", making feeling part of the player's act of perceiving a game and part of the game's communication to the player, through the visual metaphor of "aesthetics". The agency of affect is

therefore brought outside of the boundaries of the player's selfhood – their emotions are now part of a larger system, and the agency for affect is held in part by non-human, inanimate actants.

Above, I described the developer's "gut feel" as the first repositioning of affect. The second repositioning of affect moves it from the developer and player onto the game as an affective agent in its own right. This is a common quality of the affective imaginary surrounding game design – while the goal is to elicit "desirable emotional responses" in the player, the means to that goal are conceptualised by giving affective agency to the non-humans with which the player interacts. Not limited only to humans in the network, affect is just as visible in descriptions of games and software themselves. For example, in this quote from the *Futures of Entertainment Convergence* Blog in 2005, the players or consumers are invisible – games have their own agency, as an entity that emerges organically, and like a prey animal, leaves a scent trail that is detected by big companies – another animalistic, affective, non-human agent in this metaphor.

> Another major growth opportunity is cellphone games, which have emerged as a significant phenomenon - both culturally, and as a space where lots of money can be made. And the big companies are lining up already.... smelling the money trail. (Shahani, 2005)

Commenting on the state of mobile media in 2007, Raph Koster echoes the emergence metaphor above, with the notion of media as "arising from" a device. He goes on to describe software and media as an agent that "loves" to propagate:

> [T]he interesting stuff that will be the true core use of the devices will be the things that arise from the device […] software, like media, loves to just spread onto platforms (Koster, 2007)

Common idioms used by developers tend to figure games as the carriers of affect. In contrast, direct statements about the player's state of mind are often avoided. For example, Robin Clarke, reflecting on his work creating a mobile game called *Balloon Headed Boy* (BHB), writes about "making the game a lot less twitchy than the average platformer". "Twitchy" here is about the movement of the player's body and the response of the software, and the relationship between visual representation and the physicality of the mobile handset.

> [I]nstead of jumping, players could inflate and deflate the character's head, making the game a
>
> lot less twitchy than the average platformer, and better suited to play with a phone's keypad
>
> (Clarke, 2008)

Twitchy players don't appear in this phrasing – if they did, we might picture a person in a state of
nervousness and lack of composure – instead, it is the game that possesses this embodied, muscular
quality. Very few other notable references to player affect appear in Clarke's writing about his decade of
work at the company Morpheme, suggesting that it is only worth commenting on explicitly when it
deviates from the conventions (perhaps "gestalt," per Lindley (2003)) of a given genre ("less twitchy than
the average platformer"). Affect here is important to game design, but so deeply patterned into
established forms that it is not an explicit topic of discourse.

In fact, players rarely appear at all; the focus is on whether the games as commercial products "had legs".
Continuing a game-as-animal metaphor, Clarke also writes, "BHB proved to be a dependable workhorse"
(Clarke, 2008). The game-as-animal here works for the network of capital that surrounds the developer,
rather than referring to the game's animacy in response to the player.

Part of the embodied yet impersonal feeling of a game is treated as though it were located in the
platform itself. Seppänen advised developers to look for the "basic feel" of other games, including "limits
and opportunities" (L&O) before attempting to design one's own work for a given platform:

> In the area of game design, you typically get the basic feel by playing games on the target
>
> platform (say, a game console or a WAP phone). As a professional designer, you constantly
>
> enhance and revise this gut feel with input from programmers (technical L&O), artists (visual
>
> L&O), sound fx people (audio L&O), and sales people (business L&O). (Seppänen, 2001)

This suggests that the "gut feel" of the designer is always moving and changing as they examine different
parts of the network of game production and consumption. The developer's affect is tied to a "basic feel"
that is experienced when taking the subject position of a player, but there is a distinction here between
the "basic feel" of the platform and the "gut feel" of a "professional designer", which is informed by
multidisciplinary input as part of networked practice. This suggests that professionalisation in the games

industry involves a process similar to that observed in business schools by Fabian Muniesa (2014), a process of becoming which "is only marginally about knowing things. It is, above all, about reaching a felicitous mentality, about acquiring a disposition" – or perhaps, to borrow a phrase Bourdieu borrowed from sports to describe the *habitus*, a "feel for the game" (Bourdieu, 1990, p. 66), where for the developer the "game" is as much about social connections with other developers as with the platform and its software. Not simply getting closer to the player's experience, the professional game developer is getting closer to a networked, designerly disposition, which produces the right "gut feel" and achieves alignment with the general field of game development.

This is the only article that Seppänen wrote for Gamasutra, but this lack of continued output on the site was not due to reduced involvement in the games industry. He is now the CEO of a company focusing on mobile massively multiplayer online games (MMOs) that worked on the mobile spin-off of *Eve Online*, perhaps the most significant MMO today, before being acquired by *Angry Birds* developer Rovio in 2018. His 2001 Gamasutra article, written shortly after he finished his Master's degree, gives us a remarkable insight into how someone at the start of their career, in the early years of mobile game development, perceived the relationship between developers and players, the nature of a developer's professional disposition and aesthetic sensitivity, and the quasi-mystical relationship between developers and players.

> [...A]t the top of the chain awaits the fabled end-user. Displease the user and you shall have no chance of success. (Seppänen, 2001)

In industry discourse, the player/user is often far away, abstracted, even mythical. In Seppänen's article, the user is a "fabled" figure, an "end" agent, positioned at the top of a chain linking the developer to their colleagues, then to their products, and then their products to consumers. Seppänen evokes classical legends with self-aware irony, but the metaphor suggests that like capricious gods, the users' affect determines a developer's livelihood. Developers were therefore highly motivated to develop an understanding of players, but also sensitive to the latter's mysterious unknowability.

Conclusion – Distance, dedication, and disappointment in the affective imaginary of mobile games

The connection between developers' feelings and user or player's feelings via affective imaginaries could be understood through the "cybernetic fold". Sedgwick and Frank's use of "fold" refers to a historical moment – "the moment of systems theory" in the 1950s and 1960s – but is also meant to evoke systems theory's "undifferentiated but differentiable ecology", "a wealth of sites of productive opacity", and the way that the feedback loops of systems theory imply that "error and blindness" are "productive of, specifically, structure" (Sedgwick & Frank, 1995, pp. 12-13). The structure at stake here is the network of connections between developer and player, via mobile games. Part of this is the feedback loop between developers and users. Feedback is productive of affect in the ways that Silvan Tomkins characterised in sweeping lists of emotional feedback loops ("if you like to be looked at and I like to look at you, we may achieve an enjoyable interpersonal relationship. If you like to talk and I like to listen to you talk, this can be mutually rewarding," and so on (Tomkins quoted in Sedgwick & Frank, 1995, p. 11)). This feedback loop also structures the network of relationships in which developers work, even though the lifeworlds of developers and players are quite separate. Affective feedback structures relations not in spite of, but because of the incomplete contact that developers have with players and vice versa.

The affective imaginaries that appear in developer discourse could also be understood as part of a historical moment. The period 1998-2008 was a time of uncertainty and adaptation for mobile game developers. At first, mobile devices were primarily perceived by game developers as another screen that needed to be developed for, with developers' focus being on how to overcome challenges such as the small form factor. Very few projects perceived the mobile phone as a device with specific social or affective capabilities, that would require its own novel ways of thinking about what games should be or feel like. The mobility of the device was not as salient to developers as its size, and designers did not immediately extend to mobile games the affective imaginaries that had been applied to Tamagotchi and other portable virtual pets.

The screen size of a mobile device only represents one type of miniaturisation, as I described in Chapter 3. The fact that you can hold a device within your hand that can perform the functions of a machine that used to be the size of an item of furniture or a small building is a physical miniaturisation. However, the dynamics of game design also gradually came to adapt to a cognitive miniaturisation, through the incorporation of affective imaginaries that were a reduction of the imaginaries associated with other social phenomena, such as human-human relationships.

By 2001 it was already clear that the use patterns for mobile games would not be comparable to those of console or PC games. Venture-backed companies such as Tomo Software were tasked with figuring out how to use game design and technical infrastructures to "engage" mobile "audiences" in a way that made best use of what were perceived as inherent affective qualities of the platform – mobile games were seen as involving either less dedication, or a different kind of dedication that was more comparable to the petting dynamics that I described in Chapter 3; there was concern about how to engender satisfying "experiences" with devices that lacked the screen space or response speed of traditional videogame platforms.

Animalistic metaphors were used to describe inanimate agents such as the games and the companies that made or invested in them, as though the development of this industry were driven by instinct – with developers themselves honing a "gut feel" on which to base their decisions – this reflects similar trends in UX more generally at the time (Oudshoorn, Rommes, & Stienstra, 2004). Meanwhile, players were imagined as distant and mysterious, and developers articulated anxieties about satisfying the emotional needs of these far-off beings who were believed to play the deciding role in the success or failure of a business, even on occasion turning to pagan metaphors that lend a mythic dimension to how players are imagined.

The MDA model positions the developer and the player at opposite sides of a series of "lenses", or "views of a game", and conceptualises the developer and the player as mutually constructing and perceiving those lenses. The goal is for the developer to use game design to generate ideal emotional and behavioural responses from the player – ideal in terms of the player's desire for entertainment and

positive affects associated with gameplay, in terms of the developer's desire for an engaged player base that can sustain their business, and also in the sense that only one generalised normative player is imagined, rather than multiple players with multiple possible responses in multiple diverse contexts. The material I have analysed in this chapter suggests that, as developers worked out how to leverage new platforms, they worked with imaginaries that repositioned affective agency in different parts of the network. The MDA model does not treat continued engagement as separate to the more specific affective goal of a game's "aesthetics", an issue that is reproduced in materials written by mobile game developers, who expressed ambivalence when faced with a choice between a game that engages players for a long time versus a game that satisfies players' desires for novelty.

The MDA model could be used to point to a much wider set of concerns than those expressed in the materials that I analyse here – whereas developers working under the specific conditions of mobile game development prior to 2008 aimed to prevent disappointment and engender dedication (alongside other goals such as excitement and novelty), it is possible that game designers working in other conditions, such as the queer games that I discuss in Chapter 5, could imagine their goals differently, perhaps wanting to use feelings of disappointment as a desired aesthetic with a narrative purpose, while still constructing an affective imaginary that is fundamentally similar in structure to MDA. There is more at stake here than an abstract model of how players' emotions relate to the product of developers' work – the emotional responses that are figured as desirable in the affective imaginary relate to a broader set of material and social conditions that affect game development, such as business models and professional networks.

While a formalised theory such as MDA provides a useful grounding point for making sense of the sorts of affective imaginary that proliferate in the games industry, it neither defines nor determines it – nor can it encapsulate the full extent of how an affective imaginary motivates and facilitates professional life. At stake in the construction of affective imaginaries during the period considered here was not just the practical matter of making sense of what players wanted, but a more fundamental question of how the developer works, how they understand games and their place in the industry, and what determines their success or failure as professionals.

Reflections 2: Interactive Portraits of
Trans People in Japan

After the computer petting zoo, I wanted to explore ways to adapt the Tamagotchi-like representation method to the portrayal of interview material. Having seen users' sense of responsibility toward the pets, I wanted to stimulate that sense of responsibility in non-fiction representations of people. In a sense, my goals were similar to the assumed goals of "empathy games" during the height of the queer games boom, but rather than put the player into a marginalised person's shoes, I wanted to prompt reflection on their own position in relation to others.

I settled on the title "Interactive Portraits" to emphasize the goal of representing real people, in language that would be familiar to arts audiences, curators, and funders. In fact, the issue of putting a name to the method didn't even arise until I started to write an application for funding. Bringing up the notion of a "portrait" was meant to provoke a little bit of surprise, since as I describe below, the representations of real people are far from photorealistic – instead, the representation is carried out through interaction design.

Part of my motivation was an interest in interactive documentary in general and documentary cinema about transgender people in particular, and a distaste for how both of these are commonly executed. My city of Sheffield plays host every summer to a large documentary film festival, which includes an exhibition of interactive documentary works. There is something both deeply compelling and intensely unsatisfactory to me about a lot of the work displayed there. A key example is a game called *Borders* by Gonzalo Alvarez, which was displayed on its own custom hardware in the form of an arcade cabinet. This retro, lo-fi game resembles in style the kind of work I often get excited about, and the sense of nostalgic familiarity invoked by the arcade cabinet seems significant to the game's goal of demystifying the experience of migrants covertly crossing the US-Mexico border.

The control scheme and graphical presentation in *Borders* were comparable to early *Grand Theft Auto* games, or then-recent hyperviolent indie hit *Hotline Miami*, or the first *Metal Gear* game. This approach uses the framing of these games about criminal behaviour to subvert the media narrative of

undocumented border crossings as "illegal" and "criminal", taking the hyperviolence of the genre in reverse, to emphasize the threat the state poses to undocumented bodies.

Although I find this premise very promising, in playing the experience felt affectively misaligned. The game uses difficulty as a way to communicate real-world struggles. As I tried to manoeuvre my player-character through hostile terrain, he frequently fell into fatal traps and was shot by border guards. Each time I re-tried and learned how to overcome an obstacle, I felt accomplished and elated. Each time I died, a message on the screen increased the death toll of migrants crossing the border – this suggested an intended link between the player's sense of frustration and a feeling of collective grief.

I couldn't ignore the sense that by attempting another turn at the game, I was putting another life in danger. My responsibility as a player of the game was to the person choosing to cross, not to the people choosing to defend a national boundary with violence. I wasn't seeing the consequences of my real-world choices as a person with privileged status, as a citizen of my country of residence. The deaths appeared to happen as a direct and immediate response to my participation in the game of border crossing; I was experiencing those death tolls as if they were a consequence of my simulated act of covertly crossing a border.

When it came to my own work, I hoped that by using the sense of responsibility expressed by visitors to the Computer Petting Zoo in representations of real interviews, I might emphasize the agency people have in their life outside of the virtual interaction. *Borders* challenged the player to get better at navigating hostile systems: I hoped to challenge players to consider their role in enforcing them. My previous experience observing player responses to the Computer Petting Zoo seemed to suggest a way forward.

In 2018 I was accepted for a residency in Japan funded by the Japanese Agency for Cultural Affairs, on the basis of a project proposal to interview transgender people in Tokyo and the Kansai area, and turn the interviews into interactive characters based on the virtual pets that I had created for the Computer Petting Zoo. My interview methods were highly open-ended, emphasizing the subject's autonomy regarding what they chose to share – the purpose of this was to represent the kinds of conversations that

two transgender people have together when they are not trying to educate cisgender people about basic political and social issues. Some people talked about their transitions, others talked about life events that they considered more meaningful to them, such as deaths in their family or political activities they had taken part in. I found the interviewees by word of mouth through meeting LGBTQ+ people in Tokyo, and spent several months transcribing, translating, and coding them into a series of 12 Tamagotchi-like characters. No audio or visuals from the interview are used – everybody is represented purely through text, 8-bit noises, and a low-resolution animated image of an animal or a shape.

The user interaction for the interactive portraits follows the same basic pattern as the virtual pets. Whereas the virtual pets had given players the option of choosing between two actions at any time, the system for portraits has users choose between two questions. Each choice returns a "mood", which is linked to a piece of dialogue. A sense of narrative flow is created by loading new lines of dialogue corresponding to each mood when certain choices are made (this is often telegraphed with a question that is clearly a change of topic). Two of the pieces have an "interlude" that loads a separate "game" in which the player has to navigate an abstract, 2D, conceptual space, which uncovers text narration from the interview during which the subject describes how they think of the social systems that they navigate.

Early playtests of my first interactive portraits were promising – I showed the first piece, a "portrait" of a genderqueer African-American English teacher living in Japan, at an open studios event. I watched visitors interact, and saw them pause before choosing between two questions that both seemed a little blunt or rude. I saw similar results at a larger, more polished, installation at Festival of the Mind, an event organised in partnership between the University of Sheffield, Museums Sheffield, and a media consultancy called crossover labs.

Here, I installed a total of five different interviews on recycled computers, this time mounted on custom-made plinths built from the chassis of yet more recycled computers. The festival was staffed by volunteer invigilators, who guided hundreds of visitors a day to experience different multimedia installations.

Some volunteers described feeling a sense of responsibility toward the pieces, enhanced by the glitches I had deliberately coded into them. Rather than designing for maximum convenience, I had designed for

a sense that the "portraits" had their own kind of wilfulness. For example, whereas the pets would giggle if the cursor hovered over them (i.e., they were being tickled) I felt uncomfortable coding a similar behaviour into representations of real people, albeit in the form of non-human virtual creatures – representing the likely reaction of a person who was being tickled by a stranger would have taken the work into a darker and meaner direction than I intended. However, I did not want to remove an opportunity for interaction, particularly a form of interaction that, during the petting zoo installation, I had seen appeal to small children who were not able to read the text.

Instead, I modified the behaviour so that there would be uncomfortable consequences to "touching" the characters. The circles that make up the character's body vibrate and start to move around increasingly frantically, and their face disappears, showing a breakdown of their bodily integrity. An additional system coded in to produce visual glitches builds up a mass of shadowy pixels around the cursor as the player engages in activity, and I coded the "tickle" to generate more "player activity" points than the regular question selection. The combined effect of all of this was that, if left in the "tickle" state, a dark, writhing mass of pixels would build up around the cursor, eventually filling the whole screen. Volunteers were therefore tasked with making sure that when a visitor walked away from the installation, they did not leave the cursor resting on the character, to ensure that they would not end up in an unusable state.

The Festival of the Mind installation was my first opportunity to introduce textiles into the installation. A grant from Sheffield University allowed me to commission a 2m x 2m tapestry to be hung from the very high ceilings above the installation of computers. The function of this tapestry was primarily to take up ceiling space – curator Mark Atkin had asked me if there was some way I could magnify the low-resolution images on the screens into something larger that would have more presence in the large gallery space. I suggested textile as a way forward for two main reasons: first of all, I felt dissatisfied with my previous attempts to make large digital prints of pixel art, because they looked dull compared to the backlit screens on which they had been designed, and the grains of the inkjet printing didn't align in a satisfying way with the hard edges of the pixels; secondly, I had become interested in an argument made by videogames curator Emilie Reed (2017), that the aesthetic history of computing should be understood in the context of the history of textiles, tracing punchcard computing back to the Jacquard Loom. This

persuaded me that an alternate history of material culture could bring to interactive art a softness that I had long felt was missing in the standard display methods of videogame-related artworks in galleries, which typically place high-resolution LED screens into plywood arcade cabinets, as with *Borders*.

A conversation with the creator of the Pico-8 software platform in Tokyo had reinforced to me this sense that an alternate history of computing could be imagined through textiles, as we both felt that his software had become increasingly characterised by an aesthetic that evokes knitting or patchwork. He had recently implemented a graphics feature into Pico-8 inspired by "dither patterns" used for early 3D rendering, which use repeating patterns of pixels to blend two colours together, allowing shading to be possible on machines with a limited colour palette. Pico-8's exaggeratedly limited screen resolution of 128 x 128 pixels sometimes causes these "dither patterns" to be read in a flat way, that looks more like the repeating patterns of a knitted jumper or a patchwork quilt. I used these patterns extensively in the interactive portraits, enjoying the ambiguity and softness that they created. I therefore commissioned for Festival of the Mind an artist with a practice of creating patchwork quilts to commemorate births, deaths, and other major family events.

The textile artist, Anne Smithies, took the brief into fascinating directions, inspired by the circuitry of the hardware I was using for these pieces and other artworks that she had seen me working on. Using a large quilting machine, she stitched together her representation of one of the abstract characters using a single continuous run of stiches, evoking a circuit board. She also incorporated materials with different reflective qualities, including vinyl cut digitally with a laser machine, to emphasize the contrast between the digital aesthetic of hard squares made of light, and the traditional textile aesthetic of warm materials that absorb light and heat, cut into soft, fraying curves by hand. The result was a piece that combined digital and traditional media in ways I hadn't encountered before, that invited participants to touch, attracted the attention of people who were normally put off by videogames, and made the space feel cosier.

As I planned to show this work in other spaces further afield, I realised I would need to stop using big, heavy, recycled computers, and build some custom hardware using Raspberry Pis. This also presented an

opportunity to work with a miniature form factor, further taking advantage of some of the qualities that had attracted me to study Tamagotchi in the context of the history of mobile games. Although they wouldn't be folded into the telecocoon in the same way as a personal mobile device, I hoped that by making handheld consoles that reminded people of the Game Boy, I could still make use of the sense of childhood nostalgia, and the intimacy of enfolding an interactive object into your body, to increase the sense of closeness to the material. With funding from Arts Council England, I commissioned Anne Smithies to make cushions using the techniques she had developed for the hanging textile, each cushion having a pocket into which the handheld consoles would be placed. 12 pieces were made in total, each running one of 12 interactive portraits of transgender people in Japan. This was installed for the first time at an arts centre in my hometown of Rotherham, along with the hanging textile, and has since been shown at Sheffield Doc/Fest among other festivals around the country.

Transferring the interactive portraits to these handheld consoles had a number of effects on the affective responses of audiences. First of all, whereas full-size computers and monitors were displayed as a shared social object about which multiple visitors could move and discuss, the tiny handheld consoles lent themselves to a quiet, one-on-one experience, or at most, two people who were already intimate with each other could look at a single screen while huddled together. This took away the aspect of buying into and performing an emotional fiction that had been present with the computer petting zoo. Secondly, without sound being projected from the devices, the opportunities for emotional feedback were reduced. This might have in part accounted for the very different responses that I saw in audiences compared to the pets or to the earlier installations of the pieces on larger computers – whereas people had previously paused to consider their questions and reflected that they didn't want to say something to hurt the character, now they were more likely to say that they were grateful for the opportunity to get information about trans people's lives, and "ask the questions that you're normally too worried to ask". The cushions went some way toward generating the kind of response I had imagined – one visitor remarked that having the cushion in their lap while holding the console felt like cradling an infant, and therefore gave them a sense of intimacy. However, I began to feel concerned that the pieces had begun

to be interpreted as a service to cisgender people hungry for personal information about transgender people, rather than as an interactive partner to which they were responsible.

This affective misalignment in the interactive portraits complicates an easy narrative about how affect is generated through digital interfaces. It is true that all senses are engaged through the creation of an interface, and a change of interface will create a change of response. Softness, size, and sound were all significant in creating a sensory impression that built an emotional picture of the interaction with the interview subject. However, the social role of the devices I have used for these installations might also play a major role in how audiences engage in an affective performance.

The emotional engagement with characters that I had seen on larger machines might be understood as a performative empathy, a conscious involvement in an emotional narrative that includes other people and the context of the physical site. A similar public performance is engendered by the positioning of "Borders" inside an arcade cabinet, which evokes the social context of games arcades, where in a spirit of competition or encouragement you might observe another person playing a game, and they might play differently knowing that they are being watched. In this context, that rising death toll could become a collective responsibility, laying bare the futility of trying to perform an oppressed identity skilfully enough to minimise systemic deaths.

In contrast, the private nature of the experience with a small, handheld device might have run counter to the social aspect of the sense of "responsibility" that I had hoped to generate. I felt most confident about the reception of these pieces when I was able to guide the experience more actively, encouraging the user to sit with the cushion in their lap and debriefing afterwards by having an in-depth discussion about their thoughts about the content of the simulated conversations. This brought the experience back to the effect of the therapist chairs in the computer petting zoo, providing a space to explore the internal experience of trying to understand someone else.
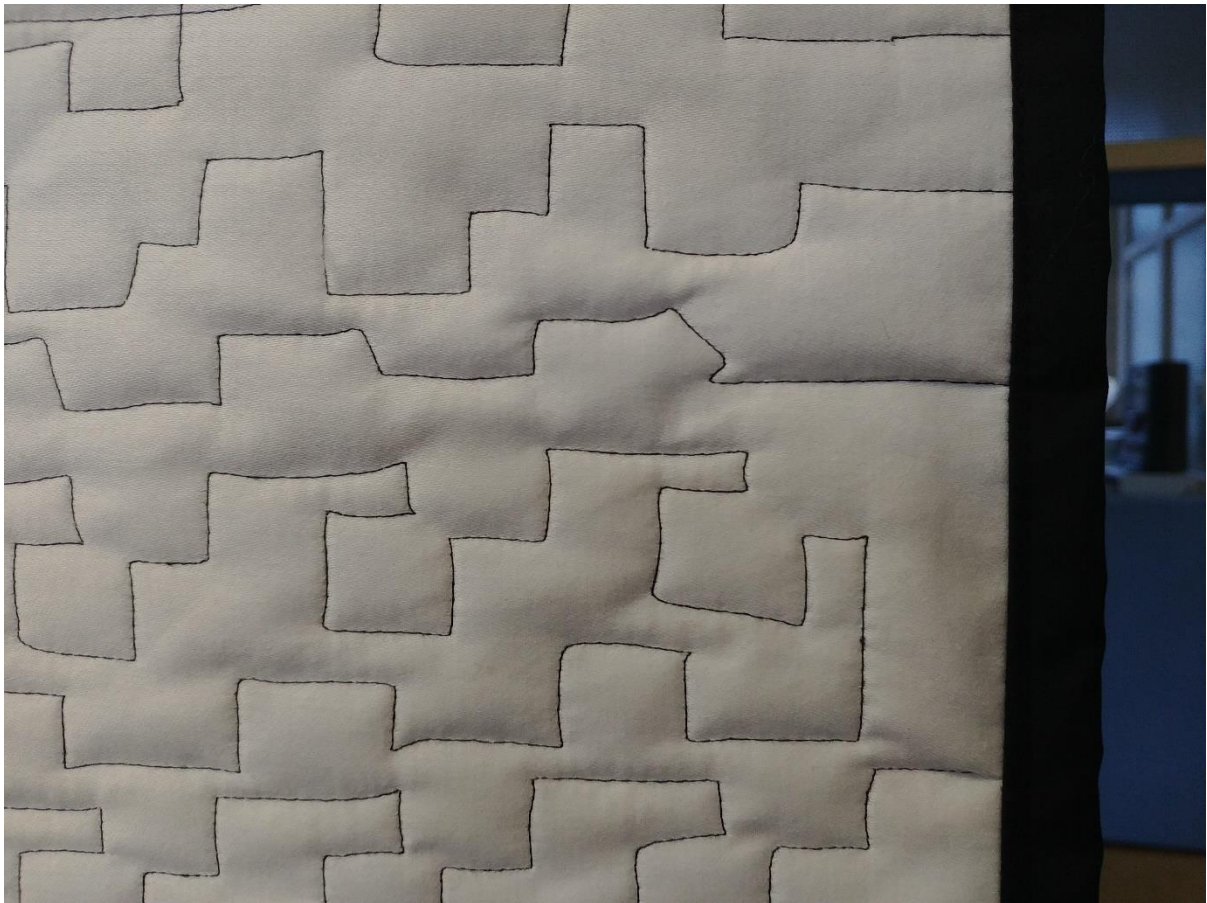
GIFs captured from Pico-8 game engine
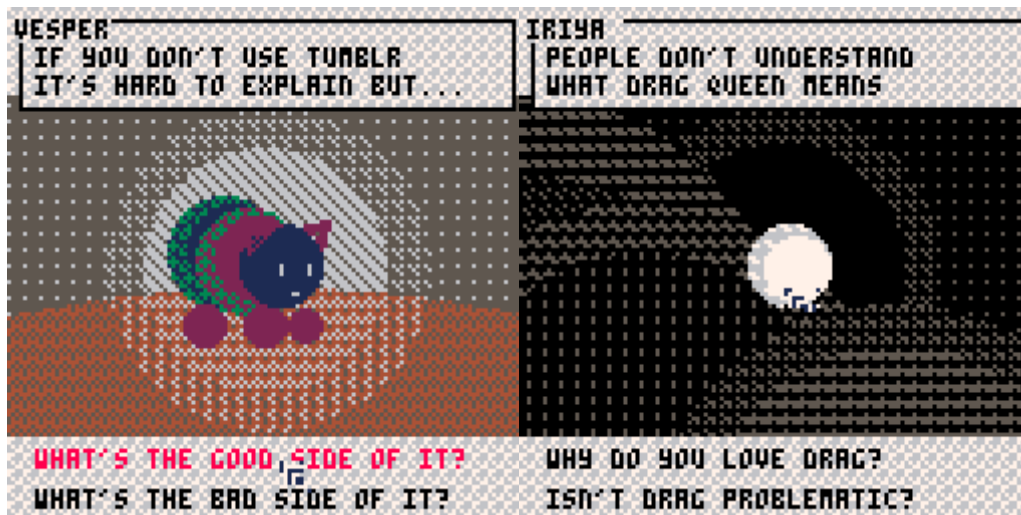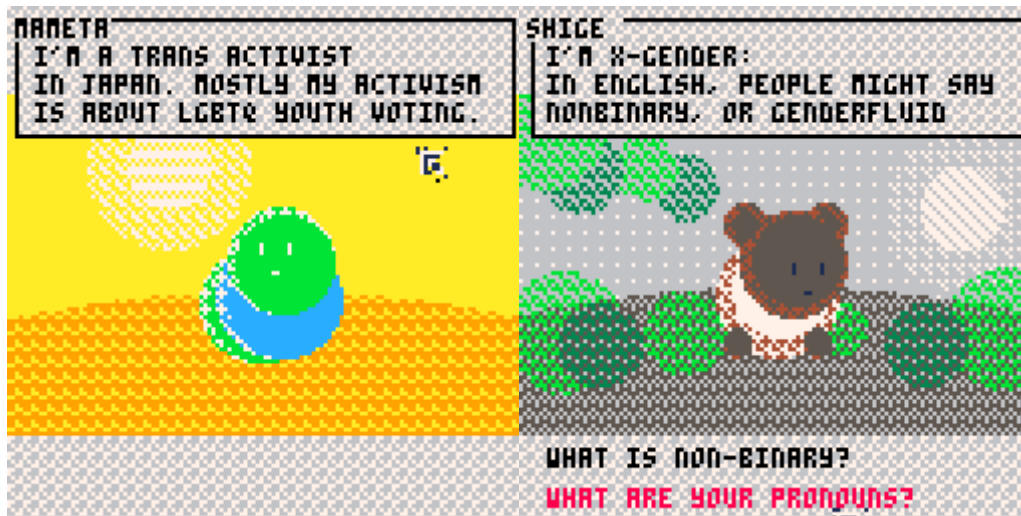
Photos of accompanying textile by Anne Smithies
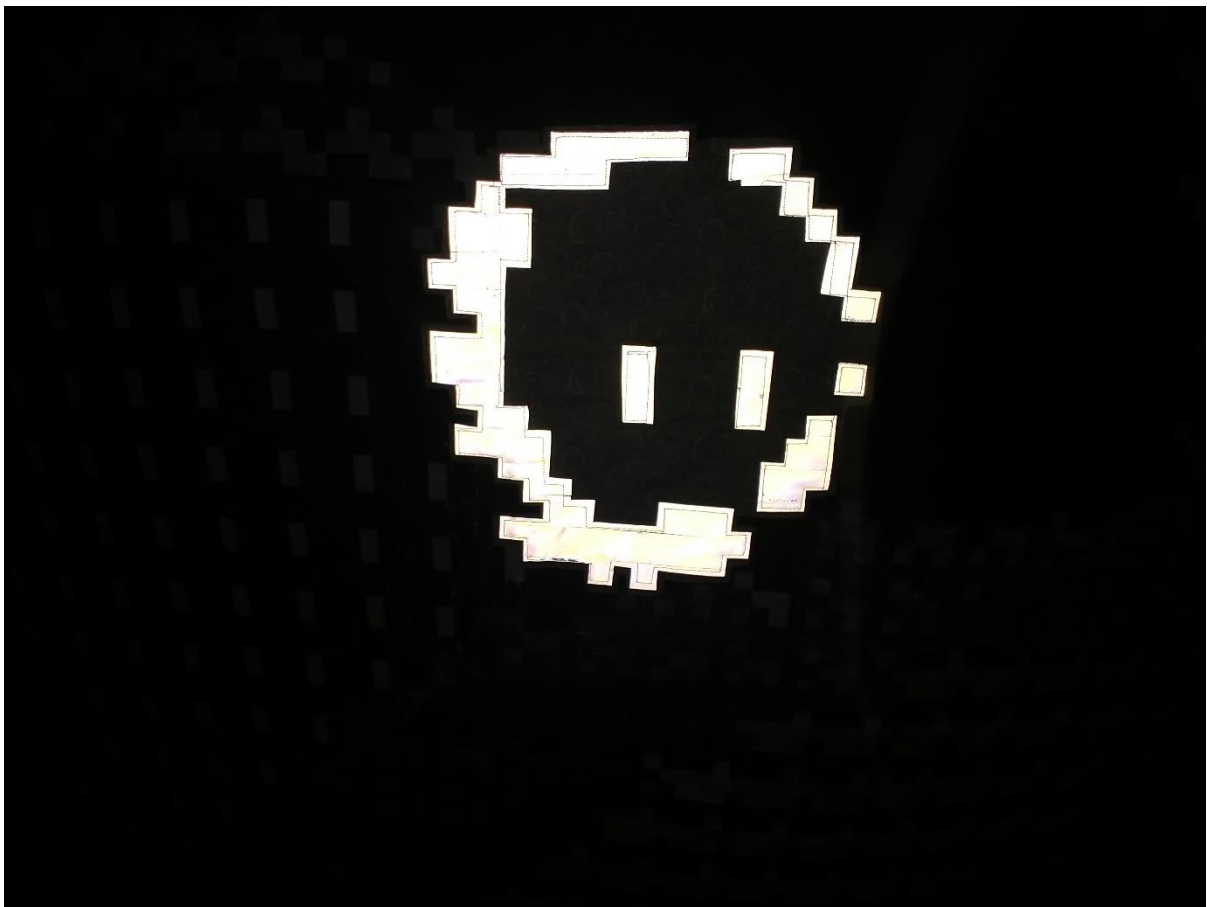
Photos of installation at Millennium Galleries Sheffield for Festival of the Mind

6 Plinths made from old computer cases by Jack Lyus
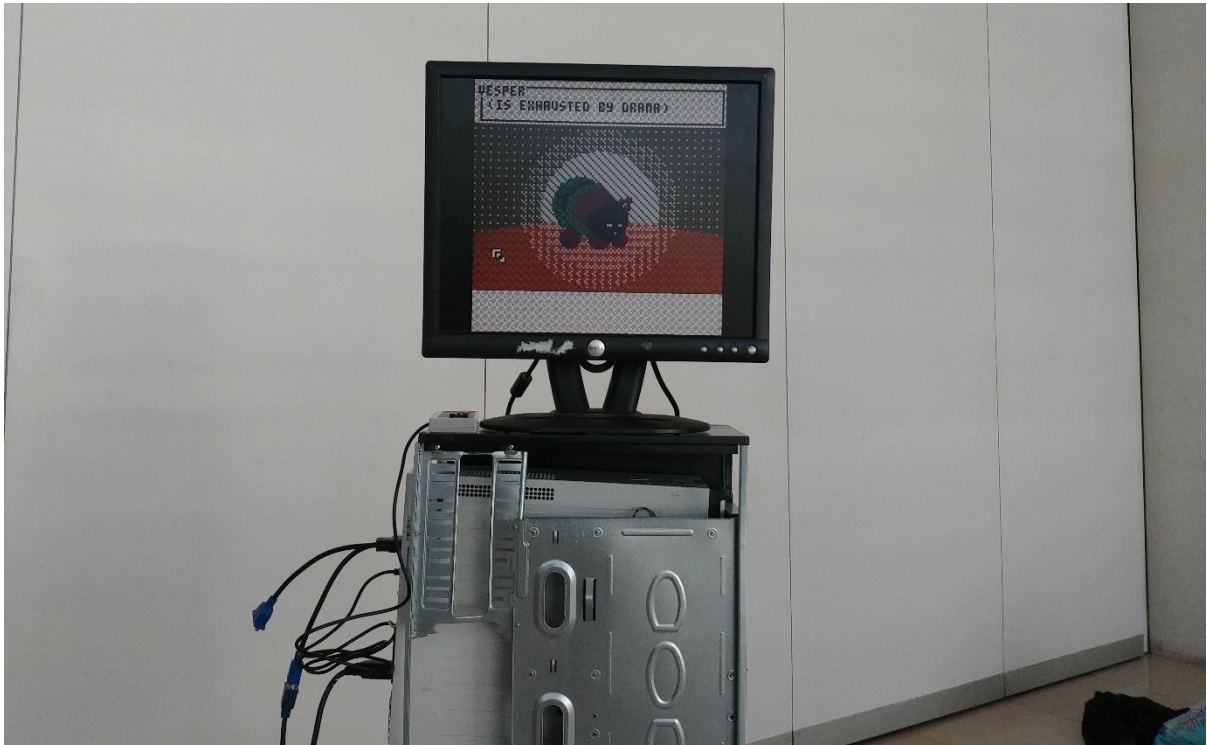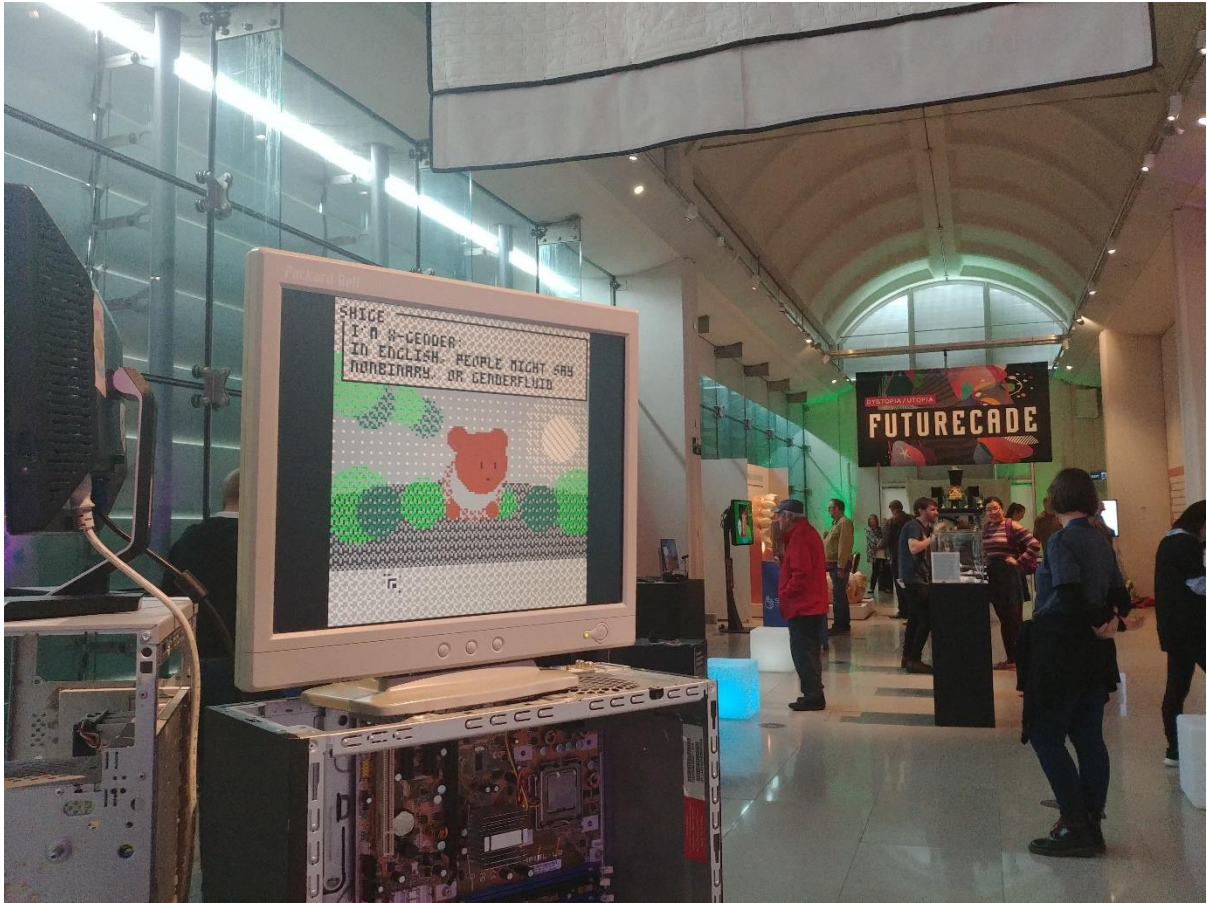
Photos – first installation with cushions at Rotherham Open Arts Renaissance
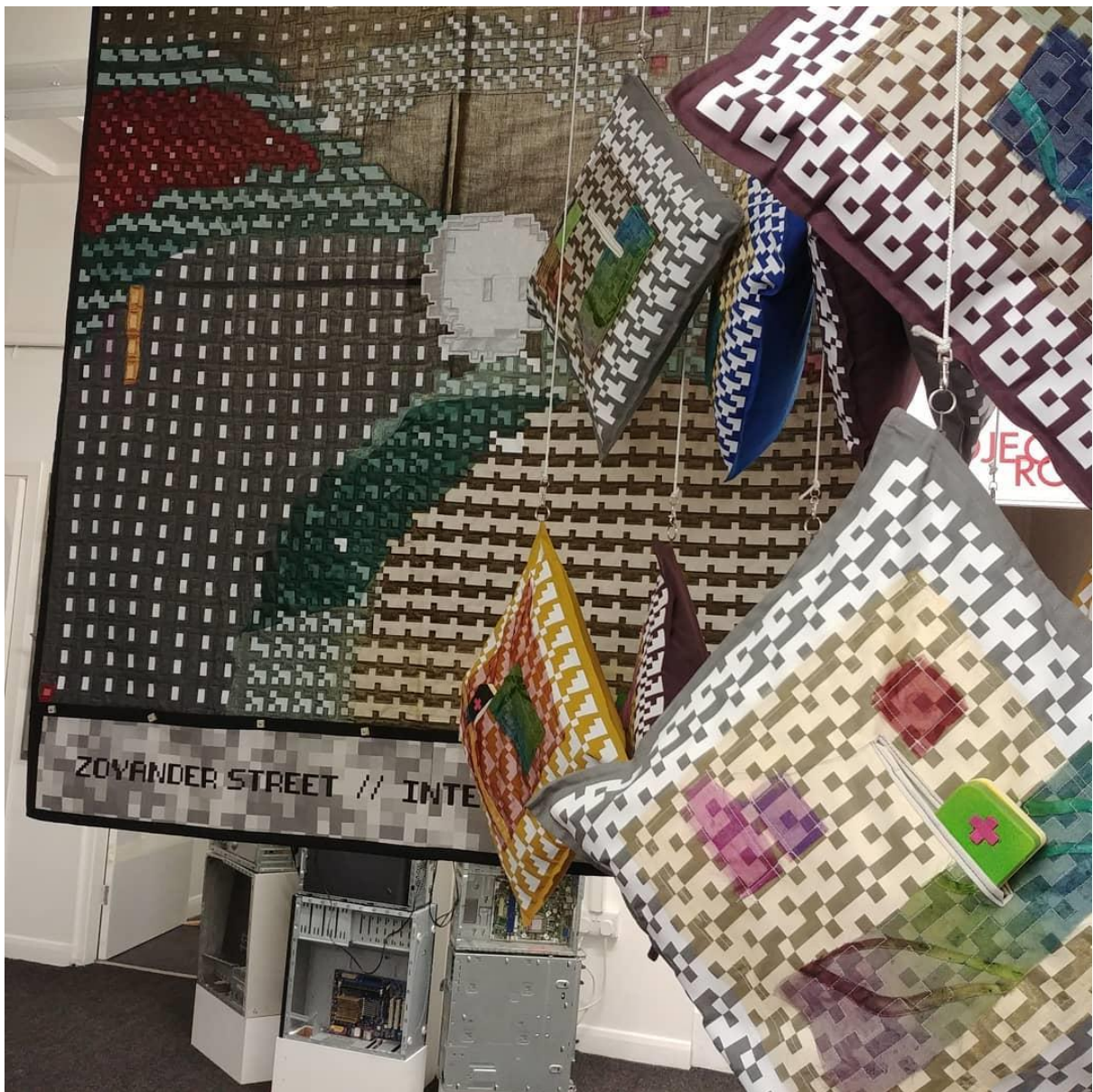
Photos – installation at Site Gallery Sheffield (photographer Jules Lister)
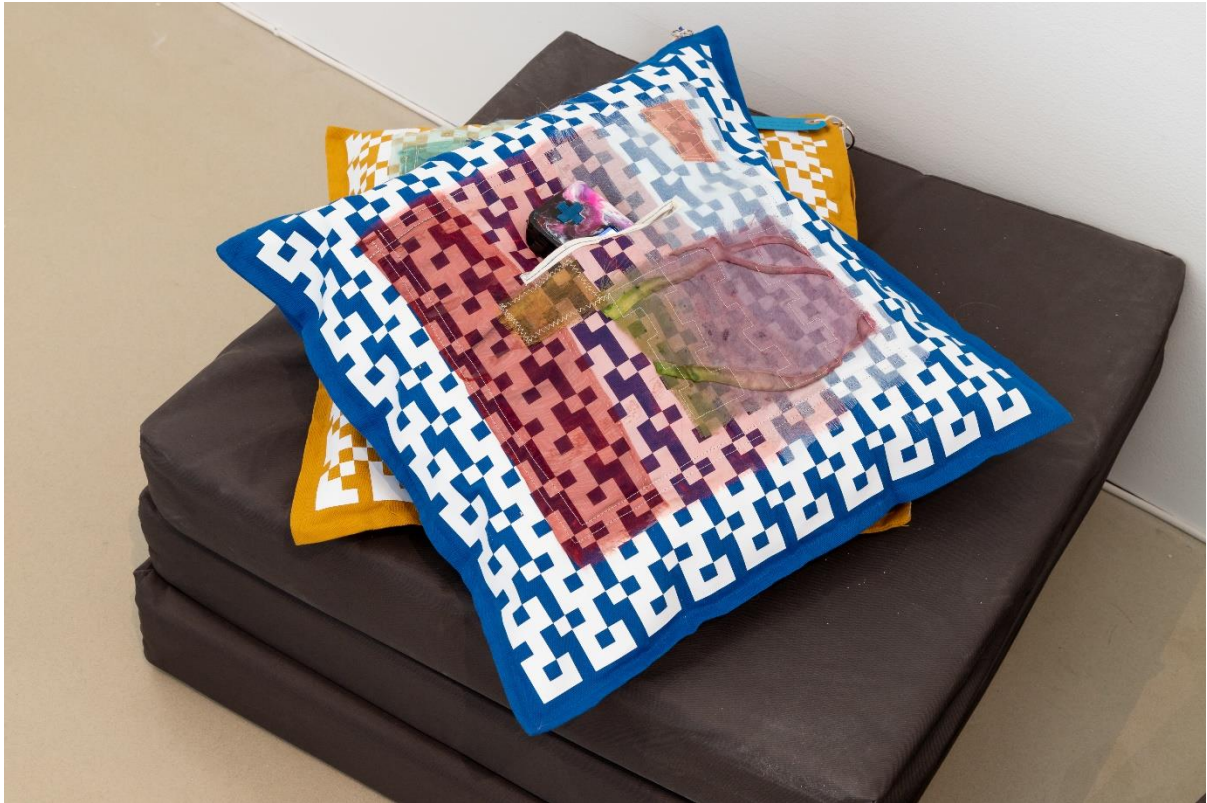
Chapter 5: Queer games as objects of (cisheteronormative and counternormative) affective imaginaries

I will start this chapter with a story about the affective imaginaries of belonging and friction in the context of "culture war" discourse, and what it means to use theory in fraught contact zones.

Early in the summer of 2018, an art installation by media artist and founder of the "chaos magic" collective (http://chaosmagic.space), Joey Holder, opened at a gallery called Bloc Projects in Sheffield. The main show is a piece of video art about mysticism and conspiracy theories, installed in a room made blood red with vinyl wall and floor stickers that look like a raging fire. The foyer space was used to illustrate some of the themes of the show by placing a number of books on the wall, connected with a kabbalistic network of lines. This display began by the door with three books that have been very important to me in developing this thesis (including Eve Kosofsky Sedgwick's *Touching Feeling*) and linked them through a kind of pentagram to alt-right "manosphere" figureheads such as Milo Yiannopoulos and Jordan Peterson.
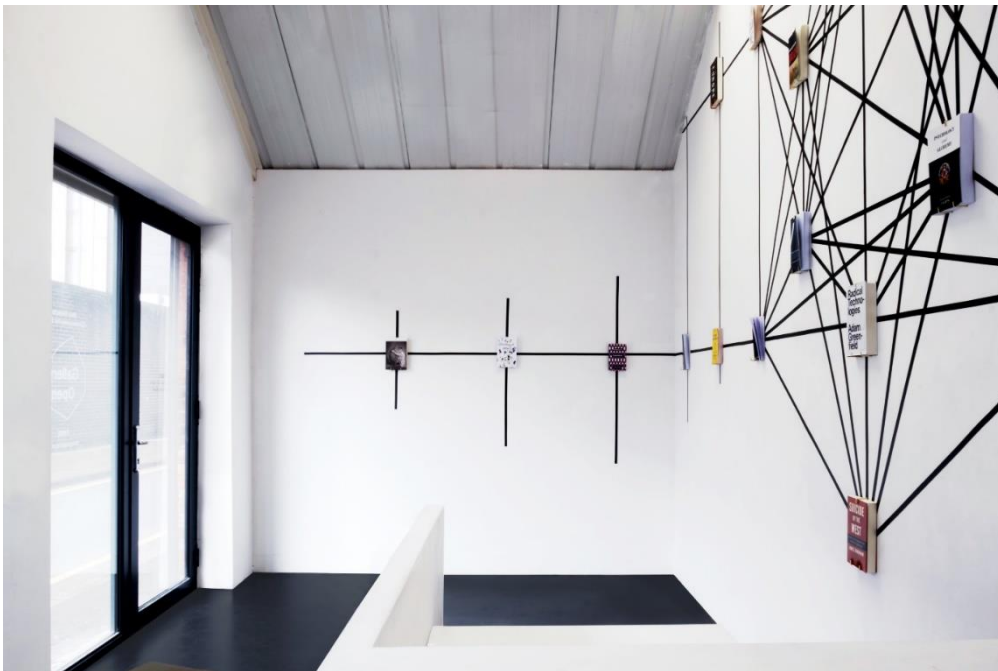
Figure 7: View in foyer of Bloc Projects, image by James Clarkson

Figure 8: View in gallery of Bloc Projects, image by James Clarkson

My first response to this was a fiery anger - how could someone link things that matter to me to things that feel threatening to me? Yiannopoulos had targeted friends of mine in online harassment campaigns, and Peterson seemed to be providing a superficially respectable ideological bridge for the transphobic foot soldiers of campaigns like those led by Yiannopoulos. The online communities targeting my friends had drawn up conspiracy diagrams placing me in the network of people they saw as a malevolent force conspiring to change videogames culture by making and celebrating progressive, queer works – networks of solidarity that centred trans women were imagined as malevolent counter-cultural forces. The circulation of materials such as these diagrams made me constantly aware that at any time, I could be targeted next. And now, here was another kind of conspiracy diagram, drawing on the same cultural imagery as the "string theory" trope that I described in Chapter 2, linking the ideas that I valued to the ideas that drove these harassers. This artist couldn't possibly be invoking the "both sides" argument, suggesting that people who critique capitalism and heteronormativity are "just as extreme" as the people who ruined my colleagues' lives and made my industry feel like a dangerous place to work. Or was the artist suggesting that I was in some sense intellectually complicit in my friends' abuse?

This frantic spiral of thoughts had all the qualities of the "paranoia" Sedgwick describes, in a chapter of *Touching Feeling* that was the focus of a reading group run as part of this exhibition. So many of the analytical skills I have been trained in have come to be used to identify and call out problems, or problematise things that I might have previously considered benign. In joining the dots from point A to point B and so on until reaching the worst places imaginable, there is at once a sense of satisfaction, and a sense of panic. What Holder's work pinpointed, for me, was the cognitive similarity between my ability to link anything and everything to imperialism or capitalism, and right-wing thinkers' ability to link anything and everything to the racist conspiracy theory of white genocide – including my own weird, niche writing about videogames.

Affect theories of connection

Just as games can be figured as carriers or agents of affect as I have shown in Chapter 4, the way that they are figured as affective contributes to normative affective imaginaries – or to counter-affective readings. In the title of this chapter I use the term "objects" to refer to queer games, both because I will discuss how specific games themselves have been figured as objects that evoke or enact affective imaginaries, and because in doing so, queer-identified game developers themselves are objectified and instrumentalised as tools for achieving prosocial outcomes in a broader cultural sphere. Affective imaginaries figure objects as conduits for connection between people, and the imagined configuration of those systems of connection influences the agency that is attributed to games, the people that make them, and the emotions that they invoke.

One theory of connection between developers, games, and players is the MDA model that I have discussed throughout this thesis. This model remains very helpful as a way of discerning different elements of the creator-audience relationship around games and discussing affective aspects of game design as a specific creative practice. However, as I showed in Chapter 4, there remains a great deal of ambiguity that is not represented by the figuration of games as bundles of mechanisms by which developers produce dynamics that lead to desired aesthetic effects on the player. In the early 2000s, working in the unfamiliar context of new mobile devices, developers compensated for a lack of direct

connection to player emotions by honing their own internal simulation of player affect, and by figuring

games themselves as affective objects. Rather than only existing in the player after being evoked by

gameplay dynamics, affect was figured as something that moved around the routes of connection

facilitated by a game, inhabiting a variety of agents, including software itself.

In this chapter, I aim to trace the development of a discourse about empathy regarding games made by

queer and trans creators in 2011-2014. The most commonly-cited examples of these are *Dys4ia* by Anna

Anthropy, *Lim* by Merritt K, and *Mainichi* by Mattie Brice, even though empathy was not always the first

thing on these creators' minds. I will also discuss other games from this era, including Liz Ryerson's

Problem Attic and Zoe Quinn's *Depression Quest*, as well as Squinky's *Hold In Your Farts or Die*, a game

released in 2020 that riffs on Merrit K's *Lim*.

The notion of games as engines for empathy that figured prominently in discourse about these works was

then picked up by VR developers, where the idea continues to be influential today, particularly as

documentary filmmakers get into VR. I am interested here in how empathy is figured, and how objects

are figured as empathic.[11] I also aim to propose an alternative affective imaginary based on solidarity,

which I believe is more congruent with the testimonies of queer game developers. This work builds on

previous arguments made by Bo Ruberg and Teddy Pozo, bringing to bear my own auto-ethnographic

perspective as well as the theoretical approach I have developed in this thesis so far.

I hope here to examine the affective imaginaries that have surrounded queer games in the time that I

have been involved with them, from around the year 2011 to the mid-2010s, focusing mainly on my own

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[11] A critical examination of the concept of empathy itself is beyond the scope of this thesis, but it is a fascinating area. In *Against Empathy*, Paul Bloom argues that by focusing attention on individuals, empathy can distort moral judgment away from addressing issues at a larger scale (Bloom, 2016). In *The Dark Sides of Empathy*, Fritz Breithaupt unpacks the figuration of self and other through empathy and argues that cruel behaviour can actually be a result of over-identification through empathy, rather than a lack of empathy as is commonly assumed (Breithaupt & Hamilton, 2019). A great deal of valuable work on empathy comes from critical disability studies, neurodiversity studies, and neuroqueer theory. Much of this builds on the "double empathy problem" which hypothesises that rather than stemming from a deficit in empathy, the communication challenges facing autistic people are a result of cognitive differences between autistic and non-autistic people, which prevent mutual understanding (Milton, 2012). This would have asymmetrical effects due to autistic people being in the minority, leading to comorbid mental health conditions in autistic people due to repeated experiences of social rejection (Mitchell, Sheppard, & Cassidy, 2021).

expectations and beliefs about the affective meaning of queer (and trans) games, and of queer game making. Throughout the time I have been involved in this area, queer games have been figured as a community-building exercise - the idealistic dream is making things around which shared conversations can happen, and helping other people to make things so that their voices can be heard. This imaginary includes the idea of empathy that has been taken up by VR, which I will discuss further in Chapter 6, but it also involves related affective rhetorical objects, such as solidarity and connection.

Trans imaginaries

Some accounts of trans studies position it in dialectical opposition to queer studies, albeit intimately bound to it as an "evil twin" (Stryker, 2004; Stryker, 1994). Some instances of this could be read as figuring trans as something more materialist, while queer is more theoretical (Heaney, 2017, pp. 253-298; Chaudhry, 2019). Rather than maintaining hard boundaries between trans and queer, I like to see trans as moving with and against its apparent dialectical opposites as messmates, taking cues from other feminisms that engage with troubled contact zones (Haraway, 2017) – a connection highlighted by Erik Fuhrer (2020)

> trans* is not a thing or being, it is rather the process through which thingness and beingness are constituted" (196). Trans is about making rather than the made product, kin to Haraway's queer messmates and queer kin which are, whether intentional or not, forever co-constituting each other, enmeshed within each other's beings and constantly shifting materialities.

Trans studies often shows how much is at stake in the figuration of trans identity within a cisheteropatriarchal context. Trans is a lively rhetorical object in contexts that exclude trans voices, and is also a figurative lens for constituting subjects and objects in unfamiliar ways. At stake in trans is the allegorical reordering of relations between bodies and identity that might in fact have little to do with the material concerns of trans people ourselves. Emma Heaney describes this as "trans feminine allegory", in which "the installation of trans women in narratives that are about the conceptual reordering of sex attaches this allegorical association to trans femininity itself in popular understanding" (Heaney, 2017, p.

6). Trans people are forced to be attentive to their own position, by being made in some sense transparent, merely a window for viewing the contradictions and difficulties of cisnormative positions.

Trans studies also demonstrates the asymmetry and incoherence of the above-mentioned idea of "trans people ourselves" as a group with unified material and political concerns (Barcelos, 2022). I am trying to pay attention to the mess and conflict in trans games production, and see this as part of the functioning of communities-in-the-making, rather than only as barriers to belonging. Sara Ahmed in fact conceptualises alliance with trans struggles in terms of our relationship to barriers, chipping away at those barriers with the hammers we acquire reciprocally through the "chip, chip, chip hammering away at our being" (Ahmed, 2017). The lived reality of transgender communities challenges affective imaginaries of community as a pleasant and kind space. Instead, trans community frequently enacts insecurity, vulnerability, and harm.

Queer games

The queer games movement has been broadly about appropriating the medium of videogames for countercultural art. This medium is familiar and accessible to people born in the 1980s and onwards, with strong affective resonance due both to nostalgia and the cybernetic qualities of the interactive format. This makes it appealing for exploring marginalised subject positions, or engaging in imaginative world-making and creating situations where queer affects are affirmed. The movement has been about making beautiful things that can be shared with online communities, and using them to connect to people who have had similar experiences and feelings.

It's difficult to give a clear start date to the queer games movement but the publication of Anna Anthropy's book *Rise of the Videogame Zinesters* in 2012 was a key turning point, inspiring a wave of LGBTQ+ people to use videogames as a medium of self-expression. In the final pages, she enthusiastically revels in the potential for marginalised perspectives to be expressed using new, easy-to-use game making tools:

There's nothing to stop us from making our voices heard now. And there will be plenty of voices.

Among those voices, there will be plenty of mediocrity, and plenty of games that have no

meaning to anyone outside the author and maybe her friends. But we'll find new ways to sort

that shit. And imagine what we'll gain: real diversity, a plethora of voices and experiences, and a

new avenue for human beings to tell their stories and connect with other human beings.

(Anthropy, 2012, p. 161)

One of the first pieces of writing to draw attention to queer games as part of the wider indie games scene

was a feature by researcher Brendan Keogh published on Polygon (polygon.com), a videogames-focused

website run by Vox media. Keogh emphasised the act of creation, interviewing creators who had

achieved a relatively high profile in the scene, and touching on some of the affordances of the platforms

being used to make games – which Keogh and the artists he interviewed were quick to link to affect. For

example, two creators using the text-based platform Twine reflected on how it facilitated a particular

way for player-characters to relate to their circumstances:

Besides its incredibly low barrier to entry, what has attracted so many people to Twine,

Porpentine argues, is that it is perfectly suited to deal with interiority and introspection, as

opposed to the external forces of violence and physical action of most games. Twine developers

can create games that explore emotions, thoughts, opinions. "It is good for processing and

articulating feelings that have never been expressed," says Erin Stephens-North, Porpentine's

partner and Twine artist in her own right. "It allows you to find people who have common

experiences and to carve out spaces for identities that haven't even been talked about at all."

(Keogh, 2013)

The first game discussed by Keogh, and one of the first games I remember attracting me to the queer

games scene, was *Lim* by Merritt K. The player controls a square that flashes in many colours,

manoeuvring it through a maze occupied by other squares that are either brown or blue – by pressing the

"space" button, the square will automatically fit the colour of the surrounding squares, at the cost of

reducing movement speed. Failing to match nearby squares will cause them to attack, blocking the player

character's movement. At the end of the maze is another square that also flashes in many colours, alone and still as if waiting for you, in a space empty of the hostile squares. This seems suggestive of finding someone else who is like you in a world where you feel alone.
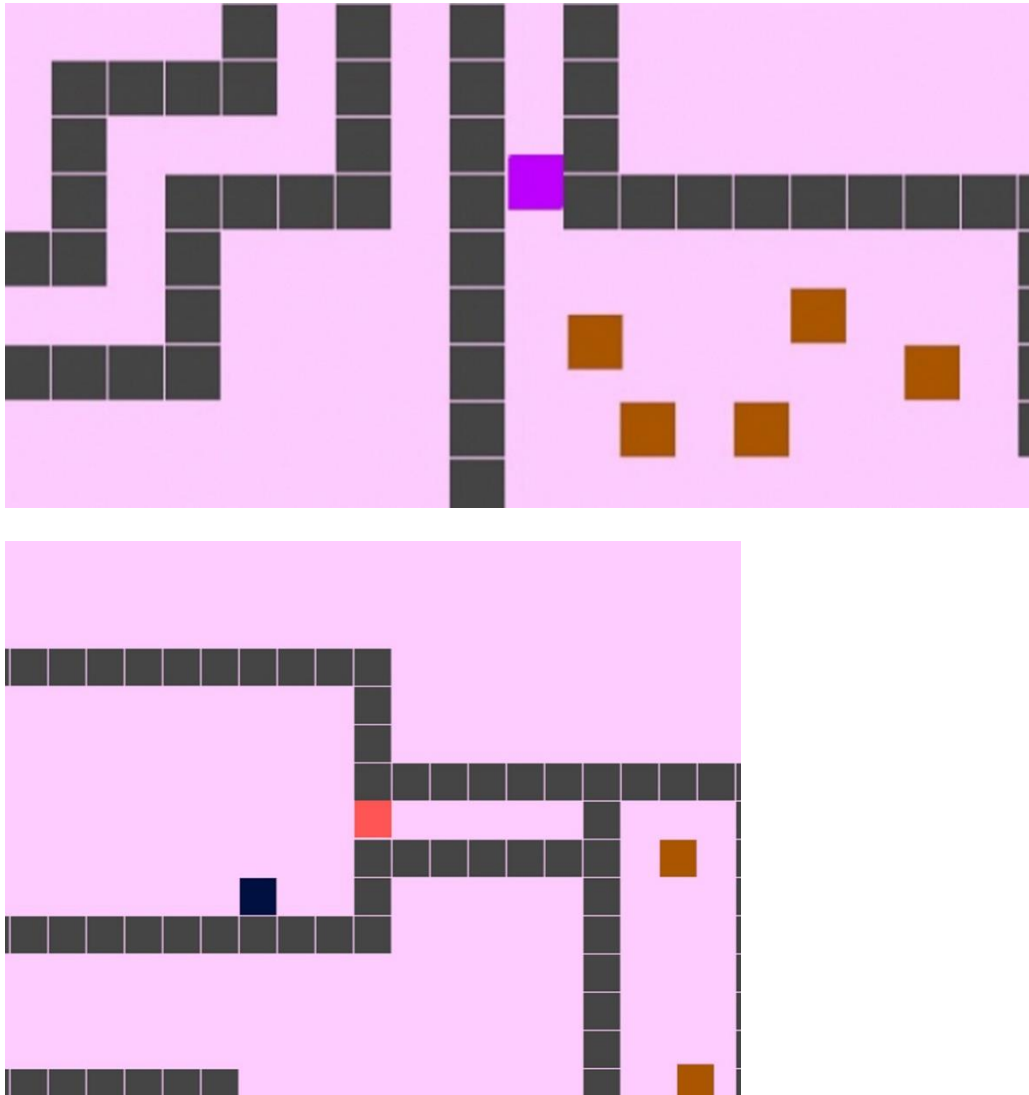
Figure 9: Screenshots from Lim by Merritt K

This short, simple game made out of a DIY ethos continues to fascinate me as a rhetorical object. It takes on new layers for me as time goes on. When I first played it, I interpreted it as being about trying to avoid bullying in a hostile world. *Lim* became more bittersweet and layered for me when I experienced bullying and ostracization within the queer games community. There was a bug in *Lim* that could be triggered if the player character was attacked by other squares for too long – they might force the character against the walls of the maze, and if the collision mechanic glitched the player would end up on the outside of

the maze, unable to re-enter. You can still reach the end of the maze where the other multicoloured square is located, but there is a wall between you. The game took on a sense of yearning, that you might long for connection with someone who shares something in common with you, but the very experiences of hostility that you have both experienced are the thing stopping you from connecting.
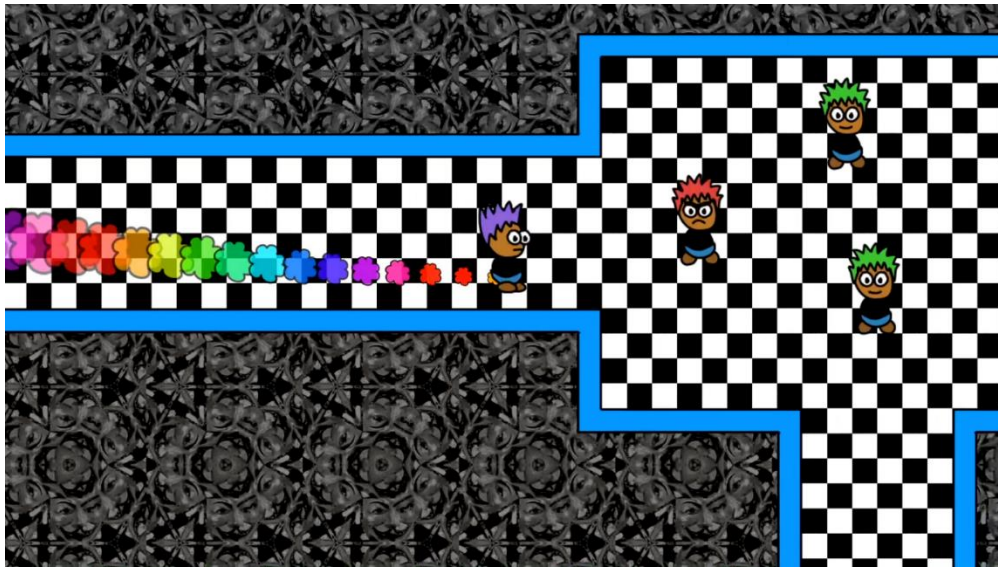
Figure 10: Screenshot of Hold in Your Farts or Die by Squinky

In 2020, non-binary artist Squinky released *Hold In Your Farts Or Die*, which riffs on *Lim* in its design and aesthetics while incorporating Squinky's cartoon drawing style and fart jokes. The player-character leaves a trail of rainbow clouds behind them when moving unencumbered, while pressing the "space" button causes them to move more slowly, stop emitting farts, and removes all colour from the screen. This game extends the transgender passing metaphor of Lim into the experience of autistic masking, through use of colour, sound, and movement. I read this as part of what M. Remi Yergeau calls the "neurologically queer motioning" of autism (Yergeau, 2017, p. 18) as an embodied cultural rhetoric of sound and movement, as well as a clinical formulation that is "contextually situated within societal responses to and of gay panic" (and contemporary trans panic) (p. 26). Just as autistic masking may at times be an exercise in quieting one's "loud hands", pressing the "space" button restricts movement, evoking an affect that has been "hammered" down.

Squinky's own voice can be heard while pressing the "space" button, expressing self-critical internal monologue through various repeating phrases such as "why can't you do anything right?" and "just try to

be a normal person, how hard can it be?" The more the "space" button is used, the more these self-critical phrases become layered on top of one another, eventually creating a very unpleasant cacophony. When Squinky published this game, they indicated on their blog that the metaphor of farting, as well as being humorous, changes the moral context of the action of holding-in:

> You can hold in your farts, but it comes at a damaging personal cost. The obvious message, if we are to believe everyone who says things like "just be yourself!" and other similar platitudes, is that you ought to be free to fart as much as you damn well please, but what if people have perfectly good reasons for not wanting to smell your farts? What if holding them in, even though it hurts, is the only thing you can actually, realistically do, given the situation that you're in?
>
> (Squinkifer, 2020)

Here the situation-based choice to modify one's behaviour, in order to pass through social spaces without attack from others, is recast as both personally costly and considerate of the needs of others. It is not only an encumbrance, as shown in *Lim*, but also a psychological injury, directly associated with worsening negative self-talk. There is no similar peer found at the end of the maze, just a cave-like shape with an "out" sign above it.

Made in the context of pandemic lockdowns, Squinky's take on *Lim* eliminates the possibility of being with others while also being oneself – indeed, it is only when the character is alone that their internal self-critique can stop and they can see the world in full colour. As they indicate on their blog, this is a reflection of their experiences of isolation and depression, both before and during the pandemic. I also read in this a change that came about after 2014, when the threat of severe online harassment campaigns significantly impacted the ability of queer games creators to form friendships and collaborations in public online spaces, as I will describe below. The hope of finding solidarity with

someone of similar experience felt more attainable to me in 2013 than it does today, and I think this is a change that others in this space have experienced as well.[12]

Another game by a queer creator in 2013 was *Depression Quest*, by Zoe Quinn. This text-based game about mental illness was at the time one of the largest, and most ambitious, games to be made with Twine – the game follows the experiences of a depressed protagonist, who attempts to make decisions in daily life that will lead to improved wellbeing, but finds that the worse their mental state is, the less they are able to access the choices that would improve their condition. It was met with a great deal of hostility when it was accepted for inclusion on leading gaming platform Steam, due to the perception that such a platform ought to be primarily dedicated to core videogames about fighting, warfare, and exercising control over others. Most of the discussion about this game focused on its affective qualities, as a game that aims to put the player in the shoes of someone with depression, using limitations on player choice to demonstrate that sense of hopelessness and listlessness that characterises the illness. When certain kinds of "movement" (narrated through text commentary) are restricted, this is understood as a depressed affect. This was often read through the lens of empathy, assuming that the player would be someone unaffected by the issues portrayed in the work:

> More than four decades after Pong, players are tackling a range of heady subjects including cancer, depression and alcoholism. Instead of pumping adrenaline, these "empathy games" use the videogame form to tell stories that are far more personal than the Hollywood tropes most big budget games still rely on. (Dougherty, 2013)

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[12] In fact, Squinky's practice has centred creating spaces for connection, and taking creative working relationships seriously, something I have had the pleasure of experiencing personally. We first connected by working together as co-organisers of the Queerness and Games Conference in 2014; in that same year, participating in their interactive theatre game *Coffee: A Misunderstanding* led me to role-play a romantic connection with someone who went on to be an important part of my queer chosen family; and in 2021, we were supported by the New Conversations UK-Canada exchange programme to collaborate on a project adapting the mechanics of *Coffee: A Misunderstanding* to an online interactive theatre project, which now forms the basis of an ambitious multi-year project that I am in the early stages of developing. I mention this not just to acknowledge a personal connection to the subject matter, but also to recognise that Squinky's practice rests on a productive tension between the lived experience of misunderstanding and alienation, and ongoing efforts to foster understanding and connection.
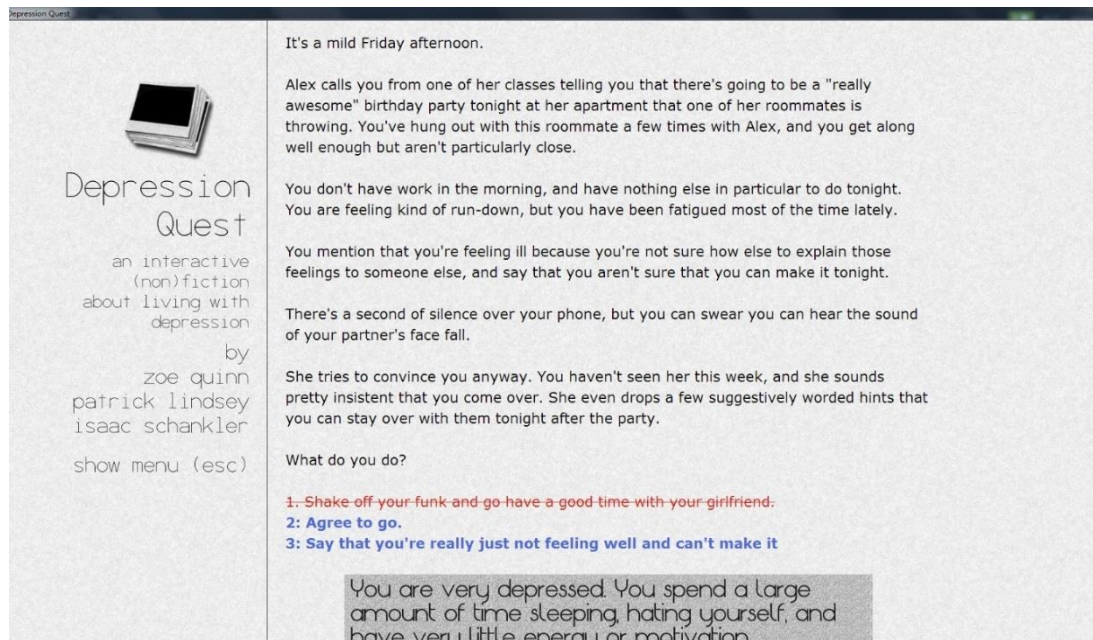
Figure 11: Screenshot from Depression Quest by Zoe Quinn

However, *Depression Quest* could also be read as a solidarity game. Something that was remarkable about *Depression Quest* was how effectively it demonstrated to depressed players that there is a path to recovery, while still sincerely recognising why depression feels intractable when you're in the thick of it. The difference between these readings hinges on whether the game's systems are seen as provoking emotions that were not already present, or reflecting back to the player emotions that they are assumed to already have experienced. Conversely, when *Depression Quest* achieved a degree of media attention and a place in the Steam store, the veracity of the author's experience of depression became one of the topics of consternation whipped up on forums frequented by misogynists, who claimed that women could not experience depression because they do not experience loneliness the same way that men do. (Quinn was perceived as a cisgender woman.)

Notions of one's proper place within gendered orderings of the world did a great deal of work in this "hammering". In 2013, observing various campaigns of harassment against women such as Anita Sarkeesian, and against Zoe Quinn, games studies scholar Daniel Joseph theorised that what was at stake was not just transphobia and misogyny, but a protective impulse driven by people's alienation from public life under neoliberalism.

It's this private sphere that is supposed to lend true meaning to our lives - not our shitty job that we grudgingly wake up for every day. This is where shit matters and as it happens when things are under your care you give a lot of damns when something appears to attack them. In videogame culture that has manifested as a kind of knee-jerk move towards defense at all costs. It's this kind of Churchillesque war against the aggressors that has lead to the transphobic garbage that has taken place over the past few days, and that which was manifested against Anita Sarkeesian last year. (Joseph, 2013)

A year later, there was a dramatic intensification of the death and rape threats that had already become part of the cost of doing business for Quinn, as well as Anita Sarkeesian and many others. These hate campaigns became far more organised than ever before, and were publicised and intensified by coverage in far-right media outlets such as Breitbart. The phenomenon became known as "Gamergate" (Bezio, 2018). Large groups of people started to share conspiracies about the games industry, including network maps of assumed connections between people, seeming to go deeper and deeper into a rabbit hole of speculative dark fantasy while constantly finding new victims to harass, as part of their efforts to rid videogames of outsiders and protect their private sphere from encroachment by strangers.

Harassment campaigns against people who make games that express marginalised perspectives, people who write about them, and people who try to create spaces for communities to grow that use these games as unifying objects have existed since long before all of this. However, they accelerated dramatically in 2014, and as I think about my experiences in games, I am aware of a marked difference between pre-2014 and post-2014. Throughout, there have been discussions – expressed in blogs, at conferences, and in games themselves – about which emotions are valued in this art form, and what the consequences of that are for the surrounding culture. As designer Liz Ryerson, whose work I discuss later in this chapter, reflected at a turning point in 2014:

they [who harass queer game devs] struggle to understand and adjust to a rapidly shifting cultural landscape, in and out of games, that's moving away from traditionally catering to them

and their empathy-deficient values into something more culturally sensitive and aware.

(Ryerson, 2014)

Affective imaginaries abounded in the contemporary commentary on these events – whereas Joseph above imagined harassment as driven by ennui and alienation, the feeling of "grudgingly waking up every day" and having "knee-jerk moves", Ryerson imagined this position as "empathy deficient" compared to the more "sensitive" position made possible through changes to the cultural landscape. Affect is connected with movement in both of these figurations – it moves in a rapid and combative fashion in Joseph's imagining of harassers, whereas in Ryerson's imagining of cultural change it is the landscape itself that is "shifting" towards more receptive affects of "awareness".

Empathy games

Journalists and critics writing about videogames who set about reading a game for empathy have to do the work of figuring an "other" who would be the target of that empathy. The notion of transgender people as "in the wrong body" (which is contested in transgender communities) makes us an interesting figure in games writing's affective imaginary when it comes to empathy. Seen through the lens of the gender binary, trans people appear both familiar and unfamiliar to the cisgender viewer – we are then easily imagined as occupying a bridge from their own subject position to the "other" of the opposite sex. Much of the writing on queer games identifies their value in the ability to give assumed cisgender, heterosexual players an experience of being an oppressed minority.

In some cases, this is in alignment with the creators' aims. For example, *Mainichi* (2014) by Mattie Brice used a game engine intended for fantasy role-playing games to create a simulation of a day in her own life as a trans woman of colour in the US. Her stated intent was to create something that could make her white, cisgender friend understand why she sometimes seemed sensitive to seemingly small microaggressions.

However, other designers resisted the idea that their games were machines for generating empathy. Anna Anthropy responded to this reading of her work by installing at a games exhibition a satirical piece

entitled 'empathy game' that simply consisted of an old pair of boots, an invitation to 'walk in her shoes',

and a scoreboard on which participants would record how many steps they had taken (Solberg, 2016;

Pozo, 2018). This 'empathy game' emphasised how the empathy reading centres the desires and personal

growth of a player who is assumed to not already understand the author's experiences, and suggests that

their experience has little to do with the content of the story being told, and more to do with being able

to appropriate another's struggles as one's own gameplay challenge.
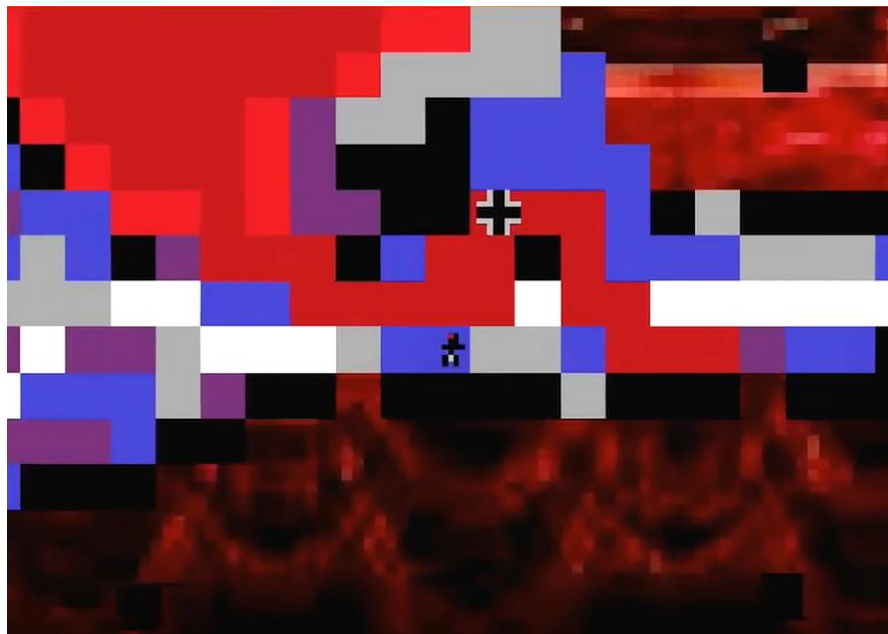
Figure 12: Screenshot of Problem Attic by Liz Ryerson

Liz Ryerson has talked about how her game *Problem Attic* has received relatively little attention from

people who are interested in experimental game design, and on the rare occasions that it is discussed, it

is usually by people looking for a hidden message about her gender dysphoria – even though she states

that the game is not about that at all. *Problem Attic* is visually very abstract and chaotic, intentionally

creating a space that is difficult to read (the eponymous "attic"), representing Ryerson's own mind. There

is a glyph that represents trauma which the player has to locate again and again in the maze of the attic,

and the same spaces in the game change over time as the player returns to them. In an interview carried

out by Bo Ruberg (2020, p. 87) Ryerson distinguishes between the pressure to perform experiences of

identity-based marginalisation in order to be recognised as a creator, in contrast to the kinds of

"other"ness that actually interest her.

Problem Attic isn't the way it is because of queerness. The game is about cognitive dissonance and the things that people don't want to acknowledge so they push them off into some other space [...] if you are a woman or a person of colour or trans or queer or whatever, you are expected to perform these experiences if you want to be successful... it's those "empathy games" that get noticed... Empathy isn't the conversation that I want to be part of. I want to be part of the conversation that's like, "we need to make our own rules and our work isn't going to look like what's come before it".

An interesting contrast in Ryerson's account of *Problem Attic* is between empathy as a response to differences in subject positions, and her own aim of representing an experience of "cognitive dissonance" and the urge to push some emotional experiences into an "other space". It is difficult to solve *Problem Attic*'s puzzles; as Brendan Vance (2013)[13] points out, solving the puzzles involves becoming familiar with ways of moving through space that are unintuitive, which itself requires recognising and challenging the assumptions you are bringing to the game as a player. This mental effort is key to his reading of *Problem Attic* as an empathy game.

The environment of Problem Attic models the mind of the protagonist, and the walls represent the tangled mess of every habit and belief he has ever internalized. Each person possesses such walls; they are the reason why we act against our own best interests, making the same mistakes over and over again. Anyone else would look inside of us and see an absurd, incomprehensible, hopelessly compromised mess; we ourselves would see nothing, of course, but the way forward, oblivious to the myriad hidden assumptions that shape our every behaviour. So it is in Attic: Though taken aback right at first, we soon learn which tiles are which and begin to see composed passageways rather than a cluttered mess of colour and shape. We learn to navigate the world as the protagonist does, enjoying a rare excuse to practice empathy in a videogame. (Vance, 2013)

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[13] Liz Ryerson and Brendan Vance have also been important contributors to my own recent projects, with Ryerson contributing music and Vance supporting as a consultant programmer.

Vance's account of empathy is different to that represented by *Mainichi* or even by Anna Anthropy's *Empathy Game*, in that it focuses on a gameplay dynamic that corresponds to broad psychological patterns, rather than a specific marginalised identity. In the affective imaginary that Vance uses to read *Problem Attic*, the player does not know exactly what positionality they are empathising with, and the position of the reader is from a collective "we" that includes the "protagonist".

The problems of the empathy game narrative relate to a history of well-meaning attempts to use embodiment and redescription to close a gap between self and other, which ultimately reinforce the idea that marginalised people's own testimonies are inadequate for generating a shared understanding of their experience – an early notable example is the experience of blackness described in John Howard Griffin's 1961 *Black Like Me*. bell hooks noted the limitations of these attempts to 'commodify otherness' in 1992, stating, "liberals often give lip service to a vision of diversity and plurality while clinging to notions of sameness where we are all one" and quoting philosopher Ron Scaap:

> Liberals may pride themselves in their ability to tolerate others but it is only after the other has been redescribed as oneself that the liberal is able to be "sensitive" to the question of cruelty and humiliation. This act of redescription IS still an attempt to appropriate others, only here it is made to sound as if it were a generous act. It is an attempt to make an act of consumption appear to be an act of acknowledgment. (Ron Scaap, quoted by hooks (1992, p. 13)

Empathy is often understood through this kind of framework, as an attempt to redescribe the other as oneself in order to develop a certain "sensitivity" that is attuned to the suffering of others. It is an emotion that is put to work constructing a "vision of diversity and plurality" that nevertheless centres the consumption desires of the more privileged over the needs of those with whom they purport to empathise. It attempts to make the other recognisable as the self through a "social framework of sameness" (hooks, 1992, p. 14).

Difference

This way of imagining empathy as undifferentiated sameness is perhaps the other side of the coin of othering. Discussing the constitution of "others" in Neighborhood Watch, Sara Ahmed has described how the stranger is figured as an illegitimate presence, pointing out that "subjects become differentiated at the very same moment that they are constituted as such" (Ahmed, 2000, p. 21). She argues that this happens through the performance of public duties such as policing, and through discursive constructions, giving examples such as the TV series *Neighbours from Hell*: "the stranger is produced as a figure precisely by being associated with a danger to the purified space of the community" (p. 33). While affective imaginaries of undifferentiated empathy construct sameness through simulated experiences of vulnerability, affective imaginaries of vigilance construct difference by associating others with incursion and threat to the imagined community.

One of the things that Gamergate achieved was to make the image of the stranger recognisable, in Ahmed's terms. The outsider to gamer culture who threatened the private spaces of ideal consumers was often figured as a "fake gamer girl" or similar. The harassment of critic Anita Sarkeesian, which pre-dated Gamergate, recruited supporters and footsoldiers through the argument that she was not really a gamer, and therefore her interest in games had to be serving some other nefarious purpose. Her public speech and personal appearance were scrutinised for telltale signs that her commitment to gamer culture was lacking – everything from her knowledge of trivia to her choice of jewellery. An infamous drawing of her circulated in a form resembling antisemitic cartoons from Nazi Germany. Her appearance was instrumentalised as part of what Stephanie Boluk and Patrick LeMieux (2017) have characterised as a "metagame that governs the play of ideology in, on, around, and through videogames": this included the creation of a game simulating physical assault, in which an image of Sarkeesian's face appeared "increasingly battered and bloodied with each mouse click." In contrast, her appearance was also rendered favourably in the game *Towerfall* (2013) which allowed the player-character to appear in Sarkeesian's signature hoop earrings and plaid shirt (Boluk & LeMieux, 2017, p. 279). Boluk and LeMieux (p. 183-184) also argue that Sarkeesian was figured as a "feminist spoilsport" which they see as a

corollary to the "feminist killjoy" identified by Sara Ahmed (Ahmed, 2017), a recognisable stranger made strange by her refusal to perform the positive emotions that allow social norms to be imagined as affectively positive.

Zoe Quinn has written about their own experience of being made into a recognisable stranger by Gamergate: "Age-old prejudices against women [made] me into an exceptionally combustible witch" (Quinn, 2017, p. 67). Part of the trigger for this was the emotional topics that they focused on in their games. Like Sarkeesian, Quinn's personal appearance was scrutinised for signs of belonging to other recognised out-groups, "There are still mini witch hunts that flare up trying to determine whether I'm Jewish or trans, with people analysing stolen photos of my genitals" (p. 69). "My lifelong commitment to wearing my messiness and my humanity on my sleeve came back to bite me. It wasn't so much that I thought people would never take advantage of my vulnerability as that I had no desire to appear pure in the first place […] I make games about Goosebumps trivia and my own inner demons" (p. 67). Because their autobiographical games presented them as "messy" with "inner demons", Quinn's harassers were able to construct an image of them that fit misogynistic emotional tropes such as hysteria.

Constructing the non-gamer through harassment discourse created a kind of gamer Neighbourhood Watch, reinforcing a sense of cultural belonging within an angry core group identifying with gamer culture. This abuse tactic made use of the queer games scene's own aesthetic signifiers of belonging through shared outsider status: not just individuals' physical appearance, but the games made in the scene as well. After *Depression Quest*, Twine games were seen as a stereotype of queer games. This spread to other game genres too, as visible signs of having used free game engines became stigmatised in gamer circles and associated with a kind of cultural illegitimacy. This has been particularly marked in discussions about games made using Unity in recent years, which despite being a highly flexible game-making program, has for some become associated with indie games that may have glitches or lack the intensity of interaction that typical gamers expect. The tools of creative expression for outsider art in games are imagined increasingly specifically as tools of the gamer's stranger, even as their use demonstrates a closer familiarity with videogame technology than most gamers will experience.

Gamergate began at around the same time as a large swathe of public discourse that Ahmed characterised as "Against Students" (2015), within which she identified a "constellation of related figures" that make up the "problem student". The gamer's stranger shared much in common with the problem students that Ahmed described, being seen as censorious, over-sensitive, and complaining. This characterisation is a way of "sweeping away" critiques that might change the culture of videogames, even if that change is additive rather than subtractive. None of the queer game developers were campaigning for existing games to be taken off the market, but they were pushing for new games to be made that challenged existing norms. When *Depression Quest* was first sold on online games marketplace Steam, Quinn's harassers saw it as a bad object toppling the good objects put in place by AAA games studios, even though it made no difference to whether those games would continue to be made. At work in both the problem student and the construction of queer games creators as "others" was a paranoid fantasy that over-sensitive others, who are both marginalised and also paradoxically very powerful, would topple the good objects valued by conventional games culture. To make queer games about vulnerable feelings has meant to insist on retaining this sensitivity that marks you out as a stranger.

Conclusion

Developing and maintaining a sensitivity to affect was also a key part of the designerly "gut feeling" that I discussed in Chapter 4. It appears here again as a designerly affective imaginary that is honed by queer game developers, and also as an aspect of the critic or journalist's positionality as a player who reads queer games as serving social purposes such as "empathy". Qualities embodied in a certain positionality become central to readings of affective rhetoric expressed through games.

In Chapters 3 and 4 I showed that the MDA framework considers positionality as perspectives at either end of a series of lenses, and began to demonstrate some of the ways that affect moves between positions. In this chapter, I explored some of the ways that affect moves through the queer games movement, and I have drawn on queer affect theory to show how affect is not just an aesthetic quality perceived from a particular position, but is understood as shaping the positions of subject and object. That is, affect can be a dynamic force in the larger sociotechnical network that figures social positions.

Anna Anthropy called in 2012 for more small games to be made from marginalised perspectives with diverse protagonists. I think this attention to queer affect theory can extend her vision, suggesting an approach to games that uses the expressive qualities of the medium to portray queerness not as a fixed subject position, but as a quality of the dynamic movement of affect. The critical questions that I return to repeatedly in this chapter are: whose affect is being imagined as effective, and what agency is being given to affect in the place of actual human beings?

Trans game developers have been understood as embodiments of the trans-location or trans-positioning of affect, and of subject positions, through the trans-portative qualities of games that portray a marginalised subject position. In Chapter 6, I show that the trans-locative view of empathy that developed in surface readings of queer games was transported to VR development, in part because of a misunderstanding of transgender experience as being about being located in the wrong body.

Reflections 3: Interactive Self-portrait

When showing the interactive portraits of trans people in Japan at festivals and events, I would often be asked if I had considered making a self-portrait. Given the context of the queer games movement that I described in Chapter 5, particularly its initial peak in the years 2012-2014, this was a predictable outcome – queer games had typically focused on portraying the artist's own life and experiences, and a great deal of the discourse on why this work was liberating had focused on the DIY approach to game-making as a form of self-representation, in a medium that often failed to represent transgender people at all, or portrayed them very poorly. The empathy discourse often blended into a kind of affective auteur theory, whereby the artist was making the player empathise with them – this conversely tended to sometimes objectify the queer artist, making their identity and trauma the only valid or interesting subject about which they could create work.

I became interested in whether the relationship between player and creator could be figured differently through the creation of an unusual interactive self-portrait. Building on the illusion of responsibility that I had seen in the computer petting zoo, I became curious about making an interactive self-portrait where instead of trying to understand how I feel, the user would try to change how I feel; instead of trying to wear my identity, they would try to deconstruct it. In a way, this experience would involve empathy, but like the other pieces I have described here, it focuses on the second-person interaction of a conversation rather than the first-person interaction of simulation, which shifts the empathic mode from virtual/vicarious embodiment to simply noticing and responding.

Part of my interest in this approach came from an unusual experience I had undergone in 2018 through a process of guided inquiry into the nature of conscious experience. My own process involved the guidance of a spiritual teacher practising in a Buddhist tradition, but similar work is done outside of Buddhist movements, including in contexts that are presented as secular, albeit with significant overlap with new age movements. This a complex topic to explain in full, so I will briefly summarise it here with a focus on how it connects to the theoretical interests I have explored so far. I have not come across a great deal of

academic research into this, with the exception of the Master's thesis of John Witney (2017) which I refer

to below, but practitioners have described their approach in writing (Ciunaite, 2016; Michelberger, 2022).

I won't give much space here to a normative discussion of the merits and failings of these practices and

the groups that practice them, which mostly operate online. However, a quick disclaimer is probably

warranted: although I value the experience I had at the time, in the first few months of the COVID-19

pandemic it became clear to me that the online communities that engage in these inquiry practices are

vulnerable to radicalisation. This is facilitated by phenomena that have been documented with regard to

other practices and movements, such as spiritual bypassing (Picciotto & Fox, 2018) and "conspirituality"

(Ward & Voas, 2011; Asprem & Dyrendal, 2015) which played a significant role in anti-science

misinformation regarding the pandemic (Griera, Morales i Gras, Clot-Garrell, & Cazarín, 2022; Parmigiani,

2021).

The goal was to "see in direct experience" the Buddhist notion of no-self. This process goes by a few

different names, including "inquiry", which seems to be the term that most often maps onto similar

practices in other religious traditions; as I understand it, this process of engaging with experience through

direct questioning has a rich history in Vedantic Hinduism or Christian contemplative practice. I was

engaged in questions and exercises that were being sent to me by a guide, who was being supervised by

another, more experienced guide. After carrying out research interviews with six guides practising a

similar process, psychotherapist John Witney (2017) concluded, "To guide is to challenge a seeker's

belief, and psychotherapy is often also about challenging clients to re-examine their beliefs. But [inquiry]

takes this one step further and looks beyond the content of any particular belief to expose the very

nature of belief itself[,] and thus in its wake undermine the content of all beliefs" (p. 38).

Participants position "inquiry" as a practice that is separate to meditation, though it benefits from a

degree of mental clarity for which meditation can be of great help. A fundamental tenet of the practice is

the importance of looking at "primary sensations" separately to "thoughts about sensations", or "direct

experience" separately to "thoughts about experience". As in many meditation practices, thoughts and

feelings are observed without intervention – but here, they are observed with specific questions in mind,

such as "what can a thought do?" or "when a sound is heard, can hearing be separated from the sound itself?". The full guiding process, comprising several dozen similar questions, aims to comprehensively cover every aspect of cognitive experience, according to Buddhist taxonomies such as the Three Reminders and the Ten Fetters.

This focus on separating primary sensations from thoughts gives the practice a particularly interesting flavour in relation to affect theories. The notion of "primary sensations" is central to theories of affect that posit "fundamental affects" such as that seen in the work of Silvan Tomkins, which I described earlier in this thesis. Inquiry aims to disentangle affect theories (or "beliefs") by interrogating the process that connects a thought to a feeling, and critically engaging with the construction of emotion and concepts of the self. At the same time, it is itself a theory of affect; Witney makes claims about the emotional benefits of inquiry in his study of the guiding process, proposing the development of "*anatta*-based cognitive therapy" (*anatta* refers to the Buddhist notion of no-self): "this process improves the psychological wellbeing of seekers [...] there is little risk to mental health".

Since this process takes place online through text-based, asynchronous communication, it takes advantage of some of the qualities of the "telecocoon" of relationship building through cellular networks, to build a kind of transpersonal intimacy – Witney (2017) points out that his aspiration to apply inquiry-based techniques in a conventional, face-to-face therapeutic environment would require adaptations to account for the "disinhibiting effect of online communication as well as the lack of visual cues and access to nonverbal behaviours". Alongside these effects of online communication, Habuchi's notion of the telecocoon might also point to the affective dynamics that I identified earlier when discussing Tamagotchi – the temporality of care through "checking in", and the "nourishing" dynamics connected with secure attachment to a communication device. What is nurtured through the guiding process is the personal growth of a stranger, similar to the growth modelled in Tamagotchi, but with the ironic twist of their personal growth being connected to a radical shift in mindset regarding what it means to be a person at all.

In the summer of 2019, I decided to create a piece of interactive art based on the text from my experience undergoing inquiry with a guide, as a kind of "self-portrait" that would disturb the idea of a self. At the same time, I had become curious about adapting a vintage baby carrier into a games console or arcade cabinet – baby carriers are mobile in a different way to handheld games consoles, and public in a different way to arcade cabinets, and open up possibilities for softer, textile-based interfaces using a projector for display and e-textiles for input. Combining the self-portrait idea with the console pram appealed to me largely because it seemed like a good joke, although nobody else had ever laughed with me about it. Putting a self-portrait into a pram is already funny to me, as a self-infantilising gesture that ridicules the idea of seeing one's child as a continuation or replication of oneself. To then further break down the egotism of the mini-me, by making it a piece about breaking down the attachment to the ego, seemed like another twist of the knife. Queer games in 2012-2014 had often centred, or at least been in dialogue with, narratives about self-development, personal growth, and transformation – in this piece I aimed to subvert that narrative by portraying my experiences in a way that only referred in passing to specific queer identities, but that conceptually tampered with identity itself through a player-led process of psychological transformation.

I translated the chat logs with my guide into an interactive text, using a game-making tool called Ink, in a way that put the player in the position of the guide. The player can select from any of the questions and exercises that my guide asked of me; these are arranged in a series of menus, allowing the player to seemingly make a comprehensive and systematic survey of my fundamental experience of being a person. An early draft of this focused entirely on the phenomenological aspect of the inquiry, which my guide and I kept in a specific messaging thread that forms the basis for the interactive piece. However, after playtesting with two people, one of whom had undergone the same guiding process and another who practised in a mystical Christian tradition, I was persuaded that it was important to include extra questions about my emotional state of mind. This required digging up more old chat logs, with my guide and with people close to me, to find authentic responses that reflected my psychological experiences at that time. This resulted in a much more revealing and intimate piece of work, where players can ask the

"me" character how they are feeling at any time, and see vivid descriptions of my experiences of frustration, depression, social anxiety, and later on, euphoria, elation, and peace.

I then set this software up in a videogame rig that I built inside a coach-built pram from the 1950s, running on a raspberry pi, with a display made using a mirror and projection fabric installed in the retractable hood; as a temporary input, I used the same game controllers as I had used with the computer petting zoo, with the intent of later making a blanket that could act as a controller. I chose this specific pram amongst the many vintage prams that were being sold second-hand online, because it looked like the one in *Rosemary's Baby*, a classic horror movie about satanic reproductive labour in oppressive family structures. The work was displayed for one month at Site Gallery in Sheffield as part of a work-in-progress show with four other artists.

The console pram forms something close to a materialisation of a "telecocoon" – in this case, the mobile communication device envelops a being in order to facilitate a transformation. Visitors' remarks often seemed to refer to a kind of dissonance, between how one would care for a baby and how one behaves as a guide in the inquiry into the self – to nurture a baby is to encourage a being to form a sense of self, whereas the guiding process is ambivalent, being concerned with the wellbeing of the client but also invested in helping the client to see through the illusion of self, and point them towards the limits of their own ego. Unlike the interactive portraits of trans people in Japan, I made this piece difficult to complete – it takes around twenty minutes to get from the beginning to the end, and requires going back over the same questions more than once, in order to get new answers that lead to a resolution. It takes persistence and close attention to navigate the full interactive text. However, the ending portrays a profound transformation of my emotional state – in stark contrast to the first iteration of my grumpy duck, the user is able to change the way my self-portrait says that they feel about themself and their general state of mind.

One point that differs between affective imaginaries is how an emotional state comes to be, and how it changes. The suggestion made in this piece, as in many inquiry practices, is that there is a direct connection between phenomenology and psychology, between how one conceptualises embodied

existence and how that existence feels. This is a theory of affect that shows up periodically throughout the history of philosophy, such as in the Platonic idea of ataraxia, a state of equanimity attained following total suspension of judgment about all phenomena. The "total" and "all" seem to be important here, pointing to a strong theory of affect.

This point alone would take a lot of work to fully unpack, but what I want to gesture at here is the differing ideas of cause and effect that can play out as affective imaginaries in technical systems. In the self-portrait, I gave the player the agency to act as a guide, exploring a predetermined set of philosophical problems until there is a shift leading to a change in emotional state. From the perspective of interaction, it is not terribly far from Tamagotchi, in which the player is able to alter the mood of the character on screen by fulfilling a predetermined set of physical and emotional needs. Satisfaction is achieved by getting through everything comprehensively.

In this sense, although at first sight this looks like a theory of positive affect in that a statement is being made about how to achieve happiness, perhaps given Tomkins's assertion that a theory of positive affect should be a weak theory, it might be that what is actually being portrayed in these works is a theory of negative affect. This is a strong, predictive theory that satisfaction cannot be achieved until a full sweep of all the game goals has been carried out.

I created *Empty Carriage* before the COVID-19 pandemic made clear to me the vulnerabilities of online communities like the one that engaged in the insight inquiry process and the harmful behaviours in which such communities can participate. "Stepping into someone's shoes" is typically framed as an act of kindness, but "getting into someone's head" is more ambiguous – it can mean to try to understand someone, or it can mean to try to manipulate or control them.

Photos
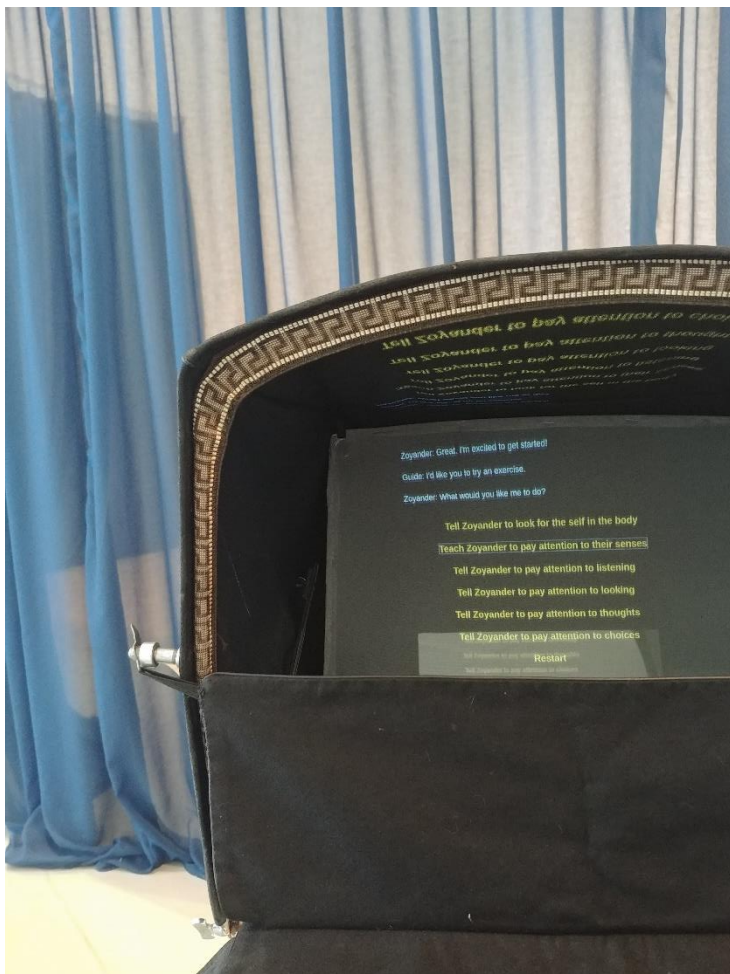
Photos of installation at Site Gallery Sheffield (by photographer Jules Lister)
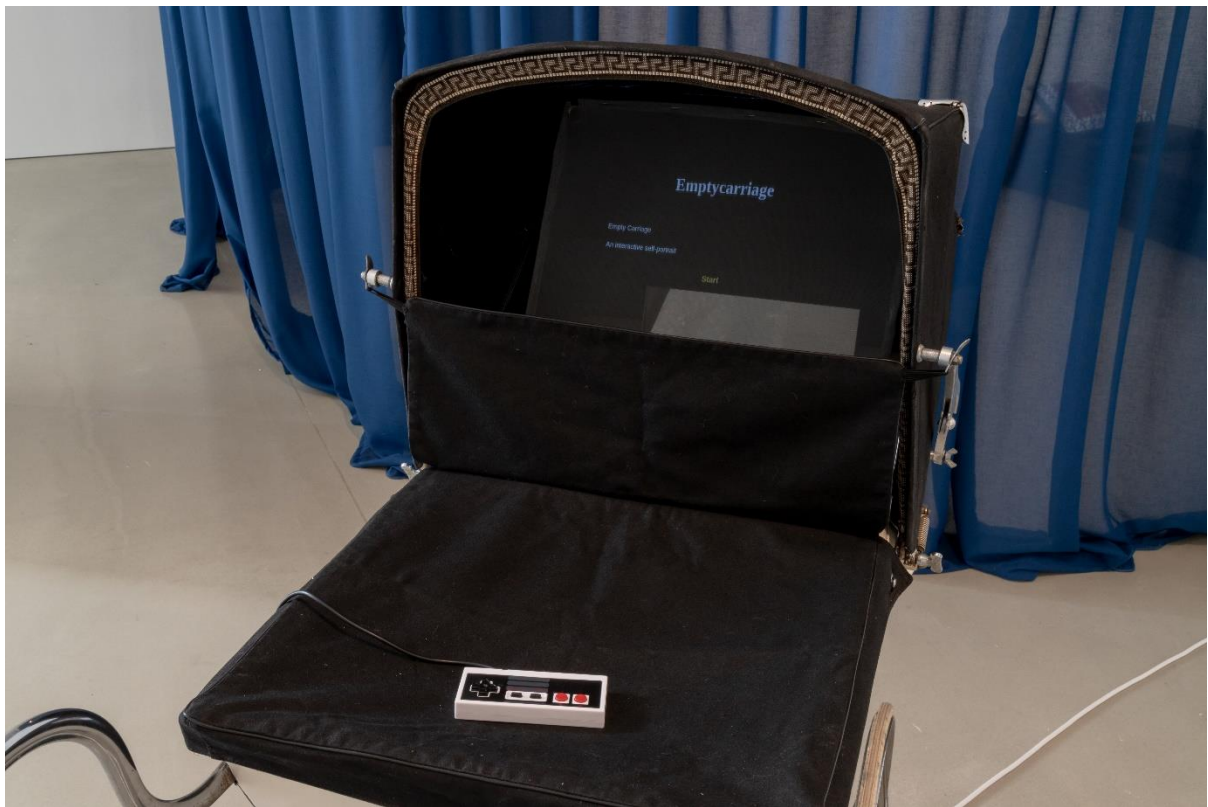
Chapter 6: VR, empathy games, and alternative embodied knowledges

The early wave of virtual reality (VR) research in the 1990s, and the rise of venture capital investment in the technology since the early 2010s, have both represented important moments in the narration of experiences such as immersion and telepresence. With that has come a curiosity about the position of the subject within an ambiguous and unsettled experience of virtual space.

In the 1990s, VR apparatus "characterised by direct interface and full immersion (data gloves, goggles, embedded microchips and electrodes)" was the emblematic figure of computer mediated communication, figuring the internet as a virtual (cyber)space (Terranova, 2004, p. 42) where identities may be more malleable. In 1995, Sherry Turkle explained the text-based simulated worlds of MUDs by reference to virtual reality mediated by hardware such as head-mounted displays, explaining that in MUDs, "instead of using computer hardware to immerse themselves in a vivid world of sensation, users immerse themselves in worlds of words" (Turkle, 1995, p. 181).

This multi-layered meaning of "immersion" as both a conscious act of imagination and a technologically-mediated illusion continues today, but internet spaces themselves are not typically referred to as "immersive". As Terranova observed in 2004, the figuration of cyberspace "in opposition to the world of the flesh" fell out of favour, and the internet came to be seen instead as "information flows in which the political and cultural stakes of globalisation are played out" (Terranova, 2004, pp. 42-43). Cyberspace was not separate to the physical world as such, but it did change the nature of geographical distance by facilitating interpersonal connections almost irrespective of physical location.[14]

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[14] Having access to high-speed internet, it can feel as though physical location is becoming irrelevant, until a disruption such as a power cut reminds me that my remote attendance at a meeting in Arizona relies upon geographic privileges that I have as a resident of South Yorkshire. According to the Internet Society, around the world, three billion people lack any access to the internet, and many more lack the high-speed connections required for video calling (https://www.internetsociety.org/issues/access/).

Immersive media is now a term primarily used to contrast emerging platforms, such as Oculus VR headsets, against established platforms such as smartphones. Discussions of immersion continue to combine telepresence – the sense of being somewhere else - with body-transfer illusions, or the sense of being a different person. By the mid-2010s, as a new generation of lower-cost VR devices became available, this understanding of immersion became appealing as another way of reducing geographical distance. Rather than transporting the user to the new world of cyberspace, immersive media came to be understood as a way of experiencing a first-hand glimpse of life in an unfamiliar situation (Popat, 2016). Far from a politically-neutral examination of perception of the environment and identification with the body, speculation about the significance of VR has quickly collided with projections of the subject into the position of the "other".

In this chapter, I will look at three projects that simulate or stimulate affective imaginaries of different subject positions in VR. Social, cultural, and material power shape the framing of these subject positions as "other" or "self" and alter the affective imaginaries of what each experience is expected to simulate or stimulate.

In part one of this thesis, I discussed the role of video games and virtual pets in the emergence of affective relationships between users and devices, during the early years of mobile games. I looked at the 1998-2008 period of experimentation on mobile devices, which was similarly a time during which development was often funded as R&D, either by venture capital or by academic grants. Many of the venture capital firms and R&D funds that backed speculative development for mobile or social platforms went on to support projects in virtual reality, connecting these different periods and contexts with a common set of material interests. Outside of the direct R&D funding pipeline, experimental VR developers I have interviewed have speculated that their own research into effective user interfaces is establishing best practices that will shape the integration of these platforms into a wider set of industrial and leisure applications. The purpose of these projects is to establish affective relationships between users and emerging devices, in order to carve out a place for these devices in human life. They experiment not only with technical implementation, but with technological figurations, the design of virtual objects and entities with which the user can build a significant relationship.

In Chapter 5 I explored how narratives about "empathy" shaped the reception of games made by marginalised creators to represent their own lives. In this chapter, I connect this idea of the "empathy game" to discourse about VR. As with intimacy and mobile games, the embodied relationship to the device is part of the picture, alongside discursive figurations of affective agency. The presence of empathy discourse looms noticeably over events such as Sheffield Doc/Fest that showcase VR projects that aim to raise awareness of serious issues, as well as in online writing on videogames and interactive media. In VR, empathy becomes entangled with what Liam Jarvis (2019) describes as "body transfer illusions" – the use of first-person perspective within a VR experience to give the impression of occupying the body of somebody else.

The three VR projects that I examine in this chapter explored the uses of altered embodiment for prosocial affective goals. One VR project released in 2014 (Be Another Labs' *Machine to Be Another: Gender Swap*) demonstrates a connection between the affective discourse in VR and the reading of queer indie games as machines for empathy. Another, released in 2016 (Jane Gauntlett's *In My Shoes: Dancing With Myself*) was similarly described as being a vehicle for empathy, but here empathy was not about constructing opportunities to understand the other, but a way of reclaiming the ability to define the self. Finally, I will describe a project that was released in 2020, but that was touring technology festivals with hands-on (better to say headset-on) demos as early as 2014, which aims to give users an experience of a psychedelic altered state of consciousness (Robin Arnott's *Soundself*). These projects interest me because they each address the user differently, positioning their simulation and stimulation of affective experience as a different expression of self-other relations.

The Machine To Be Another

The Machine To Be Another is an ongoing experiment by a group in Barcelona, using VR technology to create the experience of being in another person's body. Rather than using virtual environments, the project uses live camera footage captured from the front of a head-mounted VR device worn by an

actor.[15] Here I will focus on the 2014 piece *Gender Swap* - a more recent iteration of the project has been described by theatre scholar Liam Jarvis (2017), in which residents of the Calais Jungle refugee camp act as surrogate bodies for visiting participants – both projects figured the other as an object of empathy, which the user was invited to occupy for the duration of the simulated experience. When it appeared, "Gender Swap" attracted the attention of games writers with an interest in queer issues. It promised an experience of "empathy" by allowing people to spend time appearing to occupy the body of someone of the opposite gender. A significant issue at stake in the reception of *Gender Swap* is different ideas about what empathy is, how it works, and what it is good for.

Developers in the Be Another Lab aimed to "use the recent neuroscience approach of 'embodiment' and apply it to investigate the perception and comprehension about the Self based on the comprehension of the 'Other'" (Be Another Labs, 2014). They considered embodiment to be tied directly to identity and to empathy, but also positioned embodiment in a social context, as the opening words of the "Research Concept" page on their website explained at the time:

> More than individuals, we are part of a social collective called humanity. As members of this collective, the perception of our own identity is based on our relation with other people and our social environment: how people see us, how we do act and interact with them, and what self image we project to this society and to ourselves. As part of this collective society, the importance of understanding the 'Other' and 'Each Other' to better understand ourselves is clear. (Be Another Labs, 2014)

Games writer Ben Kuchera (2014) wrote an article exploring the possible applications of this technology primarily, as articulated by the developer Philipe Bertrand, for reducing domestic violence. While the title *Gender Swap* suggests a two-way binary exchange, the focus of Kuchera's article was on having men occupy the body of a woman, in an attempt to reduce sexism by building empathy:

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[15] In some projects the person wearing the camera was a professional actor, whereas in others they were a member of a community relevant to the topic of the work. A video demonstration of this is available at https://vimeo.com/84150219

The sense of empathy can be powerful, and this leads to both parties being almost reverent about the body they're experimenting with. "People tend to be very respectful towards the other, and realize that the other body is from another person, and you don't invade this," Bertrand said. (Kuchera, 2014)

The second part of Kuchera's article attempts to explore the possible applications of *Gender Swap* for alleviating gender dysphoria, interpreting the work outside of the stated goals of the developer for this specific project, and instead looking for potential wider implications for underrepresented experiences. Kuchera's choice here reorients who is the relevant 'other' in this empathy experience, moving from sexual difference to a difference in gendered embodiment; or rather, to a reductive view of transgender embodiment that figures one's own body as an other, or oneself as an other in one's own body. He introduces the idea by relating his knowledge of gender dysphoria to his experience in the VR programme:

Gender dysphoria is a state in which individuals identify as a different gender than their birth-assigned sex. My feeling of discomfort and unease at seeing a female form looking back at me from the mirror in the Oculus Rift demo gives one an indication of what it must feel like for someone who knows they are a man or a woman, but sees and feels the opposite reality in their body.

Aside from this benefit for cisgender people who might better understand gender dysphoria within these terms, Kuchera also considers the possibility that transgender people could find relief by being able to indulge in the illusion of spending time in the body of a cisgender person who shares their gender identity:

While Bertrand is quick to note he's not a scientist and has no background to discuss the potential mental health benefits of this technology, I did speak to at least one expert who thought the ability to explore the body of another gender could be helpful in treating individuals suffering from gender dysphoria.

Kuchera goes on to discuss three interviews he carried out: one with a cisgender psychologist who treats transgender patients, who expressed tentative support for the idea that "this sort of virtual gender-role expression could be at least temporarily helpful"; one with a transgender woman, who was enthusiastic about this as an extension of the kind of relief she had found in virtual embodiment in regular videogames; and one with another games journalist, Sam Prell, who had briefly transitioned and then returned to living as the gender assigned at birth. Prell cautioned against using this kind of experience to set up "unhealthy expectations" of transitioning. Towards the end of the article, attention returned to the idea that this application of VR was well-suited to building "empathy" in cisgender people, who might be able to experience a taste of gender dysphoria.

Transgender game designer Sophie Houlden (2014) responded to this on her personal blog, with criticism of the idea that visualisation increases empathy. Houlden took issue with the very premise that visual perception is a component of empathy:

> It's an interesting idea on the surface but it doesn't paint people in a good light: that many can't empathise with another person without **literally** seeing through their eyes for a few minutes – I don't think that gives credit to people's ability to empathise.
> It's not hard to just look at another person and imagine what it's like from their physical view point, but the empathy connection comes from bridging a gap – it's not what you see but what you imagine. [...] Changing your perspective of this person's body and life is really not that much – you're still not living it, you're still not listening to what they say.

Houlden went on to say that even if empathy through this kind of media experience were possible, it shouldn't be conflated with works that aim to benefit the people whose experiences are being portrayed:

> The focus of the piece seems to be that Gender Swap helps cis people empathise with (some) gender dysphoric people, but it is never made clear how it could help anyone who has gender dysphoria. It's for cis people, it's so cis people can understand us. We are given no agency – Gender Swap simply isn't for us, but somehow it's still about us.

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Constructions of identity are also at stake in the issues around whether and how "Gender Swap" relates to transgender experiences of gender dysphoria. The understanding of gender dysphoria expressed by Kuchera and some of his interviewees rests on the notion of being "in the wrong body" – the body is the "other" – which leads to an assumption that any body that had the right gendered features would alleviate dysphoria, even while knowing that the body belongs to someone else. As Prell's warning begins to suggest, gender dysphoria is not wholly captured by this othering of the body, or a view that any gendered form would be interchangeable in order to alleviate dysphoria; almost nobody, cisgender or transgender, would be best placed to see an idealised slim, young, white version of their gendered body as a reasonable goal. Houlden explained that this understanding of embodiment is limited by a bias towards visual perception over other ways of understanding one's own body in a social context:

> your life is more than what you see – it's also years of other people seeing you, speaking to you, touching you AND how they do all that. It's what you see happen to people who are like you and people who are not. It's your own head thinking for years on end trying to come to terms with all of this. You can't be someone else without going through this.

What Kuchera's article attempted to do was bridge the gap between consciousness-raising and practical solutions: as Houlden put it, to make "Gender Swap" not just *about* people with divergent experiences of gender and embodiment, but *for* them. Bridging that gap meant making a connection between two ways of imagining users' emotions: Be Another Lab's desire to use neuroscience research into visual illusions of embodiment to temporarily disrupt the self-other separation, so that the imagined feelings of the other become a more pressing personal concern; and Kuchera's imaginary concerning gender dysphoria, in which negative emotions result from the body's visual appearance being at odds with one's sense of self.

The underlying question behind these accounts of *Gender Swap* is: what does it take to understand how it feels to be in somebody else's position? Be Another Labs argued that shifting one's identity temporarily can extend one's emotional responses, so that a person is affected by conditions normally understood to affect an "other", such as domestic violence against women for the imagined male VR user. This imagines that through illusions of embodiment, identity can become somewhat fluid, and experiences that are

normally dissonant due to differences in identity can become more coherent. In Kuchera's account of the experience, identity is seen as more stable (he doesn't stop identifying as a man when experiencing *Gender Swap*) and the dissonance of experiences across identities is foregrounded. The affective impact of the project comes from imagining that whatever dissonance one feels in this VR program might also be experienced by someone whose lived reality is in a state of dissonance. The perceived subject of *Gender Swap* therefore seems to vary depending on where it lands on the self-other duality - either one identifies with the other and feels for them (empathy), or one notices that there is no identification with a body that is "other", and this dissonance or incongruence leads to a kind of discomfort. It seems that Kuchera turns to the example of transgender people here to narrate that discomfort back into empathy, but for trans people rather than cisgender women.

The notion of transgender people as "in the wrong body" was already highly contested in transgender communities when *Gender Swap* was made. Talia Bettcher's widely-cited critique, aptly entitled "Trapped in the Wrong Theory", was published in 2013. A short essay on the topic in the 2014 inaugural issue of *Transgender Studies Quarterly* (Engdahl, 2014) opened by foregrounding "the gatekeeping consequences this conception has within a medical discourse of true transsexualism". Despite its many problems, the "wrong theory" continues to have significant traction, and makes us an interesting figure in games writing's affective imaginary when it comes to empathy.

What is usually unstated in writing about empathy games or VR with regard to transgender people is the dissonance between the player and avatar. It is more common to emphasise that transgender people often turn to videogames because they can create an avatar that is congruent with their gender identity, and that videogames and VR can generate empathy through identification with an avatar. But the *Gender Swap* example suggests that non-identification with the avatar might be more important, at least when it comes to the rhetorical use of transgender people as objects of "empathy". This could be an example of a counter-affective reading, that chooses to foreground dissonance and friction.

For all that game developers talk about immersion, flow, and connection, videogames have always involved dissonance, disturbance, and disconnection, not as a shortcoming but as an integral part of the

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whole. Games criticism uses the idea of queer people as a way of holding this, making discomfort a property of the imagined other, rather than a typical part of the affective imaginary of videogames. This reading of the meaning of queer games sits in complicated tension with Anna Anthropy's call in 2012 for more small games to be made from marginalised perspectives with diverse protagonists (Anthropy, 2012), but I think a counter-affective reading of so-called "empathy games" as really about non-identification extends Anthropy's vision in a generative direction. To echo my observations in Chapter 5, foregrounding friction suggests the possibility of using the expressive qualities of the videogames medium to portray a social dynamic, rather than simply to represent a specific LGBTQ+ identity.

Another piece of the dissonant subjectivity highlighted by experiences such as those offered by Be Another Lab is the haptic unfamiliarity of a body that is weighed down by VR equipment. When conducting interviews with VR developers in 2020, asking them about what they did not know (or adequately recognise) five years ago that they do now, more than once I received an answer about the difficulty of physically becoming accustomed to embodiment that is modified by VR hardware – even the wires connecting the headset to the computer proved to be a challenging hindrance to users. Projects such as *The Machine to be Another* prioritise visual perception, and this is supported by neuroscience studies and the famous rubber hand illusion, which suggest that for sighted people, the mind takes vision as authoritative when other senses provide contradictory information – but marginalising touch and proprioception might nevertheless lead to a dissonance felt intuitively in the body. Reintegrating this dissonance into the narrative of the experience can lead to strange projections and confused constructions of an "other", and empathy becomes a way of explaining the subject's own experience, rather than a way of imagining the experience of someone else.

In My Shoes

In 2015 I experienced Jane Gauntlett's *In My Shoes: Dancing With Myself* at Sheffield Doc/Fest. Installing VR and other non-film works is an interesting challenge for Doc/Fest every year, as there are still few conventions for managing the requirements of VR installations – sound isolation is often difficult in a gallery, and since the works can often only be experienced by one person at a time, dangerous queues

can form if visiting times are not carefully managed. *In My Shoes* was installed at a separate venue to any

other VR project, in a café that is normally a pop-up space for food or drink startup businesses. Although

situating this project separately to everything else at the festival probably limited audience numbers, it

created an inventive setting that subtly brought tactile sensations into the experience. The awkward

onboarding phase of having an invigilator fit a VR headset to the user was incorporated in the narrative,

by connecting it to food service: a table was dressed for lunch, with a tablecloth and place setting, and

the invigilator was dressed as a server. On arrival, I was shown to my table, and set up with the headset.

The 360 movie that played on the headset was filmed at a very similar table. What proceeded was a

series of dialogue scenes between an actor, sat across from the 360 camera, and Jane Gauntlett, who was

sat in the position of the user's body. As the scenes progress, Gauntlett's state deteriorates, leading to a

simulated epileptic seizure represented visually and auditorily. Visualise, a VR agency that partnered with

Jane Gauntlett on the project, described the technical implementation in a blog post entitled "Empathy

and VR":

> Using a unique POV rig ["point of view" rig, likely involving multiple cameras connected in a
>
> sphere-like configuration] we developed in-house, we produced a seamless experience that
>
> allows the viewer to look down at the table and see hands, arms and body of Jane, whose story
>
> we are telling. The rig was attached to the floor and came up behind Jane, rather than being
>
> attached directly to her body or head, allowing the content to be captured steadily without any
>
> small body movements. (Visualise, 2016)

Visually connecting to the actor's body seems to have been a priority for this project: the agency

repeatedly references the difficulty of ensuring that Gauntlett's arms were positioned correctly and

would not be distorted due to "stitching", where footage from one camera is blended with footage from

adjacent cameras. But the connection is not just visual, incorporating haptic effects that simulate some of

the symptoms of Gauntlett's epileptic seizures.

In My Shoes has been described by Liam Jarvis as a phenomenological critique of immersive theatre's

promise of "empathy" (Jarvis, 2019). Commenting on another piece in the *In My Shoes* series, *Walking in*

Slough, Jarvis finds "the 'trans-,' 'the passage,' or entredeux. It is an illusion through which participants are caringly 'thrown into strangeness' […] a detailed recreation of an experience that they may never have first-hand" (p. 170). Strangeness may be a counter-affective imaginary of immersion – rather than experiencing the telepresent feeling as though you are really in another place, the uncanny gap between perception and reality becomes the affective focal point.

Unlike other projects I have discussed in this thesis, *In My Shoes* was non-interactive. The story focused on the need for the protagonist to perform socially as smoothly as possible, while their body is producing painful and distracting phenomena. I wrote in a review at the time: "The video is organised not around the framing of shots, but the entrance and exit of characters. *In My Shoes* makes deliberate use of the minimally-interactive quality of 360 video and the disorienting feeling of wearing a VR headset to foreground a sense of helplessness" (Street, 2015). The initially unsettling feeling of hearing Jane's speech, seeming to come out of my own head, quickly became normal, as though I-as-Jane was dissociating and operating on autopilot. This evoked an attenuated kind of agency, as though the non-interactive nature of the format was itself a rhetorical device. Since my main locus of control was my ability to move my own head in order to look around the 360 video scene, I was highly aware of that choice to take in more or less visual information while experiencing a simulated version of Gauntlett's seizure.

Having visual focus on another character observing Jane, responding to what is happening, reminded me of the sense of self-awareness I have in my own everyday interactions with people. It wasn't simply that I was looking through Jane's eyes, but that I was reading the expressions of people looking at Jane as I looked at them as Jane. This brought the process of making sense of Gauntlett's experience into a social, intersubjective space, as the other character narrated changes in Gauntlett's demeanour and appearance that she and the user would not be aware of directly. The phenomenon of the epileptic seizure was to some degree shown as intersubjective, rather than purely internal to the experiencer, as part of it is observable only from the outside.

Although Visualise mobilises the idea of empathy when describing the project, they write that their first installation of the work was at a conference of the American Epilepsy Society, rather than a group of people who lacked knowledge about the subject. This suggests to me that the "empathy" that they sought to engender was not about awareness-raising, but about lending a stronger sense of significance to Gauntlett's testimony as a patient, perhaps leveraging the impact of immersive media to counterbalance the relatively little weight given to patient testimonies in medical literature. They emphasize that their evaluation survey showed that the audience reported that it was "impactful" and "left a lasting impression", both metaphors relating to something forcefully making contact with the surface of another object: the boundary between the two is still present, but the subject feels the close presence of something else, and is reshaped slightly as its shape is pressed upon them.

In exploring "mislocated selfhood" in VR, Jarvis (2019) highlights the "trans" prefix, following "body transfer illusions" in "transitory states of recreated otherness", "transportative" experiences of bodies that are themselves being "transformed" by their circumstances. Multiple "trans-"es appear in Jarvis's account of Gauntlett's work: "an experience that mislocalizes [participants'] sense of phenomenal selfhood, proprioceptively transporting them to ostensibly fragile bodies undergoing transformative and disorienting physiological changes" (p. 171). Jarvis's notion of "mislocated selfhood" here appears in the form of "transport" into a simulated body, and the experience of traumatic brain injury itself "transform"s the body portrayed. The trans- of VR becomes aligned with the trans- of disability.

What this brings to the surface is one of the areas of commonality between disability and gender and sexual diversity. An account of "empathy" as a form of advocacy for such groups could state that descriptions of subjective experiences are overdetermined by discourses that structure what experiences are thought possible or legitimate in the first place, so that it is not enough to simply use terminology such as "epilepsy" or "gender dysphoria". The experience itself has to be presented in a new way that disrupts discursive preconceptions, in order to reclaim the ability to define the terms being used. This is the other side of the work that "empathy" does in games and VR: it is not just a way of making the experiences of a minority consumable by the majority, but a way of talking about the needs of a minority to communicate something missed by established language.

In My Shoes steps away from discursive narrative, and toward a storytelling of sensation. It is not didactic, does not expect you to take away a specific message like Be Another Lab's "you should not violate the bodies of women", but a simple "I have felt this – perhaps you have too".

Soundself

The *Machine to Be Another* aimed to give users an experience of being somebody else by spending time looking at their body from the position of a head-mounted camera. *In My Shoes* aimed to dramatically reproduce the subjective experience of someone who, due to traumatic brain injury, has had their perceptual system change in ways that are difficult to put into words, and not perfectly captured by medical descriptions that focus on symptoms of disorder rather than the quality of the experience itself. *Soundself* is an attempt by creator Robin Arnott to induce in users the kind of state that he had experienced through psychedelics – the difference is that while *In My Shoes* might be described as a figurative **simulation** of a neurological pathology, *Soundself* aims at **stimulating** an altered state in the user directly. The goal of *Soundself* is not described as empathy with a marginalised other, but as a journey into the self in order to directly access a personal experience of something that lead creator Robin Arnott has found beneficial.

The starting point of *Soundself*'s design was not the use of visual illusions of embodiment, but an interest in audio-focused interfaces as a way of connecting with the user's body through feedback loops that respond to the breath. A prior project of Arnott's entitled *Deep Sea* involved a blindfold and a headset resembling an old diving bell, fitted with speakers and microphone – the fiction of the game was that the player is deep underwater, being pursued by a predator, and the player was tasked with holding their breath in order to avoid creating sounds or bubbles that might alert the predator to their presence.

Soundself takes a similar sound-based interface but reverses both the action and the emotional tenor, inviting the user to make vocalisations, and feeds back the user's voice mixed with a warm, atmospheric music track that changes both in response to qualities of the vocalisation and over the course of the experience. During my own experience with *Soundself*, I was wearing an Oculus VR headset while lying on my back in a hotel room near the Moscone Center in San Francisco, one of many people with

appointments to experience the piece during the Game Developer's Conference in 2017. I "omm"ed and "ahh"ed at various pitches and rhythms, which caused changes in the soundtrack, while abstract visuals shown in the VR headset underscored the tonal variations in the music. I am told that the course of a session can take different paths; mine had a bright and energetic beginning and end, with a dark period in the middle, where the sounds were bassier and the visuals were not present. I left feeling expansive, relaxed, and somewhat awed.

I interviewed Arnott in 2017 and more recently in 2020, and I interviewed his collaborator Evan Balster in 2020 as well, alongside interviews with other VR developers including Andy Moore and Kimberly Voll. These interviews brought up the significance of experimental VR projects in the development of affective imaginaries and interface development for more commercial applications of the technology, such as workplace training and arcade-like location-based entertainment. Moore and Voll attested that experiments without clear commercial aims have been instrumental in working out interface issues such as how to avoid motion sickness, how to move around a virtual space that is larger than the physical space around you, or how to navigate options menus by manipulating 3D objects (Voll, 2020; Moore, 2020).

When it comes to *Soundself*, voice response is the most obvious example of an interface development that is finding other applications: Balster has further developed the technology into a non-VR music creation tool called Imitone that integrates with existing standards such as MIDI. In addition to the voice interface, they have also participated in development of a design language based on game design conventions that structures the pacing of a VR session. Balster and Arnott developed ways of framing and guiding an experience by taking a user through a series of spaces – since *Soundself* aims to take users to an altered state, layers of design were built around the core experience to facilitate a transition from ordinary life into that altered state (Balster, 2020; Arnott, 2020). Similar work was being done by VR artist Cabbibo around 2014, using the action of putting a ball onto one's head as a way of slipping into another space, creating an interface organised around layered absorption into successive spaces. Non-VR arts games projects have also played with this successive relocation, such as *0°N 0°W* (Colorfiction 2018) and

Beyond R'proach (Takorii 2018). This suggests a slightly different reading to Jarvis's notion of "transportative" media or mislocation, focusing on spatial liminality rather than body transfer illusions.

For Arnott, the most significant contribution of *Soundself* is outside of the entertainment field, in alternative health. He positions *Soundself* among other wellness interventions that use psychedelics, and emphasises the importance of designing experiences that encourage a sense of embodied awareness, such as *Soundself*'s use of vocalisations to focus on the breath as a key part of the interface. "There's no reason you couldn't have like a heartbeat detector on your mouse or a brainwave detector on your virtual reality headset," he said in our first interview. "As soon as we start getting those things, I think we're going to begin to see a revolution of design, because now we have access to subtle embodied information, not just symbolic, communicative information and technology" (Arnott, 2017). This speculative imaginary of direct access to affect via biometric readings is already a subject of critique when used in applications such as surveillance technologies and wearable fitness devices – the heartbeat is not simply a non-symbolic source of information, because the information is still subject to interpretive work that figures affective states through culturally-mediated concepts.

This shift in imaginary, from discursive information to reading the body directly, is key to Arnott's view of game design as systems that connect with an embodied affective system, or "relating to the player as a wet animal full of emotions and feelings that do not translate to thoughts and controls." Echoing the affective imaginaries of other game design theories that I have described in this thesis such as MDA, Arnott states, "I think game design has a sort of scientific process to it. You have an idea for how a system might interact with psychology, so you build the system and give it to a player and then it works or it doesn't." The encounter with the player is where unexpected results occur: "I've been very blessed that the two big design endeavours I've made have both been wildly more effective of the bodied experience than I anticipated. I discovered something here works that I don't understand. There's something really humbling about it" (Arnott, 2020). I'm interested in this encounter with ambiguity that all designers face, where the player responds in ways that are not entirely accounted for in the designer's idea of the system.

Adding further to the ambiguity around *Soundself* is the contradictory stance of Robin's collaborator Evan Balster, who was responsible for creating the system that interprets voice input and translates it into musical feedback. His view is that VR in general, and *Soundself* specifically, has a disembodied quality to it. "I'd say that the loss of body awareness is probably the most remarkable capability of VR, but it's a technology I remain a little skeptical about, especially in terms of some of the buzz words that have been around the industry and the VR investment boom, like creating empathy for example. I don't think VR is inherently more effective for that" (Balster, 2020).

It is easy to find arguments to support this; users' perception is directed to visual and auditory media, the body lays or sits still and is no longer visible, which gives the impression of disembodied floating in space, and the VR device itself is treated as though it were weightless and transparent, rather than its effect on the body being involved in the design of the experience. To make the device transparent, the user is encouraged to lie down during the experience, so that the weight of the headset is not noticeable. This reduces what Balster described in our interview as a sensory "tax" that he perceives in the body's encounter with VR, and media in general. The tax is firstly about the discomfort of the body's contact with the device, "A VR experience really has to be worth my time for the baseline sensory distress of wearing an HMD [head mounted display] to be tolerable; the pressure on my face and such" (Balster, 2020).

Balster's tax is not just about VR devices, but about the mental effort of buying into any fictive experience. "It's always been my feeling that whatever medium you're engaging with, whatever type of art you're engaging with, there's a certain tax you pay, a certain inherent stress to adopting an altered mental state, projecting yourself out of your normal body and identity and into something alternative. In the case of a book, or a video game, or any of these things, the nature of that is paying attention" (Balster, 2020). In Balster's theory of altered affect, the process does not just happen to the player (or

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user, or participant) but is something that actively requires effort on their part, and exacts a toll on their mental and physical comfort.[16]

Arnott and Balster's accounts perhaps represent different understandings of the body. For Arnott, the body is experienced internally, through mindful awareness and experience of the breath; for Balster, it is found in context, in contact with the device and the environment. The ambiguous place of the body, and of embodied perception, connects to an ambivalence about the role of technology in deliberately changing users' emotions.

Arnott positions his work within a wider movement in wellness technologies. "I draw design inspiration from those places that I think are most holistically aligned with true healing, which is, um, shamanic histories, ceremonial histories… digital experiences really have a remarkable opportunity to disrupt or to play a role in disrupting the whole paradigm of Western medicine and the whole paradigm of look, just take this pill." Arnott's model of this alternative healing seems to be connected to a phenomenology of pain and recovery, focusing on its internality rather than theories about objective systems that produce effects in subjective sensations. "The place where healing and learning always actually happens is an experience. And so why wouldn't we be placing healing in the place of experiences?" (Arnott, 2020)

This is where the shift from simulation to stimulation becomes particularly clear. In terms of its visual and sound design, *Soundself* revolves around a simulation of the kinds of synesthetic phenomena that are often experienced under the influence of psychedelics. However, rather than representing this experience narratively like a movie about psychedelic use might do, the purpose of *Soundself* is to use the

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[16] The tax is metaphorical, paid in physical and mental exertion, but it might allude to the notion that a person's mental and physical labour power has an exchange value, and thus so too does the remaining capacity they have available for leisure activities and personal wellness. Currency metaphors for energy used outside of remunerated work have found a use in chronic illness and disability advocacy, where attempts have been made to draw attention to inequalities of physical and mental energy using the metaphorical currency of "spoons". Lupus patient advocate Christine Miserandino (2013) refers to spoons in order to convert the abstract concept of energy into something literally graspable, whose absence would be felt if taken out of someone's hands. Chronic illness can bring into relief the physical cost of every activity, even those that bring pleasure or that are required to maintain the body's wellbeing. Although Balster only refers to a tax in relation to the encumbrance of technical apparatus, it seems suggestive of a wider somatic fee charged for a wide variety of activities, with or without a mediating apparatus.

feedback between embodied experience and audio-visual perception to stimulate similar transformations in the players themselves.

Sounding a note of caution about the nature of such transformations, Balster pointed out that the kinds of cognitive changes that *Soundself* attempts to stimulate, despite being connected to a history of spiritual practice, "don't necessary make you a good person", alluding to both the aspiration to create VR applications and videogames that induce prosocial emotions, and to a perceived common belief that the kinds of cognitive shifts brought about by techniques such as mindfulness are themselves intrinsically linked to prosocial emotions or behavioural outcomes. Having previously worked on military applications for VR that he expressed similar ambivalence about, Balster points out that "mindfulness technologies" have historically played a role in "assuaging the guilt of the powerful". He expressed misgivings about the ethics of commercialising and evangelising around such technologies. Both Arnott and Balster felt that the effects of *Soundself* were beyond their understanding, and they both felt it was an important technology that could produce powerful psychological changes, but they had significant differences in their affective imaginaries of embodiment and theories of psychological change.

Conclusion

All three projects described here attempted an experimental use of VR for prosocial purposes, and all three ended up dealing with the unfamiliarity of the modified body, integrating it back into an affective narrative in different ways. In *The Machine to be Another*, the unfamiliarity of the modified body was read by journalist Ben Kuchera as an analogue for gender dysphoria. This is an ironic twist to the body transfer illusion, as Kuchera's sense of discomfort was discursively transferred onto the bodies, and the imagined emotional lives, of transgender people.

In *In My Shoes*, the unfamiliarity of the modified body is part of the narrative, as the physical discomfort of the VR headset forms part of an experience of disorientation and discomfort that positions the user as a direct witness to a phenomenology of epilepsy. The transformation of the user's body is not only accounted for in the visual illusion of having a different body, but in the simulation of alternate physical phenomena. Although some discussion around the project used the concept of empathy to communicate

the sense of a prosocial affective intervention, Gauntlett's work includes other affects connected with the solace of seeing one's own experience represented in a way that can be communicated with others.

In *Soundself*, different narratives emerged from different members of the development team – for Arnott, the use of vocal interface produces a highly embodied experience that uses the breath alongside synesthetic illusions to alter the user's affective state and long-term psychological wellbeing; for Balster, the technology demands a departure from the body, extracting from users a physical and mental tax represented by multiple forms of discomfort that must be put aside in order to participate in the experience. At stake in these competing affective imaginaries are different views of what it means to do good with videogames and similar media: one view focuses on the individual's internal experience, and the other on the social life of both technologies and the emotions they stimulate.

Chapter 7: Concluding thoughts

This thesis, and the practice that I demonstrate in the accompanying online exhibition, present a view of game development as a practice of configuring affective imaginaries. I aim to open affective imaginaries to analysis and play, challenge normative assumptions about game design, and explore alternative affective possibilities.

The central argument of this thesis is that the practice of game development configures affective imaginaries, as part of the work of articulating a social purpose for devices or platforms. These imaginaries figure subjects, objects, and the relations between them as sites between which affect can "move, stick, and slide", in Sara Ahmed's terms. Viewing the performativity of imaginaries through affect can resonate with queer theories of affect, particularly when exploring counter-affective readings, such as looking for friction in user-device relations that centre flow, or challenging the repositioning or trans-location of affect between subjects and objects. Chapter 2 sets up the conceptual tools that aid me in the readings that follow.

Tamagotchi serves as my first example, as a relational artifact / relational surrogate that was figured as an object of care. The discussion of Tamagotchi in Chapter 3 allows me to begin making use of the concept of "dynamics", an abstract figuration from games studies that helps me to think about interactive design practice as a mode of communication between developer and user / player, but which I also intend to sympathetically critique. I apply the concept of game dynamics in a way that highlights unexpected outcomes, discursive dissonance, and the work that the designed interactions do to configure social relations beyond the user-device relationship.

I show that the dynamics of interaction in Tamagotchi were similar to other devices, including Virtual Infant Simulators, but they had different intended messages: whereas Tamagotchi aimed at encouraging players to become skilled carers of future children, Virtual Infant Simulators aimed to dissuade players from becoming mothers too quickly. Although both products yielded ambiguous results, the relationships figured through them served normative roles for reproductive futurism. The figure of the child appears in different forms: the device is figured as a an infant (human or alien); the imagined user is a teen girl who

is assumed to be a future mother (to a human infant); and in the case of the Tamagotchi, the relationship between a user and a portable electronic device was itself a fledgling version of forms of mobile sociality that were emerging at the time, primarily through the use of pagers.

In Chapter 4 I turn to interviews and the blogs of mobile game developers active between 1998 and 2008. I show how game developer discourse goes beyond describing the emotional experience of user / player and developer, and ascribes affective agency to hardware and software as well. This is achieved through two repositionings of affect – first, the relocation of the developer's "gut feel" to the figure of the imagined player, and secondly, the figuration of the game as an affective agent in itself. Part of professionalisation and belonging is learning to feel the right way, such as by developing a sensitivity to affective qualities of dynamics that emerge from game mechanics. I relate this to Fabian Muniesza's notion of acquiring a disposition, and Bourdieu's sports metaphor "a feel for the game" as part of *habitus*. Affect is not just managed as an outcome of the design of games; affects are forces in sociotechnical imaginaries around game development, which are enacted through embodied experience.

In Chapter 5, by exploring key examples from the queer games movement of the mid 2010s, I show how the ability of affects to discursively move between subject and object becomes personified in the role that the figure of the transgender person has played in the affective imaginaries of developers and commentators. This became prominent in mainstream readings of the queer games movement, and similar affective imaginaries have been applied to VR, particularly in non-fiction works.

Finally, in Chapter 6 I examine three VR projects developed in the mid-2010s that figured affect within or across subject positions: *The Machine to Be Another* positions affect across difference, so that the user is thought to be feeling as an "other"; *In My Shoes: Dancing With Myself* positions affect within a brain that has been altered by a neurological pathology, and puts the user in the position of being self-conscious while observed by another person; and *Soundself* aims to not only simulate, but stimulate an altered mental state in the user. The "move, stick, and slide" of affect is enacted in these projects in order to figure a subject within a sociotechnical imaginary that gives VR software a normative social role.

One of the significant differences between the period 1998-2008 that served as the focal point for Chapters 3 and 4, and in the mid-2010s that I discuss in Chapters 5 and 6, is the rise of quantified measures of user engagement. When I began this PhD in 2014, I was working as the editor of Gamesbrief, a website sharing information and advice relevant to the games business, with a particular focus on business models that had become popular in mobile games, such as "free-to-play". That work often put me in contact with the Business Development Managers at companies that provide analytics software to game developers, who would pitch their solutions to measuring players' "engagement" and producing useful quantitative information, such as A/B testing different UI designs against these quantified measures. Analytics software, and machine learning algorithms that automatically tune a product to maximise engagement for each user, have become ubiquitous across the software industry, and this changes the tacit meaning of "engagement" in the sector.

Just as the prior reliance on a developer's "gut feel" demonstrated a repositioning of affect, the cultural figure of "the algorithm" today represents another repositioning of affect, as the imagined tastes and desires of the algorithm become a key concern for people using social media apps to share information, advocate for their community, and/or make money as a "content creator". Making content that the algorithm "likes", and avoiding content that the algorithm might flag as a violation of community standards, has become a common practice, with severe consequences if one does not accurately predict how the algorithm might respond. My own non-profit community bookshop has had its account restricted by Meta because of rules violations; overturning this decision is challenging given that Meta does not disclose which rule has been violated, but we have received multiple warnings when advertising books such as Martha Wells's science fiction series *The Murderbot Diaries*, or even seemingly innocent material such as guidebooks on aromatherapy. Living with algorithms involves a strong theory of affect that attempts to predict punishment and shame that could arise from the interaction between a user and an algorithm, arguably a "theory of mind" for a non-living entity.[17] My point is not that the algorithm

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[17] Yergeau (2017) provides a thorough deconstruction of "theory of theory of mind" as it relates to clinical pathologisations of autistic ways of relating, which includes the idea that autistic people "lack empathy", which Yergeau strongly critiques from a neuroqueer perspective.

feels things or has a mind, but that some strategies for living under algorithmic surveillance involve figuring the algorithms as if they were feeling and thinking entities.

I find the concept of affective imaginary helpful when making sense of the challenges that arise on social media platforms, and when evaluating my own strategies for communicating about my work. A range of options become clearer when I examine my own affective imaginaries more critically. For example, I find it easy to associate low engagement numbers with social isolation, and high engagement numbers with social belonging. Focusing instead on the emotions I experience when reading comment replies points to different approaches, such as intentionally limiting audience size in order to reach the people I really want to communicate with. This is one of the areas where queer practice / praxis and theory meet, as queering my own affective imaginaries is analytical work that alters the way I aim to participate in community.

Likewise, opening affective imaginaries to queering, analysis, and play can challenge affectively normative assumptions about game design practice. There is a queerness in exploring alternative affective possibilities, such as eschewing excitement in favour of reflection. A queer practice can engage with affective imaginaries by resisting strong theories of affect that attempt to predict unpleasant feelings, looking for local theories of affect that describe unexpected responses, and finding opportunities to explore ambiguity and multivocality in the design of interactive media.

Contribution to game art practice

Across the final two chapters, I critique and challenge the figuration of transgender bodies as containers for cisnormative anxieties about boundary-crossing feelings. At the same time, it is true that crossing boundaries plays an important role in how I think and how I practice. Affect is an interdisciplinary, or transdisciplinary, topic of interest, a "voyaging concept" (Jasanoff & Kim, 2015), and my own approach to scholarship and practice is transdisciplinary.

While remaining critical of myths that new technologies might somehow allow us to transcend the human body, I attempt to pay attention to queer embodiments in game design that trouble the

boundaries of human-nonhuman, living-nonliving. Working with affect theories to practice "arts of noticing" and "find possibilities that lie in wait" (Tsing, 2015) makes it possible to find in both "interactivity" and "empathy" a hint of Donna Haraway's "response-ability" (Haraway, 2008). This thesis describes moments where affect theories were forming around structured performances of social relations; through game design practice, affect moves between embodiment and discourse.

In my own practice I have created interactive works that critically engage with affective imaginaries, by putting players in a position of response-ability for the emotional state of an other. This potentially preserves a sense of self-awareness that the way the player feels is not the same as how the portrayed character feels, highlighting critical relationality rather than relying on an illusion of transpositionality. A thread running through all of the original works that I present with this thesis is configurations of self and other. These works are responsive to discourses about "empathy" in games and VR that position the player within the "shoes" of a marginalised person. I hope to redirect attention away from the desire to feel as someone else, and instead highlight mutual response-ability through ambiguous figurations of player agency – the player does not know exactly what impact their actions have on the simulated mood and actions of the character being portrayed on screen.

My practice in games operates within the context of larger trends in the last decade, particularly games for change, serious games, persuasive games, and other fields that attempt to use games to raise awareness of real-world issues. There has also been a rise of "cosy games" and "wholesome games" as indie marketing categories that denote games with limited violence, that portray some kind of pleasant scenario or setting, with the suggestion that these games foreground pro-social or otherwise desirable affective states. Although I welcome this resurgence in dynamics such as caring for others, appreciating an environment, or understanding a global issue, I want to trouble the affective normativity implied by categories such as "serious", "wholesome", or "cosy".

"Wholesome games" is strongly connected with the culture of livestreaming, a form of spectatorship that revolves around internet micro-celebrities and parasocial relationships. Success on streaming platforms often relies upon existing interest in the game that a person is playing. This is partly due to the design of

the platforms that host streams. On Twitch.tv for example, streams are grouped by the game title, and if a game is not well known enough to be included on the platform's database the streamer will typically use the category "just chatting", which makes it difficult for potential audiences to distinguish such streams from any non-gameplay activity. Although wholesome games may represent a large category of indie game titles, most streams focus on a handful of highly popular games, primarily the fantasy farming simulator *Stardew Valley*.

Stardew Valley does in fact include violence, if the player goes into a specific area that involves killing monsters. The wholesomeness attributed to this game is largely down to its theming, and the fact that the violent aspect of the game is not the core interaction that defines the player's experience. The initial narrative framing of the game involves the protagonist leaving an office job in the city to pursue a new life in a rural idyll, after inheriting a farm from their grandfather. This narrative framing seems central to the interpretation of the game as "wholesome". It evokes the imagery used in advertisements for some breakfast cereals: rolling hills of wheat, an old-timey horse and cart, a smiling family. Whether the product is indeed good for the body of the consumer does not seem to be considered when interpreting how wholesome it may be – *Stardew Valley* is a highly addictive game, designed to capture a player's attention for several hours or more at a time. "Wholesome games" seems to conflate the affective imaginary of a game's theming and narrative with the impact that the game has on players and the surrounding culture.

Audience imaginaries

In addition to the affective imaginaries that involve games themselves, the conceptualisations that I explore and develop in this thesis have also sensitised me to the imaginaries involved in the figuration of audiences. The idea of social impact in serious games, games for change, and similar categories must figure a malleable subject as the receiver of a game's message. One way that this manifests in the arts sector locally to me reflects the reproductive futurism and figuration of the child that I discussed in Chapter 3, as I am experiencing increasing institutional pressure to create work for children.

For example, when describing its "creative people" outcome as part of the Strategy 2020-2030, Arts Council England (ACE) dedicates the majority of its text to developing creativity in children. Part of this responds to significant cuts to arts funding in the education sector, in the face of which ACE argues that arts activities "play a vital role in[…] helping to set the compass for future creative and cultural activity and wider success in life" (Arts Council England, 2021, p. 32). Following this direct connection between childhood and futurity, ACE goes on to argue that children who benefit from creative activities will make a better contribution to the workforce when they reach adulthood. ACE does not identify any other specific group that benefits from access to the arts, or whose creativity contributes to wider socio-economic aims. I have asked two ACE relationship managers if the "creative people" outcome should be interpreted as really referring to children specifically, and both emphasised that "creative people" means everybody, despite the language used in ACE's strategy documents.

The pressure to direct arts activities toward children is perhaps heightened due to my art form, since games are still perceived as juvenile or at least as a "family friendly" medium, rather than as a way to communicate with a very large population of people who grew up with videogames and are now adults. Perhaps the nostalgic connotations of the medium work against understanding – since many adults associate videogames with their own childhoods, it might seem natural to perceive the medium as a whole with children, rather than viewing it as I do, as a medium that particularly resonates with people who grew up in the 1980s and later. I do not want to make work for children, but I do want audiences to approach my work with a certain receptivity to learning that is culturally associated with childhood.

Some of the pressure is also due to my geographic location outside of a major cultural hub, in a town that will be the world's first "children's capital of culture" in 2025. Rotherham has become known in the right-wing press as the site of a notorious child sex trafficking scandal, but it is also the home to a highly acclaimed children's literacy charity, Grimm & Co. The programme will coincide with the opening of a new leisure complex in the town centre, and seems to define efforts at cultural and commercial regeneration in the town, as well as shaping the strategic direction of arts commissioning.

As an LGBTQ+ artist whose work centres queer politics and worldbuilding, the pressure to position my work as a service to children is particularly concerning at a time when the backlash against trans rights is accelerating, and increasingly figures transgender adults as "groomers". Even though I do not direct any aspect of my work towards children, I have already had this slur directed at me.

The "trans" prefix is generally understood to be intransitive, i.e. transgender people "transition" from one gender to another. However, the notion that as a transgender person I am some sort of danger to children seems to be based on a tacit perception that transgender people are in fact transitioning the world around us. We change the way pronouns are used, we change the way people think about bathrooms, we change the meaning of gendered signifiers and gestures, etc. Children are rhetorical figures in anti-trans discourse because they are seen as more malleable than adults, and therefore helpless to resist the social and cultural changes brought on by wider acceptance of transgender people.

At the same time, children are seen as the pivot-point on which the future turns, or indeed as ACE puts it, by allegedly influencing children we "set the compass". Any stake that transgender people make for the future is perhaps implicitly understood as a stake in children, even though the vast majority of transgender people are adults who just want to imagine better lives for ourselves and our loved ones. I could argue that it is in fact transgender people who are vulnerable to the transitive form of transitioning, having all of us experienced some degree of forcible translocation into a gender identity and/or presentation that more closely fits social norms.

When the audience for arts is assumed to be primarily children and young people, this follows a wider compulsion to figure the audience of artwork as socially distinct from the creator, especially regarding artwork that is positioned as persuasive media, such as games for change. I recently worked as a consultant and researcher on a government-funded media project about climate change that targeted gamers as an audience group. I presented evidence that gamers are largely adults, and are more likely than the average person to understand climate change and agree that it is caused by human activity. However, throughout the project people on the team brought up the need to address gamers as under-reached young people, on the assumption that gamers lack information on the topic of climate change.

This reflects the tension that Adrienne Shaw describes, between the reality that most adults play games of some kind, and the cultural image of gamers as an out-group (Shaw, 2010). This need to view audiences as unfinished people in need of education and refinement in turn positions artists as agents of change whose talent is their ability to "reach audiences" and exert influence over them.

Transmedia

I hope to engage critically and sympathetically with this positioning of artists in general, and transgender artists especially, as transitively transitioning, translating, transpositioning, etc. As I search for ways to articulate my transdisciplinary practice, I have found the framing of some media practices as "transmedia" helpful, particularly in the verb form "transmediating", as a quality of my art practice as well as a reading technique.

Moving material from one medium to another often entails changing the embodied relationship between the reader and the media, which opens up opportunities to affectively reconfigure the message. For example, I am in the process of finishing *Cis Penance*, an interactive documentary based on interviews that I carried out with 45 transgender people across the UK. Continuing the method I developed in the *Interactive Portraits* that I discuss in this thesis and display in the accompanying exhibition, in *Cis Penance* I transmediate material from oral testimony to written transcript, and then from transcript to interactive text. I discuss *Cis Penance* in a chapter that I have contributed to a forthcoming book entitled *Imagining Transmedia* to be published by MIT Press in 2024. There I use Hiroki Azuma's (2001) notion of "database narratives" to describe how I hope my work can engage strategically with transmedia ways of "'reading up' from the partial elements [readers] have encountered, and constructing their own subjective image of the whole" (Street, Forthcoming).

I offer this as an alternative mode of reading to the narratives that centre normative affective goals such as "empathy". Instead of feeling for a character who is imagined as "other" to the presumed normative reader/user/player, I want to create work that encourages people to spend time in a representation of an aspect of our shared world that may be unfamiliar to them, and develop skill at processing that unfamiliarity amid shifting cultural terrain. This unfamiliarity is about the socio-cultural context one lives

in, and not just one's own identity or subject position. Many transgender people also never get the opportunity to meet 45 other transgender people. Most spend their lives immersed in a world that sees them as an exception to the norm, rather than as part of the diversity of human experience.

Imagining Transmedia is just one of a few projects that have allowed me to interact with Arizona State University's Center for Science and the Imagination (ASU CSI), and I am quite excited by how they approach scholarship and academic networks. The *Imagining Transmedia* book project went beyond just putting out a call for chapter submissions, instead organising a series of workshops, which contributors were paid to attend, allowing us to meet other contributors, engage in structured discussions on the topics of the book, and draft our chapter abstracts in dialogue with the rest of the contributors. This helped me to understand how my work sat in relationship to others', and what contribution I could make to the book as a whole. We were also put into pairs to respond closely to each other's work, which created opportunities for transdisciplinary conversations. This was particularly valuable because the contributors were a mixture of academic researchers and creative practitioners (many of us were both), and stepping outside of the established patterns of academic publishing allowed us to build our own context.

I also had the pleasure of working with Joey Eschrich, ASU CSI's managing editor, on an "essay jam" with Critical Distance, a non-profit supporting critical writing on games for which I serve on the board of directors. Our Pandemics and Games Essay Jam was another opportunity to reconsider the "call for submissions" process and explore other approaches that focus on generating interactions between contributors. We transmediated the "game jam" format, in which people meet online or in person to design and prototype games together, into an event in which people gathered to write essays and share advice and support. This followed a precedent set by games curator Emilie Reed, who regularly runs writing jams exploring a variety of media formats, including two that she ran with Critical Distance: a visual essay jam, which encouraged people to work on essays expressed through photographs or video, and a Bitsy essay jam, for which people created interactive essays using the videogame engine Bitsy. In the context of the COVID-19 pandemic, activities such as these have been particularly valuable, as they offer a structured way to connect with others through online platforms such as Discord, the indie games

website itch.io, and in the case of the Pandemics and Games Essay Jam, the writing platform PubPub. These projects transmediate social practices such as game jams and writing workshops into novel or even unexpected digital formats, as part of a practice of consciously building a context with others.

Worldbuilding

Sociotechnical imaginaries form part of a collective vision of futures in the making, and methods of recognising and formulating sociotechnical imaginaries are part of speculative work such as worldbuilding. I use "worldbuilding" here to describe practices such as developing a setting for speculative fiction, playing tabletop games such as Avery Alder's *Dream Askew* and Ben Robbins's *Microscope*, and related practices in social art such as working with a community group to create artefacts from an imagined world. Affective imaginaries connect to worldbuilding, with a focus on the figuration of affects, and the subjects, objects, and agencies that are imagined as enacting affect.

This is not strictly because imaginaries are intrinsically imaginative, and therefore connected to fictional worlds because of a separation from an objective present-day reality. Imaginaries figure relations and agencies in worlds that already exist, as well as potentialities within the ongoing processes of change within these worlds. Imaginaries inform how we understand the world, and when speculating about other worlds, it can be helpful to think about what imaginaries would develop to figure relations within those worlds, as well as critically examining our own imaginaries and how they shape the worlds we imagine. For example, a fictional world in which machine learning algorithms have somehow gained sentience and start to agitate for civil rights might be a reflection of the author and audience's sociotechnical imaginaries; a story set in that world would also portray the sociotechnical imaginaries of the fictional society, as the characters make sense of the situations they are in.

Affective imaginaries may also inform speculative worldbuilding - for example, Annalee Newitz's short story 'When Robot and Crow Saved East St. Louis' (Newitz, 2018) imagines the emotional inner life of self-aware artificial intelligence in relation to computational processes such as pathfinding optimisation: "Robot liked to start with the Loop. Maybe 'like' was the wrong word. It was an urge that came from Robot's mapping system […]" Robot's emotional landscape is characterised by a drive for optimisation,

and Newitz describes an internal process of translation between this cognitive style and that of the living beings Robot interacts with: "Bey said Robot could do whatever it wanted, which was the kind of thing humans said when they expected it to predict which data-gathering task should be prioritized." The story is shaped by an examination of the kind of computer processes that are common in our own world, and imagining how this could be understood in relation to emotional concepts such as "liking" or "wanting" something. This affective imaginary is a figuration of agency (Robot's capacity to act) in relation to structure (computing processes, biological processes, relations between humans, machines, and non-human life-forms).

Future work

Throughout the process of pursuing this PhD, people have asked what I aim to do "after". The question seemed incorrectly formed. As a part-time PhD by practice that has taken almost a decade, this has been a "meanwhile" experience, more than an event with a "before" and "after". But as I attempt to bring the project to completion, I find myself wanting to imagine an "after", to locate a futurity in the affective imaginary I attach to this project.

The PhD has shaped the development of my practice, and vice versa. My practice in fact emerged during the course of this PhD, after I shifted away from work as a writer for online blogs and towards a practice in interactive media art, led by some of the themes that emerged in my PhD research. In turn, it became clear relatively quickly that my practice was another articulation of the research, and with the support of my supervisors, I adapted the PhD into a PhD-by-practice. Additionally, for most of this time I earned a supplemental income as an academic translator, a field in which timelines and pay rates have become increasingly tight as machine translations become increasingly accurate. I stopped taking freelance translation work in 2022, in part for health reasons that have reduced my capacity for work. In the past few years I have been able to take on more work as a consultant for games studios and other creative enterprises, which has also been shaped by my PhD research, as well as my experience collecting and curating critical writing with Critical Distance.

The act of translating between research and practice has often been delicate. It is not the case that I go into meetings with clients and collaborators and start a discussion about affective imaginaries directly. Rather, looking for affective imaginaries leads me to ask questions about how a project is conceptualised, communicated, and contextualised. Practising sympathetic critique is valuable, particularly at a time when public criticism is increasingly interpreted as a threatening force. It is clear in discussions with other people how this is an affective practice, which benefits from the choice to turn towards tension, friction, and other discomforts with curiosity. Haraway's "staying with the trouble" feels like a particularly evocative slogan in moments when the feeling in the body is a desire to turn away, and when the body language between people follows Silvan Tomkins's cybernetic affect theory of triggering shame by lowering the gaze. Since I have sometimes been hired precisely because of my experience working with texts that criticise game developers, my work can involve trying to address possible criticisms while positioning myself on the side of the developer, looking for opportunities to do something more interesting based on critical readings. Equally, my job can be to look for surprising outcomes, drawing out local theories of affect that describe unexpected feelings of excitement and joy.

I also have to engage in acts of translation in my own creative practice, finding ways to draw a curator or player's attention to the relations that I am trying to evoke in my work, which I hope run counter to expectations. For example, I have recently directed my work towards interactive theatre, which leads to fascinating transdisciplinary encounters with writers, dramaturgs, and directors. Fundamental things about the process of developing a play are entirely foreign to me, and I have to pay close attention to the names and verbs being used so that I can ask the right questions in order to better understand how a play gets made. Similarly, theatre practitioners with little experience of interactive media bring a set of assumptions that I try to push back against, such as the idea that interactivity means that the audience can change the plot, and that the script must be a branching narrative. Part of my job in this situation is to draw attention to multiple ways of conceptualising agency, beyond the notion of being able to control how a story ends. I sometimes assert that making an impact on tone can be just as satisfying as determining the plot. This is an example of how my work involves intervening in affective imaginaries and

offering alternatives, as part of the social and cultural work of configuring new relations between audiences, creators, devices, and spatial contexts.

Faulty connections

The title "faulty connections" signals my attention in this thesis to aspects of the sociotechnical configuration of emerging devices that do not connect the way they are expected to, or that connect in unexpected ways. To give a few examples: the contested "telecocoon" social arrangements that emerged around Tamagotchi as well as early mobile communication devices such as pagers; the disconnection between game developers and players, which was compensated for in the embodied affect of developers and the relocation of affect onto the game software itself; the ambivalence of queer community around indie game development; and the flawed rhetoric of translocation and empathy in VR. The goal has been not to resolve the faults, but to pay attention to them, to treat them as potentialities for other ways of connecting, and to consider my own art practice as a creative engagement with connections that almost never function as expected.

I began this thesis by describing a handful of convictions: 1) that it takes discursive labour to configure new communication technologies, 2) that digital games are both objects in discourse, and discursive objects themselves, and 3) that to a significant degree the discourse about and in digital games is about the social use of emotion. Engaging in this PhD research alongside and as part of my art practice has allowed me to develop a sensitivity to the kinds of discursive labour in which I am engaged, to practice critical awareness of the discursive objects and technologies that I am configuring, and to challenge some of the social uses of emotion to which digital games may be put to work. Focusing on affective imaginaries offers an analytical frame that I find helpful in critical readings of games, software, and other sociotechnical configurations. I hope that by engaging in this topic through ethnography, critical readings of games and developer discourses, and practice-based research, I have demonstrated that affective imaginaries are not just a theoretical construct, but a fundamental part of design processes, and a target for reflexive practice.

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Appendix

Descriptions of games

0°N 0°W (2018)

Colorfiction; for Windows, MacOS, Linux

Surreal exploration game in which the player can explore a large number of 3D spaces that evoke psychedelics, science fiction, and demoscene works.

Angry Birds (2009)

Rovio; Various, but most known as smartphone games

Highly successful mobile game franchise; by 2015 it was the most downloaded free-to-play game series of all time. In Angry Birds, players use a slingshot to fire cartoon birds at green pigs stationed in a variety of structures, aiming to destroy all pigs in a given area.

Beyond R'proach (2018)

Takorii; Windows

A small indie game presenting a 3D space that resembles a field of various plants, with flat shaders to give an illustrative appearance. The player-character can move around, and will eventually find a portal that leads to a similar space, but with altered visual perception such as a change in colour palette.

Borders (2017)

Macua Studios; Touring installation

Uses classic low-resolution game aesthetics to portray hardships immigrants face crossing the Mexican border, inspired by the stories of the artist's parents crossing over. Discussed in Reflections 2 on Interactive Portraits.

Candy Crush (2012)

King.com; smartphones

Free-to-play tile-matching game that presents a grid of brightly-coloured "candies", and tasks the player with creating adjacent groups of matching candies. A matching set of candies will vanish from the board with satisfying sounds and visuals, and add points to the player's total score. The player is able to swap the places of two adjoining candies in order to achieve arrangements of matching pieces.By 2014, the game had been downloaded more than 5 billion times.

Deep Sea (2010)

Robin Arnott; Touring installation

Audio-only game commissioned by the NYU Game Center, that toured festivals such as Indiecade and Fantastic Fest in 2010-2012. "Players don a mask that obscures their vision and takes over their hearing, plunging them into a world of blackness occupied only by the sound of their own breathing and the rumbles made by unseen terrors."

Depression Quest (2013)

Zoe Quinn; Web browser, followed by Windows, Mac OS, and Linux with the release on games platform Steam

Interactive fiction based on Quinn's own experiences with depression. Like many other interactive fiction games, the player has multiple choices represented by hypertext links that allow them to direct the protagonist to take a certain course of action. Initially, a certain proportion of choices are crossed out in red and unavailable to be clicked, representing the way that certain desirable actions become impossible when a person is depressed - to make these actions possible, the person must first become less depressed, but to become less depressed, they need to take actions that benefit their own wellbeing

DOOM (1993)

id Software; IBM computers

The first DOOM game is considered to be the originator of the first-person-shooter genre of games. This is partly due to its commercial success, but perhaps also because the game was highly modifiable, allowing enthusiasts to create their own versions of the game or create original game content with the same engine. Today it is common for hackers to demonstrate a method of repurposing electronic devices by making them run DOOM. Using the arrow keys and a mouse or joystick, the player navigates a 3D environment and fires guns at monsters. Over the course of the game, the player acquires different types of gun and fights different types of monster.

Dream Askew (2018)

Avery Alder; Tabletop / cards

A tabletop role-playing game set in a post-apocalyptic world, where a group of outsiders form a "queer enclave" together. Each player takes on a different role in the group and can take actions during their turn that are shaped by the specifc rules associated with their role; the earth itself is also a character in the story with its own agency, alongside other non-human entities such as "the digital realm" and "the psychic maelstrom". The aim is to tell a story about how the characters encounter and overcome internal conflict and external challenges.

Dys4ia (2012)

Anna Anthropy; Adobe Flash

Represents barriers and challenges in the life of a transgender woman, such as accessing medical care and finding psychosocial comfort, through a series of illustrative puzzles. Received wide acclaim as an early example of indie games representing transgender experiences, and in doing so played a major role in the development of a queer games movement.

Eve Online (2003)

CCP Games; Windows and Mac OS

Massively Multiplayer Online Role-Playing Game (MMORPG) of very large scale, portraying interstellar exploration, resource mining, and trade, as well as combat and piracy. During my time working at games business blog and consultancy Gamesbrief in the years 2011-2015, Eve Online was frequently a topic of discussion due to its in-game economy, which operated at a large scale and with minimal intervention from the developers.

Furby (1998)

Tiger electronics; Standalone toy

The furby is a virtual pet toy resembling an owl or rodent, and has also been described as an early domestic robot companion. Users can interact with it by pressing buttons on its body, such as the belly area and the tongue, which provokes animatronic movements and programmed audio feedback in the furby's voice. When the toy is first activated it only produces asemic sounds that give the impression of an alien language, and over time more and more utterances are given in English. This gave the impression that the toy was learning to speak from the humans that played with it, leading some governments to ban them from official premises out of a concern that the device had sound recording functions (it did not). The forehead of the toy was equipped with an infrared device similar to television remote controls at the time, which allowed two furbies to send simple messages to one another and synchronise their animation and auditory feedback. Several newer iterations of the furby product line have been released with different hardware capabilities, most recently a model in June of 2023 that boasts a "meditation" feature to encourage children to relax in the evenings.

Grand Theft Auto (1997)

Rockstar Games; Various consoles and operating systems for desktop and mobile

One of the best-selling videogame franchises, as well as one of the most controversial. Grand Theft Auto (GTA) is synonymous with AAA games, featuring expansive open-world environments based on major cities, high-octane thrills in a variety of vehicles, and a lot of weapons. At the same time, due to its fame and ubiquity, GTA is also used for counter-affective purposes; for example, a popular sub-genre of videogame livestream is people using GTA as a life simulator.

Hold in your farts or die (2021)

Dietrich Squinkifer; Windows, Mac OS, Linux

Part of a collection of seven short games in a series called "Second Puberty" - although the name draws on a humorous term used in some trans communities to refer to the changes experienced when starting cross sex hormones, the themes of the games are more expansive, including explorations of neurodivergence and mental health. Hold in Your Farts or Die represents a connection between autistic masking and mental health issues such as anxiety, with similar mechanics and some aesthetic cues from Merritt K's Lim

Hotline Miami (2012)

Dennaton Games; Windows

Action game rendered in low resolution pixel graphics, in which the player-character carries out a series of massacres against the Russian mafia. The aim is to kill every non-player character in a given setting, using weapons found in situ. The fast-paced dynamics of the game are enhanced by unpredictable enemy movements and a "one hit kill" principle that applies to the player and non-player characters alike.

In My Shoes (2015)

Jane Gauntlett; Mobile VR

360 video movies, installed in an immersive theatre setting. Described in this thesis is the early work 'Dancing With Myself'. Today the website states that over a hundred other similar works have been made in this series, representing a variety of experiences.

Lim (2012)

Merritt K; Windows

An abstract representation of one character's navigation of a hostile world; the player-character is a square that displays in a variety of colours, whereas other characters are squares of either brown or blue. The player character can present as either a blue or brown square in order to literally "pass" i.e. move past squares of that colour without being attacked by them.

Machine to be Another (2012)

Be Another Lab; Mobile VR

VR installations that aim to create the sensation of swapping bodies with another person. Projects using the Machine aim to reduce negative stereotyping and advance support for human rights. In this thesis an early work is described that used the body transfer illusion to aim to give participants an experience of being in the body of someone of the opposite sex.

Mainichi (2012)

Mattie Brice; Windows

Created using the tool RPG Maker, which facilitates development of games inspired by 2D role-playing games of the 1980s and 1990s, particularly in a style that became associated with Japanese games studios. Portrays a day in the developer's life, showing the player-character's internal monologue as well as exchanges with other characters. Mainichi runs in a loop, and there is no way to "win" or "lose" the game, but player choices impact the narrative outcomes, showing that the choices the player-character makes have an impact on their life but that no perfect set of choices will guarantee enjoyable and harmonious relations with others or mental well-being.

Metal Gear Solid (1998)

Konami; Playstation

Highly-acclaimed core game portraying pulpy science-fiction espionage. The third iteration in the Metal Gear series of games, and the first one to use 3D graphics. The player must navigate the protagonist, Solid Snake, through a nuclear weapons facility without being detected by enemies. When Snake moves into an enemy's field of vision, he sets off an "alert mode" that draws enemies.

Microscope (2011)

Ben Robbins; Tabletop / book

A tabletop storygame or world-making game, essentially providing a procedure and set of constraints for improvising the history of a fictional world with a group of friends.

Neopets (1999)

Independent until 2005; Web browser

Website offering users a fantasy simulation of figurative animal companions, and a virtual economy based on a currency that can be exchanged for upgrades such as clothing and furniture for the pets.

Problem Attic (2015)

Liz Ryerson; Windows, Linux

Represents the artist's inner world as a series of abstract 2D spaces, which a small sprite representing the player-character can navigate by running and jumping. Many of the mechanics and characters are left

unexplained for the player to make sense of themselves through trial and error. A recurring theme is encounters with a symbol that represents traumatic triggers, which causes the player to warp into spaces that have their own separate mechanics and visual cues.

Seaman (1999)
Sega; Dreamcast

A game simulating a virtual pet-like creature called Seaman. After a convoluted sequence of actions including placing eggs in an aquarium, sacrificing a nautilus that hosts the larvae, and competition for survival between half a dozen tadpoles, Seaman emerges as a combination of a fish and a human face. Players speak into a microphone peripheral for the Dreamcast game console to interact with Seaman, as well as using the gamepad controller to move on-screen items such as food pellets and controls for the aquarium, in order to ensure optimal conditions for Seaman's survival and growth. As the game progresses, Seaman asks the player questions about their feelings and philosophy on life, and responds with advice. After about two weeks, Seaman transforms from a fish into a frog, still with the same human face. The game ends with the player helping Seaman to leave the aquarium and find freedom in a swamp-like environment populated by other Seaman creatures.

Snake (1998)
Nokia, Mobile phone

Mobile game that was pre-installed on Nokia phones in the late 1990s and early 2000s, though the basic design can be traced back to the 1976 arcade game Blockade. The core concept is that a snake grows in length as it consumes food items scattered across the screen. The speed of the snake's movement is automatic, but the player controls its direction using the phone keypad. The objective is to avoid colliding with the walls or the snake's own tail while trying to eat as much food as possible. This becomes intrinsically more challenging as the snake grows longer, and the difficulty is further intensified by increasing movement speed. It is a simple yet addictive game that has remained popular throughout the years.

Soundself (2020)
Robin Arnott; Oculus VR headset

A "technodelic" experience mediated by a VR headset, though recent product promotion shows what appear to be AR glasses, which are more lightweight. Originally developed in the context of indie game development and described on Kickstarter as a "sensual exploration game", today Soundself is marketed as a therapeutic product, with direct comparisons to the therapeutic use of psilocybin.

Spec Ops: The Line (2012)
Yager Development; Playstation 3, XBOX 360, Windows, OSX, Linux

Action game portraying warfare in narrative settings inspired by Joseph Conrad's Heart of Darkness and the movie Apocalypse Now. Brendan Keogh's 2012 close reading of the game was notable for being one of only a handful of book-length examinations of a single videogame title at the time, and analysed anti-war and anti-imperialist undertones in the game's narrative.

SSX Tricky (2001)
EA Sports; Playstation 2, GameCube, XBOX, and Game Boy Advance

The second game in the SSX franchise of games that represent snowboarding races. SSX Tricky introduced outlandish "tricks" that the player-character could perform, the vast majority of which are not possible in

real life. A points system rewards tricks, with higher rewards for more complicated tricks. Sound and visual design emphasize a fantasy of intense pleasure, particularly when the player has a high point score and has achieved a high velocity. Despite expressing sounds of displeasure and pain, the player character cannot be injured or die.

Stardew Valley (2016)
ConcernedApe; Windows

Combining scripted non-player character interactions and relationships with a simulation of the cultivation and growth of agricultural crops, Stardew Valley portrays the experiences of someone who leaves the city to live on a farm endowed to them by their grandfather. Other activities represented in the game include fishing, restoring a community centre, and going to a dungeon area where the player-character fights monsters in order to obtain loot.

The Sims (2000)
Maxis; launched on Windows, expanded to many other platforms

Franchise of life simulator games, by far the most successful in the genre. The player has a top-down view of a home in an absurdist recreation of the contemporary world, typically resembling suburban North America unless using an expansion pack is used that provides features of other cultural settings. Players control one or more character, whose emotional and physical needs are represented by a set of quantitative indicators. A number of possible goals can be achieved, such as success in the game's representation of various careers, building a large family by birthing or adopting and then raising many children, having a large number of romantic partners, etc.

Towerfall (2013)
Maddy Thorson and others; Ouya (later ported to other platforms such as Playstation 4)

Indie game developed by a small team who met at a game jam, an event at which people make prototypes during a limited window of time. Local multiplayer game allowing up to 4 players to engage in archery combat, represented in low-resolution pixel graphics with fast-paced action. Towerfall launched as an exclusive title for the ill-fated Ouya platform, a small and low-cost games console that used the Android operating system.

Undertale (2015)
Toby Fox; PC and Mac, followed by ports to other platforms

Indie game by Toby Fox, previously known for games created by modifying the emulator files of the Earthbound series of role-playing games for the Nintendo Entertainment System. The story follows the journey of a child who has fallen down a hole into an underground world populated by monsters. Encounters with monsters have two unique features: "bullet hell" minigames in which the player must manoeuvre a heart symbol to avoid collisions with particles that move across an area of the screen in pre-programmed patterns; and the choice to either physically attack the enemy, or engage in alternative actions such as talking, with the available actions varying depending on which enemies are engaged. Every battle can reach a conclusion using the right combination of alternative actions at the right time, making it possible to complete the game without killing any enemies. LGBTQ+ themes appear throughout the narrative, alongside a larger story that reads as an allegory for civil rights movements.