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A Play of Bodies

A Phenomenology of Videogame Experience

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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August, 2015

Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Brendan Keogh

August 17, 2015

Acknowledgements

This thesis is indebted to the dedication, consideration, and patience of my supervisors, Professor Larissa Hjorth and Christian McCrea. From even before my candidature officially started, each has provided (and continues to provide) a staggering and un-repayable amount of support from the conceptual to the pragmatic to the grammatical.

For crucial and rigorous feedback at various milestones throughout my candidature, I must thank Dr. Adam Nash, Dr. Emma Witkowski, and Associate Professor Stefan Greuter. Thank you for keeping me on the rails.

Various official and unofficial gatherings ensured I occasionally left my house during my candidature. The Play and Cultures Reading Group at The University of Melbourne provided me with concepts and scholars I had never encountered before that would become crucial to this thesis's arguments. The Code Writing Group, organised by Dr. Thomas Apperley, provided me with crucial academic writing skills. The 2013 ARC Centre of Excellence for Creative Industries and Innovation (CCI) Winter School, held at the Queensland University of Technology, forced me to both explain and defend my research at an early stage to scholars from a range of disciplinary backgrounds. I am grateful for the feedback and support of all the participants and organisers of each of these gatherings.

I have been privileged to be surrounded by a strong community of media theorists and videogame designers, with whom casual chats and heated arguments have been as influential on the ideas of this thesis as any scholarly work I've read. In particular I owe my gratitude to Dr. Daniel Golding, Dr. Darshana Jayemanne, Dr. Benjamin Abraham, Dr. Thomas Apperley, Benjamin Nicoll, Cameron Kunzelman, Mattie Brice, Professor Angela Ndalianis, Emily van der Nagel, Luke van Ryn, Robbie Fordyce, Dr. Hugh Davies, Claire Hosking, Chad Toprak, Amani Naseem, Dr. Dale Leorke, Dr. Marcus Carter, Fraser Allison, Harry Lee, Michael

McMaster, Sam Crisp, David Surman, Ian Gouldstone, James Manning, Marigold Bartlett, Terry Burdak, Dr. Jason Wilson, Helen Stuckey, Dr. Melanie Swalwell, and many others.

Numerous friends and mentors offered their time and labour to provide feedback on earlier drafts of this thesis. While I would not be so cruel as to say they are responsible for the quality of this thesis, it would certainly have been much worse off without them. My thanks to Associate Professor Ingrid Richardson, Dr. Tama Leaver, Robbie Fordyce, Dr. Marcus Carter, Dr. Darshana Jayemanne, Zoya Street, Ben Nicoll, Dr. Benjamin Abraham, Dr. Dale Leorke, Luke van Ryn, Fraser Allison, Sam Crisp, Julie Berents, and Dr. Helen Berents.

Thank you to my parents, Grace and Robert Keogh, for not dissuading me from studying the Bachelor of Arts that would eventually lead to a PhD in videogames. Sorry about that. Thank you, too, to my brothers Lachlan and Glynn for their support, as well as my youngest brothers, Darcy and James, whose regularly bizarre and alien ways of engaging with videogames constantly force me to challenge my own preconceptions. Kids these days, right?

Finally, and of course, I owe countless thanks to my partner Dr. Helen Berents for her love; her support; her irrational decision to offer to read drafts of this thesis not only once but twice; her stubborn insistence that 120 words is in fact not an acceptable length for a single sentence; and her (let's be frank) poor judgement in marrying me just as I entered the final months of thesis writing. Thank you.

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Abstract

Videogames require robust yet flexible methods and vocabularies of critical analysis that appreciate both the textual and embodied pleasures of players. Such analysis cannot start with the player's intentions as an autonomous user nor with the videogame as a stable object; rather, it must account for the dynamic interplay between videogame hardware, sensorial perception, and audiovisual and haptic representations. If it is to understand how a particular videogame is engaged as both textual artefact and embodied practice, such analysis must be concerned with not just what the player does with the videogame, but what the videogame does with the player.

This thesis forwards a phenomenology of videogame experience to account for how the player and the videogame incorporate each other in reflexive cycles that mediate presence, attention, perception, and agency. It does not hope to understand videogames either 'as narratives' or 'as games' but as particular amalgamations of existing and nascent media and forms—it hopes to understand videogames *as videogames*. It explores videogame play as a convergence of eyes-on-screens, ears-at-speakers, and muscles-against-interfaces to interrogate the limits of current game studies approaches that often obscure rich commonalities between videogames and other media forms. Drawing upon phenomenology, posthumanism, and cyborg theory, and embedded in detailed and multifaceted analyses of various videogames on different platforms *as played*, this thesis develops nuanced understandings of how the player and the videogame come together during play to form particular modes of embodiment through which a videogame work is both interpreted and perceived.

Video games weren't something I'd done much, and I'd have been embarrassed to actually go into these arcades because everyone was so much younger than I was, but when I looked into one, I could see in the physical intensity of their postures how rapt these kids were. It was like one of those closed systems out of a Pynchon novel: you had this feedback loop, with photons coming off the screen into the kids' eyes, the neurons moving through their bodies, electrons moving through the computer. And these kids clearly believed in the space these games projected. Everyone who works with computers seems to develop an intuitive faith that there's some kind of actual space behind the screen.

- William Gibson, interviewed by Colin Greenland (1986).

Introduction

Player, Videogame, Player-and-Videogame

> The distinction seems mundane now. Why not everything all at once!
>
> - Narrator, *Dear Esther*.

In a review of *Grand Theft Auto IV* (Rockstar 2008)[1], videogame magazine *Edge* draws attention to a shift in tone from the game's predecessors. Whereas previous Grand Theft Auto titles presented the player's crimes as juvenile frivolities, *Grand Theft Auto IV* morphs similar actions into a cynical, personal, and down-beat view of American empire. The player still navigates a playable character around a three-dimensional world from a third-person perspective and is still capable of stealing and using a range of vehicles, shooting people, and advancing an authored narrative through undertaking structured story missions. The player of *Grand Theft Auto IV* does the same things as the players of previous Grand Theft Auto titles. Yet, *Grand Theft Auto IV* feels different. In particular, *Edge*'s review draws attention to the game's 'weight', noting that its darker themes "may seem a bit *heavy* for a GTA game" (2008, 82, emphasis added):

> Filtered through the world-weary eyes of Eastern Bloc immigrant Nico Bellic, the American Dream is all strung-out, sapped dry from the coke-fuelled megalomania of the '80s, paying in full for the arrogance of its '90s empire building—and what little remains is at the mercy of relentless subdivision as everyone tries to carve off a little piece for themselves. Even the criminal organizations familiar to previous [Grand Theft Autos] are at the end of their game: fractious, desperate and doomed. It's unforgiving stuff—an evisceration of America's insularity, its gluttony, its petty suburban miseries, its lethargy and artificiality. As funny as [*Grand Theft Auto IV*] is, this really is laughter in the dark—brilliantly observed, unnerving and bitter. (2008, 82)

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[1] Throughout this thesis, the first time I mention a videogame I provide the name of its developer and its year of release. In future mentions I only provide the videogame's title. A complete reference for each videogame can be found in the Primary Sources section at the end of the thesis. In keeping with Chicago style, videogame works are italicised; sections of videogame works are in quotation marks; and franchise or series are capitalised.

It is not just the thematic tone of protagonist Niko Bellic's ultimately tragic story within a derelict caricature of contemporary America that the review notes as having a heaviness; the virtual world and its objects have a sense of physicality. Cars "feel really weighty"; combat has "real heft" (*Edge* 2008, 83). When the player's thumb pushes against the gamepad's thumbstick, Nico's predecessors broke into effortless jogs, but Nico's body moves at a slow and sluggish stroll. The virtual people of *Grand Theft Auto IV*'s world dynamically respond to the objects they connect with (cars, sidewalks, bullets) and crumple *as though* there is real weight behind them.

Edge's review of *Grand Theft Auto IV* implies a symbiotic connection between the videogame's tonal gravitas and its physical gravity, a heaviness that is at once metaphorical and literal. Where its predecessors expressed cartoonish playfulness and *light*-heartedness, *Grand Theft Auto IV* evokes a subdued grimness and oppressive heaviness. It does this through the world the player sees, hears, and touches through their physical control of both Niko Bellic's virtual body and the virtual camera that frames him. *Grand Theft Auto IV* can be perceived as being about the downfall of American Empire as observed through the eyes of an illegal immigrant, but it is not merely through the narrative content that it communicates such meanings. Its heaviness is felt through the player's physical embodiment and incorporation of the videogame's form: touching the controller in their hands, looking at the moving images on the screen, listening to the music and sound from the speakers. Alternatively: *Grand Theft Auto IV* is a text that incorporates its material embodiment of the player *as* a significant aspect of its textuality. Before the player interprets *Grand Theft Auto IV*'s themes or narrative as heavy, the game *feels* heavy through the player's body entangled with the game's input device and audiovisual design.

Through an entanglement of eyes-at-screens, ears-at-speakers, and muscles-against-interfaces players perceive videogames as worlds consisting of objects and actors with texture, significance, and weight. It is this entanglement that this thesis is centrally concerned with when it asks: how do bodies matter in videogame play? No shortage of scholars have accounted for the very visible and explicit ways players use videogames with their bodies—pressing buttons either unconsciously (Kirkpatrick 2009) or professionally (Taylor 2012), swinging motion controllers (Juul 2010), flailing in front of motion sensors (Kim et al. 2014), smearing mobile touchscreen devices (Richardson 2009). This thesis, however, is more concerned with the banal and everyday ways that players and videogames have always incorporated each other in reflexive cycles that both make and are made by the player; it is concerned not just with what the player does with the videogame, but what the videogame does with the player.

By exploring the dynamism of what the player and videogame do to each other, this thesis seeks to address a series of underscoring questions: How are players—corporeally situated in the actual world 'beyond' the virtual spaces of the screen—augmented by the phenomenon of videogame play to perceive, sense, and ultimately feel a liminal presence within a virtual world? How are those qualities so often associated with videogame play (choice, action, interactivity, immersion) constituted by, rather than determinate of, the player's bodily and sensorial experience of the videogame form *as played*? How does the player's corporeal existence *at* the videogame, wrapped around an input device and facing a screen and speakers, become entangled with the sights and sounds and vibrations emitted by those devices and screens and speakers to allow *Grand Theft Auto IV* to feel heavy, or *Halo* (Bungie 2001) to feel meaty, or *Hotline Miami* (Dennaton 2012) to feel rhythmic, or *Flower* (Thatgamecompany 2009) to feel relaxing?

In asking such questions, I am concerned with the embodied phenomenon of *playing* a videogame as a fundamental aspect of understanding, of reading, of *perceiving* that videogame. I take seriously N Katherine Hayles's notion that a 'text' is "the rich connections between [a work's] physical properties and the processes that constitute it as something to be read" (2004, 72). I set as this thesis's goal the prediction made by Jon Dovey and Helen Kennedy that the textual and performative tensions inherent to the videogame form "point the way towards a development of a phenomenology of [video]games that takes account of both their textual and experiential properties" (2006, 93). I work towards an account of videogame experience concerned not primarily with what players do to videogames but with how players are bodily augmented by and as part of videogame play.

I am influenced conceptually by Vivian Sobchack's *The Address of the Eye: A Phenomenology of Film Experience* (1992). Sobchack intends in her research to "mistrust what has become the certain ground, the *premises*, of contemporary film theory and to interrogate certain widely held assumptions about the nature of film and the intelligibility and significance of spectatorship and the film experience" (1992, xvi-xvii, original emphasis). Likewise, in this thesis I mistrust many of the common assumptions made in academic and popular discourses around videogame experience in order to destabilise and interrogate that which has become the certain ground. By focusing on the unconscious, embodied engagement between player and videogame, where the videogame is touched, seen, heard, and ultimately understood through a perceiving and located (and augmented) body, I directly interrogate how the most entrenched qualities associated with videogame play—immersion, interactivity, choice, and agency—are constituted by (not simply determinate of) the player's embodied engagement with the videogame.

Like Sobchack, I find that a phenomenological method "calls us to a series of systematic reflections within which we question and clarify that which we intimately live, but which has been lost to our reflective knowledge through habituation and/or institutionalization" (1992, 23). Phenomenology[2] asks us to turn our attention to what is commonly accepted as the perceptual background of conscious thought. Phenomenology starts with the assumption not that we possess bodies, but that we *are* bodies. Grounded in the close analyses of a diverse range of videogame texts as they are encountered by players, this thesis uses a phenomenological method to "*reanimate* the taken-for-granted and the institutionally sedimented" (Sobchack 1992, 28, original emphasis). It explores the unconscious and embodied engagement between player and videogame during play that underpins—that *is*—videogame experience.

While Chapter One provides a more extensive literature review, it is timely here to locate myself. Like Sobchack, I draw heavily from Maurice Merleau-Ponty's work on perception and the embodied experience of being-in-the-world, predominately as detailed in his work *Phenomenology of Perception* (2002 [1945]). However, concerned as I am with the ultimate *instability* of the player's embodiment at and as part of the videogame experience, I also draw from those more recent authors on phenomenology and embodiment that critique the normative, essentialist, and stable reading of the 'human' body relied on by Merleau-Ponty and other early phenomenologists. In this, I associate myself primarily with those feminist, science and technology studies (STS), and broadly poststructuralist theorists of the late twentieth century such as Donna Haraway, N Katherine Hayles, Gail Weiss, Judy Wajcman, Don Ihde, and Bruno Latour that provide more nuanced ways of understanding the

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[2] The approach of this thesis is perhaps more aligned with the sub-branch of phenomenology forwarded by Don Ihde known as *post*phenomenology, as explored in Chapter One. For readability's sake, however, I for the most part avoid this neologism except when speaking directly about Ihde's work.

embodied self as emergent from an amalgam of heterogenous materialities, rather than belonging to a pre-given, essential, privileged 'Human'.

Likewise, from videogame theory, I affiliate myself with those scholars that have already drawn from the above authors: the grounded, cyborg-minded work of Dovey and Kennedy (2006) that, as cited above, sees the textual and experiential as inseparable in videogame play; Seth Gidding's Latourian focus on the playful nonhumans present in videogame play (2007; 2009); the anthologies *Videogame, Player, Text* (Atkins and Krzywinska 2007) and *The Pleasure of Computer Gaming* (Swalwell and Wilson 2008) that refuse to celebrate an essential 'gameness' of the videogame form; and the significant phenomenological works of David Sudnow's *Pilgrim in the Microwold* (1983), David Surman's "Pleasure, Spectacle and Reward in Capcom's *Street Fighter*" (2007), and Steve Swink's *Game Feel* (2009). Through exploring, fusing, and expanding on these works, this thesis strives to understand how the player embodies the videogame, and how that embodiment is always already constituted *by* the videogame.

These theorists and concepts will be introduced and deployed through the following chapters. The remainder of this introduction will focus on locating this thesis within and against existing videogame theory. Throughout this thesis, I am primarily concerned with the irreducible and emergent ensemble of *player-and-videogame*, and the two sections below will review how these components (player, videogame) have already been discussed in videogame theory, providing both a methodological and ontological grounding for the coming chapters. The first of these sections focuses on the player and the literature that has already strived to account for embodiment in videogame play in one form or another,. The following section raises a contention with the tendencies in videogame theory that attempt to distil a pure essence of the videogame form, to understand what makes it *different* from other media

artefacts. These sections together will provide claims for this thesis to demonstrate, and methods through which to achieve them. They will demonstrate how and why this thesis embraces what Gregory Bateson (1972) might have called the messy 'muddle' of the videogame form. Videogame play is fundamentally *impure* and hybridised, bringing together not just flesh and machine but cinema, literature, theatre, software, and pre-digital game designs and conventions while being reducible to none of these. Finally, then, this introduction will provide a chapter outline.

Embodiment and Videogame Theory

That the player's body matters in videogame play is neither a new nor contentious claim. In his 1983 book *Pilgrim in the Microworld*, the first time David Sudnow sits down with Atari's *Missile Command* (1980) he immediately recognises a particular intimacy of vision and touch, noting that "as you watch the cursor move, your look appreciates the sight with thumbs in mind, and the joystick-button box feels like a genuine implement of action" (1983, 21-22). Indeed, 'action' is how the player's bodily role in videogame play is most commonly framed by both videogame marketers and theorists alike. On the back cover of any contemporary blockbuster videogame are celebratory lists of what that videogame allows the player to *do*: "The choices you make will shape your fate and that of the empire around you," insists the back cover of *Dishonored* (Arkane 2012); "You choose from 120 events. You choose the fastest route to the finish line. You shape your path through Paradise [City]," boasts *Burnout Paradise* (Criterion 2008); "Every action has consequence and could decide whether the crowd will help you… or hinder you!" threatens *Assassin's Creed* (Ubisoft Montreal 2007). Videogames are sold to a cultivated target audience by promising that the player will be able to act and choose in a variety of consequential ways (see Chapter Six).

Not entirely detached from these marketing influences, and existing at a convergence of ancient forms of game and play with the potential of 'interactive' digital media, theoretical writing around the videogame form has long focused on how to account for the seemingly more active role of the videogame player when compared to the seemingly inert film viewer or literature reader.

The Importance of Players

For those interested in how videogames (as well as digital texts generally) function as narrative, the very possibility of making choices and following different paths in both the story and its world is evidence that "the reader [of videogames and hypertext] assumes a more active role" (Murray 1997, 38; see also Tosca 2005, 104). For those theorists who insist that videogames are *not* narratives, too, the active role of the player serves as crucial evidence of videogames' uniqueness, with no shortage of scholars arguing that the primary expressive mode of videogames is that of enactment and performance rather than representation and interpretation (Eskelinen 2001; Aarseth 2004; Kirkpatrick 2011). Beyond (but often informed by) the formative debates around videogames and narrative (outlined in detail in Wilson 2007, 185-234; and Frasca 2003), scholars have highlighted the kinaesthetic pleasures of videogame play: of *doing* (Galloway 2006) and *becoming* (Swalwell 2008) and *learning* (Ash 2013) over observing and interpreting. Others have focused on the emergent practices of players in constructing and navigating social contexts of play (Burn and Schott 2004; Taylor 2006; Consalvo 2007; Pearce 2009; Paul 2010; Carter 2015; Apperley 2010); in producing vernacular (Jayemanne and McCrea 2014); in co-creating game content (Banks and Humphreys 2008); and incorporating videogames into their everyday life (Hjorth and Richardson 2009; Apperley 2010).

While the goals and conclusions vary greatly across these scholars, the involvement of the player's body persists as central to how the videogame as both creative form and everyday practice is studied. Mark Wolf and Bernard Perron thus remain correct when they observed in 2003 that "every theory of video games thus far seems to agree with the idea that without player activity, there would be no game" (15). Not only does the player's body matter to videogame theory, it is often considered fundamental to how videogames are understood at all.[3]

To Configure or To Navigate

Four interlocking values emerge across early videogame theory that work to centralise this active player and continue to underpin how videogames are understood and valued by academic videogame discourses: the ability for the player to exert some *choice* over what happens; the ability to *act* in some manner; the presence of '*interactivity*' in the simulation; and the desire to feel some sense of '*immersion*' in a virtual world distinct from the actual world. All four of these are interrogated and scrutinised in much greater depth in later chapters, but here it is important to highlight how they emerge from an excitement and enthusiasm for a newer media form full of potential, needing to distinguish itself from 'older' media forms.

Janet Murray, in her seminal *Hamlet on the Holodeck (*1997), expresses a deep excitement about what computers promise for narrative and storytelling. Marie-Laure Ryan, too, in *Narrative as Virtual Reality* (2001) is excited by the promises of digital games to alter what stories are told and how. Espen Aarseth's *Cybertext* conceptualises digital media as

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[3] Perhaps the most significant exception to this trend are the nascent object-oriented ontology approaches to videogame works, such as the Platform Studies book series initiated by Montfort and Bogost's *Racing the Beam* (2009) and the broader 'material turn' of game studies outlined by Apperley and Jayemanne (2012).

'ergodic' to understand how it requires "nontrivial effort" to be navigated (1997, 1) while attempting to not trivialise the bodily engagements required by all media forms. However, this nontriviality soon becomes a justification to celebrate videogame players and hypertext readers as seemingly *more* active than the audiences of other media forms. Markku Eskelinen sees games as "configurative practice, and the gaming situation [is] a combination of ends, means, rules, equipment, and manipulative action" (2004. 38) and thus "we can distinguish the static user positions of literature, film, and average drama from the dynamic ones of games and certain installations and performances" (2004, 38).

Across these early texts the values that underpin contemporary videogame studies are already clear: a videogame is of good quality if it offers *more* choice and *more* action for the player, and through these may become *more* interactive and *more* immersive. This focus on the player's ability to act, however, is often conceptually reduced to one of disembodied and exceptional 'intent' or 'process' or, using Eskelinen's terms above, 'configuration' and 'manipulation'. What the player chooses to 'do' becomes the primary focus at the expense of what the player sees, hears, reads, touches, and has done to them. When Alexander Galloway suggests that "no gameplay is actually happening" (2006, 10) at the moment the player allows the playable character to stand stationary in the game *Shenmue* (Sega AM2, 1999), letting the virtual day roll into virtual night, he tacitly implies that the player is only playfully engaged with the videogame when pressing buttons on the controller. This privileging (and reduction) of action is even more blatant when Galloway says that videogames are not founded on "looking and reading but in the instigation of material change through action" (2006, 4).

A parallel trend is traced by Graeme Kirkpatrick through the construction of 'gameplay' as an essential quality of videogames by the enthusiast press through the 1980s

and 1990s that "marks the point at which gaming bids for autonomy as a cultural practice" and is thus deliberately deployed in opposition "to things like graphics, character, plot and so on" (Kirkpatrick 2012, np). Kirkpatrick notes that popular gaming discourse "secures its autonomy partly by articulating gameplay as a term that is *opposed* to other elements of gaming experience" (Kirkpatrick 2012, np). Rather than capturing a true essence of videogame play, however, gameplay's oppositional and enthusiast semantics *constructs* such an essence so as to signify "the tastes and preferences of the authentic gamer" (Kirkpatrick 2012, np) and is thus entangled in hegemonic tendencies to privilege a certain, normative form of game action—one that is readily perpetuated by theorists through a privileging of action and intent above all other bodily engagements with the videogame. Action is indeed central to videogame play, of course, but such a statement as Galloway's above, or an uncritical distillation of action into 'gameplay' both forgets that any action must be performed by an acting body, and assumes that looking and reading are not bodily actions in themselves. One does not stop playing a videogame when one is not pressing a button. One remains actively and bodily involved with the videogame through the senses, be that through watching a cutscene or listening to the music during the opening credits, or standing on a streetcorner in either *Shenmue* or *Grand Theft Auto IV* to watch the sun set.

This points towards a need to understand the player's bodily role in the videogame in a more sober light: active, but often in similar manners as a film viewer or book reader is active: looking, listening, interpreting. The ways in which the videogame player is active depends on and is mediated by the particular videogame they are playing and in what ways it allows the player to be active. The player makes choices, but always within a spectrum of choices allowed or afforded by the videogame. Daniel Golding (2013a) notes as much in his Michel de Certeau-influenced critique of how the word 'configuration' is deployed in game studies. Golding argues that game studies discourses typically suggest a player that is looking

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down on the world from a god-like, all-powerful position, and that this obscures the actual, situated ways videogames are engaged with by players:

> Through the recurrent privileging of a configurable conception of the videogame, scholars have failed to sufficiently account for the played experience of videogames. As an underlying concept, configuration implies a user who has full and unhindered vision; thus, such scholarship based in a rubric of configuration has attempted to understand the videogame only from the perspective of de Certeau's strategist, totalizing and isolating the videogame through a controlling perspective. It has transformed the videogame into "The Videogame" like a proper name, providing a way of conceiving and constructing the medium on the basis of a finite number of stable, isolatable, and interconnected purposes. From above, through configuration, we encounter the videogame as a concept. (Golding 2013a, 30)

As Golding rightly notes, such essentialism of the videogame form around configurative action and intent was understandable in the early years of the twenty-first century as scholarly videogame discourses struggled to enunciate the particular ways videogames differentiated from other media forms (2013a, 32). But now such conceptualisations need to be complicated if an appreciation of the full, diverse spectrum of videogame forms is to be fostered and appreciated. As no contemporary theory of film would hope to account for some essentialist notion of *all* of cinema, equally should no theory of videogames hope to account for *all* videogames—for The Videogame—but instead be malleable enough to engage with *any* videogame that it encounters.

Rather than configuration, Golding looks towards navigation as more accurately accounting for the player's moment-to-moment movement *with* the videogame, always with partial, imperfect, and located knowledge (2013a, 42). Considering the player as navigating rather than configuring the videogame, argues Golding, offers the videogame scholar the ability "to think of the videogame from both the holistic 'from above' viewpoint of the strategies of designers and programmers, and also from the low-level, 'from below' viewpoint of the experiential tactics of the player" (2013a, 42). Indeed, many early videogame theorists

similarly highlight the importance of movement (Murray 1997, 79), traversal (Aarseth 1997, 1), or navigation of possibility spaces (Jenkins 2004, 119) as central to videogame play. This suggests a partiality and mediation of the player's embodiment embedded within the videogame experience, rather than an exertion of configurative power over the videogame.

To understand videogame play 'from below', or to take a 'bottom-up' approach to videogame analysis is to not start with normative assumptions as to the significance of choice or action or interactivity or immersion, but to understand how the player is embodied in, through, and as part of a particular videogame. The player's body matters, to be sure, but not in a manner that can be presumed before an engagement with any particular videogame work; rather, it is through an engagement with a particular videogame work that the player's embodiment emerges, always already partially constituted by the videogame they are engaged with. Despite the initial enthusiasm for the potential of digital media forms as empowering the player to make consequential choices, the evolution of the videogame form has rather highlighted a diverse spectrum of embodiments from the open-ended (but still constrained in some manner) play of *Minecraft* (Mojang 2011) to the tightly authored (but still open-ended in some manner) funnelling of *Dear Esther* (The Chinese Room 2012) or *Call of Duty: Modern Warfare 3* (Infinity Ward 2011). To consider videogames as spaces that are navigated is to account for a wider variety of spatial forms while conceding that the player is never truly 'in charge'. It challenges the early, enthusiastic ways in which videogame players were differentiated as actively able to make choices by demonstrating how such choices are always controlled and shaped by the affordances and constraints of the videogame as both material hardware and virtual space.

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Player-and-Videogame

Other scholars have worked to account for this reflexivity, where the player is not just controlling but also controlled, not just shaping but also shaped. T.L. Taylor follows Latour to think about videogames as assemblages: "wherein many varying actors and unfolding processes make up the site and action, [allowing] us to get into the nooks where fascinating work occurs" (2009, 332). Similarly, Giddings (2007) and Giddings and Kennedy (2008) both draw from Latour to account for the nonhuman actors present in videogame play that call into question the primacy of the player's configurative agency: "What if, rather than privileging the player and the player's agency, our starting position were that these actors are symmetrical—each acting on the other? Both humans and nonhumans are the playful objects here" (Giddings and Kennedy 2008, 21). Similarly, Susana Tosca draws attention to the "illusion of free action" in videogame play (2005, 100), and Dovey and Kennedy (2006) draw from cyborg and cybernetic theory to recast

> issues of interactivity and player agency… in terms of networks and flows of energy which are entirely interdependent. The player is not outside the game and the game is not outside the player—both are part of a loop through which information and energy flows. (2006, 109)

While other scholars have questioned the hermetic neatness of videogame play as a self-sustaining cybernetic circuit (Apperley 2010, 38) or the seemingly incorporeality of a 'flow' of energy (Kirkpatrick 2011, 151), the authors mentioned here and the social theorists they draw from provide a compelling counterbalance to the earlier literature that, while arguing for the uniqueness of the videogame form, are unable to account for the particular and nuanced ways that the player comes to be embodied in the videogame experience, entangled and mediated, afforded and constrained.

Thus, the irony of the phenomenology of videogame experience that this thesis forwards is that it puts neither the player's acting body nor the videogame itself first. Rather,

it sees the two as inseparable and irreducible in phenomena of videogame play where neither can be said to come before the other. As the player acts and engages with and makes choices about how to perform or enact the videogame, so too is the videogame always already constricting, affording, and shaping the player's habits and perceptions in some way. It is from this irreducibility of player and videogame—of *player-and-videogame*—that this thesis understands the player's embodied experience of videogame play. If phenomenology allows us to challenge the institutionally sedimented, as Sobchack notes above, then it is the institutionalised primacy of the player's body *at* and *using* the videogame that this phenomenological analysis hopes to challenge in its focus on the player's body *through* and *as part of* the experience of videogame play.

Essentialism and the Videogame Form

If the player has long been seen to have an exceptional role in videogame play, so too have videogames long been seen to be exceptional from all other media forms. The active, configurative role of the player presumed by many of the above authors has long served as an epistemological justification for the exceptionalism of the videogame form: a more active player suggests that videogames are immune to more traditional modes of media analysis. Much scholarly literature around videogames either works to distil, or simply accepts the existence of, some pure essence of 'play', 'gameplay', or 'gameness' at the heart of videogames, as though the superfluous excesses lingering from previous media must be shed to find a pure, procedural, mechanical essence of videogame play. While I have gone into much greater depth elsewhere as to how this "purity complex" around the videogame form is instantiated and perpetuated and at what consequence (Keogh 2014a), here it is important to

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show how such an epistemology of videogames is incompatible with an understanding of videogame play that mingles and entangles videogame-and-player as one ensemble.

Videogames as Digitalised Non-Digital Games

Discursively, this essentialism can be seen most clearly in the determination to understand videogames primarily *as games*. That is, the determination to understand videogames as a continuation of a much older discourse on non-digital games and play, connecting videogames to a longer history and legacy of sports, tabletop games, and board games, and providing lenses through anthropological and behavioural science studies of play. While the history of games and play obviously has much to contribute to understandings of videogames, such a primary focus often obscures that videogames are also an audiovisual form that has much to draw from media studies and art history. For instance, Jesper Juul persistently privileges a fundamentally rule- and goal-based 'gameness' through his Classic Game Model, situating popular open-ended videogames such as *Sim City* (Maxis 1989) as limit cases of the 'game' form rather than as central cases of the 'videogame' form (Juul 2005, 43-44). But reductions of videogames to merely (or primarily) digitalised non-digital games are not always so explicit. For instance, in his essay "Genre Trouble" (2004) Aarseth makes the argument that videogames should not be considered 'texts' with the non-digital game Chess as his example:

> Where is the text in chess? We might say that the *rules* of chess constitute its 'text,' but there is no recitation of the rules during gameplay, so that would reduce the textuality of chess to a subtextuality or a paratextuality… you can play chess with some rocks in the mud, or with pieces that look like the Simpsons family rather than kings or queens. It would still be the same game. (2004, 48, original emphasis)

Here, Aarseth conflates the engagements with non-digital games and videogames as analogous, and he goes on to suggest that *Tomb Raider*'s (Core Design 1996) representation of playable character Lara Croft as a human woman matters less than what her body allows the player to do—a statement that Esther MacCallum-Stewart rightly notes is paradoxical insofar as it would lack its intended impact if Lara Croft was *not* a woman (2014). Aarseth ignores the fact that the player only considers 'walk', or 'run', or 'jump' as viable options because Lara Croft is represented as a human being capable of such actions. Further, Lara Croft's representation as a human being suggests that the player should jump over the bottomless pit rather than fall into or float over it. The very fact that Lara Croft is audiovisually represented as a human is significant to the player's comprehension of what is dangerous to (and simply possible with) their engagement with *Tomb Raider*'s fictional world. Audiovisual design, that amalgamation of design elements that explicitly overlap with attributes of other media and which apparently mars the purity of videogames, is fundamental to the player's comprehension of what actions a videogame affords.

The notion that the audiovisual components of a videogame are as interchangeable as the abstract playing pieces of a non-digital game (itself a notion more contentious than Aarseth is willing to consider) is pervasive. It is typical to see one 'central' component of videogame play standing in to speak for the whole while 'non-play' elements such as cutscenes, menus, and loading screens remain conspicuously ignored. For instance, while Kirkpatrick above insightfully critiques the strategic essentialism of 'gameplay' in the enthusiast press and around the gamer consumer identity, elsewhere he reinstates a parallel essentialism when he makes the dubious claim that "the test of gameness is subtraction: strip away the other features and you still have a game" (2013, 42). Galloway at least acknowledges the 'remediation' of previous audiovisual media that contributes to videogame design, but offhandedly claims that this remediation occurs solely because of "a fear of the

pure uniqueness of video gaming" (2006, 11).[4] This claim to a 'pure uniqueness' is telling. It acknowledges that videogames do indeed often overlap in both their design and their aesthetic pleasures with other media such as film and music, but it also suggests that they should not. Galloway here explicitly suggests what is implicit in Aarseth's and Kirkpatrick's claims along with much scholarly work around videogames: videogames are exceptional, and the videogames we currently have are held back in their ties to 'old' media.

Videogames as a Convergence of Forms

However, Melanie Swalwell and Jason Wilson highlight what should be obvious: videogames are not "just games" (2008, 2). Cutting videogames off from other media "is counterproductive in that it blinds us to rich commonalities and continuities with cinema, television, music, visual arts, *and* predigital games" (Swalwell and Wilson 2008, 4). Similarly, in the introduction to *Understanding Video Games*, Simon Egentfeldt-Nielsen, Jonas Heide Smith, and Susana Tosca note that the newer game forms afforded by digital technology "seem more akin to living, breathing worlds than to *Backgammon* or *Poker*" (2008, 1). The affordances and constraints of videogame play, what the player can and cannot 'do', only make sense in relation to the audiovisually constructed and digitally computed fictional world of the videogame, and it is thus not surprising that videogames would pick up representational strategies of other audiovisual media. The remediation that Galloway ascribes as a symptom is rather the necessary process of a new medium enunciating itself.[5] Responding particularly to Juul's dubious claim that a videogame's

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[4] By remediation, Galloway is referring to Bolter and Grusin's notion that "what is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media" (1999, 15).

[5] My thanks to Daniel Golding for drawing my attention to this point.

"fundamental" rules can operate independently of its "imaginary" fiction (2005, 121), Wilson

notes that:

> we can legitimately wonder what such an experience would be like. Could the
> rules of, say, *PAC-MAN* be said to apply to anything, or be meaningful, in the
> absence of its graphics and sounds? What would the rules be like if they were
> functioning independently of this? The question is hard to frame since it seems to
> have no sense (i.e. application). (2007, 211)

A videogame's rules and mechanics are symbiotically and irreducibly connected to that

videogame's audiovisual design. Other authors have noted this, too. Chris Chesher highlights

the "regime of action/vision" that connects touch to vision in videogame play (2004); Torben

Grodal meanwhile notes how in videogame play "motor cortex and muscles focus the

audiovisual attention, and provide 'muscular' reality and immersion to the

perceptions" (2003, 132). What this points towards, rather than merely digitalised non-digital

play, is that the audiovisual engagement and the playful (but not necessarily 'ludic')

engagements the player has with videogames are irreducible, and neither can be given

primacy over the other in any analysis that hopes to adequately understand the experience of

videogame play.

Barry Atkins predicts such an ontological tension between videogames as games

versus videogames as audiovisual media when he notes a potential split between game

studies and videogame studies, "where the latter must also attend to the specificity of the

image and the game if [it is] to adequately account for the object of [its] attention" (2006,

133). While I do not wish to disregard the countless varied contributions made by game

studies over the past decades, it is to the disciplinary interests of a nascent 'videogame

studies' in closer conversation with the broader field of media studies that I am more

interested in contributing to. I do not wish to reduce videogames to games but to understand

videogames *as videogames*, with all the imperfections, particularities, and convergences that

implies.[6] I am concerned less with claiming what videogames should be or might one day become, and more interested in understanding what videogames currently are and have always been: hybrid assemblages of audiovisual and system design entangled with a player wrapped around computer hardware. I hope to avoid the techno-fetishistic "maelstrom of potential" that Barry Atkins and Tanya Krzywinska (2007, 2) warn against, which eagerly looks forward to 'better' videogames designed through 'better' technology that we might have 'one day', and I refuse to separate a videogame's components into distinct 'play' and 'non-play' spheres. Instead I analyse videogame play as it emerges from the coming together of an embodied and incorporated player with both the hardware and audiovisuality of the videogame form. My research thus must account not just for the transcendent experience of being 'immersed' in Liberty City as Niko Bellic but the grounded experience of playing *Grand Theft Auto IV* and looking *at* Niko Bellic while also partially becoming him, straddling worlds and bodies. I must consider the way videogame play is fundamentally embodied, and the way that the player's body and the videogame form alike are fundamentally unstable. This thesis must account for videogame play as a play of bodies.

Through the phenomenological approach to videogame experience it forwards, this thesis hopes to mark an intervention in the ways in which videogame play is often purified, and lay conceptual foundations that media and cultural theorists can build upon with an ever-growing body of works focused on and emerging from the analysis of specific videogame texts. Wilson notes that "a criticism that seeks to establish boundaries, borders, and rules will be unable to capture the processual experiences of intimacy that specific [video]games

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[6] It is worth noting that it is not only videogames that suffer from an ontological conflating of videogames and non-digital games. The contemporary study of non-digital games also suffers when the discipline of 'game' studies is dominated by theorists working exclusively in the realm of videogames. For examples of significant scholarly work on non-digital games in the nascent field of 'analogue game studies', see the scholarly journals *Analog Game Studies*, *Game & Puzzle Design*, and *Board Game Studies*, as well as Woods's research on eurogames (2012).

provide" (2007, 350). Following this warning, the concepts and methods forwarded by this thesis make no claim to any universally applicable model of videogame engagement nor to a definitive concept of 'videogame', and they are all the stronger for this. Instead they acknowledge the coming together of hardware, flesh, and audiovisuals without centring or privileging any one of them—an approach less concerned with finding a pure essence of videogames than in embracing what Ian Bogost (2009) accurately calls videogames' messiness. Through this thesis I take seriously Wilson's claim that "close, piecemeal analysis of particular games, rather than blanket critical statements, is a better way to understand the diverse pleasures of [videogame play]" (2007, 47) through understanding videogames and players as not distinct, essential, autonomous, or pure, but as always already entangled, mediated, irreducible, and *hybridised*.

Chapter Outline

Each chapter of this thesis builds on game studies, media studies, and phenomenology literature alongside the close analysis of specific videogame texts and devices in order to both explicate and respond to particular aspects of the player's embodied experience of videogame play. The videogames selected to anchor this thesis are deliberately diverse, from blockbuster to obscure, from mainstream to niche, and from commercial to personal. By focusing on a diverse range of videogames, I prevent myself from falling into the trap of creating a unified theory of videogame play that privileges one form of videogame at the exclusion of all others. Rather, by choosing a range of videogame titles, I am forced to respect my commitment to analysis 'from below' to focus on (and instil an appreciation of) the particular and diverse engagements of particular and diverse player-and-videogame assemblages. I am forced to account for *any* videogame, rather than *all* videogames.

Across the six chapters, three loose thematic pairings emerge. While each chapter responds to, forwards, and together attempt to answer the research question of this thesis that asks how the bodies of players matter in videogame play, each pair connects more directly back to this introduction and the literature of Chapter One by providing a particular lens on a different aspect of this embodiment, from presence and attention, to dressage and audiovisual engagement, to performance and identity.

The first two chapters demonstrate the pluralistic and liminal nature of presence and attention in videogame play, detailing how the player has a dual sensation of being present both in and at the videogame simultaneously. Chapter One more extensively reviews and builds on phenomenology literature cited in this introduction to come to an understanding of the videogame player's embodiment in the circuit of videogame play as intricate, reflexive, and irreducible. Situated in theories of cyborgism, posthumanism, and postphenomenology, the notion of a discrete human player distinct from the videogame is shown to be an echo of the Enlightenment era's liberal humanist subject that understands the (implicitly Western, male, able-bodied) human as distinct from and exceptional to the world. Through the phenomenological work of Merleau-Ponty and those technology and gender theorists that both critique and extend his work on embodiment, this notion is challenged and complicated to reach an understanding of the player-and-videogame as an irreducible amalgam, each constructing and constructed by the other. Finally, this chapter builds on the work of Hayles to demonstrate what this embodiment of the videogame means for comprehending videogames as texts, showing that an active, performing player does not negate the ability for a cultural artefact to be appreciated textually, but rather that such activity is fundamental to any textuality.

Chapter Two then turns to the case of smartphone videogames to directly investigate the construction of the virtual through the player's perception of videogame play, in particular through the concepts of presence and attention. Existing outside of the dominant videogame design paradigm, smartphone videogames—in particular those 'casual' games designed for a populist audience—provide a fruitful case to challenge ubiquitous understandings of how players engage with videogames. By contrasting the blockbuster *Angry Birds* (Rovio 2009) with the niche *Ziggurat* (Action Button 2012), each produced for Apple's iPhone, this chapter bridges the literature emerging around mobile play, co-presence, and hybrid worlds with my focus on videogame embodiment to advance the notion of *co-attentiveness*. This allows me to account for how the player might feel a sense of immersion in a virtual world without ever forgetting they exist in the actual world, in front of a screen, engaging with sights and sounds and buttons.

The next two chapters focus squarely on the symbiosis of hands touching input devices, eyes engaging with images, and ears engaging with sound that forms the somatic basis of videogame play. By deliberately focusing on the most banal and 'sedate' modes of videogame play (PC and console games), these chapters hope to complement the existing literature on videogames and embodiment that disproportionately focus on those more visibly motile videogame forms (motion controls, gesture interfaces, touchscreens, etc.) to instead demonstrate how all videogame play is a particularly embodied activity, no less so for requiring less visible bodily engagements. Chapter Three focuses not on a particular videogame but a particular form of input device: the gamepad. I build on Henri Lefebvre's notion of 'dressage' to explore what I call—following Hayles's embodied textuality—the *embodied literacy* of gamepad play. Rather than assume that more 'natural' input devices are inherently better because they are easier to learn, this chapter looks closely at one form of videogame input device, the gamepad, to explore the literacies and habits the learned player

internalises, and how such literacies function normatively, both influenced by and perpetuating dominant understandings and perceptions of videogame design.

Chapter Four, then, turns to the other half of the equation, focusing on what the eyes and ears are doing while the hands are dancing with an input device. Whereas most explorations of the embodied pleasures of videogame play sideline visual/audible pleasures to give further primacy to the haptic/kinaesthetic (or at least see the former as subservient to the latter), this chapter argues that looking and listening are embodied activities in their own right and are a vital component of perceiving videogame play. In sum, this chapter argues that *looking* and *listening* (and, consequentially, what is *looked at* and *listened to*) should not be sidelined simply because of a narrow conception of what it means to 'act' in a videogame. In particular, this chapter focuses on two music-centric videogames to challenge conceptions of videogames that see mechanics or rules as more formally central than audiovisual representation. Dylan Fitterer's *Audiosurf* (2008), as a rhythm game that produces videogame spaces and play styles *from* music, firstly shows how the sensorial experience of videogame play is irreducible, where sounds and sights and touched devices all act as sensorial lens onto the one experience. Stephen Lavelle's *Slave of God* (2012), then, makes a case for the primacy of engaging with the sights and sounds in videogame play directly, not merely as complementary to the player's actions. This suggests a need to situate the phenomenological pleasures of videogames as overlapping with the phenomenological pleasures offered by the likes of cinema and music, rather than distinct from them.

The final two chapters turn to concerns of performativity and identity that arise in response to the understandings forwarded in the previous chapters to interrogate the ways that videogames are thought to be consciously perceived by their players. Chapter Five turns to the embodied constitution of temporality in videogame play, in particular around the entirely

banal but often overlooked performance of character death. Through the study of rhythms, most significantly in the work of Lefebvre, this chapter argues for a complex understanding of temporality in videogames between progression and repetition, where virtual and actual time and labour flow at inconsistent and fluctuating rates determined by diegetic and nondiegetic elements alike.

Chapter Six turns more squarely to the construction of dominant and oppositional identities through videogame play and culture, showing how the phenomenological mode of appreciating videogame experience forwarded by the previous chapters provides an opportunity to directly challenge naturalised (and masculinised) ways of conceptualising videogame play. Qualities of mastery, choice, and agency are shown here not to be fundamental qualities of the videogame form, but naturalised preferences of a dominant form, often contested by oppositional creators and audiences. Two metaphoric characters are deployed, the hacker and the cyborg, to outline two formative modes of identifying with videogames. Here, the posthuman and cyborgian concerns that thread together the chapters of the thesis are brought to the forefront to highlight how a phenomenology of videogame experience provides an opportunity to account for, analyse, and appreciate the myriad of videogame forms historically marginalised by dominant (and commercial) understandings that evaluate videogames primarily in terms of mastery, empowerment, choice, mechanical complexity, and challenge.

Together, these six chapters provide more nuanced understandings of the embodiment of the player in the circuit of videogame-and-player in such a way as to allow stronger, more grounded analyses of the embodied textuality of videogame play.

Importantly, my focus throughout this thesis is on the player-and-videogame circuit of single player videogames. This is not to trivialise the many multiplayer engagements had

around the videogame form or the vast body of literature surrounding these experiences (see Taylor 2006; Taylor 2012; Surman 2007; Stein 2013; Carter, Gibbs, and Wadley 2013; Wilson 2011). Rather, it is to highlight that in most cases, single player or multiplayer, there is a preconscious engagement between player body and videogame hardware and software, with hands wrapped around input devices, eyes on screens, and ears directed at speakers. While there are exceptions,[7] it is the intimate coupling of player and videogame that this thesis is most squarely interested in, and which is also of relevance for those scholars researching multiplayer games. Ultimately, this thesis hopes to lay the groundwork for a phenomenological understanding of videogame experience not easily separated into player/character, actual/virtual, real/fictional, story/game, embodied/textual, active/passive, acting/interpreting, but, to follow Donna Haraway (1991), but located in the *splice*, in the hybrid all-at-once where *Grand Theft Auto IV* is both metaphorically and literally heavy at the same time.

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[7] Such as Douglas Wilson's *Johann Sebastian Joust* (2013) and *Brutally Unfair Tactics Totally OK Now* (2011) that deliberately downplay the centrality of screens to instead focus on the performing bodies in actual space (see Wilson 2011)

Chapter One

Across Worlds and Bodies: Locating an Embodied Videogame Text

> Ah, it's Iota, our messenger! And I see you're still with us! Up there, peering in, poking around! We call them the Yous. They live outside our world, and that's the You you're trying to deliver the message to. You both want the same thing. So work together!
>
> - Narrator, *Tearaway*.

> Bodies can never be made of information alone, no matter which side of the computer screen they are on.
>
> - N Katherine Hayles, *How We Became Posthuman*.

In MediaMolecule's *Tearaway* (2013), the player navigates a small, envelope creature through a papercraft world, walking past cardboard trees and through confetti blizzards as the character tries to deliver themselves to the 'You' in the world's sun: that is, to the player themselves. A conventional platforming game with simple movement puzzles and fighting, *Tearaway* is peppered with moments and objects that exploit the diverse input systems of the handheld PlayStation Vita device it is played on. Mushrooms along the path spin in sync with the left and right thumbsticks; the player can push their finger against the touchscreen and extend origami ledges to create paths for the playable character to cross. Consistently, as the player plays, their face is captured by the Vita's front-facing camera and presented in the gaping hole of the sun, so that in a looping reflexivity the player looking down on the world in their hands becomes part of what they look down on. Other parts of the world are white paper with a pattern of Xs, Squares, Triangles, and Circles that mimic the Vita's rear touchpad. Here, if the player touches the rear of the Vita, their fingers rip into the world, tearing the thin veneer of paper that seals off the virtual world to move blocks and splat enemies in a reverse *trompe l'oeil* where the actual world is made to look like it is part of the virtual (see fig. 1.1). Virtual fingers are depicted on and in the screen space; in the slivers of space between virtual flesh and torn paper, the rear camera catches the surroundings of the

player's playing context. When the game begins, the first thing the narrator says to the 'You' (that is, the player) is, "This is not your world." At every moment, *Tearaway* blurs (and occasionally tears) the barrier between the actual world of the player, and the 'virtual' world presented on and through the screen. The player does not 'enter' this world in any unambiguous fashion, but peers down on and pokes into it from the outside. Any clear distinction between the actual and the virtual is destroyed by the perforations inflicted on this flimsy world by the player as they tear holes to look at it, hear it, and touch it, but never fully enter it.
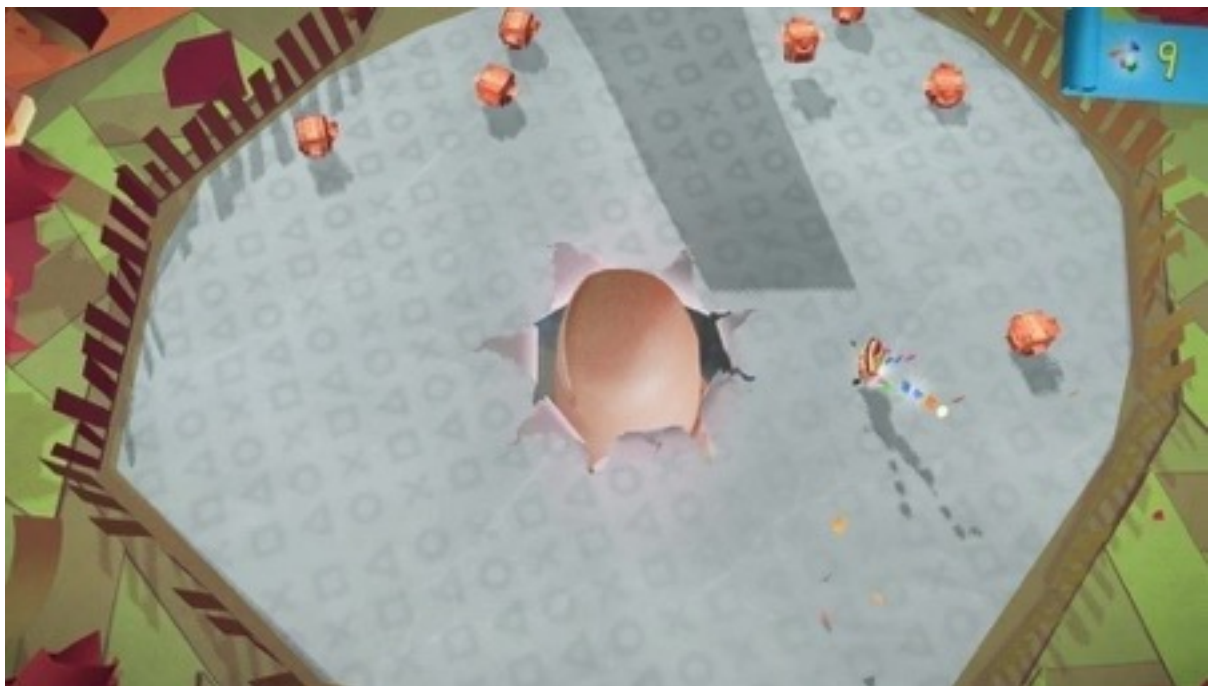
Figure 1.1. Perforating the virtual in MediaMolecule's *Tearaway*.

Tearaway exemplifies the way our bodies engage with videogames: we look at, hear, and touch their virtual worlds, using our technologically-augmented senses to implement some change, to feel some liminal and imperfect sense of presence through the screen. But this engagement goes two ways: as we see, hear, and touch the videogame, the videogame sees, hears, and touches us. In *Tearaway*, cameras detect the world around us, peering at our

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face and our surroundings; characters hear us shout through microphones; and the very fabric of the world feels our fingers pushing against the touchscreens that depict and contain it. We intermingle with videogames. We poke them and they poke us.

But *Tearaway* also offers a conflicting truth: despite the popular promise of many videogames, we never fully 'enter' their virtual worlds. These are not the holodecks that Murray (1997) dreamed of that we step into wholly and unchanged. Nor is this a disembodied cyberspace that we jack into, leaving behind "all of the meat… and all that it wants," like Case does in William Gibson's *Neuromancer* (1984). We reach into these worlds with eyes on screens, ears directed at speakers, and fingers pushing at buttons or smearing across screens. With our senses we reach through the perforations of these flimsy, paper universes that are never fully sealed off from us but also in which we are never fully present. In videogame play, our bodies matter: not for how we leave them behind, but neither for how we take them with us, unchanged. What matters—what is the matter of videogame play—is the ways we become embodied within and as part of videogame play.

This chapter develops the theoretical groundwork that future chapters will then build from by asking what it means to consider videogame play as an embodied textuality where the site of engagement is in the synthesis of audiovisual design, mechanics, videogame hardware, and the player's physical body. It argues that videogames *can* be studied as texts, but only if our notion of what a text is takes into account the material instantiation through which that text is embodied. Such an embodied textuality stems from N Katherine Hayles's call for a mode of textual analysis that accounts for how the text is materially embedded in the world, where the notion of 'text' "is not dematerialized [but depends] on the substrate in which it is instantiated" (2005, 102). Here, Hayles is primarily concerned with how print-centric notions of textuality influence appraisals of hypertext literature, and she notes that the

new textual forms offered by digital media demand that we "explore the possibilities of texts that thrive on the entwining of physicality with information structure" (2005, 102). Videogames are such texts. As videogames blend narratives and fictions with virtual bodies and objects that are physically *felt* through hands wrapped around plastic controllers or tapping away at keyboards, the player's embodied engagement with the material form of the videogame precedes (and perceives) any interpretative engagement with the videogame's virtual 'content'. This embodied textuality of videogames points towards the phenomenological approach to understanding and critiquing videogame play as the hybridity of player-and-videogame that the following chapters will tease out.

This hybridity, however, must not begin with the assumption that the player's body that fuses with the videogame exists in any predetermined, essentialised sense. The body-at-the-videogame is a particular, augmented version of the player's body: limbs are wrapped around controllers and extended through the screen; senses become heightened or muted; identities, abilities, literacies, and perspectives are taken up and put aside; flesh integrates with plastic and code in what Lister et al. have observed as "literally cyborgian" (2009, 306). An account of embodied textuality, then, must be *reflexive*, accounting for how the player not only instantiates videogame play, but how they are incorporated into, become part of, and are ultimately made by the system of videogame play they instantiate. This ultimately points towards locating the videogame text as a *coming-together* of the player and the videogame not as pre-existing, separate, distinct subjects or objects but as a cybernetic assemblage of human and nonhuman bodies, and actual and virtual worlds. Neither player not videogame come first but both are made in the relationship with each other, and it is through this constructed, amalgam body that the player is embodied both in and as the videogame text, as

both 'you' the character controlled in the world of *Tearaway* and 'You' the player of *Tearaway*.[8]

The first section of this chapter introduces and explores notions of embodiment as a pre-conscious engaging with and constitution of the world, starting with Maurice Merleau-Ponty's seminal work in *Phenomenology of Perception* (2002 [1945]) but then moving on to those more contemporary theorists that account for the intercorporeality of embodiment, critiquing the liberal humanist underpinnings of an embodiment that starts with an essential, pre-existing, normative notion of *the* body to instead decentre the human, showing how the world and the body constitute each other in ongoing processes. This leads to a discussion, almost inevitably, of the *post*human and the cyborg, and points towards a postphenomenological embodiment of videogames where neither player nor videogame can be predetermined apart from the messy, hybrid assemblage of player-and-videogame that forms the meanings and pleasures of videogame play.

The next section, then, turns to the existing literature on videogame play and embodiment that already draws from this posthuman and cyborg literature, highlighting how the liberal humanist notions of *the* body reductively pervades much of the conceptualisation of how bodies and videogames function together, forcing a split between 'actual' form and 'virtual' content instead of understanding how each is contingent on the other. Significant advances have been made by theorists applying posthumanist and cyborgian conceptualisations of embodiment to videogame play, and these theorists will be explored and reflected on. These humanist and posthumanist conceptions of the player, it will be shown, are in constant tension in the social imaginary around videogames (a notion expanded in Chapter Six).

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[8] For a thorough discussion of the discursive effects of the second-person address in how videogame players are commonly addressed by both videogames themselves and the surrounding discourses, see Walker (2001).

The final section, then, takes these freshly explored notions of embodiment through videogame play to return to Hayles's notion of an embodied textuality and the much older debates of form and content that such a notion echoes, laying the groundwork for an understanding of the pleasures and meanings of videogame play as not easily separated into player/character, actual/virtual, real/fictional, story/game, embodied/textual, but in the hybrid all-at-once where the player is present across the perforation of worlds and bodies torn apart and folded over each other so explicitly in *Tearaway*.

To Be A Partial Body

The ability to mark a clear distinction between an 'objective' (and primary) consciousness possessing autonomy over its world and a 'subjective' (and secondary) body possessed by that consciousness draws from an Enlightenment era concern with autonomy, agency, and free will which, in reality, has only ever "applied, at best, to that fraction of humanity who had the wealth, power, and leisure to conceptualise themselves as autonomous beings exercising their will through individual agency and choice" (Hayles 1999, 286; see also Haraway 1988; Latour 1991; Foucault 2005 [1966]). The historical Cartesian split between mind and body, between objective knowledge and subjective feeling, is cultivated in such a way as to give one partial, dominant perspective the promise of objective vision (Haraway 1988, 583). Or, as Merleau-Ponty notes over forty years earlier: "Intellectualism and empiricism do not give us any account of the human experience of the world; they tell us what God might think about it" (2002 [1945], 298). To understand how players are embodied in videogame play, then, is to first appreciate embodiment as always partial and mediated. To understand how elements such as a videogame's visual art, design, music, input device, and interface influence and alter (and ultimately make) the player's embodied experience of that

videogame is first to understand how our perceptual experience of our world is always already influencing and altering (and ultimately making) our lived experience of our selves.

Towards a Decentred Self

Merleau-Ponty's *Phenomenology of Perception* provides one place to start thinking about how we are always already embodied in the world, looking extensively at how embodiment constitutes (and is constituted by) its world spatially, temporally, and sensorially. As Merleau-Ponty claims in his preface: "The world is not what I think, but what I live through" (2002, xviii). Advancing the phenomenological notion of being-in-the-world as a "pre-objective view" (2002, 92) and arguing against a Cartesian splitting of mind from body, Merleau-Ponty demonstrates the fallacies of an ideal, objective 'view from nowhere' through the simple example of a cube that can never be seen in its entirety from any one perspective (2002, 235). Rather, "the fact that I am able to draw together in [the cube] all habitual perspectives is dependent on my knowing that one and the same embodied subject can view successively *from* various positions" (Merleau-Ponty 2002, 235, original emphasis). In contrast to an objective view seeing 'from nowhere', our embodied experience of the world through particularly configured and presented bodies always sees from somewhere, and our seeing (and knowing) is thus always partial and situated. Before conscious thought, perception has already functioned and had its influence. The two—mind and body, objectivity and subjectivity—are ultimately inseparable: "We cannot relate certain movements to bodily mechanism and others to consciousness. The body and consciousness are not mutually limiting, they can only be parallel" (Merleau-Ponty 2002, 142).

The body functions as a medium through which we experience the world, but we experience our own body more as a "frontier" (Merleau-Ponty 2002, 112) where our "natural

ignorance of ourselves" (2002, 132) constantly removes the body through which we perceive to the background of our perceptions. The body acquires its own *ways of knowing* how to move through the world—that is, habits. A habit, for Merleau-Ponty, is "the grasping of a significance, but it is the motor grasping of a motor significance" (2002, 165). Over the course of two insightful pages, Merleau-Ponty notes (with some bluntly gendered anecdotes) that such habitual knowledges of the body are not restricted to 'the body' as a sealed-off, organic construct:

> A woman may, without any calculations, keep a safe distance between the feather in her hat and things which might break it off. She feels where the feather is just as we feel where our hand is. If I am in the habit of driving a car, I enter a narrow opening and see that I can 'get through' without comparing the width of the opening with that of the wings, just as I go through a doorway without checking the width of the doorway against that of my body. The hat and the car have ceased to be objects with a size and volume which is established by comparison with other objects. They have become potentialities of volume, the demand for a certain amount of free space. In the same way the iron gate to the Underground platform, and the road, have become restrictive potentialities and immediately appear passable or impassable for my body with its adjuncts. (2002, 165)

Continuing with further analogies of a blind man's walking stick, Merleau-Ponty claims that to get used to such instruments "is to be transplanted into them, or conversely, to incorporate them into the bulk of our own body. Habit expresses our power of dilating our being-in-the-world, or *changing our existence by appropriating fresh instruments*" (2002, 166, emphasis added). Speaking specifically of the typist at the typewriter, reaching for keys without needing to consciously remember in what order the keys are positioned, Merleau-Ponty claims that this habit is:

> a knowledge in the hands, which is forthcoming only when bodily effort is made, and cannot be formulated in detachment from that effort. The subject knows where the letters are on the typewriter as we know where one of our limbs are, through a knowledge bred of familiarity which does not give us a position in objective space (2002, 166)

Our pre-conscious perception of our world through our body is itself always already altered by the objects and instruments we incorporate into our embodied experience of the world, and the habits and bodily knowledges we develop through reaching for and adapting to these objects.

While Merleau-Ponty makes significant insights into how objects and instruments are incorporated into the body, his focus on *the* body still demands critique. As with other early phenomenologists, Merleau-Ponty's notion of *the* body is normatively male, able-bodied, and detached from the inscriptions of gender, race, class, sexuality, age, and society generally (Weiss 1999, 3). The body might be altered by its "adjuncts", as Merleau-Ponty names the woman's feather or his own car, but it is still *the* body—stable, central, and essential. While making significant interventions into a Cartesian mind/body dualism by accounting for the role of embodiment in shaping perception, Merleau-Ponty and other early phenomenologists still perpetuate liberal humanist notions of a normative body existing before the fact. Gail Weiss, while accounting for and advancing Merleau-Ponty's work on embodiment, argues that Merleau-Ponty's assumption that there exists a '*the* body' "suggests that the body and the body image are themselves neutral phenomena, unaffected by the gender, race, age, and changing abilities of the body" (1999, 1). Weiss instead argues for *an essential instability* of bodies; rather than "a cohesive and coherent phenomenon that operates in a fairly uniform way in our everyday existence" it is important to account for "a multiplicity of body images, body images that are copresent in any given individual, and which are themselves constructed through a series of corporeal exchanges that take place both within and outside of specific bodies" (Weiss 1999, 1-2). This suggests that to account for embodied experience is not to start with a pre-given, essential 'human' body but to account for how embodiment *emerges from* phenomena in a dynamic coming-together of multiple corporealities.

This decentring of *the* human body in Weiss's work, in contrast to an essential and stable body perpetuated in Merleau-Ponty's work, can be similarly seen in the work of anthropologist Gregory Bateson. Bateson situates human subjectivity and the construction of the 'self' *between* actors and world, noting that "in no system which shows mental characteristics can any part have unilateral control over the whole. In other words, the mental characteristics of the system are immanent, not in some part, but in the system as a whole" (1972, 316).[9] The thinking system of body-and-instruments-and-worlds, Bateson stresses, is much broader than what is commonly conceived of as 'the self': "the total self-corrective unit which possesses information, or, as I say, 'thinks' and 'acts' and 'decides' is a system whose boundaries do not at all coincide with the boundaries either of the body or of what is popularly called the 'self' or 'consciousness'" (1972, 317). Like Merleau-Ponty, Bateson uses the metaphor of the blind man with a stick. But whereas Merleau-Ponty sees the stick incorporated into the blind man's body (still a stable essence), Bateson shows that stick and man can only be considered as a single system with no clear boundaries between the two:

> Where does the blind man's self begin? At the tip of the stick? At the handle of the stick? Or at some point halfway up the stick? These questions are nonsense, because the stick is a pathway along which differences are transmitted under transformation, so that to draw a delimiting line across this pathway is to cut off a part of the systemic circuit which determines the blind man's locomotion. (1972, 318)

To understand our embodiment of the world, then, is to understand our bodies not as stable and essential but as essentially unstable, as an *intercorporeal* affair "always already mediated by our continual interactions with other human and nonhuman bodies" (Weiss 1999, 5). As such, "the multiple corporeal exchanges that continually take place in our everyday lives demands a corresponding recognition of *the ongoing construction and reconstruction of our bodies*" (Weiss 1999, 5-6, emphasis added). Rather than our bodies existing before the

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[9] See Jayemanne (2005) for an extensive application of Bateson's work to videogame analysis

incorporation of objects such as feathers or cars or sticks or typewriters (or, indeed, videogames), it in the intercorporeal assemblage of feathers and flesh, cars and flesh, sticks and flesh, typewriters and flesh (or, indeed, videogames and flesh), that modulates our being-in-the-world. It is a semantic move, but one that conceptually decentres *the* human body as the stable locus that the universe orbits around to make way for a diversity (and dynamism) of human and nonhuman bodies that are constantly made and remade in their relations with other human and nonhuman bodies.

A phenomenological understanding of videogame play, then, must not start with an essential human body and peripheral tools, but a cybernetic amalgam of material and virtual artefacts across which the player's perception and consciousness are transmitted and transformed, and from which the player's embodied experience of playing a particular videogame emerges. The conceptual shift here is important: the player cannot be considered before or distinct from the videogame but instead reflexively as producing the videogame experience that produces the player in turn. Images, sounds, input devices, the affordances and restrictions of the playable character's body, the context of play, and the player's previous experience with videogames all influence and alter the incorporation of the videogame into the player's embodied experience no less so than the player's embodied experience alters the videogame with each moment of play. A phenomenology of videogame experience must not start with the experience of the player's body, but with the experience through which the player's amalgam embodiment in and as part of the videogame performance emerges.

Cyborgs, Posthumanism, and Postphenomenology

Weiss and Bateson are not alone in critiquing paradigms that place the autonomous human and the stable self at the centre of the world. Poststructural, postcolonial, and feminist theorists of recent decades have turned to bodies as they are confronted by contemporary and active digital technologies to ask if the body was really ever so stable to have a core essence and peripheral adjuncts. The increasing ubiquity of computing technologies in everyday life exemplifies the heterogeneity and fluidity of embodiment as it incorporates other bodies into itself. The personal computer or the smartphone are not necessarily 'more' incorporated into our being than the walking stick or the hat feather. Yet, the fact that computers are "disturbingly lively" while we ourselves are "frighteningly inert" (Haraway 1991, 152) provides a particularly vivid demonstration of how our embodiment of the world is always already caught up and entwined with nonhuman bodies, and provides a significant precursor to thinking about how bodies become entangled with the technologies and fictions of videogames.

Perhaps best known is Donna Haraway's conceptualisation of the cyborg in "Manifest for Cyborgs" (1985)[10] as "a cybernetic organism, a hybrid of machine and organism" (1991, 149). Haraway uses the metaphor of the cyborg and its transgressions of the previously ingrained borders between the human and the machine to expose a much wider array of dualisms reinforcing patriarchal dominance in Western society: "self/other, mind/body, culture/nature, truth/illusion, total/partiality, God/man" (1991, 177).[11] To fight against such dualisms, Haraway instead argues for a necessary *partiality* of such actors, always spliced

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10 While "Manifesto for Cyborgs" was first published in *Socialist Review* in 1985, throughout this thesis I reference Haraway's updated "A Cyborg Manifesto" from *Simians, Cyborgs, and Women* (1991).

11 Such dualisms echo the liberal humanist separation of Man (Culture) from World (Nature) that Bruno Latour critiques in *We Have Never Been Modern* as the "purification" practices of Modern thought that "creates two entirely distinct ontological zones: that of human beings on the one hand; that of nonhumans on the other" (1991, 10-11).

with other actors, showing that our identities are always "contradictory, partial, and strategic" (1991, 55).

Haraway's work on the splice, instantiated in the myth of the cyborg, is complemented by her writing on "Situated Knowledges" (1988) as a form of "feminist objectivity" that, echoing Merleau-Ponty, stresses that to see is always to see from somewhere. For Haraway, the knowledges produced by a feminist objectivity would not be "the products of escape and transcendence of limits (the view from above) but the joining of partial views and halting voices into a collective subjective position that promises a vision of the means of ongoing finite embodiment, of living within limits and contradictions—of views from somewhere" (1988, 590). That knowledge is always embodied and partial is not a problem to resolve (a move that only ever confers impartial status to one partial perspective) but a reality to account for: "the knowing self is partial in all its guises, never finished, whole, simply there and original; it is always constructed and stitched together imperfectly, and *therefore* able to join with another, to see together without claiming to be another" (Haraway 1988, 586, original emphasis). To see an object is to always have some aspects of that object obscured from view; to be viewing from somewhere is to be incorporated into and as part of a world. Cyborgism embraces this incorporation and partiality as more accurate of the human experience than a god's eye view from nowhere. Or, as Haraway more notoriously and bluntly concludes: "I would rather be a cyborg than a goddess" (1991, 181).

Such rearticulations of the body and the self as caught up with machines and technologies flies in the face of classic Enlightenment understandings of the human subject as free, autonomous, rational, and possessing agency and free will over both their own body and their lifeworld. As Hayles notes, the rational liberal subject "possessed a body but was not usually represented as being a body" (1999, 4). Such concerns are explicitly responded to and

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reacted against in Hayles's work on conceptualising the posthuman. Similar to Haraway's cyborg, Hayles's posthuman configures the human being to seamlessly articulate its relationships with intelligent machines: "in the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals" (1999, 3). Through the chapters of *How We Became Posthuman*, Hayles demonstrates how, through the nineteenth, twentieth, and into the twenty-first century, information lost its body as it became caught up in liberal humanist models that downplay the centrality of embodiment to all knowledge production (1999, 4). In response, Hayles's use of the term *post*human does not signal a transcendence beyond humanity, but the end of a particularly narrow and hegemonic conception of the human. Or, to invert Haraway's claim that a feminist objectivity speaks for the "embodied others… [w]ho are not allowed *not* to have a body" (1988, 575), the conceptions of 'human' that Hayles's posthuman reacts against only ever served those who *were* allowed to not have a body.

As hinted in the past-tense 'became' in the title of Hayles's book, posthumanism does not point towards a futurist progression away from being human afforded solely by digital media, but a consideration of how human knowledge and information have always been caught up with and mediated by the world they are situated (and embodied) in. In this line of thinking, Merleau-Ponty's woman with a feather in her hat does not simply incorporate the feather into her being; rather, her being is actively made, in part, by the feather. The will, autonomy, agency, and ultimately the identity of the human subject is always already mediated by the active existence of other objects and instruments and spaces. The human body is no longer the centre, but one material component in a cybernetic amalgam of bodies

through which we constitute the world through which we ourselves are constituted.[12] Much

as for Haraway, for Hayles the increasingly lively, active, and pervasive technologies of the

contemporary world challenge the longstanding dominance of the liberal humanist subject as

the primary mode of understanding what it means to be human, and provides "an opportunity

to put back into the picture the flesh that continues to be erased in contemporary discussions

about cybernetic subjects" (1999, 5). I will return to Hayles's embodied, amalgam

subjectivities below in regards to her later work on the materiality and embodiment of digital

texts.

What Haraway and Hayles point towards, through the cyborg and the posthuman

respectively, are bodies and worlds that constitute each other, with no 'essential' or normative

body able to be perceived before the fact but, rather, emergent from its context. Through

embracing partiality and the splicing of human and nonhuman bodies, they argue against any

purified or unified conceptualisation of embodiment in favour of bottom-up, descriptive,

always particular and never linearly causal understandings of embodiment that privilege

neither the human nor the nonhuman as the locus. They point, indirectly, towards a notion of

*post*phenomenology that Don Ihde has proposed as a "modified, hybrid

phenomenology" (2009, 23) that is explicitly indebted to the feminist theorists "who have

most preserved the sense of bodily perception… or who even without direct connections to

this tradition [of phenomenology] have rediscovered the need to see embodiment as an

important aspect of all knowledge gaining and constructing activities" (1993, 7). What

phenomenology is to the liberal humanist subject with 'his' free will and normative essence,

then, postphenomenology is to Hayles's posthuman and Haraway's cyborg with their body

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[12] There are significant echoes here with Latour's work on actor-networks (1991; 1992; 2005) that calls for all
objects in the world to be understood as possessing an agency distinct from conscious intentionality in the way
they mediate the existence of other objects; and his work on 'quasi-objects' that shows that every object or
subject is, in fact, an object-subject hybrid in its mediating of other object-subjects.

always already inscribed by gender, race, class and an appreciation that "technologies transform our experience of the world and our perceptions and interpretations of our world, and we in turn become transformed in this process" (Ihde 2009, 44).

Ihde's disciplinary move to connect such technologically- and socially-mediated forms of embodiment back into the concerns of phenomenology is significant. To make this link, Ihde draws attention to and contrasts the embodied perspectives of different textual forms. Whereas reading and writing both privilege "an elevated and overhead position" (Ihde 1993, 86), more contemporary moving image media "while still *viewed* from a usually *fixed* position, now begin to vary the 'text' with that which 'moves' and which develops a virtual 'movement' of bodily positionality (as in television, cinema, etc.)" (1993, 86, original emphasis). This unfixedness and motility of the frame while the body remains fixed in space (especially central to videogames, as Golding's [2014] exploration of movement and perception in three-dimensional videogames demonstrates) situates us as subjects in a "doubled world" as both overhead readers and embodied viewers:

> To both 'see' in an embodied position, and to 'read' in an apparent position, and to be able to easily 'hermeneutically' transpose between the two positions is part of what it means to perceive in the now *postmodern* lifeworld. Our perspectives are multiple, refracted, and compound. In that sense phenomenology in its 'postphenomenological' moment has recognised something about our [Western] very cultural style. This style is simultaneously *both* deconstructive *and* structural. (Ihde 1993, 87, original emphasis)

What we are left with, then, is a reflexive and hybrid notion of what it means to be a body where not only does sensorial perception precede conscious thought, but where that perception is always already caught up with and mediated by a heterogenous assemblage of materials and properties that constitute our posthuman embodiments: walking sticks, glasses, hats, smartphones, footpaths, monitors, coffee mugs, shadows. This has consequences for our understandings of how we engage with videogames as embodied subjects, destabilising

normative ideas of a player as separate from (and in control of) a videogame to instead splice them together in particularly vivid instantiations of Haraway's cyborg. The next section will now turn to the literature within videogame studies that has already taken seriously the ramifications of posthuman and cyborgian embodiment.

Actual Bodies at Virtual Worlds

Much like Merleau-Ponty's descriptions of people incorporating tools into their bodily perceptions of space, David Sudnow's descriptive analysis of the videogame *Breakout!* (Atari 1976) recognises a similar incorporation of the virtual paddle on the television screen he controls through a small, handheld dial:[13]

> Knowledge about the paddle's programmed subdivisions and angles no more truly aids the task at hand than a knowledge of physics could help you line up a certain point on a bat with the ball in order to hit to left field. When a paddle or a bat is incorporated by the body, becoming a continuation of ourselves into and through which we realize an aim in a certain direction, such implements lose all existence as things you measure on rules. They become incorporated within a system of bodily spaces that can never be spoken of in the objective terms with which we speak of objects outside of ourselves. (Sudnow 1983, 122)

Rather than centring the player's body in this equation, however, several pages later Sudnow reflects the inverse to be true: "It's as if instead of truly incorporating the events of the screen within the framework of the body's natural way of moving and caring, the action on the screen must *incorporate me*, reducing or elevating me to some ideal plane of synaptic being through which the programmed coincidences will take place" (Sudnow 1983, 138-39, emphasis added). Across these two passages Sudnow observes the irreducibility of player-and-videogame embodiment where each is a crucial component of the other.

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[13] Sudnow's early descriptive phenomenology of videogame play in *Pilgrim in the Microworld* underpins many of this thesis's arguments, and is explored in more detail in Chapters Three and Four.

Importantly, however, *Breakout!*'s paddle is not an actual, tangible object like the feather, car, walking stick, or baseball bat; it is a lit-up rectangular section of a television screen, responding to the input of the handheld knob in such a way as to be perceived as a paddle that moves in response to the player's own movement. To understand how videogames are perceived by players is, centrally, to understand how the 'virtual' worlds and objects of videogames are perceived (indeed, constructed) by the actual bodies that incorporate (and are incorporated by) them. The two dominant ways of conceptualising the self detailed in the previous section (the discrete and autonomous liberal human subject, and the intercorporeal and partial posthuman subject) have vast consequences for considering how players engage with and perceive virtual environments. Hayles warns that if the human subject is envisioned "as an autonomous self with unambiguous boundaries, the human-computer interface can only be parsed as a division between the solidity of real life on one side and the illusion of virtual reality on the other" (1999, 290). To be sure, as demonstrated in this thesis's introduction, much of the discourse around videogames contributes to such a division when it (either explicitly or implicitly) understands the player as autonomous and distinct from the videogame, pre-meditatively using their conscious agency to decide what actions to make within the game. This section will explore the ways this division is perpetuated, and the ways it can be constructively torn down to come to an understanding of videogame play that privileges neither the actual nor the virtual but the assemblage of both—the incorporation of virtual paddles with actual hands.

The Virtual as Actively Constructed

A nascent attempt to account for this actual-virtual hybridity of videogame play can be seen in an extensive essay on the Japanese roleplaying game *Mother 2* (Ape and HAL Laboratory

1994; released as *Earthbound* outside of Japan) by videogame critic Tim Rogers. Rogers, whose critical work regularly focuses on the expressive quality of a videogame's design, synthesises descriptive analysis and developer interviews to contextualise *Mother 2* within a broader comprehension of Japanese game design and aesthetics. Instead of talking about the game in broad generalisations, Rogers focuses on specific moments of the game to ground his insights. Significantly, in describing these moments, Rogers neither restricts himself to objects and actions performed in the actual world nor the virtual world, instead threading the two together in the space of single sentences. One such moment is worth citing at length to demonstrate this. Rogers concentrates on a house that the player is able to purchase in the village of Onett for $10,000 in-game dollars. However, as Rogers notes, the player is unlikely to have access to this kind of money when the house is first encountered. Instead:

> it is the breed of player most commonly referred to as a 'gamer' that will need to buy the house. This gamer will come all the way back to Onett once he [sic] has enough money to buy the house. You can't buy the house during the game's ending, when you'll no doubt have more than $10,000 in the bank, because the real-estate agent is gone and the door is locked. You can't buy it past a certain point in the game, either, because once the endgame begins, Onett is invaded by aliens and plunged into eternal darkness until you kill the aliens. If you want to buy the house, you have to come back at some reasonably early point in the game. When you buy the house, the real-estate agent takes your money and leaves the doorway. He runs all the way off-screen. You are then free to enter the house. When you go inside, you find that it's a run-down shack with wooden floors and walls. A few boards are missing. With the power of its pixels, the game shows you that the mattress in the middle of the floor has a few springs popping up out of its fabric. The back wall of the house—the third wall, as it were—is missing, and we can see the lake in the distance. The fourth wall is already gone—that's the wall through which we, the player, see our heroes standing in this dilapidated shack. We're looking at, essentially, a house with two walls. This can be construed as what [*Mother 2*'s producer, Shigesato] Itoi thinks of the videogame as a medium —it is a house with two walls. (Rogers, 2004, np)

In this paragraph, Rogers does not distinguish between the player and the playable character, between *Mother 2* as a virtual world and as software instantiated on a televisions screen, but instead richly threads them all together, simultaneously, just as the *Mother 2* player experiences them. Rogers entwines the player's investment in real labour to produce the

virtual money required to buy the house; the "power of the pixels" that depict the house as dilapidated; a real-estate agent that runs "off-screen" beyond the frame of the television set in the player's lounge room; and the missing wall through which the player views the world through their television's screen to make insights into the value of the videogame and the creator's intentions.

By drawing together technologies, representations, and the pressures on the player's physical body to describe an embodied and local phenomenon of videogame play, Rogers is able to make broader observations on Shigesato Itoi's creative practices and is able to critique *Mother 2* as a work of popular art—not by distinguishing its virtual 'content' from its physical instantiation as played (and created) form, but by acknowledging that no such distinction exists. This is by no means unique within popular vernaculars around videogames; indeed, such fusing of the actual and virtual is necessary and everyday. During videogame play, it is no stranger to have a character tell the avatar to "press X!" than it is for a real-life spectator to tell the player to "jump!". Such mundane and everyday splicings of the actual and the virtual in videogame play, however, are obscured through the pervasive fallacy of using 'immersion' to describe how a videogame is (ideally) experienced: as a diegetic, coherent world that the player steps into, leaving the 'real' world behind. To rearticulate videogame embodiment in such a way that, building on the above theorists, splices the actual and the virtual rather than separates them, it is worth spending some time critiquing the notion of immersion before returning to Rogers's constructive bypassing of it.

The concept of immersion usefully describes the ideal sensation many videogames aim to imbue in their players: being transported to another world discrete from the actual world. Commonly, however, as explored in greater detail in Chapter Two, it is treated as an inherent attribute of the videogame form—the ability to transport players to another world—

rather than a perceptual strategy performed by an actual player engaging with input devices and screen imagery. While immersion has an immediate history in the rhetoric surrounding virtual reality technologies and imaginings of cyberspace from the 1980s and 1990s, its roots stretch back centuries to the various media and artistic techniques that have long attempted to give an audience a sense of presence in the virtual world depicted by the artwork, from Alberti's Window perspective system deployed by painters of the fifteenth century, through to the panoramas of the nineteenth century, and other more recent technologies, such as the stereoscope and 3D cinema (Lister et al. 2009, 115-123). It has connections to the baroque style, and is dependent on framing devices and strategies such as the *trompe l'oeil* no less so than previous media forms (see Ndalianis 2004; Jayemanne 2013; and Golding 2014 for significant transhistorical accounts that situate the videogame form within a broader art history discourse). Which is to say that while immersion is very much the intended experiential goal of many videogames (like much Western art before them), such a goal is always dependent on actual, situated bodies viewing from *somewhere*, and related to formal framing strategies directing and shaping such seeing. When videogames are considered purely in terms of their ability to 'immerse' players in a virtual world and character, the actual materialities and bodies that such virtuality depends on become obscured, and the mind/body, human/world, form/content dualisms are strengthened.

Immersion as the desired goal of virtual worlds is commonly conflated so that diegetic, immersive worlds become a predeterminied quality for many critiques of videogame play rather than a perceptual quality emerging *from* play. Marie-Laure Ryan, for instance, in her extensive work on the role of immersion and interactivity in virtual reality narratives, forwards a 'mimetic' understanding of immersion that "casts the user in the role of a character in a story" (2001, 15), and draws on Merleau-Ponty's work to highlight the apparent ease with which the user's actual body is set aside for a virtual body in a virtual

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world, and how a world can be embodied and perceived through a virtual body as easily as our own:

> The ultimate test of the material existence of things is the ability to perceive them under many angles, to manipulate them and to feel their resistance. When my actual body cannot walk around an object or grab and lift it, it is the knowledge that my virtual body could do so that gives me a sense of its shape, volume, and materiality. Whether actual or virtual, objects are thus present to me because my actual or virtual body can interact with them. (Ryan 2001, 71)

While Ryan here rightly shows the fluidity with which bodies are picked up and discarded by the player in their perception of a virtual world, as well as the way virtual objects possess a kind of actual, imagined physicality through the player's incorporation of a virtual body, she sidelines the technological and corporeal materialities that allow such virtual engagements to be performed: the material embodiment of the text that Hayles and Ihde both show to be fundamental. Just how might *Grand Theft Auto IV*'s world feel heavy through my virtual body, for instance, if not through how I connect to that virtual body through my actual engagement with a physical controller and animated images?

Even in the more 'enclosed' virtual realities imagined by Ryan that are perhaps more aligned with wearing a VR headset than holding a videogame controller, an engagement with virtual objects is still dependent on actually handling actual objects alongside actually viewing and listening to actual images and sounds. Ryan takes immersion as a starting point and then discusses what it means for the player to have stepped into such a diegetic world instead of accounting for how screen imagery and sound effects could come to be perceived as a diegetic world in the first place. While such an experience of immersion by the player may very well be the aesthetic goal of many videogames, as a critical and evaluative tool immersion tends to obscure the full machinations of embodiment *across worlds* that videogame play depends on and which Rogers draws attention to in the above example. If the discreteness of the virtual word is presumed, how would one account for a real-estate agent

running "off-screen"; or a wall that exists in the world being 'removed' so the player, viewing from their actual body in front of a television screen, can witness the virtual events? The real-estate agent is, at the same time, a character running away from my virtual body standing in the village of Onett and a sprite on a television screen looked at by my actual body sitting in my lounge room, and he is simultaneously perceived as both of these things, just as a fantasy novel is experienced as both a mythical kingdom of heroes and beasts, and bounded paper and ink held in my hands. When the player is present in a virtual world of a videogame, then, they do not perceive objects because their actual *or* virtual bodies can interact with them, as Ryan claims, but because their actual *and* virtual bodies interact with them simultaneously through a hybrid, posthuman embodiment of virtual world and actual technologies.

Figure 1.2. The 'house with two walls' in *Mother 2*.

While he takes it no further, Roger's extension of the dilapidated *Mother 2* house (see fig 1.2) into a metaphor of videogames as a two-walled medium is a powerful one when considering how the player is embodied by the videogame as a necessary precursor to any perceived immersion, incorporating both virtual and physical materialities into their lived experience of playing *Mother 2*. Just like all prior media that strive to immerse the audience in a virtual world, videogames do not simply allow the player to 'step into' a world that is waiting for them, regardless of what the futurist myths of virtual reality and cyberspace may dream. Rather, immersion requires a significantly active role from the player to construct the illusion of diegesis. Janet Murray, while in part perpetuating such notions of immersion with her metaphor of the holodeck, significantly understands immersion as a *desired* experience, not an *a priori* phenomenon. She notes that this desire means that more than a suspension of disbelief, videogames and virtual worlds demand the player *actively makes belief*: "because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience" (1997, 110). Like Don Quixote tilting at windmills, the player *makes the virtual world make sense* by sealing off the gaps the videogame leaves open, be that a protagonist who heals bullet wounds by leaning against a wall in *The Getaway* (Team Soho 2002), the ability to carry ten weapons in *Doom* (Id, 1993), the ability to reload a shotgun while climbing a ladder in *Half-Life* (Valve, 1998), or most relevant to this current discussion, in two-dimensional games like *Mother 2* where environments are viewed from one set angle, the trope of the fourth wall or ceiling being rendered invisible so that the player can view the interior not unlike a three-walled theatre set or perspectival art such as *ukiyo-e* painting.

More accurate still, this missing fourth-wall *does not exist*. It has not simply been 'made invisible' but, in a literal sense, it does not exist in the videogame at all. We are looking at, as Rogers rightly notes, a two-walled house in *Mother 2* when we enter the house

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with the missing rear wall. The player must view this world from somewhere, from their corporeal positioned before a television screen; and thus they both literally and figuratively *must actively construct the fourth wall* in order to feel that sense of immersive diegesis and to, in Melanie Swalwell's terms, *partially become* the virtual actor (2008, 84). Murray, too, refers to such a partial becoming in her metaphor of virtual embodiment as not simply leaving behind the real body for a virtual one, but the virtual body as a *masked* actual body: an actual body augmented by digital play (1997, 113). This also complements Kirkpatrick's reflections that will be explored in Chapter Three that the player represses the "toy-like" controller in their lap and the exertion of their body to experience the images and sounds of the videogame *as if* they constitute a world (2009, 135).

Such emphasis on the partiality of virtuality mirrors Haraway's call for identities and bodies to be understood as always already partial and spliced with other partial human or nonhuman bodies. Immersion becomes a desired experience not dependent on the actual and the virtual being distinguishable from each other but emergent from an indistinguishable splicing of worlds and bodies.[14]

Videogame Play as a Cybernetic Circuit

It is possible to see now that an uncritical application of immersion splits the videogames's content from the videogame's form as it splits the virtual world and its bodies from the actual world and bodies that are fundamental to the virtual's constitution. It reintroduces what Susan Sontag notes in her essays "Against Interpretation" (2009 [1964]) and "On Style" (2009

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[14] While it should be noted that more recent scholarship has attempted to salvage nuanced understandings of the experience of immersion (see Calleja 2011 and Cairns et al. 2014) by distancing immersion from a discrete presence in a virtual world, it remains significant for this thesis's phenomenological project to interrogate earlier but nonetheless persistent understandings of videogames as fundamentally immersive in order to account for the full embodied experience of engaging with a videogame across worlds.

[1965]) as a Cartesian split that "takes the sensory experience of the work of art for granted, and proceeds from there" (2009, 13). Immersion privileges a desire for immediate experience of the videogame's content while ignoring the fact that that content "is, as it were, the pretext, the goal, the lure which engages consciousness in essentially *formal* processes of transformation" (Sontag 2009, 25, original emphasis). Sontag's categorisation of the form/content split as a Cartesian one is significant, as it aligns such a split between the actual and the virtual, the form and the content, with those liberal humanist underpinnings that split the mind from the body and the self from its world. Understandings of virtuality that begin with the player's unproblematic immersion 'into' the virtual world align themselves with those outmoded understandings of how we engage with technology that reinstate an autonomous liberal subject that exists separate from the technological object: *using* it rather than *participating with* it.

To position immersion as a sensorially-dependent result of videogame experience and not its antecedent is to begin with—rather than presuppose—the sensory experience of playing a videogame. To reach towards a notion of the player's embodied experience of videogame play that does not reinstate a divide between human and machine but instead accounts for the player's incorporation of the videogame is to account for how the player experiences the videogame through a body that is a heterogenous amalgamation of organic, technological, and audiovisual elements made, in the moment of play, by the videogame they are playing. More so than the common understanding of videogames as uniquely 'interactive', such a move better understands videogames as *intermediative*—a notion Hayles forwards to discuss the reflexive feedback loops between users and computers (2005, 31). Intermediation, Hayles argues, realises "the implications of multicausal and multilayered hierarchical systems, which entail distributed agency, emergent processes, unpredictable coevolutions, and seemingly paradoxical interactions between convergent and divergent

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processes" (2005, 31). Intermediation hints at a collapse between the human and the machine, and is particularly useful to conceptualise the cyborgian nature of videogame play as a *cybernetic circuit*. Various scholars have already deployed a notion of videogame play as cybernetic (Jayemanne 2005; Jayemanne 2013; Giddings and Kennedy 2008; Giddings 2009; Dovey and Kennedy 2006). Such frameworks build on the work of cybernetic, actor-network, and cyborg theorists such as Bateson (1972), Latour (1991), and Haraway (1991) to conceive of videogame play as "material feedback of information and control [flowing] between machines and organisms" (Giddings and Kennedy 2008, 16).

A cybernetic conceptualisation of videogame play straddles the border between social and technological determinism to account for how both player and videogame have some mediating effect, some agency, over the other. It highlights how the oft-privileged pleasure of mastering a videogame, of dominating and 'beating' it, is but a subset of the broader pleasure of participating *with* a videogame. An active player is no longer the essence of videogame play that differentiates it from other media, but instead both "activity and passivity […are] fluctuations in the circuit." (Giddings and Kennedy 2008, 30). Thus, "a new conceptual language is needed to attend to both the operations of nonhuman agency and the human pleasures of lack of agency, of being controlled, of being *acted upon*" (Giddings and Kennedy 2008, 30). As an intermediative and cybernetic circuit, more important than what the videogame allows the player to 'do' is how the videogame extends, restricts, and ultimately incorporates the player's embodied experience into "complex assemblages of bodily capacities and cognitive processes, which work together in skilled [videogame play]" (Ash 2013, 34) to produce the player that produces the videogame as a posthuman amalgam of materialities and identities and presences across worlds and bodies.
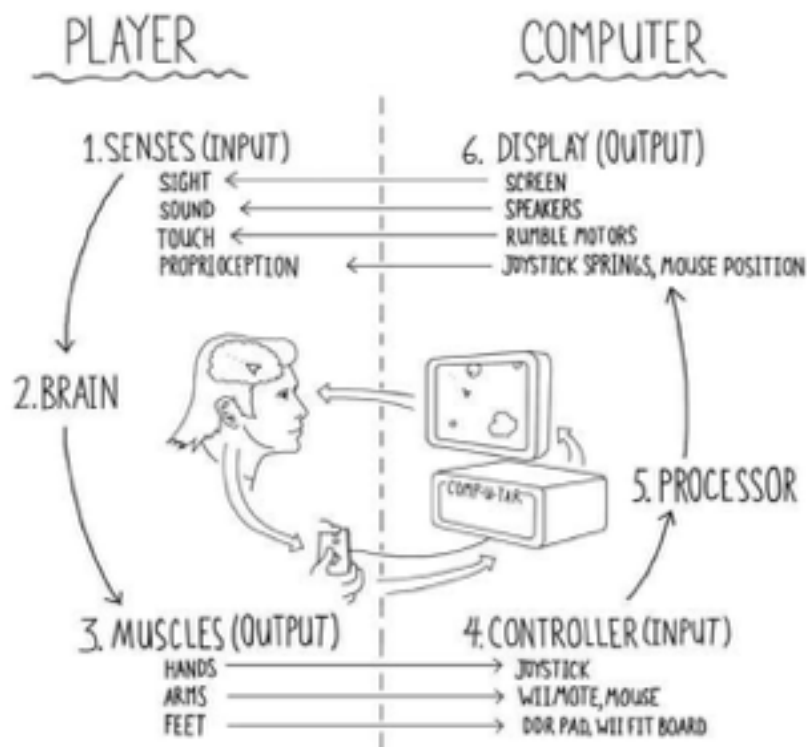
Figure 1.3. Steve Swink's "Model of Interactivity" (2009, 36).

This cybernetic circuit of player-and-videogame that constitutes the player's embodiment has been succinctly explored in developer Steve Swink's book *Game Feel* (2009), which forwards a preliminary understanding of how it 'feels' to play a videogame. Swink is concerned with understanding what we mean when we say a videogame's controls feel 'tight', or an assault rifle in an action game feels 'meaty', or a car in a driving game feels 'slippery'. While Swink is writing primarily for developers and calls his model (see fig. 1.3) neither cybernetic nor phenomenological (although he does draws explicitly from Merleau-Ponty), its focus on proprioception and kinaesthesia exemplifies the circuit between player and videogame where inputs and outputs are made by both, and action is initiated by neither (Swink 2009, 36). What the videogame outputs as audiovisual representation via the screen, speakers, and rumble motors are taken in through the player's bodily senses (sight, sound, touch); these senses send messages to the brain that, in turn, determine output from the

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player's muscles through the videogame hardware's input device. The videogame, again, takes these inputs and alters the audiovisuals accordingly. In this model, the player's corporeal schema is caught up in and mediated by a circuit of organic, technological, and representational actors and materialities, and the body through which the player perceives videogame play is reconstituted within the circuit.[15]

What a single moment of videogame play 'feels' like is an embodied pleasure caught in an intimate coupling of bodies. A car feels 'heavy' in *Grand Theft Auto IV* through the way it acts on the screen and through the speakers in tandem with the resistance of the thumbstick beneath the player's thumb and what the player believes about how such a car should act. Significantly, in this model neither the player nor the videogame come first; each is created and mediated by the other in the circuit. A cybernetic understanding of videogame play, then, does not leave the player's body back in the actual world while focusing on the events of an insular virtual world, but focuses on the meshing of materially different bodies into an amalgam cyborg body through which the player perceives the videogame.

While notions of videogame play as a set of embodied pleasures (Kennedy 2007, 127) and kinaesthetic knowledges (Swalwell 2008) have been prevalent in understandings of videogame play for some time and have gained more recent interest with the parallel rise of both casual and gestural videogames (explored in Chapter Two), such pleasures must not start with an essential and stable player who is autonomous and distinct from the videogame in a way that re-inscribes narrow understandings of the human and its instruments, but must instead account for how the player is redistributed across a network of material information and actors, and how they perceive the videogame from this redistributed embodiment. Both

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[15] Other developers have also discussed how they make their videogames feel particular ways. See Jan Willem Nijman's discussion of 'screenshake' (2013; see Chapter Four) and Kyle Gabler et al's discussion of 'juice' (2005), which is in turned furthered by Juul's discussion of 'juiciness' (2010, 45; see Chapter Two).

the anecdotes above of Rogers's essay on *Mother 2* and the self-awareness of MediaMolecule's *Tearaway* as a world that is played *with* demonstrate the ease with which the player's attention flickers back and forth between the worlds and bodies that their sense of self is distributed across. During videogame play, the player embodies a hybrid body that incorporates flesh, hardware, and virtual objects and beings into their corporeal schema. While understandings of videogames as things to 'step into', 'act upon', and 'master' are ubiquitous (a critique of which is the focus of Chapter Six), the hybridity of videogame play demands a cyborg identity that understands the player as partial, distributed, and emergent.

To recognise this fluidity of bodies and identities is to understand that virtual worlds, like human capability and identity, are not imperilled by the splice but dependent on it. When the narrator of *Tearaway* explains that "That's the You you're trying to deliver your message to," he is not talking to either me the player or Iota the character; he is talking to the cyborgian, gestalt identity that is the two of us combined across bodies and worlds. It is from this distributed-but-situated embodied perspective that the videogame player encounters and entangles with the videogame work to produce meaning. It is in this embodied, phenomenological, hybrid world experienced through a hybrid presence that the scholar interested in the textual impact of a videogame must focus their attention.

Locating The Videogame Text

"I can't read you!" wails *Metal Gear Solid*'s (Konami 1998) Psycho Mantis after the player unplugs their controller from the Player One slot of the PlayStation console and re-plugs it into the Player Two slot, bypassing Psycho Mantis's mind-reading ability that allowed him to pre-empt the player's actions. Just as Psycho Mantis is unable to read the player due to their actual, physical engagement with material hardware, notions of 'reading' videogames as texts

have long challenged videogame scholars (Aarseth 2004; Kirkpatrick 2011; Walker 2001). The presumed uniqueness of videogame engagement detailed in this thesis's introduction—a more 'active' audience that configures the videogame through interactivity and immersion—hinders attempts to understand videogames textually. This thesis, however, takes the position that videogames *do* stand up to textual analysis, and that such analysis can account for and accentuate the meanings and pleasures that emerge in the playing of a particular videogame. This requires not only a rearticulation of videogame play to account for textuality, but also a rearticulated textuality that can account for the embodied, formal instantiations demanded by all texts.

Playful Textuality

Videogames are more than virtual content; they are embodied and materially instantiated by the player. This means, for the videogame scholar who is concerned with the cultural significance of specific phenomena of videogame play, it is the cybernetic circuit of technologies and audiovisual signifiers that constitutes and is constituted by the player's body that must be the object of a textual study. David Surman makes a similar claim when he concludes his study of pleasure, spectacle, and reward in the fighting game *Street Fighter* (Capcom 1987) by arguing that "when studied independent of one another the form and meaning arising from either *play* or *representation* leave us bankrupt. To create a picture of a player's textual experience, we must try to elect criteria within game design and gameplay where these aspects intersect" (Surman 2007, 219, original emphasis). Meaning emerges in the irreducible assemblages and feedback loops of materialities and audiovisualities that players find themselves a part of, and find as part of themselves. Meaning emerges from

not just what a videogame depicts in its virtual space, but through how that space is sensorially perceived by the player *as* a space. As both Surman and Swink draw attention to the synthesised work of hands-on-controllers, eyes-at-screens, and ears-at-speakers in perceiving the way a videogame physically feels, a textual analysis of a videogame must be able to account for how such assemblages come together and produce specific embodiments and meanings for the player. This requires not just a reimagining of how we think about videogame play, but how we think about texts.

Perhaps the greatest difficult in applying notions of textuality to the videogame form are traditional imaginings of texts as—much like the humanist self—stable, essential, and immaterial. While Surman rightfully notes that the competency (or lack thereof) of players individualises videogame play and problematises the semantics of videogames due to "the lack of a wholly agreed text with a delimited beginning, middle, and end" (2007 218), Hayles provides a way to circumvent this problem by exploring how print-centric notions of textuality are responsible for assumptions that such instability is a problem to be solved rather than a fundamental property of textuality. Print-centric notions of textuality have allowed, argues Hayles, 'the text' to become disconnected from its material instantiation (2005, 92-95). The text as stable and immaterial, as nothing more than the order of words and punctuation, is challenged with the rise of electronic texts built on a materiality of code, that fundamentally differs from that of print media:

> [electronic] text is dynamically assembled on the fly, the text as 'the actual order of words and punctuation' does not exist as such in these data files. Indeed, it does not exist as an artifact at all. Rather, it comes into existence as a process that includes the data files, the programs that call these files, and the hardware on which the programs run, as well as the optical fibres, connections, switching algorithms, and other devices necessary to route the text from one networked computer to another. (Hayles 2005, 93)

Thus, Hayles makes the same move for the text as being inseparably grounded to its embodied, material instantiation as she does for our identities being inseparably grounded in our posthuman, amalgam bodies. Indeed, Hayles connects the two together, tracing a history that demonstrates how "the notion of the literary work as an ideal immaterial construction has been deeply influenced by a unitary view of the subject" (2005, 106), and suggests that "perhaps now it is time to think about what kind of textuality a dispersed, fragmented, and heterogeneous view of the subject might imply" (2005, 106). As the above sections have shown that the cyborg videogame player is very much a dispersed, fragmented, and heterogenous subject, conceptualising such a textuality—an *embodied* textuality—is pressing to the concerns of this thesis.

Those theorists who have made the most significant advances in understanding the textuality of videogames are those above that conceptualise the player-and-videogame assemblage as a cybernetic circuit—many of whom see this circuit itself *as* the videogame text. That is, the videogame text exists in the moment of play, in the cybernetic coming together of player-and-videogame. Or, as Jill Walker aptly puts it, the player becomes part of the videogame text (2001, 470). Considering the videogame text as a cybernetic construct fits well with Hayles's calls for an embodied textuality that can account for the specificity of electronic texts, but it also does not remove itself far from earlier conceptualisations of what a text is. Roland Barthes, for instance, notes that "the metaphor of the Text is that of the *network*" (1977, 161) and that "the Text requires that one try to abolish (or at the very least diminish) the distance between writing and reading, in no way by intensifying the projection of the reader into the work *but by joining them in a single signifying practice*" (162, emphasis added). Of immediate relevance to the textuality of videogames is how Barthes considers this back-and-forth of textuality as a sort of playing:

> The text itself *plays* (like a door, like a machine with 'play') and the reader plays twice over, playing the Text as one plays a game, … also playing the Text in the musical sense of the term. (1977, 162, original emphasis)

Barthes's multi-faceted metaphor of a playful reader and a playful text is echoed by Giddings and Kennedy's claim that in videogame play "both humans and nonhumans are the playful objects" (2008, 21). The reflexivity of posthuman embodiment, where the self is made by the system it makes, is also echoed by Barthes in the practice that reproduces itself. The link of textuality to play in the musical sense, too, has been connected to the embodied pleasures of videogame play, most provocatively in an essay by designer and musician David Kanaga where he notes that

> The kind of meanings that exist in music are the same kinds of meanings that exist, fundamentally, (but laying latent), in games—they don't point at anything but the experience itself, at the materials and interrelationships that form the binding structures of that process." (2012)[16]

Contrary to suggestions that the play demanded of videogames resists any notion of textuality, to engage with any text demands some sort of reflexive play between writing (producing) and reading (consuming).

Material Textuality

Following Barthes and Hayles, to engage with any text is an active engagement. However, that digital play is *exceptionally* active—requiring *action* and bodies to *do something*—was and remains a central contention of game scholars trying to pin down the particularities of digital textuality. One of the earliest explorations of digital media as texts, Espen Aarseth's *Cybertext* understands digital texts as a form of "ergodic" literature that requires "nontrivial" effort on behalf of the reader to traverse the text (1997, 1). By this, Aarseth means that a

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[16] The phenomenological similarities between engaging with music and engaging with videogames is explored in Chapter Four as part of a broader conversation on audiovisuality.

cybertext "focuses on the mechanical organization of the text, by positioning the intricacies of the medium as an integral part of the literary exchange" (1997, 1). While Aarseth is careful to note that any medium's text requires some form of mechanical interaction—a book's pages must be turned; a film must be played and looked at—he claims that ergodic texts are those where the mechanical interaction is fundamental to the meaning they produce. Ergodicity thus "shifts the focus from the traditional threesome of author/sender, text/machine, and reader/receiver to the cybernetic intercourse between the various part(icipant)s in the textual machine" (Aarseth 1997, 22).

While Aarseth makes a significant contribution towards conceptualising digital media as texts by highlighting their cybernetic nature and the fundamental way digital texts are constructed even as they are interpreted, his focus on the machinations of the text risks overshadowing the equal importance of the signifying audiovisual representations of the cybertext. That is, Aarseth's focus on how the page is turned forgets that the page still has words written on it. This critique is made by Hayles, too, when she notes that Aarseth's definition of text as "'any object with the primary function to relay *verbal* information' (62, emphasis added) [leaves] out of account visual, graphic, sonic, kinetic, and other nonverbal signifiers" (Hayles 2005, 37). Such a failure to account for the audiovisual design of digital media has the inverse problem as those above, where instead of being reduced to an essence of pure content, the videogame is reduced to an essence of pure form. Either way, a Cartesian dualism is reintroduced and perpetuated. While this distinction is implicit in *Cybertext*, it is made explicit by other theorists, such as Galloway's reductive focus on an input-centric mode of action critiqued in this thesis's introduction, or by Aarseth's own claim in "Genre Trouble" that Lara Croft's gender in *Tomb Raider* is irrelevant, and all that matters is what she allows the player to do (2004, 48; critiqued in Dovey and Kennedy 2006, 92; and MacCallum-Steward 2014). Videogames become reduced to action, but a disembodied action that is

unable to account for 'looking' and 'listening' as themselves actions no more or less central to the circuit of videogame play than the pressure of fingers against buttons or the interpretation of rule sets.

Hayles provides a solution to this reduction of action to disembodied process while still accounting for the performativity and instantiation of digital texts by calling attention to the significance of any text's material instantiation. By a text's materiality, Hayles means not just its physicality, but "*the interplay between a text's physical characteristics and its signifying strategies*" (2004, 72, original emphasis). A text "has a body (or rather many bodies), and the rich connections between its physical properties and the processes that constitute it as something to be read make up together that elusive object we call a 'text'" (Hayles 2004, 72). This interplay of an object as something to be embodied and something to be read relates to Ihde's postphenomenological observations above on the doubled world of our multiple, compound, and fractured perspectives in the way it demands simultaneous and irreducible performance and interpretation. Importantly, Hayles is not just arguing for the materiality of digital texts, but, much like the posthuman before it, a rearticulation of how we might think about all texts away from the preconceptions that privilege print-centric notions of textuality:

> This definition opens the possibility of considering texts as embodied entities while still maintaining a central focus on interpretation. In this view of materiality, it is not merely an inert collection of physical properties but a dynamic quality that *emerges* from the interplay between the text as a physical artifact, its conceptual content, and the interpretive activities of readers and writers. Materiality thus cannot be specified in advance; rather it occupies a borderland—or better, performs as connective tissue—joining the physical and mental, the artifact and the user. (Hayles 2004, 72, original emphasis)

Thus, while Aarseth helps us appreciate how the interplay between player and technology might function as an ergodic text, Hayles significantly repositions *all* texts as having a fundamental materiality that requires an embodied engagement: "what matters for

understanding literature […] is *how the text creates possibilities by mobilizing certain aspects of its physicality*" (2005, 103, emphasis added).

The videogame text is thus distributed across the physical bodies of the player and the videogame hardware, and the virtual bodies and worlds of the videogame's audiovisual representation; it is in the coming-together of these heterogeneous materialities as embodied by the player that the videogame text is produced, and it is through this text that the videogame player is embodied. By repositioning the text as an embodied entity, rather than a dis-embodied construct detached from its material instantiation, "neither document, text, nor work would be considered immaterial" and discussions could be foregrounded as to "how physical characteristics, verbal content, and nonverbal strategies work together to produce the object called 'text'" (Hayles 2005, 105). Videogames, this suggests, are not immune to textual analysis due to a uniquely active player but, rather, their demand for an embodied engagement with both physical form and conceptual content is itself textual.

Towards an Embodied Textuality of Videogame Play

Dovey and Kennedy attempt to extrapolate the many questions and challenges that arise when a videogame is considered a text (2008, 84-103). Ultimately, the hurdles they identify lead them to argue for "a synthesis of existing approaches, hybridizing methodologies for hybridizing media forms" (2006, 84). They note that while the many and varied singular videogame works that exist and the various engagements they demand could hardly be contained by a singular definition or analytical model, the many and varied singular filmic works that exist do not prevent us from assigning different films "key places in the history of what we call cinema, and accordingly to subject them to a common corpus of analytic methods and to a common set of critical questions" (2006, 85). As such, when attempting to

locate the videogame text as an object of study, "genre differences should not prevent us from identifying some common approaches or 'forms of attention' appropriate to the study of computer games" (Dovey and Kennedy 2006, 85). Dovey and Kennedy's idea of 'forms of attention' is a strong one, as is the emphasis they place on forwarding a conceptual 'toolkit' with which to analyse videogame texts as opposed to a model, as this accounts for the subjective and partial perspectives that textual analyses of videogames must provide if they are to avoid the false 'view from nowhere' that both Haraway (1988) and Golding (2013a) critique: not prescribing how the videogame must be configured from above but always describing how the situated player navigates the videogame from somewhere.

To describe the meanings that emerge in the complex, reflexive relationships between player and technology, player and character, actual and virtual worlds, an analysis of a videogame as a text requires not only a hybridisation of methodologies but also a methodology of hybrids. It requires an appreciation for the complexities and tensions and irreducibilities of the circuit of videogame play across worlds and bodies where the player and the videogame intermediate each other in a reflexive loop. The videogame player exists in a doubled world, enacting and interpreting in a singular function—not a purification of player on one side and character on the other; subject on one side and object on the other; reality on one side and virtuality on the other; experienced on one side and interpreted on the other. A similar call is made by Jason Wilson when he insists that videogames demand a hybrid aesthetics, "one where human and machine, play and code, text and reading, producer and consumer cannot be meaningfully distinguished" (2000, 8). This points to the *all-at-once* notion of embodied textuality that accounts for physicality and signification, form and content, as caught up with each other.

There does exist a videogame text that the videogame scholar is able to analyse; neither 'interactivity' nor 'immersion' render videogames invincible to textual analysis as long as all texts are understood to require some embodied interaction, some splicing of material form with signifying strategies. The significance, however, is that this text belongs to neither the virtual nor the actual world but to the cybernetic ebb and flow between the player's corporeality, the videogame hardware, and audiovisual and haptic representation. It is in this circuit where the player has a phenomenological engagement with the videogame that analysis must be grounded, accounting for the embodied experience of the player but not presuming that embodiment to be either essential or stable. The *player-and-videogame* as the object of study, as one textual machine, must be accounted for in how it is perceived and experienced *by* the player-and-videogame. This resonates with Wilson's call for a "hybrid aesthetics" of videogames that "would move beyond the screen alone to consider gaming's involvement in multiple networks, and thus come to a consideration of its pleasures and possibilities that avoided discourses of morality and control" (2000, 6). Even as the player may deliberately divert their attention away from the formal and material components of videogame play to feel a sense of 'immersion' in the virtual world (Kirkpatrick 2009, 135), the theorist must, as Atkins and Krzywinska note

> step back from the maelstrom of imagination of potential, and look with care at what the individual game represents, how it relates to other games (both digital and non-digital) that have come before, how it communicates its meaning, how it functions as played event, and how engagement with it through play generates pleasure. (2007, 2)

Such analysis demands that various worlds and bodies and the tensions between them are held onto, not resolved; brought into the light, not repressed. With the videogame text located in the circuit, the challenge is then to focus on the flow back and forth across the actual and virtual worlds and bodies—the videogame text as played as a flattening of form and content.

Conclusion

The tensions explored in this chapter point towards what Dovey and Kennedy urge is a need to develop "a phenomenology of [video]games that takes account of both their textual and experimental properties" (2006, 93). Such a phenomenological approach to videogame textuality would account for the player's embodied experience of the videogame spliced with the verbal and nonverbal signifiers of the videogame. It is an approach that Dovey and Kennedy predict, that Surman, Wilson, and Hayles each call for, and which this thesis develops. It is an approach that does not separate text and user but demonstrates that they are *inseparable*, that videogame texts and the meanings they produce come into existence through recursive, dynamic, and hybrid bodies—actual and virtual, flesh and machine. In this hybrid, the player's experiences are not textual *or* embodied but *textually embodied*. The player looking down onto the world of *Tearaway* is reflexively integrated into the world they look down on. Videogame players are, as Bart Simon notes, simultaneously 'here' and 'there' (2006, 64). That *Grand Theft Auto IV* is 'about' the downfall of America and that its cars can be perceived as feeling weighty must both be accounted for if the player's engagement with that videogame is to be appreciated.

To understand the meanings that arise in videogame play, the videogame scholar must pay close attention to the construction of the cyborgian, posthuman body through which the player occupies and perceives the circuit of videogame play, and the embodied experiences the player has through this body that is at once flesh, fiction, and machine. If a videogame is textually experienced, it requires a phenomenological approach to understand how that experience is perceived through the bodies that come together to each mediate and determine some things about the other. This is only possible if both the human player and the

videogame work are, from the very start, understood as partial and complementary; neither comes before the other but each constructs the other.

This chapter has laid the groundwork for such an approach. Merleau-Ponty's phenomenological work on perception first demonstrated the significance of accounting for the role of embodied experience in the production of perceptual knowledge. This was then complicated through cyborg, posthuman, and postphenomenology literature to decentre the human and account for the dynamic intercorporealities between the body and the world that constantly reconstruct our embodied sense of self. This was then applied to videogame experience through the notion of videogame play as a cybernetic circuit across actual and virtual bodies and worlds—a hybridising of *player-and-videogame* where neither comes before the other in the moment of play. Finally, this conceptualisation of embodied videogame play was demonstrated to not be incompatible with notions of textuality when textuality itself is seen as the interplay of material instantiation and signifying practices. To play a videogame is to both perform and consume, to both experience and to spectate, to both experience and interpret. Videogame play is an embodied textuality.

By starting with the experience of play across worlds and bodies, an embodied textuality of videogames provides a way to describe the meanings and bodily pleasures offered by a particular videogame. This chapter has made the first step towards such an embodied notion of textuality (and a posthuman notion of embodiment). The next chapter, then, focuses on just how the player, through this hybrid embodiment, is able to feel 'present' across actual and virtual worlds simultaneously—both present within the word of *Tearaway* and merely poking it—and how this may be accounted for through the particular case of smartphone games.

Chapter Two

Touching the Looking Glass: Rearticulating Presence, Attention, and Virtual Worlds through Smartphone Videogames

> Apple has changed the videogame industry irrevocably, and the simple truth is that it has changed it without even really trying. It did it with a handheld device that has no buttons, no sticks and no ports for physical media, and it did it with a virtual storefront that was created, in the main, to revolutionise the way people bought music, not videogames.
>
> *- Edge Magazine*, "An Accidental Empire"

As devices that traditionally bring together screens and physical buttons, that videogames would appear on mobile phones in one fashion or another was inevitable, and they have had an ad-hoc existence on mobile phones ever since Nokia began installing *Snake* on every Nokia handset since 1997's 6110. But it was not until the more recent rise in popularity of Apple's iPhone and the parallel rise of casual games that mobile games[17] began to be treated as legitimate videogames: videogames worth paying attention to. This despite the device's complete lack of buttons and Apple's initial ambivalence towards videogames (*Edge* 2012, 76).

The iPhone's increased computational power, larger screen, versatile touchscreen, lack of any tangible buttons, and, when it launched in 2008, the new distribution routes and regulatory processes offered by the App Store have allowed the iPhone to foster a broader and more eclectic ecology of videogames than any previous mobile device. From social to single-player videogames, distracting to time-consuming videogames, casual to traditional videogames, publicly- to privately-played videogames, blockbuster to niche videogames, and

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[17] In this chapter I use 'mobile games' to refer to videogames played on mobile phone devices. I consider this different from 'portable games', which refers to those videogames created for dedicated portable gaming devices, such as the Nintendo 3DS or the PlayStation Vita. For an exploration of both the differences and similarities between mobile and portable videogames, see McCrea (2011).

corporately- to independently-produced videogames, the iPhone is home to hundreds of thousands of videogames, each of which has to contend with the specific technological affordances and constraints of the iPhone and the mobile practices of its users. To appropriate what Christian McCrea (2011, 390) says of Nick Montfort and Ian Bogost's *Racing the Beam* (2009), the videogames produced for Apple's iPhone cannot help but be expressive of the iPhone. The iPhone made little effort to accommodate videogames, but videogames quickly accommodated the iPhone.

As videogames incorporated the iPhone, so too have the users of mobile phones incorporated the devices into their everyday lives. Larissa Hjorth, Jean Burgess, and Ingrid Richardson claim that the iPhone "represents a distinctive moment both in the very short history of mobile media and in the much longer history of cultural technologies" (2012, 1). Comparing this 'iPhone moment' with the impact of Sony's Walkman music player several decades earlier (see du Gay et al. 1997), Hjorth et al. claim that the iPhone "marks a historical conjuncture in which notions of identity, individualism, lifestyle, and sociality— and their relationship to technology and media practice—require rearticulation (2012, 1). The iPhone—and by extension the countless other smartphones that appear in its wake, such as Samsung's Galaxy series[18]—marks the moment that mobile phones are no longer telephones capable of other uses but are technological devices that afford a whole range of uses of which one is making phone calls and one is playing videogames.

The increased number of convergent practices surrounding smartphone use sees multiple media practices incorporated into a single device. For Richardson, "the remediation

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[18] While Apple's iPhone remains as synonymous with the concept of the smartphone as Microsoft is with the concept of the personal computer, in recent years many more people use smartphones that run Google's less regulated Android operating system. While most of what is said about iPhones in this chapter is also applicable to smartphones produced by other corporations and running different operating systems, here my focus is solely on the iPhone so as to avoid unnecessary generalisations across similar (but in no way identical) mobile platforms.

of older forms of media into newer and mobile devices is a process of dynamic interplay between medium specificity and convergence, complexly embedded in the usability and intuitiveness of the interface" (2011, 421). Indeed, the iPhone's touchscreen interface and mobility are central to what many mobile scholars have focused on as the 'hybrid' nature of such devices. As mobile media devices and "wearable screens" become increasingly ubiquitous and personalised, they penetrate and transform everyday cultural practices and spaces, "further disrupting distinctions between private and public, place and space, ready-to-hand and telepresent interaction, actual and virtual environments" (Richardson 2012, 133). It is the last of these that this chapter is particularly concerned with. Mobile games explicitly challenge the entrenched dichotomy of actual/virtual that sees the virtual world of the videogame as distinct from concerns and pressures of the actual. The hybrid actual/virtual bodies of videogame players, as conceptualised by the previous chapter, require hybrid actual/virtual worlds. The hybridising nature of iPhone games provide this thesis a significant opportunity to consider how videogames evoke a sense of presence both *in* and *at* virtual worlds simultaneously.

The first section of this chapter will expand on the previous chapter's discussion of the relationship between the actual and the virtual through literature that explores mobile media practices as constructing 'hybrid worlds'. Whereas much of this literature constructs its notion of hybrid worlds by contrasting mobile games against the 'immersive' virtual worlds of non-mobile videogames, here I argue that the hybridity explicit to mobile games exists implicitly in all videogame play. The next two sections forward this argument through the close analysis of two different iPhone games: Rovio's blockbuster casual game *Angry Birds* (2009) and Action Button's niche *Ziggurat* (2012). *Angry Birds*, as a 'casual' smartphone game more exemplary of contemporary mobile games than the publicly played games commonly favoured by mobile scholars, demonstrates through its casualness how the

mobile game player is able to perceive the screen space *as* a virtual world while remaining

consciously aware of the presence of the actual world they are situated in and moving

through. Rather than the mobile game being a mere 'distraction' from the player's everyday

existence, this section will show that the hybrid worlds made explicit in mobile videogame

play demands a *co-attentiveness*, where the player pays attention to two worlds at one time—

and where the perception of the virtual is dependent on its construction through the actual.

Ziggurat, then, complicates this further as a smartphone game that impossibly desires its

player's full attention to its screen space. Ultimately, this chapter demonstrates that what is

specific about iPhone games is not that they demand a hybrid, postphenomenological

embodiment across worlds where non-mobile videogame platforms do not, but rather that

they draw attention to, render explicit, and provide an opportunity to unpack the hybridity of

worlds and bodies that is fundamental to all videogame play, be it explicit or obscured. The

iPhone does not flag a departure from traditional videogame play so much as it demands, to

borrow from Hjorth et al.'s words above, that we *rearticulate* how we understand videogame

play phenomena more broadly.

Actual/Virtual Hybridity and Co-Presence

The relationship between the 'actual' and the 'virtual' is a discussion that predates

videogames to account for the reality/authenticity of depicted images in a range of media

(Jayemanne 2014, 40-59; Ndalianis 2004, 115-123.). In relation to videogames and digital

media in particular, the virtual conceptualised as a distinct world or reality reaches popularity

through the 1980s and 1990s with the rise of concepts such as virtual reality and cyberspace.

As Ryan notes, though, such concepts burst into public view "less through a revolutionary

computer system than through a grand flourish of rhetoric" (2001, 48). The notion that digital

technologies such as videogames could allow us to step unchanged into different, fantastical, unreal worlds was (and remains) more a dream than reality.[19] The notion of the virtual as somehow distinct from the 'actual' or 'physical' is still relevant, however, when considering the player's embodied perception of the videogame. As the previous chapter demonstrated, players actively make the videogame make sense as a coherent world, closing off the fourth wall that the videogame leaves open—a 'consensual hallucination' as William Gibson describes cyberspace in *Neuromancer* (1984). Videogames do not allow players to step into virtual worlds, but they do allow players to actively perceive and interpret screen imagery, digital sounds, and haptic interfaces *as if* they constitute a virtual world of virtual bodies and objects.

Here, Lister et al.'s etymological understanding of the virtual is useful. Looking at how the word 'virtual' is used in everyday language to mean 'pretty much' or 'more or less' (for instance: 'I have virtually finished writing my essay'), they conceptualise the virtual less as an illusion to be contrasted against 'the real' and more as something not yet complete (Lister et al. 2009, 124-5). Virtual worlds are incomplete worlds, in need of the player's *actual* perceptual apparatus to bring them to life. Simon makes a similar observation when retelling the story of an interviewee's experience in the guild of a Massively Multiplayer Online Role-Playing Game (MMORPG), which the interviewee does not distinguish from her other everyday practices:

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[19] At the time of writing, virtual reality headsets are once again in vogue with the impending release of Oculus VR's Rift and Sony's Project Morpheus. While these new technologies certainly offer more convincing virtual reality experiences than their forebears of the 1990s, echoes remain of the same techno-progressivist rhetoric that marks the virtual world as something we will 'one day' be able to just step into. The potential (though in no way assured) future success of virtual reality technology does not negate the observations made in this section. Rather, it exemplifies the desire to experience the virtual *as* real through strategically suppressing attention away from the actual and embodied components of videogame play that the virtual depends on.

> If she is indeed "there," in some sort of cyberspatial place with the others in her guild, then she is living there, not visiting or merely observing. She is not a tourist but an indigenous member with all the privileges and responsibilities that this implies. But it seems to me that she is also living "here" in the concrete social-material space of her life that not only becomes a source of meaning for her understanding of the game, it is in fact the very source of the game itself. The game, its structure, and form of play are as dependent on her social-material situation as it is on the hardware and software of the designers. (Simon 2006, 64)

The virtual, then, is constructed through and dependent on the actual, and videogame play is a complex interplay of actual and virtual worlds as perceived through a dually embodied player.[20]

Mobile Media and Hybrid Worlds

Phenomenological explorations of the cultural practices that surround mobile phones draw attention to this complex hybridity of actual and virtual presence. Non-mobile screen devices typically draw the user's conscious attention away from their physical body and towards the virtual engagements depicted on the screen to obscure the dependence of those virtual engagements on the physical. Mobile devices, however, are incorporated into the user's embodied existence as "wearable" screens (Richardson 2005). Particularly, it is the mobility offered by mobile phones—their ability to be taken along with us *out there* into our everyday lives—that highlights how such devices mediate our everyday being-in-the-world rather than provide discrete worlds and bodies to occupy. For Adriana de Souza e Silva, "because mobile devices create a more dynamic relationship with the Internet, embedding it in outdoor, everyday activities, we can no longer address the disconnection between physical and digital spaces" (2006, 262). Instead, it is the explicit hybridising of actual and virtual worlds that mobile media scholars are most concerned with. More than simply being devices that are

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[20] Thomas Apperley makes a similar observation in his detailing of a group of videogame players in a net cafe trying to organise a multiplayer game (2010, 39-41). Here, the virtual world is influenced by actual timezone differences, toilet breaks, jobs, and the need to eat.

mobile alongside the user's day-to-day life, mobile phones *incorporate* the user's day-to-day life, and are incorporated into the user's day-to-day life in return. Contemporary mobile devices commonly track their user's mobility through time and space through the use of location services such as GPS and vision technologies such as built-in cameras. Such components increasingly survey and draw attention to the user's actual, corporeal everyday life while, simultaneously, the user's everyday life is interspliced with what is happening on their mobile screen, be they playing a game, checking a social media app, or browsing the internet. From this emerges the phenomenon of being present in both actual and virtual worlds at once, of being simultaneously here and there—a phenomenon constructively explored by others through the notion of 'co-presence' (Hjorth 2007, 370).

In particular, it is the new modes of play that mobile devices afford that are most often held up as being indicative of the hybrid co-presence afforded by mobile devices, such as location-based games (games that read the player's location in actual space via GPS and incorporate this data into the game) or augmented reality games (games that read the actual space around the player through a camera or GPS, and present it on the screen with an overlay of digital artefacts).[21] Richardson notes that location-based games "work to seamlessly combine the corporeal schematics of actual and virtual worlds as they are actively negotiated on-the-move, effectively creating a hybrid mode of being where the boundary between game and real life collapses" (2012, 143). Similarly, Jason Farman (2009) looks at Geocaching and other location-based playful activities that do not just read the player's actual, bodily location, but which insist the player *engage* with these actual, often public spaces in alternative and playful ways. Farman proposes that the embodiments demanded by mobile devices depend on

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[21] See Dale Leorke's "Location-based Gaming and the Politics of Play In The City" (2015) for an extensive history of both location-based and augmented reality games, as well as a critique of the surrounding literature.

> *a proprioceptive-semiotic convening of bodies, technology, and material space.* In this mixed reality space/augmented reality, embodiment is reliant on the correspondence of all these elements and is utterly dependent on the acknowledgement of presence by technology and the social structures that establish and maintain the space. (2009, 2, emphasis added)

Not coincidentally, "a proprioceptive-semiotic convening of bodies, technology, and material space" is also an apt way to describe the embodied textuality of videogames, and suggests a broader relevance of the study of mobile media to the study of videogame play.

Casual Smartphone Games

Mobile practices—in particular mobile gaming—might insist that the user is present and active in two worlds at once, but the vast majority of iPhone games are neither location-based nor augmented reality games. Most prolific—and profitable—of the videogames to appear on contemporary smartphone platforms are *casual* mobile games. Casual videogames represent the proliferation of videogame genres and play styles that emerge (or perhaps re-emerge) through the 2000s beyond those valued by a cultivated 'hardcore gamer' demographic (see Chapter Six for a discussion of the cultivation and normalisation of this demographic). The rise of casual videogames represents videogames becoming 'normal', becoming incorporated into the everyday lives of players rather than a special activity requiring a demarcated time and space. The notion of casual videogames will be explored and critiqued in more depth in the following section but here the vital distinction of a casual videogame is the *flexibility* with which it can be played: "a casual game is sufficiently flexible to be played with a hardcore time commitment but a hardcore game is too inflexible to be played with a casual time commitment" (Juul 2010, 10). On smartphones such as the iPhone, an incorporation of wearable and touchable screens into the user's corporeal schema combines with casual game design's focus on a flexibility around the player's everyday life to create a powerful synergy

between mobile media platforms and casual game design. Casual mobile games such as *Angry Birds* (Rovio 2009), *Cut the Rope* (ZeptoLab 2010), and *Candy Crush Saga* (King 2012) combine the smartphone's intuitive gestural interface, a low barrier of entry via digital distribution channels, and persistent connection to online social networks to create a home on the smartphone for approachable and accessible casual videogames beyond the predominately 'hardcore' videogames of console and PC platforms.

While the casual games that are most representative of the videogames played on contemporary mobile devices do not incorporate the actual world as explicitly as the augmented reality and location-based games favoured by mobile media scholars, simply by being videogames played on a mobile device they cannot help but to draw the player's attention to an actual environment and corporeal schema that non-mobile videogame platforms traditionally work to obscure (or, at least, to render obscurable). Hjorth and Richardson note that casual mobile games are "an integral part of the bodily performance of 'waiting' and 'distraction'" (2009, 29). The pervasive presence of mobile phones in pockets or bags and the ability to play many casual games for as little as a few minutes at a time means that casual mobile games are often played by a "body-in-waiting" (for instance, while sitting on a train, or waiting for a friend at a cafe) in environments where the player is still paying some attention to the actual world around them even as they also pay attention to (and construct) the virtual world presented on the small, palm-sized screen: "Even in the seemingly committed practice of game-play, mobile phone engagement is characterised by interruption, and sporadic or split attention in the midst of other activities" (Hjorth and Richardson 2009, 29-30; see also Carter and Björk 2015). Insightfully, Richardson elsewhere notes that in Japan such casual games are sometimes understood as '*nagara* games' (2009, 220)—that is, games that are played *while doing something else*.

Hjorth and Richardson argue that because of this insistence of the actual world on the player's attention, mobile games must avoid what Chris Chesher (2004) calls the 'stickiness' of console videogames (Hjorth and Richardson 2009, 30). While Chesher explores how players are "held" by console videogames in a sticky "glaze" through their eyes on the screen and hands on the controller (2004), Hjorth and Richardson claim that "casual gamers, on the other hand, must deliberately avoid this 'stickiness' so that they are perpetually ready to resume their temporarily interrupted activities" (2009, 30). This is in line with a similar statement made by Richardson elsewhere that "it seems mobile phone gamers don't want immersion" (2007, 210). Such a claim is true insofar as a sensation of immersion in a virtual world is not what most mobile games strive to achieve. It risks, however, taking the actual-world presence that refuses to fade into the background in the playing of mobile games and privileging it to the extent that the construction of the virtual world through mobile games becomes a mere, trivial distraction. Much of the literature that examines the hybrid embodiment revealed through mobile phone practices do so by contrasting these 'mobile' and 'public' devices with the 'fixed' and 'private' non-mobile devices such as desktop computers and dedicated videogame consoles. Most explicitly, de Souza e Silva depends on a "traditional distinction between physical and digital spaces" (2006, 264) in order to conceptualise the hybrid space of mobile devices, going so far as to call desktop computers "static interfaces" that the user needs to be stationary to "enter" (2006, 268). Thus, while the constructive insights into the hybridity of actual-virtual worlds and their occupation through co-presence allowed through the analysis of mobile devices are significant, they are often made through simplifying how non-mobile technologies are engaged with, polarising an actual/virtual distinction rather than complicating it.

As this thesis has already claimed and the following chapters elaborate, all videogame forms require particular corporeal schemas and a co-present embodiment across actual and

virtual worlds. The desktop computer user does not sit 'stationary' in order to 'enter' the

internet or a videogame, as de Souza e Silva claims in order to highlight the mobility of

mobile platforms. The desktop computer user must still bodily engage with a physical

interface situated in an actual space. This is captured succinctly in a short passage by

videogame critic Katie Williams:

> When I sit down at a computer, my left hand falls automatically into the inverted-
> V shape known well by [videogame players]; middle three fingers arched across
> W, A, S and D. Pinky hovering over left-shift, my thumb resting lightly on the
> space bar. There's a poetic comfort in this for me. *I do it without thinking. […
> These four letters] have opened up huge new worlds for me*. (Williams 2012,
> emphasis added)

This passage highlights the centrality of the player's corporeality in the experience of play—

in the construction of virtual worlds—even as that centrality fades into the background. What

is distinctive about videogames played on mobile devices, then, is not that they hybridise

actual and virtual spaces and bodies where previous technologies easily divided them but,

rather, that they expose and render explicit the hybridity of actual-virtual worlds and bodies

that has always been central to our engagements with digital technologies, and that has

always been central to the experience of videogame play. In videogames made for mobile

devices, the player's attention is held, in part, by components of the hybrid world of play that

non-mobile videogame platforms, in co-operation with their players, typically work to

obscure.[22] As Hjorth and Richardson rightly note, the actual world around the mobile game

player is ever-present, and they must be able to disconnect from the hybrid world of play at

any moment. But that does not mean that the virtual world of mobile games is 'merely' a

distraction. I might not stop paying attention to the actual world during mobile play, but my

attention is *also* held by the mobile screen.

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[22] This unconscious incorporation of hardware in non-mobile videogame platforms is the focus of the next
chapter.

Indeed, while mobile devices are most commonly theorised as devices that we take out with us into public spaces, they are also highly private, with one device typically being owned and used by a single owner, and are typically too small for observers to watch on,[23] and, as Dean Chan shows in his study of Japanese mobile gaming, mobile videogames are commonly played in the home, just like their non-mobile counterparts (2008, 23). Instead of a dichotomy of attention/distraction contrasted between fixed and mobile platforms, the explicitly hybrid worlds of mobile videogames demand an explicitly hybrid form of attention, where the player is paying attention to two worlds at one time. By complicating notions of distraction and attention in mobile videogames, we can better understand how the hybrid embodiment made explicit in mobile videogames is implicitly fundamental to all videogame play. The two remaining sections of this chapter will do this through close analyses of the forms of attention demanded of two videogames designed to be engaged with through an iPhone.

Paying Attention to *Angry Birds*

Since the first game launched with 63 levels in 2009, *Angry Birds* (see fig. 2.1) has ballooned into one of the most successful and best-recognised videogame franchises. While popularity is never necessarily synonymous with the quality of a creative work, the fact that *Angry Birds* has been able to hold the attention of players that would feel no temptation to play a non-mobile videogame is worth exploring. In this section, I will analyse *Angry Birds* as a quintessential casual smartphone game, one that is expressive of the iPhone as a gaming platform and the videogame practices that surround mobile devices. However, rather than

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[23] This is complicated with larger screen devices, such as Apple's iPad, for which various videogames have been created that allow multiple players to engage on a single screen, such as Michael Brough's *Glitch Tank* (2012), *Fingle* (Game Oven 2011), and *Toca Tea Party* (Toca Boca 2011).

reinforce preconceptions of what a mobile casual game is (disposable, distracting, ultimately unengaging), a close look at *Angry Birds* will reveal a complex set of practices and forms of attention shaped by particular design decisions. I build off the categories of casual game design as they are defined by Juul (2010) to understand how *Angry Birds*'s design comes together with the embodied engagements demanded of mobile devices to create a perfect environment from which *Angry Birds*'s success has grown. More than location-based or augmented reality games with a partial dependency on public spaces and mobility, it is *Angry Birds*, with its traditional dependency on audiovisual design combined with intuitive touchscreen controls that is representative of contemporary mobile videogames. Rather than stabilising concerns of hybridity that arise in the literature around mobile videogame play, *Angry Birds* as a casual smartphone game further disrupts stable conceptualisations of public/ private, presence/absence, distraction/attention, and actual/virtual to show that hybrid worlds are not created as one world distracts the player from the other, but as the player's attention is held by two worlds simultaneously.
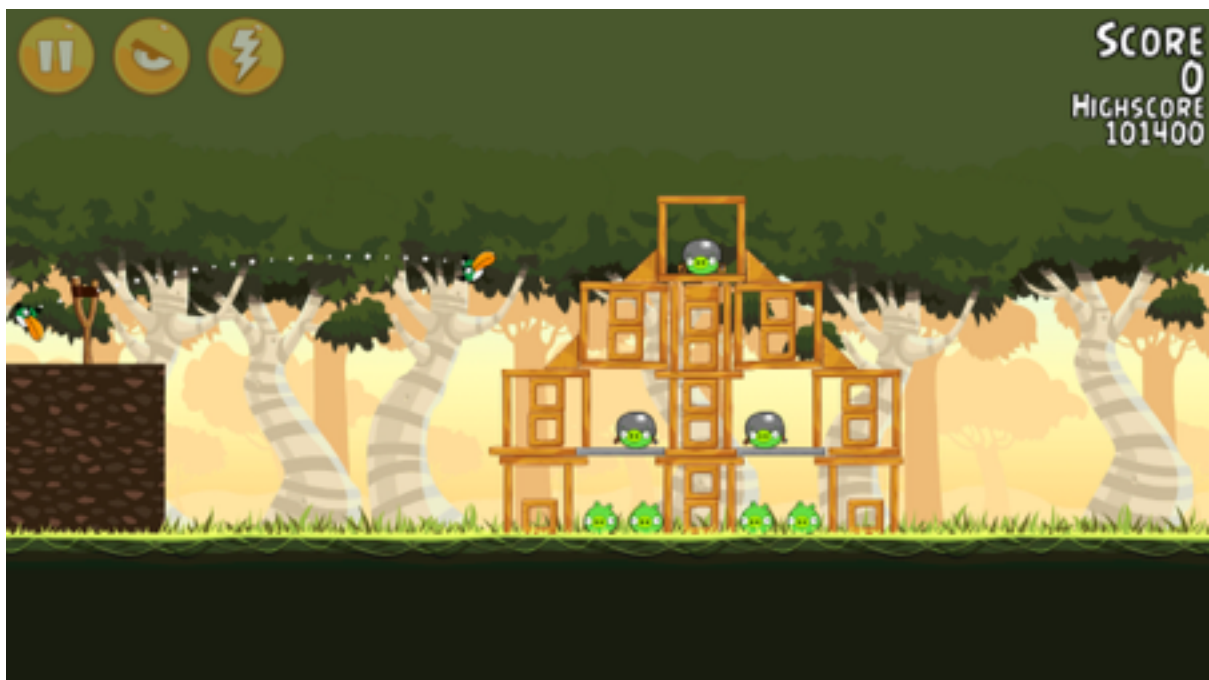
Figure 2.1. Rovio's *Angry Birds.*

Angry Birds combines simple mimetic controls with the spectacle of simulated physics, a vibrant-yet-sterile visual aesthetic, and a dose of luck. The player deploys a team of cartoon birds of a variety of shapes and colour, queued beside a giant slingshot to be sent crashing into the building-block forts of the evil, snorting green pigs to create spectacular collapses. Holding the iPhone in a landscape orientation, the player presses a finger on the bird in the slingshot and slides down and to the left to pull it back. Much like a real slingshot, the distance the player pulls the band back and the precise angle on which they pull determines the velocity and angle of the shot. The player then removes their finger from the screen and the slingshot fires the bird towards the fortress with a squawking battlecry. These forts are made out of a series of precariously balanced blocks of different shapes and materials (commonly glass, wood, and stone), and often have weak points (such as a glass crossbeam in an otherwise stone building) that, if the player can locate and accurately hit, will bring the entire structure crashing down in a single bird. Regardless of where the player's bird hits, damage dominoes outwards from where the bird makes contact with the structure, and the player observes as their small input is amplified by the game into massive damage. Depending on the type of bird fired, a second tap of the screen while the bird is in mid-flight will execute a special ability, such as splitting the bird into three birds, increasing the velocity of the attack, or dropping an explosive egg. From these two simple interactions (firing the bird, using their special skill), countless different outcomes are possible from each bird on every stage. The ultimate goal of each stage is to destroy all the pigs on the level (either by hitting them directly or by making the structures collapse on them) with the finite number of birds allotted to the player. A scoring system rewards the player with points for each block and pig destroyed, and major bonus points for each bird left unused at the end of a stage.

This simple formula (pull back, release, use secondary skill, observe, repeat) has allowed *Angry Birds* to become not only one of the most commercially successful iPhone

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games, but one of the most commercially successful videogames on any platform in recent times. Rovio have released a series of follow-up games under the *Angry Birds* brand, each keeping the first game's core formula but adding new stages and bird types. Rovio originally sold each *Angry Birds* title through Apple's App Store for a dollar (varying slightly in different geographical regions), and more recently release new games for no up-front cost with possible in-app purchases. Importantly, Rovio also regularly adds dozens of new levels to each game through free updates via the App Store. These updates keep players' attention for longer but, more importantly, allow Rovio to keep each game more visible on the lucrative 'Highest Rated' chart on the App Store as each new update garners more user-ratings.[24] Following its success on the iPhone, *Angry Birds* has been subsequently ported to a range of different platforms such as Android mobile devices, Facebook, Google Chrome, and PlayStation 3. In May 2012, Rovio announced that over one billion copies of different *Angry Birds* games had been downloaded across all formats (Fried 2012).

Casual Games as Flexible, Mimetic, and Polished

More than its affordability and its gaming of the App Store's chart system, *Angry Birds* succeeds through a perfect encapsulation and convergence of the core concerns of both mobile and casual game design. Juul (writing at a time when casual games were more predominately represented by browser-based games and those on the Nintendo Wii console) traces several key features common across casual videogames: inoffensive and 'nice' fiction; usability through an intuitive or mimetic interface; interruptibility; a balanced difficulty; and an excessive amount of audiovisual feedback (Juul 2010, 30-55). Each of these elements

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[24] See Banks (2012) for a more detailed look at the impact of Apple's regulatory methods and App Store design on the practices of videogame designers.

work to capture the player's attention quickly but, importantly, just as quickly allow the player to redirect attention away from the game.

However, as T.L. Taylor argues, the very term "casual" often obscures (and just as often genders) both the quality and extent of labour a player puts into a casual videogame (2012, 241). The core audience of videogame players—along with critics, academics, and the developers of more traditional videogames—regularly dismiss casual videogames as they appear on mobile phones or social media as mere distractions, lacking both the thematic and mechanical complexity of more traditional videogames. However, as Juul's extensive interviews demonstrates, casual videogame players regularly devote just as much time and attention to the videogames they play as those players of more traditional videogames, but commonly interspersed across shorter sessions of play (2010, 14). Whereas the player of a console videogame might sit and play one videogame uninterrupted for an hour, the player of *Angry Birds* might play for a total time of an hour across various five-minute sessions throughout a day (on the train, waiting for a coffee, in front of the television, etc.). Significantly, then, a casual videogame does not simply offer an easier or more shallow experience than a traditional videogame, but an experience that is more flexible with the player's time. Just as a casual employee may still work extensive hours but on a more flexible roster, a player of casual videogames may play videogames with as much commitment as a player of non-casual videogames, but does so more flexibly in a way that is more easily incorporated into their daily life.

Through thinking of casual videogames not as trivial or superficial but as *flexible*, many parallels become apparent between the way casual videogames are incorporated into the everyday lives of their players and the way mobile devices, as explored by the above scholars, do the same. While Juul does not account for the rising trend of casual smartphone

games that was only nascent at his time of writing, videogames such as *Angry Birds* exemplify the attributes of casual games and the flexible forms of attention that his research observes. It is worth looking in particular at the three features of interruptibility, usability, and polish as they are exemplified in *Angry Birds* to highlight how casual smartphone games demand forms of attention that accounts for both the actual and virtual worlds of play as a hybrid whole.

'Interruptibility' is perhaps the most explicit of Juul's five elements that play into the flexibility of casual game design. By this word, Juul means that a casual videogame's playing can be interrupted by the player with little consequence. While many traditional console or desktop videogames still depend on a prolonged commitment of time and attention from the player, and on reaching a certain checkpoint before progress can be saved, casual videogames typically allow both brief and prolonged engagements. In *Angry Birds*, one level can often be completed in a matter of minutes and, like the vast majority of iPhone games, progress is saved constantly and automatically. If at any point the player leaves the application (to answer a phone call, to check a social media notification, to get on a bus, to continue watching a television show after a commercial break), they can come back later and start at the same level they left off from. During play, too, *Angry Birds* does not require the player's uninterrupted attention. Once the bird is fired, the player is free to look away from the screen for as long as they need to, and the game can continue unheeded. There is no time constraint on how quickly the structures must be destroyed. The player is able to approach *Angry Birds* as something that can be put aside at a moment's notice through how it incorporates itself into the player's everyday life, as opposed to most console or desktop videogames that more stubbornly demand the player to turn both their body and their attention towards the platform in a particular, concentrated manner.

That *Angry Birds*, like most casual smartphone games, can be just 'picked up and played' is fostered not just by the swiftness with which the game both loads and closes again, but the usability and intuitiveness of its interface which, for a casual videogame, must be easily understood by a novice videogame player. Whereas non-casual videogame forms commonly demand intricate understandings of complex input devices (explored in detail through the notion of 'embodied literacy' in the next chapter), *Angry Birds* is successful with a broader audience through the immediate and tactile gratification it offers. The metaphor of using a slingshot to fling a bird across the screen with just enough accuracy to destroy a part of a structure requires no previous experience or specialist knowledge of videogames, but just a basic understanding of how the iPhone's touchscreen functions and an intuitive comprehension of gravity. Such an interface as afforded by the touchscreen highlights what Juul calls 'mimetic interfaces', which are a common feature of casual videogames (2010, 103). By mimetic interfaces, Juul is referring to those input devices that ask the player to imitate the actions being asked of their avatar on (or inferred by) the screen. Specifically, Juul is thinking of input devices such as Nintendo's Wii-mote, which asks players to swing their arms as though they are swinging an 'actual' tennis racquet, or plastic instruments for games such as *Guitar Hero* or *Rock Band* that ask the player to imitate the playing of an 'actual' instrument.

Such mimetic interfaces "are a backlash against [complex] and counter-intuitive game controllers" (Juul 2010, 108). A traditional gamepad controller, with all its buttons and thumbsticks and triggers offers a literate player a more detailed and focused ability to navigate a virtual world, but it does not suggest a way to be played to a novice player—it suggests a language to be learned. Mimetic interfaces, on the other hand, do not need to be learned prior to playing—or rather, the bodily habits they demand more closely align to those already learned through the player's everyday existence (swinging a tennis racquet,

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navigating a smartphone's touchscreen). They encourage experimentation and 'playing

around with' rather than optimal control.[25] While Juul does not mention haptic screen devices

such as the iPhone, the inputs asked of a videogame like *Angry Birds* still function in a

mimetic manner, with the player's thumb used to 'actually' pull back the elastic band of the

virtual, bird-armed slingshot. That is not to say, though, that the iPhone's screen is inherently

mimetic, as many successful iPhone games do not use mimetic controls, such as *Ziggurat*

discussed below. But the most popular and widespread casual iPhones games typically do

deploy mimetic controls through either the touchscreen (*Fruit Ninja* [Halfbrick 2010], *Cut

The Rope* [ZeptoLab 2010], *Paper Toss* [Backflip 2009]) or the gyroscope (*Real Racing*

[Firemint 2009]*, Doodle Jump* [Lima Sky 2009]).

Mimetic interfaces draw explicit attention *to* the actual world of the player—or what

Juul calls the 'player space' of the game (2010, 103). That is not to say that the player's body

is 'more' incorporated into mimetic input devices than traditional controllers—each demands

a specific incorporation of the player—but that mimetic devices *draw attention* to the player's

body incorporated into the play circuit. We see this in *Angry Birds* where the player 'actually'

pulls back and fires the slingshot with their real finger. This minimised action of their single

finger does not imitate the actual bodily exertion required to fire a giant slingshot, but there is

a clear, synonymous relationship between the gestures of the player and the response from

the slingshot. Kirkpatrick notes that when we use traditional gamepad controllers, the work of

our out-of-sight hands is central to our connection with the videogame even as we might not

consciously be aware of them (2009, 135). iPhone games complicate this in fascinating ways

as the player's configurative hands are not out of sight. Instead, the player's own bodily

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[25] While there is much enthusiasm around the seemingly naturalness of mimetic interfaces, it is important to emphasise that neither mimetic nor traditional interfaces are inherently 'better', but simply that mimetic interfaces afford videogames that are more immediately accessible for those players who have not committed the time needed to learn—to incorporate—more complex input devices (Juul 2010, 119). This tension between accessibility and intricacy is discussed further in the next chapter.

schema melds with and obscures the screen's glass by directly touching it, smearing

fingerprints across it, melding the work of the hands and the work of the eyes in a much more

literal and cohesive version of Chesher's gaming glaze. In this way, *Angry Birds* draws

explicit attention to the coming together of the player's body in actual space and the

represented virtual space of the screen during play.

Yet, despite its mimetic controls drawing the player's attention to the actual bodies

and devices that constitute its play, the satisfaction offered by *Angry Birds*, like most casual

videogames—indeed, all videogames—is heavily dependent on its audiovisuality. Juul notes

that casual games typically provide an "excessive amount of positive feedback in response [to

the] player's actions" (2010, 45). He calls this positive feedback 'juiciness', and it is closely

aligned to what Swink (2009) calls the polish element of how a videogame feels: "Polish

refers to any effect that artificially enhances interaction without changing the underlying

simulation […] Polish effects add appeal and emphasize the physical nature of interactions,

helping designers sell those objects to the player as real" (Swink 2009, 5).[26] *Angry Birds*'s

audiovisual design gives the game a sense of physicality. When the slingshot is drawn back, it

makes a rubbery, stretchy noise, giving a synaesthesic sensation of tension and tautness under

the player's finger. Birds feel weighty as they fly through the air on a slow parabola and hit

the structures with a satisfying 'thud'. The player makes a small input (dragging a finger) and

the game offers the satisfaction of watching entire towers fall down via simulated physics,

amplifying the player's input with excessive feedback. Thus, while the usability afforded by

Angry Bird's mimetic controls draws the player's attention to the actual world and the use of

their actual body in ways that non-mobile videogames would often downplay, the pleasure

offered by *Angry Birds* also depends on the player's attention to the virtual world, to the

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[26] See Chapter Four for a more extensive exploration of the role of a videogame's audiovisuality on how it feels
to play

audiovisual design that gives it a physicality distinct from but tied to the actual world. While attention is drawn to player space, it is also kept by the audiovisual design of the virtual space. In *Angry Birds*, it is the virtual world and the actual world *together* that create the videogame experience.

Attentive Play Styles of Casual Games

That *Angry Birds*'s audiovisuality matters disrupts the notion that mobile games produce hybrid worlds in the way they draw the player's attention away from the virtual world of the screen and towards the actual world of their day-to-day life. Instead, it suggests that both actual and virtual worlds occupy the player's attention (and body) at once. Despite being easy to 'pick up and play' and just as easy to put down again, *Angry Birds* also has a scoring system that affords more committed, attentive play styles commonly associated with non-mobile and non-casual play. After each level, the player is given a rating out of three stars, based on how many points they scored. Points are awarded for causing massive amounts of destruction to the structures, and, most crucially, large amounts of bonus points are awarded for the number of birds left unused at the end of the stage. In other words, bonus points are awarded for destroying all the pigs with the least number of birds possible. Many levels' three-star rating requires the player to find the absolutely perfect elevation and velocity that will completely destroy the pigs' fortress with a single bird. A desire to perfect the game and, once Apple incorporated the social network/leaderboards of Game Centre, to compete against friends for high scores, leads many players to play *Angry Birds* for extended, uninterrupted periods—not just in moments of public waiting, but sitting at home on the couch or in bed. As I have experienced and others have observed (Rogers 2012; Thompson 2013), it is not rare to see a player go through the pattern of firing a bird, tapping the pause button, and

pressing the 'restart level' button in quick succession, immediately certain that they have fired on the wrong velocity to achieve a perfect game.[27]

Such an observation is in line with several important insights made on both casual and mobile gaming. Firstly, Juul notes both in his own surveys of casual game players and in reference to other studies that many casual players play for extended periods of time, often for multiple hours, even if a game can be played for as little as a few minutes (Juul 2010, 8). Further, as noted above, in his study of Japanese mobile gaming, Chan notes that a significant proportion of mobile gaming in Japan takes place in the home (2008, 21). While many scholars focus on the 'mobility' of mobile devices as they afford public and social (and highly visible) play—and in particular those location-based and augmented reality games that *demand* public and social play—Chan notes that mobile phones are decidedly private: "the small physical size and portability of the mobile phone enhances its status as an object expressly intended for personal rather than communal or familial use, not unlike a personal audio player such as the iPod or Walkman" (2008, 23). While casual smartphone videogames *can* be played by a body moving through the public world, then, they just as often are engaged with as non-casual, non-mobile videogames are engaged with: privately and devoutly.

Angry Birds, like many casual mobile games, sits at the intersection of these tensions between casual/non-casual and public/private play. The popularity of this focused, perfection-driven mode of playing *Angry Birds* is perhaps best observed in the evolution of the game's aiming system across the series. The original *Angry Birds*, released in 2009, offered no

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[27] Such committed modes of engaging with *Angry Birds* are also exemplified by the proliferation of both written and video player guides providing detailed instructions on how to receive a three-star rating. See, for example, the walkthroughs available on fan sites *Angry Birds Wiki* (http://angrybirds.wikia.com/wiki/Angry_Birds_Wiki:Level_Walkthroughs) and *Angry Birds Nest* (http://www.angrybirdsnest.com/category/walkthroughs/angry-birds/)

assistance to the player's aiming; the player simply had to pull back and hope they had aimed in roughly the right direction. After the first bird was fired, though, its trajectory would stay dotted through the air, and the player could use this to better estimate the second shot. As the series progressed, however, different games would show the first part of the trajectory ahead of the bird as the player pulled back until, in *Angry Birds: Star Wars*, released in 2012, the entire trajectory is dotted out before the player releases the bird, allowing for pinpoint accuracy (See figs. 2.2 and 2.3). Tevis Thompson notes that such an addition is not there to make the later games easier but, rather, to allow the games to be harder: "It assumes, correctly, that everyone has played some entry in the series, and so by giving players more information on-screen, it can ask even more of their three-star skill sets" (Thompson, 2013).[28]

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[28] Significantly, from an economic perspective, increasing the games' difficulty has also allowed Rovio to better implement 'in-app purchases', offering frustrated players the opportunity to spend actual money to get out of a tight situation.
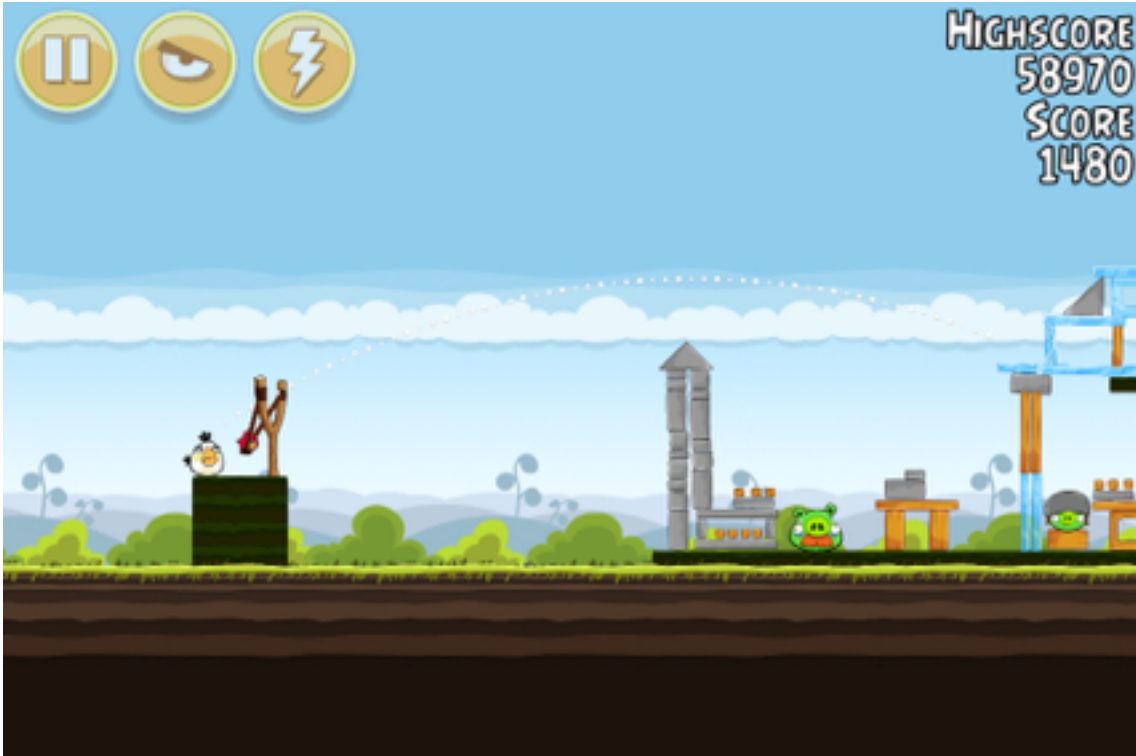
Figure 2.2. *Angry Birds* (2009). Note the dotted trajectory of the previously fired bird, and the complete lack of aiming assistance for the bird currently being aimed.

Figure 2.3. *Angry Birds: Star Wars* (2012). Note the aiming assistance for the bird currently being aimed, showing the player exactly where this bird will fly.

This challenges assumptions that mobile casual games are simply distractions for the mobile game player. Instead, *Angry Birds*, as a quintessential casual mobile game, affords modes of play that demand an acute attentiveness to the virtual world and what is happening on the screen, even as the player remains aware of their actual body (the thumb obscuring the screen) and the actual world around them (their approaching train station, a television show). This is in line with those claims above that mobile phones and mobile gaming draw our attention to hybrid worlds. Yet, whereas scholars such as Richardson (2007) and de Souza e Silva (2006) above depend on the actual world *distracting* the player from being attentive to the virtual world in order to conceptualise these hybrid worlds, this analysis of *Angry Birds* suggests that mobile casual games are not distractions, but rather hold the player's attention to both worlds for extended periods of time. The player's embodied attention is held by the hybrid world of mobile game play. Committed styles of playing mobile casual games demonstrate that 'mobile' devices are often used in just as private and so-called 'sedentary' positions as more 'fixed' videogame platforms and, conversely, that fixed videogame platforms also demand such hybrid worlds and embodiments. The way that not distraction but this *co-attentiveness* is indicative of the hybrid worlds of mobile play shows that hybrid worlds are not created in the way one world distracts us from another, *but in the way the player's attention is held by two worlds simultaneously*. However, this is not to say that mobile videogame play is the 'same' as that of non-mobile videogame platforms—rather, that all videogame forms sit on a continuum of drawing attention towards or away from the hybridity of worlds and bodies on which they all depend. What is special about mobile games is not that they create hybrid worlds, but how they draw the player's explicit attention to the hybridity of the worlds they create. While *Angry Birds*, as a casual mobile game, has demonstrated for us the particular co-attentiveness demanded by casual smartphone games, the following analysis of the niche, non-casual *Ziggurat* will interrogate the relationship

between co-attentiveness and immersion through its stubborn demand for the entirety of the player's attention despite being played on a mobile device.

Being Distracted by *Ziggurat*

Action Button's niche but critically successful *Ziggurat* (2012; see fig. 2.4) is both an antithesis of and direct response to *Angry Birds*. While each *Angry Birds* title has an installed user-base in the tens of millions, *Ziggurat* has at the time of writing less than ten thousand players on the Game Centre leaderboards. Where *Angry Birds* is instantly inviting with its initially low difficulty and inoffensive visual aesthetics, *Ziggurat* is unforgivingly difficult from the very start and presented in a gritty retro aesthetic of pixel visuals and discordant guitars. While *Angry Birds* is an accessible casual game that also affords non-casual, attentive play, *Ziggurat* is a decidedly non-casual game that, due to its design for the iPhone device, must still conform to certain tenants of mobile casual design. Most importantly, the constant pressures of the player's actual life ensures it is able to be played in short bursts. While the above analysis of non-casual *Angry Birds* play shows that mobile casual games demand our attention to their screens as do all videogames, looking at *Ziggurat* will help demonstrate with more nuance what actually distinguishes the co-attentiveness of mobile games to the forms of attention that allow an active and consensual sense of immersion on more traditional platforms.

Figure 2.4. Action Button's *Ziggurat*.

Ziggurat has a conceptual heritage in *Angry Birds*. Designer Tim Rogers (quoted in

the previous chapter for his analysis of *Mother 2*), described on videogame journalism outlet

Kotaku how his initial idea for *Ziggurat* came to him when he played *Angry Birds* for the first

time and felt frustrated by the sluggish, one-at-a-time pacing:

> I wanted a 'driving range'. I wanted stuff to be falling down constantly, and I'm
> over here at this crazy distance, slinging birds at it. I imagined a game wherein a
> hero is against a wall at the end of a long tunnel. Enemies are coming at him.
> Maybe it looks like *Raiders of the Lost Ark*. Maybe they're bats. Yeah, that's
> good: bats. That way they can be at the top or bottom or middle of the corridor,
> and flapping and flopping in irregular paths. So you use slingshot controls to fire
> these for-some-reason-very-slow-moving bullets at these bats. You have to sit
> there and watch the bullets approach the targets. You have no limit to bullets you
> can shoot. Depending on your firing angle, you can sacrifice speed for accuracy.
> Speed knocks the bats back further. You're just—keeping a bunch of bats back.
> Okay—there it is. That's a video game. I put it into the idea vault. (Rogers, 2012,
> np)

A year later, Rogers saw someone playing one of the later *Angry Birds* on the train, playing

the game in the decidedly non-casual way described above: "he flung a bird; he let it fly for

two seconds; he made a little sound in his nose; he tapped 'pause'; he tapped

'reset'" (Rogers, 2012). That people wanted to play *Angry Birds* in a non-casual way led

Rogers to design *Ziggurat*.

Figure 2.5. Holding my iPhone while I play *Ziggurat*. The phone is held in my left hand, with its weight supported by my right hand's index finger. My righthand thumb moves back and forward to aim and fire the laser cannon.

In *Ziggurat*, the player takes on the role of the last human alive, standing atop a

ziggurat as the alien robots that killed everyone else close in to end the human race. Different

players approach the game's interface in different manners, but when I play I hold the iPhone

in a landscape position with my left hand, locking the other side of the phone between the

base of my right hand's thumb and index finger (see fig. 2.5). Much like *Angry Birds*,

Ziggurat is about slinging projectiles on arcs. Instead of the bats that Rogers first envisioned,

it is an endless army of robots that the player must confront. While *Angry Birds* allows the

player to take an indefinite amount of time between each shot, the *Ziggurat* player must be

firing constantly to manage the horde closing in from both sides of the screen. To fire the

laser gun, I slide my right thumb across the bottom of the screen horizontally to determine the

elevation of each shot. Holding on the far left-hand side of the screen has my character (standing atop the ziggurat in the centre of the screen) aim down the left slope. As I slide my finger to the right, they raise the rifle higher into the air until my finger passes halfway across the screen, at which point the character turns around, and aims down the right-hand slope. Instead of a mimetic 'pulling back' input to control the power behind each shot,[29] *Ziggurat* requires the player to hold their finger on the screen to start charging the shot, and it fires once the player releases their finger. This complicates aiming as once the player starts aiming, the gun starts charging, and the player must have the precise shot lined up in time to fire on precisely the velocity they intended. More than the power of each shot, the amount of charge behind it will also determine the velocity with which it is fired. A fully powered shot will be shot outwards with great force, while a less-charged shot will drop down on a much sharper angle; a simple tap of the screen will dribble a shot that falls at the character's feet. The shot can be charged for as long as the player wishes but, crucially, the shot is fully charged only for a split second before it depletes to a less powerful stage. If the player wants to fire a fully charged shot, they must aim and fire on a very precise rhythm. While the player is aiming and firing, the enemies approach up the sides of the ziggurat in tall jumps as their heads grow and shrink to the same beat as the player's charged shots. Hitting an enemy with a large head with a fully charged shot will cause a screen-clearing explosion. Where *Angry Birds* is about 'playing around' with one possible set of parabolas (the trajectory of the birds) to see what happens, *Ziggurat* is about pinpoint accuracy and paying careful attention to the interactions of a range of rhythms and parabolas at once: the gun's elevation, the shot's velocity, the size of the enemies' head, the trajectory of the enemies' jumps. If a single enemy (or the slow

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[29] *Ziggurat* also has an option to change the control input to 'slingshot mode', allowing the player to imitate *Angry Birds*.

lasers they fire at the playable character) reaches the top of the ziggurat, the game is instantly over.

Inflexible Mobile Play

Most interesting, *Ziggurat* has no pause button (with the exception of the 'forced pause' of the iPhone's physical lock button, instantly putting the iPhone into standby mode). This is largely due to a commitment to have no non-diegetic elements present on the screen space. The game does not offer a running commentary of the player's score, only telling them what they achieved after they die. But the lack of a pause button also reinforces the idea that *Ziggurat* is not intended to be played while also doing other things; it is a videogame that desires your full attention. Despite being a mobile game designed for mobile play (touchscreen-specific interface, one game can be played in a couple of minutes), *Ziggurat* is less interruptible than *Angry Birds*. *Ziggurat* is *Angry Birds* for people who play *Angry Birds* in a non-casual fashion. While *Angry Birds* does not have to be played in an attentive, non-casual way, it is the only way to play *Ziggurat*. While a brief tutorial the first time the player loads the game teaches them how the firing interface works, it is up to the player to figure out for themselves the complex, interlocking systems of the charge of the gun, the growing/shrinking heads of the enemies, and the many extra components that the game adds as the game progresses, as explored by Patrick Miller in his strategic primer for the gamer (2012). Such systems, along with gaining a 'feel' for the laser rifle, can only be figured out through extensive play. This is in stark opposition to the instant accessibility of games like *Angry Birds*.

The fictional framing of alien robots closing in to kill the last human alive is also more aligned with the violent shooters of home consoles than the cartoon characters of most

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iPhone games. Despite both their genocidal and suicidal tendencies, the protagonist poultry of *Angry Birds* never seem less than comical in their endeavours. *Ziggurat*, meanwhile, works to evoke a sense of helplessness and urgency, more akin to early arcade games like *Space Invaders* (Taito 1978) and *Missile Command* (Atari 1980). In *Ziggurat*, you will eventually die, and humanity will fall; your only solace is how well you do before you fail.[30] For its audio design, *Ziggurat*'s background music is off-putting and discordant, including a high-pitch note that plays for an extended period of time. However, the audio of the game also offers key signals to the player, such as when particularly fast enemies are about to attack. This is significant as, when playing in public places, many mobile game players will either play without sound or while listening to their own music. *Ziggurat* puts these players at a disadvantage.

Immersion as Distraction

Yet, despite all of this, *Ziggurat* is still a mobile game, created specifically with the iPhone and the forms of attention the iPhone affords in mind. Despite the depth of its systems, its complexity has been designed in a way as to be able to be played in brief periods of time—a particularly long session might last five minutes. Games journalist Andy Corrigan goes so far as to call *Ziggurat* a casual game created for a hardcore audience: "Its intrinsic simplicity allows you to jump in and kill a few minutes for instant gratification, but delaying the inevitable failure that we come to deem as 'success' can only come from the long game, through understanding, practice and skill." (Corrigan, 2012). Significantly, then, even if *Ziggurat* demands the player to be fully attentive to its screen space, it is still a videogame on a mobile device, one that will inevitably often be played by a body-in-waiting, by a player

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[30] See Chapter Five for a discussion of how different videogames depict character death

that will be explicitly aware of their real surroundings. Like *Angry Birds*, *Ziggurat* demands the player pays attention to *both* worlds—a co-attentiveness.

However, this stubborn prerequisite for co-attentiveness makes *Ziggurat* play all the more susceptible to the distraction that many mobile scholars mark as definitive of mobile game play. Hjorth and Richardson provide a definition of distraction in relation to telepresence offered by mobile devices:

> The term *distraction*—originating from *distrahere*, or to pull in different directions—aptly describes how our attention becomes divided when we speak on the phone, send or receive a text message, or play a game on the mobile. It suggests that the locus of our perception is divided between the 'here' and 'there', such that we can *know* different times and spaces simultaneously, an effect that shifts the boundaries of what immediacy is, and how it is defined and experienced. (2009, 30)

However, for the *Ziggurat* player or the non-casual *Angry Birds* player, their attention cannot be 'divided' between the actual and virtual worlds. They have to, following Michael Arnold's observations (2003), be Janus-faced—paradoxically fully attentive to both worlds at the same time. At the level of the player-and-videogame circuit, the *Ziggurat* player cannot *not* be aware of both worlds: their fingers are touching the screen, obscuring the images. *Ziggurat* brings to the forefront the dancing of the player's thumbs across the screen. Further, while an input device suggests a specific way to be held (as explored in the next chapter), there is no set way to hold the iPhone to play *Ziggurat*. While I prefer to hold my phone in a way as to keep my right thumb free to access the whole screen, other players I have conversed with hold the phone firmly in their right hand and use their left index finger to aim. Others hold the phone like a traditional gamepad controller and use each thumb to cover each slope. These different ways that the iPhone and *Ziggurat* can be incorporated into the player's bodily schema makes the player consciously aware of the role of their body in the circuit of playing *Ziggurat* in a way traditional, controller-based games work to obscure, keeping the work of

the hands out of sight. The *Ziggurat* player also has to be attentive to the world happening around them while they are also paying attention to (and construct) the world through the screen (the sun setting, the moon exploding, the narrative framing the action). Regardless of how intently focused the *Ziggurat* player is on the game, they do not want to miss their train stop.

This is not to say that distraction is not a factor in *Ziggurat*. On the contrary, it is the demand for co-attentiveness that makes distraction all the more likely. Distraction is not a prerequisite of mobile game play so much as it is an inevitable consequence. Distraction is a break in the circuit. It is when one of the worlds—be it the actual or the virtual world—absorbs too much of the player's attention and breaks the co-attentiveness demanded by the hybrid world. Perhaps the player is too attentive to the virtual world of *Ziggurat* and they miss their train stop; perhaps they are too attentive to the fact that their train stop is approaching and get hit by an incoming projectile. Each occurs because the player's co-attentiveness to the hybrid world becomes unbalanced. Distraction is not paying attention to both worlds; it is when so much of the player's attention is held by one component of the hybrid world of play that the necessary and fundamental contribution of the other world is consciously obscured even as it continues, unconsciously, to contribute to the play experience. To be immersed *is* to be distracted. What distinguishes mobile play from that of more traditional videogame platforms is not a necessity for mobile games to be 'merely' distractions—traditional videogame platforms try very hard to distract us from our actual body and surroundings in their quest to have us feel a sense of immersion—but a demand for a precarious balance of co-attentiveness where the player is fully aware of the entire hybrid assemblage across actual/virtual worlds and bodies that all videogames demand.

Conclusion

As mobile devices are increasingly and visibly incorporated into their users' everyday lives, the videogames played on mobile devices provide a fruitful opportunity to rearticulate the ways in which the virtual bodies and worlds of all videogame play are perceived and constructed through the player's actual embodied incorporation of actual physical devices and spaces. The explicit ways in which mobile media practices hybridise the actual and the virtual through co-presence provides an opportunity to account for how the players of different videogames actively construct virtual worlds through engaging with actual images, sounds, and devices. While much of the literature that addresses the hybrid worlds of mobile media does so in direct contrast to the supposedly 'inert' bodies demanded of non-mobile media, this chapter's analysis of two iPhone videogames—*Angry Birds* and *Ziggurat*—complicates this to instead argue that the actual/virtual hybridity of mobile devices is not in contrast to the 'fixed' devices of the home. Rather, mobile games render explicit through their demand for co-attentiveness the full actual-virtual circuit that traditional videogames work to obscure in their desire to have the player focus their attention on perceiving (on constructing) the virtual world through sight, sound, and touch. But even obscured, this hybrid world is always present, as the *Ziggurat* player who misses their train is sharply aware. To be immersed in a videogame world is to have our attention distracted from—pulled away from —the actual world. But even if we are not paying attention to the actual world as we play a videogame, that actual world and our actual body within it are still vital to the construction of the videogame experience.

Through mobile games, this chapter demonstrates that it is crucial for a phenomenology of videogame experience to not pay attention solely to either actual or virtual bodies but to the entire hybrid assemblage across actual *and* virtual worlds and through actual

and virtual bodies. The first section built a bridge between existing literature on mobile practices as constructing 'hybrid' worlds and articulations of all videogame play as embodied experience. The following two sections then looked at how different smartphone games explicitly depend on the player's split attention between actual and virtual worlds and bodies. The significance here is that mobile games, through an ambivalence towards 'immersion' in a traditional sense, make visible the full actual/virtual machinations that an attentive engagement with all videogames depends on and which a phenomenology of videogame experience must take as its focus of study.

Whereas casual mobile games render explicit the hybridity of worlds and bodies in videogame play, the next chapter will take as its focus those unconscious ways the player perceives the virtual world through their actual body in non-mobile videogame play with a close analysis of the gamepad controller and the notion of an 'embodied literacy' that is required to appreciate the embodied textuality that videogames offer.

Chapter Three

With Thumbs in Mind: The Embodied Literacy of Gamepad Play

There's that world space over there, this one over here, and we traverse the wired gap with motions that make us nonetheless feel in a balanced extending touch with things.

- David Sudnow, Pilgrim in the Microworld

My housemate does not often play videogames, but a childhood memory triggered when they saw the copy of *Crash Bandicoot* (Naughty Dog, 1996) on my shelf, and they insisted on playing. They stumbled their way through the early levels, inexpertly jabbing at the PlayStation gamepad's directional buttons to move Crash to the left, then up, then to the left again in a stop-start staircase trajectory instead of the clear, soft curve of the jungle path they were meant to be following. They shuffled Crash to the edge of a bottomless chasm, looked down at the PlayStation gamepad in their hands, then pressed 'X' with their right thumb to jump before quickly holding down 'up' with their left thumb to move Crash—already reaching the apex of his jump—forward. Over the next chasm a flying enemy drifted back and forward, blocking Crash's way. What the player must do here, I explained to my housemate, is move forward, then jump while continuing to move forward, then press 'Square' while jumping forward to do a spin attack through the enemy so as to not lose forward momentum. This sounded matter-of-fact to me, but my housemate looked back at the hands wrapped around the PlayStation gamepad in their lap, as though trying to connect my instructions to the buttons available before them. Both the 'X' and the 'Square' buttons (along with the 'O' and 'Triangle' buttons) are on the righthand side of the controller, all requiring the pressure of the player's right thumb. My housemate backed Crash up and took a running leap with 'X', but before their thumb could travel the distance from 'X' to 'Square' Crash had

already smashed into the enemy and fallen to his death. How, my housemate asked, were they

to press 'Square' soon enough while still holding down 'X' with the same thumb?

Figure 3.1. The DualShock 4, the gamepad controller for Sony's PlayStation 4 console (author's photo). On the lefthand side is the directional pad, and on the righthand side are the four action buttons (the 'X' and 'Square' buttons are currently covered by the player's thumb). Towards the bottom of the controller are the two thumbsticks (the lefthand thumbstick currently covered by the player's thumb). On the top of the gamepad, under the player's index fingers, are the shoulder buttons and triggers. The 'Share' and 'Options' buttons typically provide access to functionality external to a videogame's diegesis (such as menus), and the 'PS' button with the PlayStation logo returns the software to the PlayStation 4 dashboard. The black rectangle in the middle of the gamepad functions as both a touchpad and two further buttons (the left half and the right half), and beneath this pad is a speaker. In the background is a third-party gamepad for Microsoft's Xbox 360 console, with a similar layout.

It was a good question. Despite contorting my thumbs effortlessly and unconsciously

into such configurations during videogame play for over two decades, I did not have an

answer. I picked up a second, unused gamepad from the floor and pretended to play the game

myself. Instead of allowing my eyes and senses to be drawn into the virtual world on the

television screen, I fought against what Kirkpatrick has called the typical "repression" of the

controller in my lap (2009, 135) to instead look directly at the gamepad and my fingers and focus on the minute movements and twitches of my thumbs and fingers. I noticed how my right thumb sat across the action buttons: diagonally, with the tip of my thumb sitting at 10 o'clock and its base joint at 4. From here, when I imagined myself jumping and swirling as Crash, I notice with some fascination that I did not shift my entire thumb to press the different action buttons separately, but instead my thumb *rolled*, down and then to the left, so that I first pressed 'X' to jump with the middle of my thumb and then, without letting go of 'X', rolled my thumb to the side and down to also push down 'Square' a moment later with the top of my thumb, triggering the spin attack in mid-flight. When I first explained to my housemate how to approach this challenge, I thought I 'knew' what to do. Looking at my hands as I re-enacted the scene, however, it became apparent that 'I', consciously, did not know what to do at all. The knowledge was in my hands.

The previous chapter showed that a sensation of being immersed demands focusing attention on the illusion of a virtual world alongside voluntarily turning away from the actual world's contribution to that illusion. Input devices—gamepads, joysticks, keyboards, mice, motion sensors, touchscreens—are the umbilical through which the player's senses, intent, and identity are transported (or more accurately, translated) into the virtual world of the videogame. They are where the "tactile and kinaesthetic experience" of videogame play is acted out (Dovey and Kennedy 2006, 107); where "[analogue] muscle movements are translated into a [digital] language the computer understands" (Swink 2009, 67). Yet, simultaneously, it is in *not* paying attention to this input device that the illusion of a clear distinction between an actual world and a virtual world constructed from screen imagery is made possible (Kirkpatrick 2009, 135). This chapter focuses on how the actual, corporeal, oft consciously ignored bodily incorporation of the videogame's input device allows a sense of virtual presence to be felt as well as affords what shape that presence takes.

To be captivated by and feel embodied within a videogame world is, paradoxically, to repress a conscious consideration of the very embodiment that translates the tensions between fingers-on-buttons, eyes-at-screens, and ears-at-speakers into a deliberate perceiving of screen imagery as a virtual world. What I will conceptualise below as the 'literate' player incorporates the input device so thoroughly into their embodied self (and, at the same time, so thoroughly bends their embodied self to the demands of the input device) that, like the touch-typist or the musician, they are often consciously unaware of what exactly their hands are doing beneath the level of sight and beyond the reach of consciousness.

Recent years have seen not only scholars but also videogames themselves shift a focus back onto the player's playing body. The launch of Nintendo's Wii console, and the popularity of games such as *Rock Band* (Harmonix 2007) and *Dance Dance Revolution* (Konami 1998) normalise mimetic controls, drawing attention to the player's body as both performer and spectacle (Juul 2010, 102; Wilson 2011); touchscreen-equipped smartphones, as the previous chapter explored, make it impossible to ignore the movements of the hands as they sit right there, obstructing the player's view of the screen to move virtual objects and smear fingerprints across glass with a single gesture (Richardson 2009; see Chapter Two); and the rise of professional and spectated videogame play such as e-sports, Let's Play videos, livestreaming, and speedrunning draws attention to the virtuosic movement of fingers across keyboards and gamepads alike (Taylor 2012; Stein 2013; McCrea 2009). What such research risks obscuring in its study of the spectacular body, however, are the entirely mundane and less visible intercorporeal entanglements where the player's fundamentally bodily engagement remains inexplicit, un-spectated, and unremarked upon.

This chapter thus presents a phenomenological analysis of the gamepad,[31] that genre of input devices that has been synonymous with videogames for over thirty years since Nintendo launched the Nintendo Entertainment System (or 'NES') in 1982. Since players felt in their thumbs the "sticky friction" (Rogers 2010) of Mario sliding across the worlds of *Super Mario Bros* (Nintendo 1985), jamming 'left' to futilely stop Mario sliding to the right, fingers have wrapped around gamepads of this heredity to act as the conduit through which the player's physical movements are read by the computer program and poke into the virtual world. Whereas the commercial videogame industry is engaged in a constant project of technological progressivism, the persistence of the gamepad is significant for its stability and conservatism. David Parisi points towards the "ergonomic branding" (2015, 1) allowed by persistent gamepad design:

> For an industry that traffics in the rhetoric of revolution, where each successive console lifecycle pushes towards the over-arching end of purifying games-as-medium, this stagnation of controller designs across consecutive generations of platforms indicates a desire for stability in the face of periodic upheavals. (Parisi 2015, 3)

An explicit example of this desired stability is provided by Teiyu Goto, the designer of Sony's original PlayStation and its gamepad controller. In an interview about the controller's design, Goto explains that

> [Nintendo's Super Nintendo console] was a huge hit at the time, and naturally we wanted [Super Nintendo] gamers to upgrade to our system … That's why the management department didn't want the controller to be a radical departure—they said it had to be a standard type of design, or gamers wouldn't accept it. (in Gifford 2010, np)

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[31] While videogame vernaculars are complicated by trademarked brandnames and a diversity of vocabularies, in this chapter I use the term 'gamepad' to refer to the broad category of videogame input devices that consist of a range of buttons and triggers on a pad-like device held in the hands, as opposed to the tabletop devices such as the keyboard or the joystick. While Nintendo has more recently used the word GamePad to refer explicitly to the input device for their WiiU console, which incorporates a large touchscreen with traditional gamepad design, the decapitalised version of the word remains used in common parlance to refer to this general family of input devices. Gamepads are also commonly referred to by the more general name of 'controller', which I have decided is too broad a term for this chapter's analysis.

While gamepad devices have long stood in for the stereotypically inert, lazy, immobile videogame player that newer videogame forms are often contrasted against, the persistence of the gamepad controller suggests a significant "collective, cultivated sense of touch" (Parisi 2015, 10). The relative stability or 'stagnation' of the gamepad permits in the player the acquiring and habituation of particular bodily abilities. While so-called 'natural' motion controls and touchscreens continue to garner enthusiasm, the gamepad persists specifically due to the flexibility and familiarity afforded by its simplicity—and so it will persist for some time, as the recently launched Xbox One, PlayStation 4, and WiiU consoles introduce a new 'generation' of consoles on which players continue to primarily engage through gamepad devices.

Following in the tracks of Sudnow's descriptive phenomenological work on the hands at play around the videogame *Breakout!* in *Pilgrim in the Microworld* (1983) as well as his earlier study of his own jazz pianist hands in *Ways of the Hand* (2001 [1978]), this chapter facilitates an appreciation of what exactly the competent gamepad player's hands are doing down in their lap. The first section introduces the notion of an *embodied literacy* to account for the need to acquire certain physical and somatic skills simply to navigate many videogames. Just as Chapter One highlighted the embodied textuality of videogame play as both an experiential and interpretative engagement, this chapter proposes embodied literacy as a learned way of engaging with such a textuality through adequately broken-in hands or other muscles. I draw from Sudnow's autoethnographic work, Henri Lefebvre's work on dressage, and James Ash's work (following Martin Heidegger) on videogames and attunement, to account for videogames as not only controlled but *controlling* the player in turn, creating the adequately literate player body they require in order to be played.

After the first section explores these theorists and their arguments, the following section presents a series of descriptive vignettes of how fingers incorporate the gamepad. This section is both historical and anatomical, highlighting how the gamepad has evolved and become more complex (and less accessible) over the years as the presumed-to-be-literate player has become capable of more complex behaviours. By accounting for the historical evolution of the gamepad, it will detail both how the hands adapt to the gamepad and how the gamepad adapts to the hands. Here it is important to account for not just what the body does, but how it is mediated *by* the gamepad, and how the development of gamepads in turn is mediated by literate players. As such, this section is more detailed and technical than other parts of this thesis in order to stress the influence of the gamepad's materiality on the player's embodiment and vice versa.

It is timely here to make a comment on accessibility. As Pierre Bourdieu notes in his work on taste and class, "cultural (or linguistic) competence … remains defined by its conditions of acquisition" (1984, 65). Different competencies are linked to different markets so that the acquisition of a competency

> confers the self-certainty which accompanies the certainty of possessing cultural legitimacy, and the ease which is the touchstone of excellence; it produces the paradoxical relationship to culture made up of self-confidence amid (relative) ignorance and of casualness amid familiarity, which bourgeois families hand down to their offspring as if it were an heirloom. (Bourdieu 1984, 66)

The competencies of videogame play are no different. In accounting for the pleasures offered by complex, learned input devices, it is important to stress that it is the need for such learnedness that, in part, is responsible for 'core' videogames often (and rightly) being critiqued as inaccessible, exclusionary, and hegemonic across clearly demarcated gender and class lines (Shaw 2011; Anthropy 2012; see Chapter Six). For the novice, contemporary gamepads are complicated and unintuitive, often with over fifteen possible buttons to press,

controlled by no more than four fingers. The gamepad, like all input devices, is a physical, corporeal language: some players have learned it from childhood, while others struggle to learn it as adults and remain excluded from both the production and consumption of its texts. Chapter Six explores this history and its significance to a phenomenology of videogame experience in more detail, but for now it is important to acknowledge the privilege of literacy, of competency.

For those literate, the gamepad is as 'natural' a device as a piano is for the professional pianist; there is no conscious decision making of what buttons to press, but a learned mapping of the thumb to the gamepad, a knowing of distances that ensures fingers are in the right place at the right time, even on a different gamepad or with a videogame that has never been played before or a videogame that requires a different combination of buttons for the same virtual action. Each gamepad iteration mobilises "a haptic epistemology" (Parisi 2015, 10) that conserves and stabilises an existing literacy for those already literate. It is the responsibility of those literate, then, to be reflective and critical of the language they use. Videogames do not only require more accessible languages (such as touchscreens and motion sensors), they require their own piano teachers capable of appreciating and communicating the particular pleasures of their more complex, inaccessible languages. This chapter hopes to go someway down this path by contributing an appreciation of the learned language of the gamepad while still acknowledging the exclusionary practices of any learned language.

To Become Literate at Videogame Play

Through *Ways of the Hand*, Sudnow offers a detailed phenomenology of the knowledge his hands acquire as he becomes a competent jazz pianist. He describes the transition he undergoes from relying on his eyes to determine places his fingers need to go on the

keyboard, to those keys instead becoming "places towards which the appreciative fingers, hand, and arm are aimed… I was gaining a sense of their locations by going to them, experiencing a rate of movement and distance required at varying tempos, thereby developing *an embodied way of accomplishing distance*" (Sudnow 2001, 15, emphasis added). Several years later, when Sudnow first encountered a videogame, he found a medium for finger-work more immediate but no less intoxicating. Within fifteen minutes of twisting *Breakout!*'s dial back and forth to control the small on-screen paddle, he was "no longer conscious of the knob's gearing" (1983, 39). In one insightful passage, he describes his engagement with the screen as mediated by his fingers wrapped around the dial:

> Line up your extended finger with the lower left corner of the TV screen a comfortable six feet away. Now track back and forth several times in line with the bottom border and project a movement of that breadth onto an imagined inch and a half diameter spool in your hands. That's how knob and paddle are geared, a natural correspondence of scale between the body's motions, the equipment, and the environs preserved in the interface. (Sudnow 1983, 37)

That Sudnow, a professional jazz pianist at the time of detailing his first encounters with videogames, understands his engagement with the piano and with *Breakout!* each as about a certain spatial knowledge being ingrained beneath consciousness—becoming a kinaesthetic knowledge (Swalwell 2008)—is significant.[32] It parallels the anecdote that begins this chapter where what my housemate struggled to perform—and what I struggled to explain—was the specific movements that my fingers already knew. The key difference, for Sudnow, is the quickness with which his body is able to incorporate the actions demanded of the videogame, whereas the flourishes and improvisations of jazz piano took many years. Here, Sudnow notes the function of learning through repetition as embedded in videogames themselves:

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[32] The analogy Sudnow draws between playing music and playing videogames is significant, too, and is explored in relation to David Kanaga's writing on music and videogames as both 'played' form in the next chapter.

> If you engage a human body through eyes and fingers in a precisely scripted interaction with various sorts of computer-generated events, what seem like quite complex skills are rapidly acquired by regular repetition. Sequences of events can be scheduled into readily mastered routines of progressive difficulty, and a program of timed transitions can be organized, *programming you*, in turn, at an economically desirable rate. (Sudnow 1983, 63, emphasis added)

Here, Sudnow is more critical and cynical than his earlier enthusiasm at the medium's potential. Through a short engagement with *Breakout!* and *Missile Command*, he observes the pedagogical model still deployed by most videogames today in confronting the player with increasingly complex challenges to enforce the learning of certain skills and ways of playing. Most intriguing Sudnow's use of "*programming you*" suggests that the fingering knowledge of videogames are not simply learned, but very deliberately taught as the videogame shapes the player into the optimal playing subject the videogame require.

The embodied subjectivity particular to videogame play depends on a collapse between the human and machine. More important than what the videogame allows the player to 'do' is how the videogame extends, restricts, and reconfigures the player's embodied experience into "complex assemblages of bodily capacities and cognitive processes, which work together in skilled [videogame play]" (Ash 2013, 34). *Crash Bandicoot* afforded my housemate certain intimate, active engagements with a fantastical world, but it also demanded certain bodily configurations *of* my housemate at the gamepad while actively denying others. It demanded the player wrap themselves around the gamepad in such a way as to be able to both jump and perform a spin-attack at the same time with a single thumb's movement.[33] The game made choices about the player's configuration even as the player made choices about the game (and the hardware, at the same time, made choices about each of them)—a notion that Seth Giddings, following Latour's work on nonhuman agency,

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[33] The commonly observed phenomenon of novice players tilting either the gamepad or their entire upper body as they steer around corners (see Swalwell 2008 for one example) provides a fitting anecdote to the way literate players are configured by the videogame. As the novice player gains literacy, unnecessary movements typically fade away as the player's body configures itself to the needs of the gamepad.

explores in his understanding of digital play as being between human and nonhuman actors (2007, 5). Videogames reconfigure the body, and they are experienced through this reconfigured body.

Sensitising The Player

Two theorists are useful here to better accentuate this knowledge of the hands as taught through repetition: Henri Lefebvre's work on dressage in his book *Rhythmanalysis* (2004 [1992]), and James Ash's application of Heidegger's work on attunement and captivation. Lefebvre is concerned with the embodied rhythms of everyday life: the cyclical rhythms of 'nature' and the linear repetitions of 'culture' and, ultimately, the inseparability of each from the other. Lefebvre's work on rhythms is explored more thoroughly in Chapter Five's discussion of temporality, but here it is timely to discuss his description of dressage as it "puts into place an automatism of repetitions" (2004, 40). Humans, Lefebvre argues, "break themselves in like animals"; as horses and dogs are broken in through repetition, this repetition becomes ritualised in humans (2001, 39).

This suggests not only an embodied foundation of social being but also that social being demands a bodily bending as, through the repetition of everyday life, we are taught to hold our bodies in certain ways.[34] Hints of this in relation to videogames is seen in Sudnow's observations above in how the videogame is "programming you" through regular repetition. A consequence of this dressage is its invisibility to conscious thought and the seemingly 'natural' ability some have to control a videogame (or the seemingly naturalness of some input devices). Here, Lefebvre is again important: "The representation of the natural falsifies

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[34] The cultural ramifications of such a claim are already well established by gender studies theorists. See in particular Young's "Throwing Like A Girl" (1980).

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situations. Something passes as *natural* precisely when it conforms perfectly without apparent effort to accepted models, to the habits valorised by a tradition" (2004, 38-39, original emphasis). What seems 'natural' about an adept player's control of a gamepad (or a keyboard and mouse) only seems natural because the knowledge required for that adeptness has sunk beneath consciousness through regular repetition to become, as Sudnow says, an embodied way of accomplishing distance (2001, 15). Meanwhile, those reportedly more natural input devices such as motion sensors and touchscreens, dressage suggests, are not more natural but simply more aligned to those ingrained rhythms already inscribed onto bodies in contemporary everyday life. While such devices are commonly euphemistically called 'Natural User Interfaces', there is nothing natural about the motions used to swing a tennis racquet. Such a motion has become naturalised through repetition so that swinging a Wii-mote to mimic the swinging of a tennis racquet seems more immediately natural than pressing a gamepad's button to do the same.

Considering gamepad play as simply a matter of being broken in through dressage does risk trivialising the embodied knowledges learned through repetitive videogame play as simply mechanical and rote. Ash's work, then, following Heidegger, looks at how videogames *attune* players, where attunements "can be understood as complex assemblages of bodily capacities and cognitive processes" (2013, 34). Looking particularly at the multiplayer component of *Call of Duty 4: Modern Warfare* (Infinity Ward 2007), Ash observes that for players to become skilled at the game (that is, to be able to make near-instant decisions based on the organisation of actors in front of them at any one time), "games such as *Modern Warfare* actively sensitize users to open their bodies to a variety of affective states" (2013, 28). Attunement allows Ash to point towards a "politics of captivation in which the sensual and perceptual relations in the body are organized and commodified by these

games in order to create attentive subjects" (2013, 28). This importantly points towards the activeness of both videogame and player as they each bend to the other.

Most significant for this chapter's concern with the work of the hands and fingers, Ash looks at the "somatic memories" inscribed into the player's body through the input device. Talking specifically about a gamepad's thumbstick, Ash notes that "the material plastic of the thumbstick and its physical limitations for movement form the possibility space for the development of somatic memory to be developed in the body of the player" (2013, 37). Thus, to become learned at an input device for a certain type of videogame is not simply to be broken-in through repetition but for the player to become sensitised towards "particular forms of somatic and analytic attunement" (Ash 2013, 45). The movements of hands and fingers are not simply rote, mechanical movements, but ritualised ones.[35]

An Embodied Literacy

Across Sudnow, Lefebvre, and Ash we see how the hands are extended and reconfigured by the videogame and its hardware, and how this extension and reconfiguration is rarely consciously considered by the adept player. As Sudnow's discussion of his jazz hands have already suggested, this is not an exceptional attribute of videogames. As Merleau-Ponty says of our "incorporation" of instruments into our habitual experience of the world (discussed in Chapter One): "habit expresses our power of dilating our being-in-the-world, or changing our existence by appropriating fresh instruments" (2002, 166). It is this "knowledge of the hands" (Merleau-Ponty 2002, 166) that allows, as Kirkpatrick notes in his own study of input devices

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[35] This is of particular relevance to the interest shown by different militaries towards the pedagogical potential of videogame play. While it is beyond the scope of this chapter, the contributions of sensitised players and embodied literacies to technologically-mediated warfare demands more scrutiny, such as the overlap in haptic knowledges and competencies demanded by both videogame gamepads and the piloting controls of unmanned drones. I discuss these issues elsewhere (Keogh 2013).

in regards to videogame form, the player to experience the embodiment demanded by videogame play as, "at least partly, a function of *not* looking at or thinking about our hands" (Kirkpatrick 2009, 131, original emphasis). The competent player does not look at the gamepad to ensure they are pressing the right buttons, but becomes bodily aware of the gamepad's spatiality and the potential movements and configurations of their thumbs and fingers across it. Like the competent jazz pianist who "makes it up as I go along" (Sudnow 2001, 125) or the touch-typist who "incorporates the key-bank space into his bodily space" (Merleau-Ponty 2002, 167), the competent videogame player does not 'think' about how they are going to traverse the gamepad—their body incorporates the gamepad so that they can perceive their action as not 'pressing X' but 'jumping'. Videogames require a competency that is, at once, a learned physical behaviour and a means of 'reading' and engaging with the semiotics of the game—to return to the example in this thesis's introduction, appreciating the heaviness of *Grand Theft Auto IV* first requires the player to be able to competently play *Grand Theft Auto IV,* to be adequately attuned to *Grand Theft Auto IV*.

Following Hayles's notion of an embodied textuality, then, to play a videogame requires an *embodied literacy*, where an incorporation of the videogame by the player is both an interpretative and somatic knowledge. Angela Ndalianis similarly observes that the "neo-baroque" tendencies of new media require a particular virtuosic "media literacy" to navigate the intertextual (and often literal) labyrinths of new media texts, including videogames (2004, 103). The literate videogame player knows in their hands the way around the conventional spatial syntax of the gamepad, has a basic understanding of the performative grammar of different videogame genres (how jumping works, how looking works, how menus work), and

is able to transport and adapt this literacy from one videogame to the next.[36] In contrast to the novice player looking at the gamepad in their hands and thinking "press X and then press Square", the literate player thinks "jump and then kick in mid-air". The novice player distinguishes between the acts of their actual body at the gamepad and the images moving on the screen; the literate player fuses the two into a hybrid, unconscious performance. Giddings and Kennedy's autoethnographic retelling of their adventures with *Lego: Star Wars* (Traveller's Tales 2005) highlights this, as they stumble around pressing the wrong buttons, playing *with* the game more than playing the game as is intended of a player with the learned literacy the game requires but which the authors lack (2008, 24). On the other hand, literate players, much like Sudnow's piano teacher, "develop a feel for it" that is then difficult to explain to others (2001, 28).

This embodied literacy learned through the body is what Swalwell, also evoking the touch-typist, calls a "kinaesthetic knowledge" (2008, 78) that allows players to imperfectly "partially become" their on-screen avatar. (2008, 84). It is through a learned literacy of the fingers at the input device that the videogame becomes textually legible to players. Just as one must learn how to read before reading a novel, one must first become literate in the spatial movements of fingers on the gamepad or at the keyboard and mouse before the most conventional and widely played videogames will reveal their pleasures. To truly appreciate what the playing of a particular videogame offers is first to understand how this embodied

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[36] An interesting phenomenon that is unfortunately beyond the scope of this chapter is the regional differences in embodied literacies of the same gamepad. For instance, in the late 1990s and early 2000s it was common for PlayStation games made in Western countries to use 'X' as a confirmation button in menus and 'Triangle' as a cancel button. Japanese games, however, used 'O' as a confirmation button and 'X' as a cancel button. I recall playing Japanese videogames such as *Final Fantasy VII* (Squaresoft 1997) and commonly accidentally cancelling a selection rather than confirming it long after I was consciously aware of the game's controls, attuned as I was to pressing 'X' in order to confirm a decision. Marcel Mauss makes a similar observation on "the ways in which from society to society men know how to use their bodies" through his observations on British troops in World War II struggling to use French spades (1973, 70-71). This speaks to the cultural specificity of skill acquisition and is worthy of further research.

literacy is formed through particular input devices through the attunement and dressage of the player by the videogame, and by the input device. To demonstrate this, this chapter will now turn to the gamepad family of input devices as they have evolved over the past decades alongside their literate (i.e. broken-in) players.

Anatomy of a Gamepad

The player's perception of a videogame as a virtual world is contingent on their incorporation of the input device. This section will turn to the ways in which one particular input device—the gamepad—attunes and bends the player's body in particular ways. Videogames created for the particular hybrid of player-and-gamepad incorporate and manifest the cyborg body in particular ways through their mapping of actions and sensitivities to particular buttons, triggers, and thumbsticks. What combination and configuration of fingers required of the player tells them how that videogame feels to play—the resistance of plastic against flesh, when combined with animations and sounds, communicates the weight and texture of virtual objects (Swink 2009, 85) and embodies the player across worlds and across bodies. The player does not simply master the videogame but, through the gamepad, adapts "an available repertoire of bodily behaviours and aptitudes" (Dovey and Kennedy 2006, 111). By describing the specific elements of the gamepad controller, this section will detail how that repertoire is cultivated and naturalised in the literate gamepad player.

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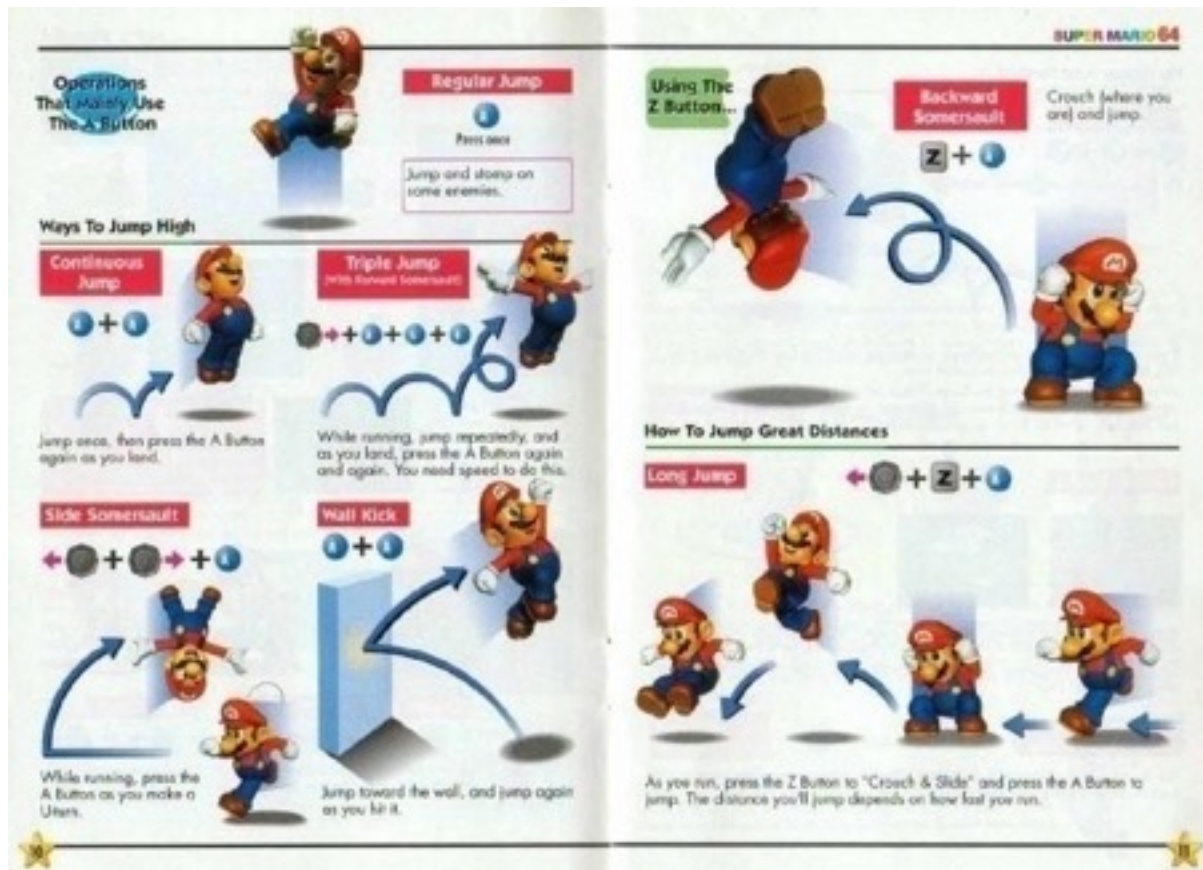
Figure 3.2. Some of the moves available to Mario in *Mario 64* through the player's combinations of different buttons on the Nintendo 64's gamepad, as explained by the game's manual. (C) 1996, Nintendo.

The gamepad, alongside the keyboard-and-mouse combo of desktop computers, has been a dominant mode of interfacing with videogames since it was first popularised with the introduction of Nintendo's NES in 1983 and Sega's Master System in 1986, and it persists as a major influence on the embodied, lived experience of videogame play through the contemporary PlayStation 4, Xbox One, and WiiU consoles, as well as an increased presence of "plug-and-play" USB gamepads for PC videogames. The gamepad has undergone many deviations and mutations throughout this time, but through the dominant (that is, most commercially successful) platforms, a clear evolutionary lineage can be traced from the 8-button gamepads introduced with the NES to the 17-button, twin-stick, touchscreen-augmented gamepads of contemporary consoles. This section looks closely at the affordances and constraints of the gamepad's conventional layout as it has evolved alongside an

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increasingly attuned and literate player. This will be, by necessity, a selectively historical project, highlighting how the gamepad has evolved and mutated alongside (and encouraging) a certain familiarity in its users (and an alienation in those not attuned to its needs). It will also be a postphenomenological project, where neither the gamepad nor the player's hands can be considered separate from the other; instead the parallel and cyclical evolution of both gamepad and literate hands in the player-gamepad hybrid must be accounted for.

The contemporary gamepad consists of three dominant types of inputs: action buttons, triggers, and thumbsticks.[37] All three are supported from within the gamepad by spring mechanisms that constantly return the button, trigger, or thumbstick to its default, not-pressed state (as opposed to a computer mouse that only ever moves relative to where it was previously moved). These inputs translate the player's intent into a language the computer can understand, translating analogue movements of the body into digitalised values that can be read by binary code (Swink 2009, 87; see also Jayemanne 2013 and Hayles 2005 for deeper discussions on the digitalisation of analogue movements). While the way a videogame feels to play will depend on the very specific makeup of a particular controller—the strength of the springs beneath the buttons, the texture of the plastic buttons, the shape and size of the gamepad itself—here I am limiting the scope of my analysis to the shape and layout of gamepads generally, with specific examples from the most common and influential gamepad iterations in relation to a literate, able-bodied player's hands. This limited analysis will provide a platform on which other specific analyses of particular gamepads and other input devices could be performed and, more importantly for this thesis, where the typically un-seen

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[37] As with the gamepad itself, there is no consensus in popular vernacular around videogames as to what to call each of these components of the gamepad as various corporations choose to use different, trademarked names. Here I have chosen action buttons, triggers, and thumbsticks as terms that I see commonly used, but I do not wish to imply that they must be known by these names. I am more interested in the function of each of these input modes than what they are called.

and unconsidered actions and knowledges of the player's bodily movements generally can be appreciated.

Directional Pads and Action Buttons: To Jump Across

The brick-shaped NES gamepad (see fig. 3.3), echoing the design of Nintendo's earlier Game & Watch handheld devices, normalises the basic vocabulary of the gamepad that persists today. Unlike earlier joysticks or keyboards whose shape suggest they be rested on a tabletop or in a lap, the NES gamepad's buttons are too spread out to be covered comfortably by the digits of a single hand. It instead communicates to the player that it should be held with two hands: each thumb rests atop the buttons positioned close to the edges of the device, and the remaining fingers rest beneath the gamepad to both support its weight and to push back against the thumbs' downward force. It consists of eight buttons: four 'directional' buttons on the left, two 'action' buttons on the right, and the 'Start' and 'Select' buttons in the middle. Each button has two states that can be read by the videogame software: 'off' in its default state, and 'on' while being pushed down by the player.

Figure 3.3. The gamepad controller for the Nintendo Entertainment System (NES). (Photo provided by Benjamin McKenzie)

Under the left thumb is the cross-shaped 'directional pad' (or 'control pad' as it was previously referred to by Nintendo's own literature). Commonly shortened to 'd-pad', this one piece of plastic can be pushed down at its extremities onto four distinct, concealed buttons, giving the impression of not just pushing a button 'down', but pushing in a certain direction (up, down, left, right). The thumb rests in a small concave dome at the intersection of the four directions, and rolls back and forth down onto the four different buttons. The d-pad is historically responsible for the avatar's or cursor's navigation of the virtual space (although it shifts to a secondary role with the normalisation of thumbsticks, as will be discussed below). The four directions move the avatar relative to the player's perception of the videogame world through a virtual camera. For instance, in a videogame presented from a side-on perspective, like *Super Mario Bros*, 'left' and 'right' correspond to 'back' (towards the beginning of the level and the left-hand edge of the television) and 'forward' (towards the

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end of the level and the right-hand edge of the television) while 'down' causes Mario to crouch and 'up' is used to climb up beanstalks. In a videogame presented from a top-down perspective, however, where the camera is looking down on the avatar and the world from a bird's-eye view, like *The Legend of Zelda* (Nintendo 1986), the four directions correspond to cardinal directions that themselves correspond to the edge of the television screen ('Up' moves 'North' towards the top edge of the screen; 'Left' moves 'West' towards the left edge of the screen; etc.).

Under the right thumb sit the two action buttons, named 'B' and 'A' from left to right. These buttons are round with a flat surface, able to be pushed only directly down towards the plastic casing of the gamepad. Action buttons are typically linked to specific actions: run, jump, shoot, talk, buy, rotate, accelerate, punch, kick, etc. Similar to the left thumb, the resting position of the right thumb sits diagonally, between the two buttons, ready to roll one way or the other to press down either or both of the buttons at a moment's notice. The basic behaviour demanded of the NES controller (movement with the left thumb, action with the right) persists as a default setting to this day in all commonly used gamepads.

The simple layout and minimal buttons of the NES gamepad belies a dormant potentiality. Action buttons can be 'tapped' (pressed quickly to immediately bounce back to their 'off' state) or 'held' (pushed and held down for a prolonged period by the player's thumb) for different effect. In *Super Mario Bros*, tapping 'A' allows Mario to jump a short height, while holding 'A' pushes Mario, slowly, towards a much greater height; tapping 'B' will, if the player possesses the right items, allow Mario to shoot a fireball, while holding 'B' allows Mario to move at a faster pace if a directional button is also held down. Indeed, any two buttons on the NES gamepad can be pressed at one time, with the significant exception of opposing directions on the d-pad as the plastic casing covering all four buttons produces a

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see-saw effect where it cannot bend in two oppositional directions at once—if 'left' is being pushed down, the casing will have raised too much over the 'right' button for it to also be pushed. Two adjacent direction buttons, however, can be pushed down with a single roll of the thumb diagonally from the centre of the d-pad, often allowing for more navigation options, such as walking Link north-west in *The Legend of Zelda*, or making Mario duck and slide beneath a low block.

Combining taps and holds of various buttons on the gamepad with one or both thumbs is as fundamental to performing more complex actions in gamepad-controlled videogames as being able to press multiple piano keys to produce a chord is to performing a piece of music. By learning complex gestural patterns, the player does things *while doing other things* and builds up a repertoire of behaviours and abilities. For instance, the ability to jump *across* a chasm or onto the head of an enemy (as opposed to jumping straight up), is fundamental for many videogames, requiring the player to combine a knowledge of virtual distances and momentums with a complex sequencing of buttons beneath the thumbs. To return to the example of *Super Mario Bros*, Mario must first gain horizontal momentum, requiring the player to hold down 'right' on the d-pad with the left thumb. Then, while keeping 'right' held, the player must hold down 'A' with the right thumb as Mario reaches the edge of the chasm so that he is now moving rightwards and upwards. This may be made more complex with a chasm so wide that Mario must get a running start for his jump, requiring the player to hold down 'right' *and* 'B' and then *also* roll their right thumb onto 'A' once Mario reaches the ledge. More complex still are the small, proprioceptive adjustments the player makes with each jump of Mario as they become attuned to his body and its capacity for movement. The player does not always jump Mario the maximum possible distance, but learns to release 'A' at just the right time to land on a precarious floating block or the head of an enemy, or perhaps even shift directions mid-jump from 'right' to 'left' to slow their momentum. While

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Sudnow details the way the body constantly renegotiates the hand's speed and distance from the object it is reaching for in our navigation of corporeal space, here what Sudnow observes as the "*common pulse to unite the two differently distanced moves*" (2001, 95, original emphasis) between his two hands at the piano exists not just between the two hands on the gamepad but between those hands and the perceived movement of screen imagery that construct the illusion of a virtual world. The gamepad-literate player's body develops a capacity for Mario's body and its abilities in relation to the player's own capacity to navigate the gamepad in their hands.

Figure 3.4. The gamepad controller for the Super Nintendo Entertainment System (SNES), which echoes the layout of the NES controller but also adds two extra action buttons, as well as the 'L' and 'R' shoulder buttons on the surface facing the television. (Photo provided by Benjamin Turner)

When Nintendo released its next console, the Super Nintendo, or SNES, in 1990, four action buttons sitting beneath the right-hand thumb became the norm (see fig. 3.4), with 'Y' and 'X' added above 'B' and 'A' in a diamond configuration. Four action buttons remains the conventional design on current gamepads, keeping the same lettering on both Nintendo and Microsoft gamepads (albeit in different positions, with B and A, and X and Y swapped

around); and 'Triangle', 'Square', 'O', and 'X' on Sony gamepads. These two extra buttons allow for an even greater combination of actions as the right-hand thumb may be rolled between any two neighbouring buttons, but the somatic configurations required remain similar. New possibilities also come with new restrictions, however, as the thumb may not so easily roll between two action buttons diametrically opposed, requiring a moment to move the thumb up from one button, across the plastic divide, and down on the other. The significance of this can be seen in the 3D platformer *Spyro the Dragon* (Insomniac 1998) on Sony's PlayStation, where holding 'Square' (the left-most action button) allows Spyro to enter a 'ramming run' if combined with the d-pad's movement. The player must use this ramming run to chase down speedy thieves that have stolen dragon eggs. It is tempting, in these sections, to press 'O' (the right-most action button) once Spyro nears the thief, executing his flame attack and ideally ending the chase prematurely. However, in the time it takes the thumb to travel from 'Square' to 'O', the thief has most likely rushed out of range of the flames, suggesting that these challenges are intended purely as tests of speed.

Most important in the addition of these two extra action buttons is the beginning of a clear trajectory of the gamepad becoming more complex in a way that assumes an existing familiarity with previous iterations of the gamepad. Assuming that the player has already become attuned adequately to the NES's gamepad with its two action buttons, the SNES then works to further attune this player through new behaviours and capacities.

Shoulder Buttons and Triggers

The SNES gamepad also introduces 'shoulder' buttons 'L' (for 'Left') and 'R' (for 'Right') on the surface of the gamepad that faces the television. The shoulder buttons are to be used by the player's index fingers, requiring a reconfiguration of the player at the gamepad as they no longer tuck all other fingers beneath the gamepad but instead wrap the index fingers around the curve of the controller to rest atop 'L' and 'R' (see fig. 3.4). Significantly, the very shape of the SNES gamepad is altered from that of the NES to facilitate this incorporation of the player, replacing the square-cornered brick of the NES gamepad with a rounded, 'dog-bone' shape, better affording the multiple joints of the index finger to curve around its edges. As already explored above with the d-pad and the action buttons, shoulder buttons can be either tapped or held, and can be used in combination with any of the other buttons on the gamepad.

Before the introduction of thumbsticks, shoulder buttons commonly allowed the index fingers to provide some kind of secondary action or adjustment of the dominant actions preferred by the action buttons beneath the thumbs. Placed on a perpendicular surface to the action buttons and d-pad, the shoulder buttons move along a different axis when pressed, pushing 'inward' relative to the player's body more than 'downward'. In two-dimensional videogames, this often corresponds to a clockwise/anti-clockwise orientation in virtual action relative to the player's fingers. For instance, in the on-rails space-flight game *Star Fox* (Nintendo 1993), 'L' or 'R' is held down to rotate the ship either anti-clockwise or clockwise 90 degrees to fit through tight spaces (see fig. 3.5), the top of the ship rotating to point towards the left or right side of the television. While holding the shoulder button limits the ship's spin when the wing reaches its apex, a quick double-tap of the shoulder button spins the ship in a complete barrel roll, deflecting incoming bullets. Here, a virtual constraint is put

in place (holding the ship at a sideways position) and then overruled by the player through the gestural urgency of a double-tap. As the ship is held sideways through the shoulder buttons, the thumbs on the d-pad and the action buttons are still able to manoeuvre, shoot, and drop bombs. Similarly, in the exploratory platformer *Super Metroid* (Nintendo 1994), 'L' and 'R' are used to aim the protagonist's gun diagonally up or down to fire at enemies above or below the avatar, again suggesting movement on a different axis than that provided by the d-pad, a rotation in relation to the player's side-on perspective of the videogame's world.
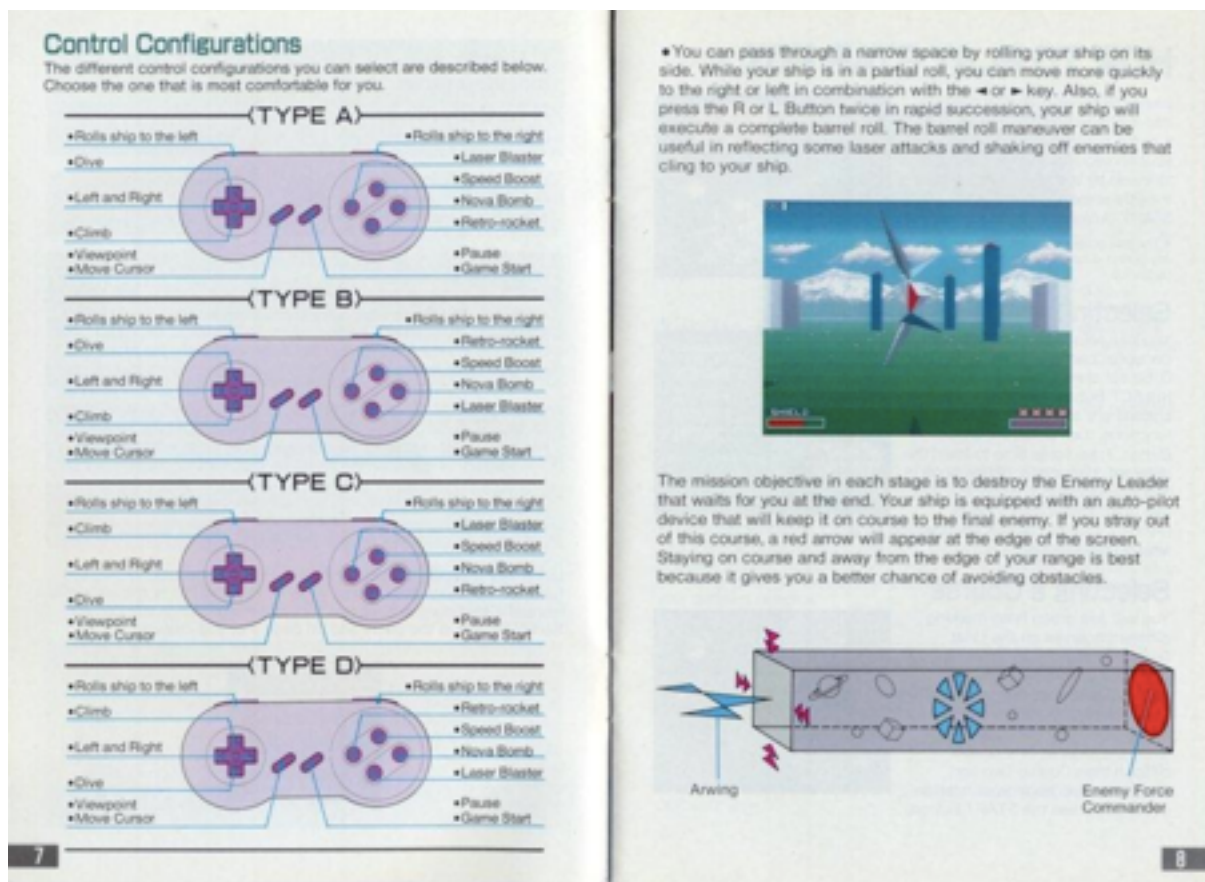
Figure 3.5. The instruction manual for *Star Fox* explaining how to use the SNES gamepad's 'L' and 'R' buttons to perform different moves. (C) 1993 Nintendo.

The gamepad for Sony's PlayStation console, released in 1994, adds two additional shoulder buttons, named 'L2' and 'R2', beneath the renamed 'L1' and 'R1' so that each index finger is responsible for two buttons. Whereas the thumb easily rolls across multiple action

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buttons, the lankier index finger more commonly must be lifted off one shoulder button and placed on the next. As such, few games demand both shoulder buttons on a single side of the gamepad to be pressed at the same time as this would require both the index and middle finger of the hand to be wrapped around the edges of the gamepad, leaving only the pinkie and ring fingers underneath to support its weight. Microsoft's Xbox console, released in 2001, then normalised the conversion of these secondary shoulder buttons into 'triggers'. Requiring an action not dissimilar to pulling the trigger of a gun, the triggers require much longer actions to be fully pressed, but also register multiple values between fully not-pressed and fully pressed (Swink 2009, 110). Whereas typical buttons record a whole integer value of either 0 (off) or 1 (on), the trigger is translated by the game as a float value between 0.00 (fully off) and 1.00 (fully on), allowing for more nuanced interpretation by the videogame of the pressure exerted by the player's index finger. This allows for virtual actions intimately connected to the pressure of plastic beneath flesh such as slowly accelerating a car instead of slamming the foot (and finger) down.

Thumbsticks and Dual Embodiment

The role of action buttons, shoulder buttons, and d-pads all shift significantly with the introduction of 'thumbsticks', first on Nintendo's Nintendo 64 console in 1996 but in the dual-thumbstick layout most common on contemporary gamepads with Sony's DualShock gamepad released for the PlayStation console in 1997 (see fig 3.1 for the PlayStation 4's Dualshock 4 iteration). Like miniature joysticks on which the thumb rests, thumbsticks can be rotated in a 360-degree dome around a default, upright position to which they will return if the player lifts their thumb. They translate this rotation into float values between -1.00 and 1.00 along two axes of movement, communicating to the videogame just where the player's

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thumb is holding the stick (forward and a bit to the left, for example). This more nuanced

control across two axes coincides with the rise of three-dimensional games on home

consoles. As the left-or-right movement of the d-pad couples with Mario in *Super Mario*

Bros, the slow, circular turns of three-dimensional Mario in *Mario 64* (Nintendo, 1996) exist

symbiotically with the tight arc of the Nintendo 64's thumbstick. Dual-thumbstick control in

particular introduced the now common allowance for nuanced, symbiotic movement of both

the avatar's body *and* the virtual camera simultaneously, as had been normalised for PC

videogames years earlier with the mouse under the right hand moving the camera in relation

to the position of the character, and the W, A, S, and D keys under the left hand moving the

character in relation to the position of that camera.

The significance of dual-thumbstick control and the affordance of a dual-embodiment

of both camera and character is perhaps best illustrated in the genre of first-person

videogames, where the camera and the character are most convergent.[38] As the literate player

becomes attuned to dual-thumbstick control and an embodiment of both character and

camera, they are able to look in any direction with the right thumbstick while continuing to

move in the 'same' direction with the left thumbstick by rotating it complementarily to the

new orientation of the camera. To look over the character's shoulder while continuing to walk

forward, for instance, the right thumb might rotate the right stick clockwise to turn the

character's head while the left thumb, at the same time, rotates anti-clockwise so that the

character's body continues to walk in the same direction in relation to the turning head. The

complex combination of avatar and camera across two thumbs simultaneously, one's

movement relative to the other, is of fundamental significance to the embodiment afforded by

conventional contemporary gamepad play and the spatial navigation of three-dimensional

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[38] See Golding (2014) for a more thorough discussion of the synthesis of vision and movement in first-person videogames. See Black (2015) for a detailed description of the different haptic relationships between player/ viewpoint/character in both first- and third-person videogames.

worlds that embody the player as both acting character and viewing player. It is also one of gamepad play's most complex and difficult-to-learn behaviours.

The thumbsticks become the new resting place for the thumbs of the literate gamepad player, and this relegates the d-pad and the action buttons to secondary functions, now needing to be reached for instead of lying readily under thumb. At the same time, the shoulder buttons and triggers increase in importance, always already under the index fingers even as the thumbs rotate around the thumbsticks. Over the past decade of gamepad play, primary actions such as shooting guns and accelerating vehicles have shifted from the action buttons to the shoulders. Action buttons become used for secondary actions where a quick (but delayed) movement of the thumb away from the camera-controlling right thumbstick is negligible, such as a quick switch from one weapon to the other in *Halo*, or choosing to enter a nearby car in *Grand Theft Auto IV*. The d-pad, however, becomes almost tertiary and sometimes entirely unused as the left thumb is rarely free to disconnect from the thumbstick determining character motility. Increasingly, the four directions of the d-pad become hotkeys to quickly equip different items without having to enter a menu screen, or alternatively for snappier navigation of said menu screens—tapping 'down' five times on the d-pad is much quicker than pulling the thumbstick down five times. The introduction and normalisation of thumbsticks radically shifts the player's incorporation of the gamepad, yet the gamepad's lineage remains present in the learned movements and bending of the player.

Actions Beyond Play and Play Beyond Actions

Towards the centre of the NES gamepad are two much smaller buttons, labelled 'Start' and 'Select'. These buttons demonstrate the significance of button location on the gamepad relative to the resting position of the player's thumbs, as well as the significance of the shape

and texture of buttons in communicating potential action to the player. 'Start' and 'Select' exist, predominately, for actions external to the virtually projected world of the videogame, such as pausing the game or accessing an options menu. As their actions are removed from the diegesis of the videogame, so too are the buttons removed from the player's typical incorporation of the gamepad. To reach either 'Start' or 'Select', the player must reach with their right or left thumb respectively, lifting it entirely from its usual resting position over the action buttons or d-pad (or, on later gamepads, the thumbsticks). The Start and Select buttons themselves are thin and narrow, not communicating the full-rounded responsiveness of the flat action buttons or the clear directionality of the d-pad. They, deliberately, feel *removed* from playful action as they are removed from the resting zones of the thumbs.

It is important to mention, too, the ways that gamepads are bodily perceived by players beyond the immediate feedback of buttons. The most explicit example of this is vibration, where small motors installed inside the gamepad cause it to vibrate in response to on-screen action. Varying intensities of vibration are used to communicate a vast array of physicalities such as a sudden jolt when two cars collide in *Grand Theft Auto IV*; a trembling shockwave of a nearby colossus's footstep in *Shadow of the Colossus* (Team Ico 2005); or a constant juttering to communicate to the player they have left the road and are driving through the garden in *Mario Kart 8* (Nintendo 2014). Interestingly, over a decade before vibration became standard in gamepad games, Sudnow hints at its potential contribution as he complains about the lack of "heft" in the *Breakout!* paddle: "my hand goes through its movements without any sense of an impact on things" (1983, 206). While a full analysis of gamepad vibration is beyond the scope of this chapter (see Parisi 2015), it is no less significant to the player's embodiment of the gamepad than the fingers pressing buttons.

A Cultivated Gamepad Literacy

The layout and design of the gamepad and the particular movements and configurations of the player that it demands does not only translate the player's actions into the videogame, but translates the possibilities, affordances, and texture of the videogame back to the player. The resistance of a thumbstick, the urgency of a double-tap, the complex combination of action buttons and d-pad each expresses something about the played videogame as it is perceived by the literate player. Such engagement is literally out of sight and out of mind, but fundamental and primary to the embodied experience of videogame play. It is in the hands.

While I have focused on each input type of the gamepad as it was normalised chronologically to the evolving gamepad and incorporated into the literate player's body, this chapter is not intended as an exhaustive historical account. Such an account would demand analysis of the countless significant deviations by various companies such as the Atari Jaguar's unwieldy 17 forward-facing buttons; the Sega Saturn's six action buttons as opposed to the now-conventional four; the Nintendo 64's three grips allowing, at least theoretically, the ability to be held in three different ways; the Sega Dreamcast's gamepad's ability to be expanded with plugged-in devices and LED screens; the countless third-party gamepads with 'auto' or 'turbo' switches that drastically alter the player-gamepad-videogame relationship not unlike Taylor's observations of the influence of raid-assist macros on *World of Warcraft* (2009, 333); or customised gamepads such as Ben Heck's modded single-hand Xbox 360 gamepad for disabled players traditionally excluded by the normative demands of two-handed gamepads (2006). From a phenomenological perspective, too, this study is inexhaustive, as it fails to account for the significance of 'inverting' movement and looking controls (so that 'down' on the right thumbstick looks up and vice versa); the presence of 'Southpaw' options in many games that swap the use of the left and right thumbsticks; the

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ability to configure and re-map actions across buttons generally; and the numerous ways non-normative bodies adapt to gameplay play.

Here, I have not accounted for *all* player embodiments across *all* videogame play (or even across all gamepad play), but have demonstrated how the dominant, conventional gamepad design and its features have persisted and homogenised in a clear trajectory from the NES to the recently launched PlayStation 4, Xbox One, and WiiU consoles to, in turn, attune players to particular behaviours and cultivate certain embodied literacies. To be literate at gamepad play is to know, in your fingers, how to jump Mario across a chasm, or how to turn a corner in a first-person videogame; it is to perceive virtual spatialities and physicalities through the resistances, textures, distances, and movements of plastic under thumb and finger. Such a literacy does not come naturally but is instilled through the ritualised repetition of behaviours and the sensitisation of the body. As playing bodies bend themselves towards the gamepad, later iterations of the gamepad bend themselves towards literate playing bodies, each perpetuating the attunement of the other in reflexive cycles that historicise (and commodify) the cybernetic circuit of player-and-videogame. Just as most pianists spread their fingers in similar (if personalised) manners to play a chord regardless of which piano they stand before, the configurations and movements described in this section, as generalised as they may be here, form the building blocks of literate gamepad play.

Conclusion

This chapter has worked to instil an appreciation for the unseen and typically unconsidered work of the hands of videogame players learned through complex input devices. Through Lefebvre's work on dressage, Ash's on attunement, Sudnow's on his own practising of both piano and *Breakout!*, and a close look at the gamepad input device, I have outlined how the

player's hands learn to approach the gamepad, and how the gamepad both tailors and changes in relation to this learning. What this has ultimately allowed me to do is demonstrate the *embodied literacies* demanded by gamepad play, where the knowledge of the hands is crucial to both the navigation and 'reading' of the embodied texts of videogames.

To play a videogame with a gamepad is to look "with thumbs in mind" (Sudnow 1983, 21). Before conscious thought, the videogame is felt by the player as a combination of digital sights and sounds, the resistance of plastic and rubber against thumb and index finger, and the traversal of space between buttons and thumbsticks. While a cursory glance would suggest the gamepad user is more 'inert' and less bodily involved than the player dancing before a motion sensor or the commuter swiping at a touchscreen, deeply ingrained embodied literacies are at play, taught over years of repetition, that directly couple the player's corporeal schema to the images and sounds that depict the illusion of the videogame's virtual world.

To understand the pleasures and meanings that emerge from a particular videogame is to understand that videogame as it is played by a body wrapped around an input device: hands tapping at a keyboard, waving at a motion sensor, clutching a joystick, smearing a touchscreen, or, more often than not, wrapped around a gamepad. This chapter complements the growing body of literature that has emerged alongside more explicitly visible embodiments of digital play (such as Taylor 2012; Richardson 2012) to build an appreciation of the movements and configurations of the literate gamepad player that commonly go unappreciated by videogame players and scholars alike. Interfacing with a gamepad—being programmed by the gamepad—is not secondary to an intellectual engagement with the videogame's virtual world but a vital umbilical through which an intellectual engagement with the virtual is made possible. The next chapter will turn to the other half of this equation:

the eyes-on-screens and ears-at-speakers that are looking and listening as the fingers dance

across the input device.

Chapter Four

To Play With Music: Feeling Sights and Sounds in *Audiosurf* and *Slave of God*

> [Playing in the] mud is a more important game to study than chess
> - David Kanaga, "Music Object, Substance, Organism"

> Maybe the point was just to have your part in creating the noise?
> - David Sudnow, *Pilgrim in the Microworld*

Four and a half minutes into Fatboy Slim's song "Right Here, Right Now" (1998) the pace slows; music and vocals alike fade away as the song heads towards its second and more pronounced breakdown. In Dylan Fitterer's videogame *Audiosurf* (2008), this is rendered as a spatial journey up a slow hill, the track painted in cool blues and purples as the player's spaceship-like avatar slows its ascent to match the pace of the music. For half a beat, the song is reduced to complete silence, and the track curves upwards, almost vertical, and gives the player the distinct feeling of being on the precipice of a roller coaster's plunge. A moment later the drum rolls and, as the beat and rhythm and lyrics all come rushing back, the player plummets down into a tunnel of bright reds and yellows. Through it all, the player must flick the computer mouse left and right, quickly and precisely, avoiding and collecting the various blocks that begin to congest the road as the music intensifies. In *Audiosurf*, the player 'plays' music in the most literal sense, with songs translated into videogame spaces, sights, and actions. This in itself is not significant; no shortage of 'rhythm games' translate the experience of songs or music into videogame play, such as *Rez* (United Game Artists 2001), *Amplitude* (Harmonix 2003), or *Rock Band*. However, while these games consist of a finite and pre-determined number of songs, each with a visual component carefully crafted by a

designer, *Audiosurf* algorithmically generates its tracks from any MP3 file it is given. No designer created the track for "Right Here Right Now" with its synonymous hills and plunges; the game pre-translated the 'played' music—the song's tempo, rhythm, melody, and volume—into a 'played' videogame level. To play a song in *Audiosurf* is to experience that song's texture through senses other than listening; it is to see the song, to traverse it, to touch it.

This chapter continues and complicates the previous chapter's observations on the haptic feel of videogame play by accounting for how in addition to the act of contorting hands and fingers at an input device, the acts of looking and listening are themselves vital components of the experience of videogame play. In the embodied textuality of videogame play, the moment-to-moment feel of a videogame through the posthuman player distributed across worlds is, itself, meaningful. How the videogame looks (how the player views), sounds (hears), and feels (touches) creates the foundation through which the player bodily perceives and interprets the videogame's systems, rules, and themes. Whereas the last chapter explored this through the embodied literacies of a player wrapped around an input device and the incorporation of tangible buttons, thumbsticks, and springs into the player's embodiment, this chapter turns to the simultaneous sensorial engagement with sights and sounds. Whereas anxieties around the over-emphasis of audiovisual representation in regards to narrative and fictional worldbuilding have long persisted in game studies (Aarseth 2004; Newman 2002; Juul 2005; Galloway 2006) this chapter is concerned with the irreducible symbiosis of audiovisual engagement and mechanical interaction.

As the last chapter explored, the particular literacies demanded of different input devices create different embodied experiences; however, such a claim captures only part of the bodily engagement demanded of videogame play. For this thesis's concern with a

phenomenology of videogame experience—with the embodied textuality of videogame works—'game', 'visual', and 'audio' phenomena might be accounted for individually, but the hybrid sensorial embodiment of using a motor skill to push a button *while* looking at a screen depicting moving images as virtual objects and spaces *while* listening to sounds and music must be appreciated. For instance, pulling the right trigger of an Xbox 360 gamepad to fire a sniper rifle in *Halo* is a phenomenologically different experience to pulling that same right trigger in the same game to fire a plasma rifle. The former, with its small, enclosed 'o' crosshair, white tracer, and loud 'crack!' feels singular, powerful, and precise; the latter, with its broad '> <' crosshair depicting an area rather than a specific point, its blue globs of plasma, and its high-pitch but wavering noise feels messy, physical, and alien to fire.[39] To focus solely on the player's bodily action *at* the videogame (pulling the right trigger with an index finger), then, is to only tell half the story of how videogame play is embodied and experienced. Through what is depicted on the screen and through the speakers, the physical act of pressing the same button is modulated and takes on a different embodied significance through audiovisual representation. Here, we locate specifically the co-present player straddling the hybrid actual/virtual world of play already theorised broadly in Chapters One and Two, where actual physical engagements and audiovisual representation fuse into an amalgam experience across worlds and bodies. In the cybernetic circuit of videogame play across which the player's posthuman embodiment is distributed, it is vital to understand how the senses are extended and constrained by both material hardware *and* audiovisual representations.

Music-centric videogames provide a fruitful opportunity to explore this sensorial experience through their commitment to having the player experience the music through an

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[39] See Abraham (2008), 53-54 for a detailed analysis of the musicality of different sound effects of weapons in *Halo 2* (Bungie 2004).

explicit synthesis of haptic input and audiovisual output separate from any notion of narrative coherency. This explicit and essential mapping of audiovisuality to haptic input provides a vivid example of a pervasive phenomenon: that the audiovisual representation of a haptic input is fundamental to its perceived tangibility. This chapter first returns to Merleau-Ponty to investigate his work on 'sense experience' and everyday synaesthesia, and then explores how Merleau-Ponty's insights are brought to bear on videogame play through Swink's work on 'game feel'. The second and third sections then turn respectively to the abstract and phenomenological experiences of *Audiosurf* and Stephen Lavelle's *Slave of God* (2012) to explore how audiovisual representation is fundamental to how the pressing of buttons and an engagement with game mechanics are perceived by the player—that is, how the game *feels*. *Audiosurf*, when discussed through the essays of developer and composer David Kanaga, exposes a fundamental musicality to videogame play that goes deeper than the shared verb of 'play' to point at each form as a sort of 'possibility space' to be embodied, where bodily performances produce aesthetic experiences. *Slave of God* complements this by providing what might be described as a purely phenomenological experience. A short game that has the player navigate a nightclub from a traditional first-person perspective, *Slave of God* overwhelms the player's senses with a barrage of nearly incoherent sights and sounds to provide a particularly non-mechanistic experience. Through an immediate engagement with sights and sounds in themselves—not one merely mediated through inputs on a controller— *Slave of God* suggests a need to account for looking and listening as essential components of videogame play in their own right, not just in relation to the body's movements with an input device. Such a notion will be explored in relation to the phenomenology literature of other screen media, such as Vivian Sobchack's work on film experience to suggest that what this thesis has until now considered a cybernetic *circuit* of player-and-videogame may itself be too linear, suggesting instead a cybernetic *web* that the player finds themselves assimilated

into and their senses stretched across. By the conclusion of this chapter, I will have shown how an engagement with audiovisual representation in videogame play can be considered meaningful in its own right, before either intelligible interpretation or coinciding interactions are considered.

Sense Experience and Game Feel

Much videogame analysis continues to privilege mechanical and haptic action. James Newman, for instance, is not alone when he states that "the pleasures of videogame *play* are not principally visual, but rather are kinaesthetic" (2002, np, original emphasis), a statement that is strictly true—and understandable in the context of the early 2000s where videogame scholars were determined to differentiate their object of study from those of film and literature studies—but which fails to account for the significance of the audiovisual *in producing* the kinaesthetic pleasures of playing with digital moving images. Similarly, Kirkpatrick's essentialist notion that "the test of gameness is subtraction: strip away the other features and you still have a game" (2013, 42), reduces videogames to a fundamentally mechanical 'core' from which a supposedly peripheral audiovisual dressing can be removed. Mechanistic analyses of videogame play—presuming a centrality of systems and rules, and a superfluousness of the audiovisual design that manifests those systems and rules—take the sensorial engagement with the videogame for granted. Alternatively, I insist that one must start with the sensorial and embodied engagement with the videogame *as* played and perceived at the same time to adequately account for the experience of videogame play.

My concerns here echo Sontag's when she stresses that the interpretation of 'content' in art perpetuates a high-/low-brow cultural divide that further functions as a mind/body dualism. Those works that engage the mind (literature, classical music, theatre) are treated as

more worthy and meaningful than those 'lowly' forms that engage the body (pulpy films, pop music, romance novels, pornography). Similarly to Hayles's critique of the traditional immateriality of textual analysis, Sontag sees interpretation as a failure to sensorially respond to an artwork as content *emergent from* form, as a tangible *thing* that is bodily engaged with. Similarly, in the analysis of videogames, a mechanistic and intellectualised engagement with 'core' rule systems and 'underlying' systemic meanings can be seen as a desire to legitimise videogames as a real, meaningful art form (see Parker 2013)—what better way to distinguish videogames from cinema than to downplay the significance of the visual while venerating the thematic resonance of the mechanic? However, such a conceptualisation fails to appreciate how the player's perception of a videogame is constructed through the experience of multiple senses at once: not just what the player does, but what they see and what they hear.

Sense Experience

Merleau-Ponty takes issue with the common language used to describe the experience of the senses as discrete:

> I say that my eyes see, that my hand touches, that my foot is aching, but these naïve expressions do not put into words my true experience. Already they provide me with an interpretation of that experience which detaches it from its original subject. (2002, 247)

Rather, Merleau-Ponty argues, each sense is itself "*a thought subordinated to a certain field*" (2002, 252, original emphasis), and it is through the simultaneous experience of these fields that an object's form is truly perceived by the body. Curiously, to exemplify this ambiguity of experience, Merleau-Ponty uses the example of "an audible rhythm [causing] cinematograph pictures to run together and produce a perception of movement whereas, without auditory support, the same succession of images would be too slow to give rise to

stroboscopic movement" (2002, 264). As the audio plays a shaping role in producing the visual in the filmic medium, so too does the audiovisual play a shaping role in producing the haptic in the videogame medium. Merleau-Ponty blames scientific language for the limited understanding of the senses as unified, one field influencing the other. The sight of sounds and the hearing of colours exist as phenomena, but to claim as such seems nonsensical, or at least exceptional. Such synaesthesic perception, argues Merleau-Ponty, not only exists but is the rule of sense experience.

In a longer passage worth quoting in full, Merleau-Ponty provides a series of examples of what he understands as the way the senses intercommunicate by opening onto the structure of things:

> One sees the hardness and brittleness of glass, and when, with a tinkling sound, it breaks, this sound is conveyed by the visible glass. One sees the springiness of steel, the ductility of red-hot steel, the hardness of a plane blade, the softness of shavings. The form of objects is not their geometrical shape: it stands in a certain relation to their specific nature, and appeals to all our other senses as well as sight. The form of a fold in linen or cotton shows us the resilience or dryness of the fibre, the coldness or warmth of the material. Furthermore, the movement of visible objects is not the mere transference from place to place of coloured patches which, in the visual field, correspond to these objects. In the jerk of the twig from which a bird has just flown, we read its flexibility or elasticity, and it is thus that a branch of an apple-tree or a birch are immediately distinguishable. One sees the weight of a block of cast iron which sinks in the sand, the fluidity of water and the viscosity of syrup. In the same way, I hear the hardness and unevenness of cobbles in the rattle of a carriage, and we speak appropriately of a 'soft', 'dull' or 'sharp' sound. Though one may doubt whether the sense of hearing brings us genuine 'things', it is at least certain that it presents us, beyond the sounds in space, with something which 'murmurs', and in this way communicates with the other senses. Finally, if, with my eyes closed, I bend a steel bar and a lime branch, I perceive in my hands the most essential texture of the metal and the wood. (2002, 266-267)

For Merleau-Ponty, different senses work together to create a perception of an object through the "sight of sounds or the hearing of colours" not dissimilarly to the way that two eyes function together to create a unified gaze: "my body is, not a collection of organs, but a synergetic system, all the functions of which are exercised and linked together in the general

action of being in the world, in so far as it is the congealed face of existence" (2002, 272). Merleau-Ponty here points towards an entirely banal and everyday synaesthesia by arguing that the different senses are lenses that open up onto different facets of the world, and thus the world is perceived through an entwining of senses. This is of particular importance to understanding how the virtual worlds of videogames are perceived in the synergetic system of player-and-videogame, where the hardness and brittleness of glass, the unevenness of cobblestones, and the fluidity of water is each conveyed on a television or computer screen through animations and textures and sound effects, and engaged through a virtual body navigated by an input device. The properties of objects in videogames, perceived tactilely by the player, communicate this tactility through an entwining of how they look, how they sound, how they feel.

Game Feel and Juiciness

Merleau-Ponty's account of the mundanity of synaesthesia echoes those of Sudnow's first experience of being entangled with *Missile Command*, mentioned in the previous chapter. Instantly, Sudnow is fascinated by the synergy of his hand's movements and the screen's visuals: "as you watch the cursor move, your look appreciates the sight with thumbs in mind, and the joystick-button box feels like a genuine implement of action" (1983, 21-22). In the cybernetic circuit of videogame play, the player's sense experience is distributed across the posthuman embodiment of technological hardware, virtual bodies and cameras, and audiovisual representation. Looking, listening, and touching mingle to create the embodied feeling of playing a videogame:

> Punctuate a moving picture? I'm no painter and don't dance in mirrors. But here I
> could watch a mysterious transformation of my movements taking place on the
> other side of the room, my own participation in the animated interface unfolding
> in an extraordinary spectacle of lights, colors, and sounds. (Sudnow 1983, 23)

Even with the relatively low fidelity of *Missile Command*, Sudnow immediately realises the

pleasure of videogames play as not simply one of action, but of being caught up in a visual

and aural spectacle—both intimately and from a distance.

Drawing from Merleau-Ponty's work, videogame designer Steve Swink proposes the

concept of 'game feel' in an attempt to model this entanglement of sight, sound, and touch.

Swink defines game feel as "real-time control of virtual objects in a simulated space, with

interactions emphasized by polish" (2009, 6), and describes the experience of this game feel

as "to see through different eyes, hear through different ears and touch with a different

body" (2009, 25). While below I take issue with the rigidity of Swink's conceptualisation

(not least of all the need to define 'game feel' as an attribute that a videogame may or may

not possess rather than simply the phenomenon of how videogames sensorially feel), this

definition does provide a useful starting point to apply Merleau-Ponty's work in sense

experience to the feeling of virtual objects in videogames. In particular, Swink's definition of

polish (touched on briefly in Chapter Two's discussion of casual mobile games) is telling:

> Polish refers to any effect that artificially enhances interaction without changing
> the underlying simulation. This could mean dust particles at a character's feet as it
> slides, a crashing sound when two cars collide, a 'camera shake' to emphasize a
> weighty impact, or a keyframed animation that makes a character seem to squash
> and stretch as it moves. Polish effects add appeal and *emphasize the physical
> nature of interactions*, helping designers sell those objects to the player as real.
> (2009, 5, emphasis added)

Here Swink draws attention to the crucial role of audiovisual elements in videogame design,

those elements that are 'artificial' insofar as they do not affect the 'mechanics' or rule

structure of the game, but which *do* affect the player's perception of the physicality or

tactility of objects in the game. While Swink's nod to the artificiality of polish and to the

'underlying' simulation does speak to an ingrained mechanistic approach of seeing videogames as 'fundamentally' mechanical and 'superficially' audiovisual,[40] he is careful to counter this when speaking in terms of how the player *experiences* the videogame. Swink echoes Sontag's flattening of form and content when he stresses that "if all polish were removed, the essential functionality of the game would be unaltered, but the player would find the experience less perceptually convincing and therefore less appealing. This is because —for players—simulation and polish are indistinguishable" (2009, 6). The audiovisual flesh is as significant as the mechanical skeleton when considering how a videogame is experienced through play. Rather than isolated experiences of discrete senses (touch, sight, sound), following Merleau-Ponty and Swink, to appreciate how a videogame feels, to perceive its form, is to appreciate the irreducible sensorial experience where the resistance of springs beneath buttons, visual flourishes, audio cues, *and* mechanical organisation combine to provide feedback to the player as to the tactility and tangibility of the screen imagery.

Swink is not the only videogame developer to highlight the significance of how a videogame feels to engage with in a medium dominantly evaluated through its mechanical systems. As discussed in the context of casual mobile games in Chapter Two, Juul draws from earlier work by game designer Kyle Gabler to discuss "juiciness" as excessive positive feedback that "gives the player an immediate, pleasurable experience" (Juul 2010, 45). Juul's example of juiciness is *Peggle* (Popcap 2007), with its vibrant colours, pachinko-like interface, and exaggerated sound effects. Simply dropping a ball into a pachinko-like machine can, when the player hits the final red peg, creates an overture of music and rainbows and fireworks (see fig. 4.1). Similarly, in Halfbrick's mobile game *Fruit Ninja* (2010), the simple action of swiping a finger to slice fruit in half is enhanced with the

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[40] I touch on the shortcomings of conceptualising videogames as 'centrally' rules and mechanics and 'peripherally' audiovisual representation in this thesis's introduction, and in greater detail elsewhere (Keogh 2014a).

feedback of seeing the fruit split at your touch, the *swoosh* sound of the blade cleanly passing through the fruit, the *splat* of juice against the wooden background. By contrast, when the player's reflexes overwhelm their intent and sends their finger flying into a bomb, it does not slice in half but, for a moment, gives a sense of solid resistance before it explodes and removes a life. Through a literal performance of juiciness, *Fruit Ninja* feels satisfying to touch.

Figure 4.1. The audiovisual overture of hitting the final red peg in *Peggle*.

Elsewhere Jan Willem Nijman, half of two-person development team Vlambeer, discusses his commitment to making videogames feel good in a 2013 lecture titled "The Art of Screenshake". Starting with a basic prototype of a sidescrolling shooter, Nijman gradually adds more and more effects to the game while keeping the underlying mechanics of shooting, jumping and moving the same: bigger bullets, sound effects, animations, and 'screenshake'

and 'camera lerp' effects.[41] The result is a videogame that feels tangibly different to engage with as each new effect is added, despite the input of fingers-on-keyboard not changing. Tellingly, in the course of the talk, Nijman (like Swink) draws attention to the feedback loop between player and videogame, showing how action does not simply begin with the player and enter the game from the outside. Rather, the player and the videogame are caught up with and intermediating each other.

Swink's thesis on 'game feel' (elaborated by Nijman) and Gabler's conception of 'juiciness' (elaborated by Juul) are significant forbears to this thesis's phenomenology of videogame experience. Yet, their intended audience of the videogame developer reduces their applicability to this thesis's focus on the played experience of videogames. Game feel in particular is restricted in its need to quantify and prescriptively define itself as a property that some videogames possess and others do not. As a book written primarily to help developers detect and create game feel, and necessarily limited in scope to those videogames that Swink sees as providing real-time control, spatial simulation, and polish (2009, 69), many videogames are explicitly excluded from Swink's conception of game feel. The book's fourth chapter, in particular, interrogates a range of videogames to determine if they possess the quality of game feel. Games such as *Guitar Hero* (Harmonix 2005) and *Kirby: Canvas Curse* (HAL 2005) are shown to *not* possess game feel as they lack one of the three foundational elements of real-time control, spatial simulation, or polish (Swink 2009, 76-80). To intellectualise game feel as a thing that some videogames possess and other do not restricts its usefulness to this thesis where I am less concerned with 'game feel' as a quantifiable attribute

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[41] 'Screenshake' refers to a common visual effect that rattles the whole screen space in response to particular events, such as the firing of a gun or a large explosion. 'Camera lerp' refers to effects on the virtual camera's movement that has it follow behind the avatar's movement rather than keep the avatar fixed in the centre of its gaze. Each of these effects function as explicit remediations of televisual media, selling the tangibility of the videogame events as though they were being captured by a physically grounded and imperfect camera rather than a virtual viewpoint.

and more with accounting for how any particular videogame feels to play. Rather than excluding a videogame for a supposed lack of real-time control, more useful here is to understand what *does* make a certain videogame feel a certain way to play. That is, the real-time control of the cursor clicking against the interface; combined with the visual and animated presentation of environments and bodies and non-diegetic elements such as menus; combined with the aural feedback of music, diegetic sound effects, and non-diegetic cursor clicks. All videogames, in the player's active engagement with material hardware and audiovisual representation over time, feel a certain way to play, and to claim otherwise is to return to a mechanistic understanding of how players bodily engage with videogames; it is to focus first and foremost on disembodied intent and action rather than on embodied experience. While this thesis is indebted to Swink's work, it does not forward 'game feel' as a necessary term to consider this phenomenon of how a videogame feels to play.

The urgency for an embodied textuality of videogame play echoes Sontag's claim that "What is important now is to recover our senses. We must learn to *see* more, to *hear* more, to *feel* more" (Sontag 2009, 14, original emphasis). A phenomenology of videogames play cannot assume—to echo Sobchack's phenomenological work on film (1991, 20)—the fundamental intelligibility of the videogame experience but must instead account for, rather than presume, the sensorial and embodied perception and subsequent feel of playing a certain videogame. Thus, while a literacy of systems and an appreciation of procedural rhetoric (Bogost 2007) remain important for understanding the particular ways videogames communicate with players, a language is also required that appreciates and accounts for how a videogame feels to play—a language that synthesises aural, visual, mechanical, and tactile fields of perception as the sensorial experience of engaging with a videogame object through play.

Playing Songs in *Audiosurf*

Dylan Fitterer's *Audiosurf* provides a unique opportunity to explore the synaesthesic sensorial experience to videogame play, where audiovisual engagement is inseparable from and fundamentally entangled with mechanical systems. In *Audiosurf,* the player's spaceship-like avatar moves forward automatically down a track while the player moves the mouse to move the avatar left and right, picking up or avoiding different coloured blocks along the track to gain points in a basic match-3 block game happening at the bottom of the screen (see fig. 4.2). Different characters with different abilities can be chosen, but each is always simple enough to be played with a single hand on the mouse. Yet, despite this minimal bodily incorporation, *Audiosurf* provides a captivating engagement through the way it allows players to "ride your music", as its slogan promises. Here, 'music' and 'game' are inseparable at the most ontological level, where the algorithms of the game analyse and read a selected MP3 file from the player's computer, translating that audio file into a three-dimensional track to be 'played'. A quiet song will translate into a gradual, relaxed, uphill climb in soft purples and blues; a loud, intense song will be all downhill plummets in reds and oranges. A song with a fast beat will be bumpy and jittery, tossing the player's avatar around; a song of lonely acoustics will provide smooth valleys and hills. The aural experience of listening to music is translated into one of visual (spatial) movement and haptic twitching. Tempo becomes acceleration and gradient; volume becomes warm and cool colours; percussion instruments are transformed into tunnels; cacophonies of instruments playing at once become congested traffic jams of blocks that need to be frantically and deliberately collected or avoided.

Figure 4.2. *Audiosurf*. As blocks are collected, they enter the grid. Blocks disappear when three or more of the same colour are adjacent, and the player receives points relative to the number of blocks in the grouping. If the player overfills a column of the grid, they lose points.

When a musical track is translated into an *Audiosurf* track, each block is generated by different noises in the song. Loud and intense parts of a song will be congested with high-scoring red and yellow blocks, while a quieter intermission will be sparse blues and purples. For the 'Mono' character, though, all but a few blocks are greyed out to be avoided rather than collected, allowing for a more relaxed surf focused less on scoring or optimal play and more on simply moving through the music. Fitterer has explained in interviews how this collection or evasion of the blocks is meant to suit different personal engagements with music: "For some people it's more of a zone-out relaxing experience, playing with the mono character. If you play it with the pusher character, it's more of this hopped-up, intense-focus, high-alert kind of experience, and that's kind of what I want from music" (in Wilburn 2008).

More important than the blocks is the shape of the track, which Fitterer explains is formed by frequency analysis:

> The basic gist is that when the music is at its most intense, that's when you're on a really steep downward slope, like you're flying down a rollercoaster in a tunnel. When the music is calmer, that's when you're chugging your way up the hill, watching that peak in the distance you're going to reach. And music is not all about just going uphill and downhill; lots of music has speed bumps and waves that you ride, so that's all pulled out of the song. (in Wilburn 2008)

Fitterer also stresses that much of the game's production was trial and error. *Audiosurf* is less concerned with a mathematically accurate mapping of music to videogame but a desire to capture an appropriate feel of music in videogame form. What this ultimately points towards, then, is the utter inseparability of the videogame's audiovisual design and its supposedly 'underlying' mechanics. Indeed, in *Audiosurf*, it is literally from the audio that the mechanics of any one particular track emerges. The player flicks their wrist left and the right to collect blocks as two distinct notes play, and the satisfaction of this rhythmic flicking is its own meaningful action, even as it remains unintelligible. It synthesises the player's incorporation of the input device with the sounds of the music to provide the chance to be part of the noise. While *Audiosurf* is neither the only nor the first videogame concerned with communicating musicality through videogame play—it is directly indebted to the likes of *Rez*, *Amplitude*, and of course *Rock Band*—its generation of game space and action *from* music makes it exemplary of the irreducibility of sense experience this chapter is concerned with. To play a song in *Audiosurf* is to experience that song's form through sensorial fields other than hearing.

Videogames and Music as Shifting Possibility Spaces

To better appreciate *Audiosurf*, the intimacy of musical and videogame forms deserve more interrogation. The close ontological and phenomenological relationship between music and videogames are of central concern in the writing of game developer, composer, and critic David Kanaga. Across a number of esoteric blog posts written since 2011, Kanaga explores

the close formal relationship of music and videogames, working from the hypothesis that both forms are subsets of a broader form that he comes to call "shifting possibility spaces" (2013, np). Kanaga takes as his hypothesis the notion that both videogames and music are 'played': even if we treat music and videogames as discrete media, "it is impossible to ignore that they are both played, and it is hard not to be curious what is this PLAY that music and games have in common" (Kanaga 2013, np).[42] Kanaga argues that while videogames "are called games by habit", the material requirements of the medium of *videogames* (as opposed to the medium of games) does not demand goals or optimal play; rather:

> We can *move* or *play* in videogames—not much more can be said definitely. I am interested in a *formalism* […] that builds from this premise, that regards this movement in much the same way that musical movement is regarded, which has meanings, but meanings which are unspeakable, which are living in the material itself, and which mean very little divorced from the context. (Kanaga 2013, np)

As a shifting possibility space through which the character can move (and with which the player uses bodily movement to engage), then, Kanaga argues for the playing of videogames to be understood much like the playing of musical compositions or instruments through their "degrees of freedom, or haptic capacity to be *played*" (2013).

Highlighting such a relationship between the forms of videogames and music is not to suggest the two should be collapsed together and their obvious specificities ignored. Kanaga is not concerned with attempting to conflate the two mediums; instead he demonstrates how a shared ontology allows fresh insights into how players engage with and experience videogames. Kanaga shows how the language and concepts developed around music over centuries (rhythm, harmony, melody, pitch, timbre, etc.) can deepen our understanding of

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[42] Kanaga uses a range of grammatical marks in his train-of-thought essays, including inconsistent use of capitalisation, ellipses, and italics. Where I quote his work I reproduce these marks in full, and I use '[…]' to mark my own ellipses where I have omitted part of a quote. All emphases are Kanaga's own unless otherwise stated.

other shifting possibility spaces, of other played forms. For instance, on the musicality of a painting by Wassily Kandinsky, Kanaga writes:

> Allow the line connecting our pupils to the picture to be the 'avatar' or 'player character' in the playspace. 'Line of sight', 'Line of attention', etc... Drift *intentionally*, from one spot to another, and feel the light-affects change as [the] zone of the picture you are focused on comes in and out of focus. The matrix in the upper-left corner can be massaged with the eyes somewhat, like flicking fingers through the teeth of a comb—brlrlrlrlrlrlr—rhythms slowing down some as gaps between lines increase, speeding up as they close together-- maybe pitches changing likewise (faster rhythm = higher pitch, when *zoomed into*). Looking at other sections may feel totally different—colors to me often feel more like harmonic zones, whereas lines feel like rhythmic contours. It is worth spending some GOOD TIME with these pictures, like the amount of time you might spend with a little flash game, and to drift through them and feel the music/ affect of the different points and their interrelations. (Kanaga 2013, np)

Regarding videogames in particular, Kanaga points to the 'rhythms' of play and movement, describing Swink's notion of game feel as gaming's "input-*microrhythm*" (2013): that flowing feedback loop of input and output, input and output that is the player caught up in the cybernetic circuit, the pleasure of acting and the pleasure of being acted upon. While rhythm will be discussed more in the next chapter in relation to the progression and repetition of videogame time, particularly relevant to this chapter are Kanaga's musings in an earlier essay about how the musical quality of timbre might apply to videogames. As a C played on a piano sounds different from the same C played on a guitar as each is produced through different material qualities, so too does walking on different surfaces in *Mario 64* (grass, stone, ice, etc.) feel different: "the mechanics of a game can be likened to an instrument in a piece of music; the *feel* of those mechanics (or how they interact with the world…) being the feel of instrument, is an experience which has everything to do with timbre" (Kanaga 2011). How a particular videogame feels to play, Kanaga enticingly suggests here, could be considered as that videogame's timbre.[43]

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[43] Hjorth and Richardson similarly use the musical notion of 'ambience' as one that "discloses a game's texture, affect and embodiment" (2015, np).

Kanaga is interested in videogames, like music, as played form. As performed. As *touched by*, and *touching*, the player. As having "unspeakable" meanings that cannot be divorced from the experience and feel of the phenomenon of embodied videogame play. These interests point towards appreciating the unintelligible pleasure of Mario's triple jump, of pressing the button at just the right rhythm, that might be satisfying for the player the same way playing one chord after another is satisfying for the musician. As Sudnow (who at various times himself draws parallels between his obsession with learning *Breakout!* and his earlier drive to learn piano, as the previous chapter explored) muses upon first encountering the barrage of sights and sounds of a videogame arcade: "Maybe the point was just to have your part in creating the noise?" (1983, 4). Rather than needing a reason *why* pressing these buttons in this order in this game is meaningful, Kanaga's work (and a phenomenological approach to videogames that understands them primarily as played form more generally) asks to describe *how* pressing these buttons in this order is meaningful (or perhaps, pleasurable) in the context of this particular audiovisual output. To be caught up with (that is, to move with) and participate in the sights and sounds *is* the point.

Such an ontological understanding of videogames as shifting possibility spaces is seen most clearly in Kanaga's own videogame work. In *Proteus* (2013), a relaxed exploration game that Kanaga worked on alongside Ed Key, the 'music' is embedded in the environment, with the musical sound effects of flowers and birds and trees and stones and crabs allowing each player's particular movement through the space to compose a different performance (something that is in fact common across videogames, as Abraham's [2008, 53-55] discussion of how background music, ambient noise, and dynamic sound effects combine in *Halo 2* demonstrates). At the other end of the spectrum, *Dyad* (Right Square Bracket Left Square Bracket 2012) is an overwhelming and intoxicating arcade experience that Kanaga produced alongside designer Shawn McGrath, which throws the player into a much more restrictive

possibility space, but one still focused on forms of movement producing different engagements with music. In *Panoramical* (2015), which Kanaga worked on alongside Fernando Ramallo, the player produces the landscape they angelically fly over, twisting dials on a MIDI music controller to augment both the game's soundtrack and landscape as one synaesthesic whole.

Other developers, too, explore this synthesis of 'playing' videogames and 'playing' music. Iain Snyder's *UN EP* (2013) provides a variety of toy-like screens in which different inputs from the player create different aural and visual outputs; there are no goals or win states, but simply a space in which music can be "played *with*" (Snyder, in Lucas 2013). The Rock Band and Guitar Hero franchises are well-known for letting players play at playing songs, recreating a simplified version of performing guitar play, and often providing breaks in songs for the player to improvise freeform 'solos'. Hu Wen Zeng's mobile game *Piano Tiles* (2014), meanwhile, has the player rapidly tapping black tiles and avoiding white tiles to stay alive. As the player taps, a piece of piano music plays, giving the bodily sensation of acting out a virtuosic piano performance with two fingers. What Kanaga's work and these musical videogames suggest is that more than goals or challenges or narrative, all a videogame formally requires to provide a meaningful experience is an audiovisually depicted and manipulatable space, and objects that can be played with.

Playing With Audiosurf

Audiosurf, with its tracks derived algorithmically from the player's own music collection, is concerned primarily with ensuring that experiencing a song through the game has a relatable feel to experiencing that same song simply as music. While other music videogames, most notable the Guitar Hero and Rock Band franchises, are more concerned with 'playing music'

in the sense of playing with *producing* music, a better analogy for the experience cultivated

by videogames such as *Audiosurf* or *Rez* might be playing with music as a dancer plays with

music: matching bodily movements and visual spectacle to musical movements and sounds

rather than specific instruments or notes, capturing the *sensation* of music in the player/

dancer's actions. Here, Kirkpatrick's earlier work on the parallels between dance and

videogame play is useful, in particular his focus on the significance of bodily movement to

each form, and the difficulty of interpreting 'meaning' from such movements:

> Like dance, video games are caught up in a paradoxical refusal of textual or discursive meaning, although anyone who has attended a dance performance knows there is an inherent ephemerality about this vanishing content and that its very transience is somehow essential… Both practices create methodological difficulties. Meaning interpretation requires skills of exegesis and linguistic or textual analysis focused on idea but dance and games present bodies in motion. (Kirkpatrick 2011, 120-121)

Like Kanaga above, Kirkpatrick sees the transient performance of bodily movements as

central to videogame play.

Kirkpatrick's interest in dance and *bodily* movement in the strictest sense leads him to

reject both conceptualisations of videogame play as a cybernetic circuit and the player as

constituting a cyborgian subjectivity, instead adamantly privileging the social context of the

playing (organic) body (2011, 150-151). This, however, elides the fact that the 'dance' of

videogame play is a dance *with* the machine and *with* audiovisual representations. Earlier in

the same chapter, in a vivid description of playing *Pac-Man* (Namco 1980) to demonstrate

"the principle that video games contain dance moves" (2011, 127), Kirkpatrick writes:

> Pacman [is] surrounded by ghosts who are bearing down on him along all the available paths. Only by *pirouetting* on the spot can he wait for one ghost to turn off at a junction, which opens an escape route. The player's body, especially their hand and arm, must transmit just the right forces at exactly the right time to pull this manoeuvre off successfully. Pacman is programmed never to be stationary so keeping him on one spot requires rapid alteration of the directional controls. This performance is normally accompanied by great, Bergsonian hilarity, or at least relief, because it is such a feat of poise and timing. (2011, 127, original emphasis)

While Kirkpatrick is right to point out here this primacy of movement and the "priority of form" (2011, 128) it suggests, his own description contradicts his dismissal of cyborgian subjectivity. The 'dance moves' of the player's hand and arm in *Pac-Man* are only meaningful as such in the context of the arcade joystick, the visually represented maze and ghosts and avatar, and the various sounds *produced* by the combination of these elements. If the player were to play *Pac-Man* on a different platform, these bodily motions would be altered by the different mediations put on the player's body, such as perhaps the need to slide a thumb over a gamepad's d-pad or swipe an index finger over a smartphone's touchscreen, rather than jerk an arm to and fro to move an arcade machine's joystick. While Kirkpatrick's dismissal of cybernetic and posthuman understandings of videogame play are premature, the arguments he forwards around dance and videogame play remain significant, with the caveat that the player plays *with* the videogame, not just *at* the videogame.

Most compellingly, arguing against understandings of videogame play as 'flowing' and instead as more practicing a habitus (relevant to the previous chapter's discussion of dressage and attunement), Kirkpatrick's claim that "we should recognize that there is not one organizing meaning that suffuses the activity, but that its primary moments are just meaningless" (2011, 151) is crucial to this chapter's interest in the tactile feel of videogame play in and of itself. The notion of individual bodily movements being 'meaningless' (in a strictly intelligible or interpretative sense) is compelling for appreciating how it feels to play a videogame, where minuscule but rhythmic bodily twitches and clicks synthesise the playing body with not just the movement of the music but the virtual avatar's spatial movement in pleasurable ways. The pleasures conveyed through the sensorial experience of audiovisual and haptic feedback to the player (synthesising sight and sound and touch with plastic buttons and springs and walk animations and explosions) is not one primarily of interpreting content, but one of bodily engaging with form. What is important is not to be able to explain why

Audiosurf is thematically meaningful, but to be able to describe how *Audiosurf i*s

meaningfully experienced. It is this preconscious perception that is central to the embodied

textuality of videogame play, through which any intellectual engagement with a videogame's

narrative or fictional 'content' is formed.
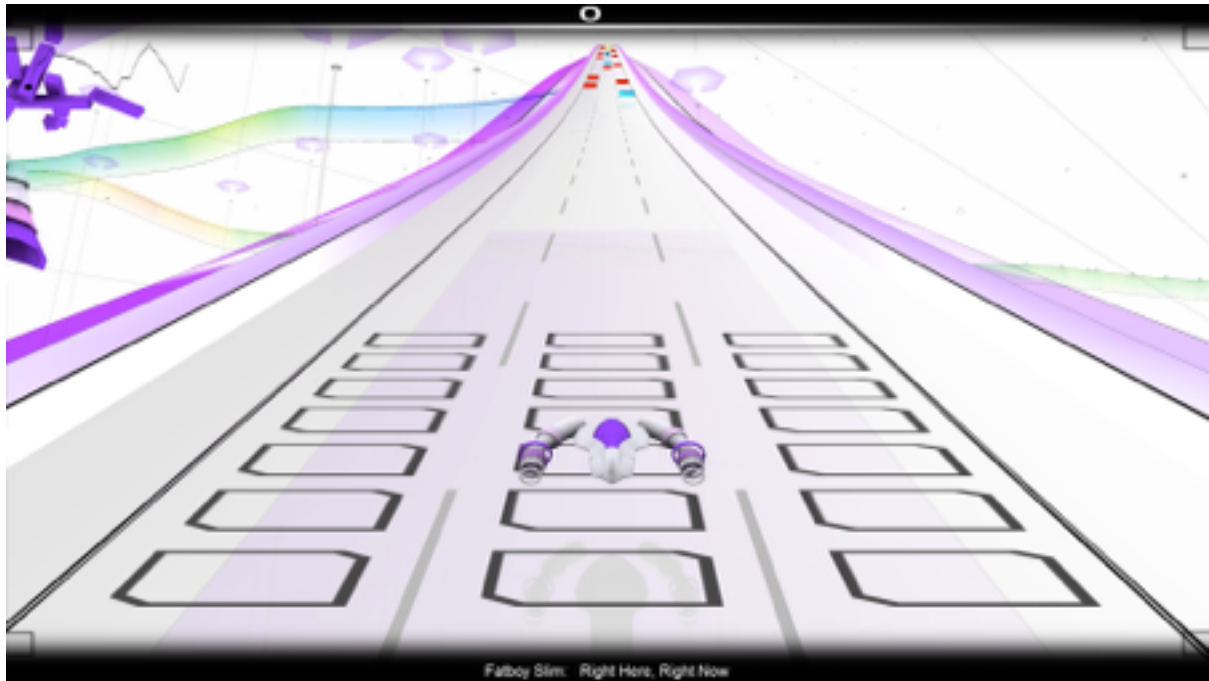
Figure 4.3. The slow, gradually fading-in intro of Fatboy Slim's "Right Here Right Now" in *Audiosurf*

Figure 4.4. Reaching, and about to plunge off, the second climax of Fatboy Slim's "Right Here Right Now" in *Audiosurf*

This can be demonstrated in a comparison of two songs and their contrasting feel as both audio track and *Audiosurf* track. Fatboy Slim's "Right Here Right Now", as already discussed in the introduction to this chapter, progresses through three movements, with the conventional climbs and drops of house and dance music, where a repetitive and slow rhythm gradually builds to eventually explode in a cacophony of noise and beats. In *Audiosurf*, this is translated into two distinct mountain climbs and sudden, steep plunges. But moment to moment, too, the shifts between the song's movements are intense. The song fades in gradually from silence, with lyrics ("Right here right now" repeated over and over), synth, and increasingly loud percussion. In *Audiosurf*, the fade-in starts as a slow moving track with no blocks before the gradual introduction of instruments causes the player to accelerate and the road to become increasingly cluttered as the drum kicks in (see fig. 4.3). A minute in, the music that has only just started to build drops away leaving only the repeating lyrics, slowing the player back down again to a near standstill for just a moment before it all returns suddenly atop the first drop. Through the middle of the song, the music becomes bouncier and the lyrics change to the longer line "Waking up to find your love's not real", again repeated over and over. In *Audiosurf*, this section of the song becomes one of constant ripples rather than smooth climbs, with the cadence of the lyrics creating a bouncing path of small hills. This smooths back out at the four-minute mark when the lyrics fade and the synth quietly returns, beginning the next slow climb towards a climax before, again, it all rushes back in the final crescendo for the final two minutes of the song. In the game, this second climb and drop is conveyed as a sudden, jarring about-turn as the fast, bouncing red and yellow track suddenly swings back upwards and turns a cool purple; little traffic populates the road and the camera pulls back from the avatar to reveal the long climb ahead of the player. As the music speeds up again towards the climax, more traffic fills the uphill climb, with rows of blue and purple blocks; collecting or avoiding each one gives a visceral

sensation of the music become more crowded, of building towards something. At the very peak of the second and final climax, a moment of silence occurs before the drums bring in the plunge (see fig. 4.4). This leads the player's avatar to jerk to a stop at the very precipice of the hill as the blocks ahead of them plummet down, giving a sensation not unlike watching the first carriage go down a roller coaster before your own. After the player goes over the edge and the song explodes into its final act, valuable reds and yellows clutter the road, and the player must slide the mouse back and forward rapidly and deliberately to survive the onslaught without overflowing the grid. This final act is differentiated from the first downhill slope by am occasional distorted cymbal crash, which manifests as a row of red blocks, an easy way to score points amidst the clutter. With each cymbal crash, then, the virtuoso player's hand twitches to intersect this row of high-scoring blocks, not unlike a dancer in a club might jerk their body to this particular moment of the song. As the six-minute song finally comes to an end, the last downhill rush plateaus out at the moment the final "Right here" fades away with an echo ("Here here here here…"). As the camera pulls back and the player sees the flat, near empty track ahead of them, it feels almost like a relief, like the player has come out on the far side of an obstacle course.

In contrast to Fatboy Slim's dance music, Bon Iver's song "Skinny Love" (2007) is a slow acoustic song, very much unlike "Right Here Right Now". There is no percussion to push the song forward, instead relying solely on regular guitar strums of varying volume and soft vocals. In *Audiosurf*, this translates to a wave-like track that undulates as the player climbs small crests and then surfs down the far side of them as the guitar chord fades; up and down, up and down. This is most pronounced in the chorus, where the iambic pentameter of the lyrics ("and-I *told*-you to-be patient / and-I *told*-you to-be fine") has the player climb to a small peak, rush down a hill with the word "told", and then ride a half-pipe back to another peak in time for the next line. As the song is much slower and more straightforward than

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"Right Here Right Now", so too is its *Audiosurf* manifestation. It's a shorter track, and a much more consistent one without dramatic change or congestion. Blocks are much more sparse; and often a single block sits atop each crest of the chorus, and collecting them feels akin to tapping along with the song. The pacing allows the player to more deliberately collect different colours as opposed to "Right Here Right Now"'s frantic scurry. Rather than implying it is a less interesting song to play in *Audiosurf*, however, "Skinny Love" still plays like "Skinny Love" sounds: slow, melancholic, and sing-songy.

These two songs highlight the vast diversity of movement and play sensations available to the *Audiosurf* player, where the feel of the game is intricately tied to the song chosen. Here, the music is not laid over a core, predetermined track to give it a certain flavour, but the track and other elements themselves emerge from the audio data in an intermediate mingling of forms that the player experiences through their posthuman embodiment of the videogame through different sensorial fields simultaneously: their eyes on the screen, engaging with lines and colours and movement; their ears hearing the song and the game's sound effects; their hand flicking the mouse to and fro and clicking buttons to move blocks. Just as Merleau-Ponty insists one "sees the hardness and brittleness of glass" and "hear[s] the hardness and unevenness of cobbles in the rattle of a carriage" (2002, 266) synaesthesically through different sensorial fields, by translating the sensation of 'playing' a song (composing, dancing, listening, etc.) to 'playing' a videogame, *Audiosurf* communicates the phenomenological sensation of engaging with that song through different sensorial fields across different embodiments of different mediums. Through sight, sound, and touch, a dance song still feels like a dance song, and a soft acoustic song still feels like a soft acoustic song.

What *Audiosurf* ultimately foregrounds, then, is the inseparability of the experience of the eyes and ears with the experience of the hands in videogame play. That "Right Here Right

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Now" and "Skinny Love" feel distinctly different to engage with in *Audiosurf* suggests that what the player does and how it feels to do that is fundamentally caught up with what the player looks at and listens to. How a videogame *feels* to play is in how audiovisual and haptic engagements come together to create that sensation of movement as an unintelligible meaning that is meaningful (or perhaps more accurately 'pleasurable') ephemerally in the moment of play. If videogames are experienced as much as they are interpreted through an embodied textuality where performed form and perceived content are fused, then to understand how and why different songs as played in *Audiosurf* feel different—and why this feeling is meaningful in and of itself—is to understand the transient and ephemeral played meanings of movement, of sensation, of being-in-the-world that produce the platform for any intelligible, conscious engagement with a videogame.

Overwhelmed in *Slave of God*

While *Audiosurf* provides an example of the formal importance of movement to videogame play and the importance of audiovisual engagement to the timbre or feel of that movement, it still functions safely within the accepted paradigm of real-time control favoured by Swink, where the immediate and direct relationship between player input through the mouse and the videogame output of audiovisual representation is core—the focus remains on 'action'.[44] While this direct manipulation of the sounds and images of the videogame is certainly crucial to the experience of videogame play, as this chapter's commitment thus far has demonstrated, it risks obscuring the parallel significance of the videogame player's engagement with

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[44] Kanaga discusses this intimacy of player input and audiovisual output in regards to "mickey-mousing", a strategy in animation and film that synchronises the actions on screen to the music heard. While seen as potentially gimmicky in cinema, Kanaga argues that mickey-mousing turns the videogame into a musical instrument: "because we are in haptic contact with the game, when events are given musical skin, we become hyper-attuned to the possibility of *playing* those events, and this is how a musical instrument is born in the first place" (Kanaga 2013, np).

audiovisual design that is not necessarily connected directly to real-time feedback. Examples of these engagements, often overlooked or downplayed in scholarly analyses of videogames, include the spectacle of a pre-rendered cut-scene; the theme song playing over a videogame's final credits; the satisfaction of watching units fulfil their orders in a turn-based strategy game; or the presentation of a videogame's opening splash screens.[45] These engagements with audiovisual elements are not directly mediated by the player's haptic inputs, but they remain of crucial importance to the player's engagement with particular videogames. This section firstly explores what it means to consider looking and listening as significant acts of videogame play in themselves, then looks at the game *Slave of God* as a particularly salient example.

Looking and Listening as Acting

Counter to the prevailing trend to brush off the engagements players have with 'non-play' elements of a videogame such as those listed above, Rune Klevjer defends the role of cut-scenes in particular against the impulse to conflate "'game' as a discursive mode" with "'computer game' as a cultural product" (2002, 193). For Klevjer, the "impure duality" of videogames—the reliance on both linear, often cinematically delivered stories and more open player-controlled sections—demands they be understood not just as played games, but also as textual experiences (2002, 194). This counters Kirkpatrick's claim above that the primacy of bodily movement in videogames make textual analysis insufficient, and echoes Swalwell and Wilson's insistence that videogames are understood for their "rich commonalities and

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[45] For instance, the abrupt and silent appearance and disappearance of "Sony Computer Entertainment Europe presents" and "Naughty Dog presents" at the beginning of *The Last Of Us* (Naughty Dog 2013) that serves to communicate a certain restrained tone that permeates the whole game. Indeed, in this chapter's primary focus on music and noise, it is just as important to consider the meaningful use of silence in moments of videogame play as well.

continuities with cinema, television, music, visual arts, *and* predigital games" (2008, 4).

Videogames are not *just* digitalised non-digital games; they are audiovisual playspaces. While

Klevjer is particularly concerned with the role of cut-scenes and representational strategies

more broadly in the construction of narrative in story-driven videogames, his reaction against

early ludology scholarship and 'pure' understandings of videogames *as games* is an important

reminder of the importance of traditional representational strategies in 'flavouring'

mechanical interactions:

> Just like day-dreaming, the fictional genre gives vague expectations a form. Ergodic effort acquires new meaning through typical stories evoked by the pre-written. The cutscenes of [*Grand Theft Auto III*] play well on the genre. They do not tell elaborate back-stories, or try to explain complicated conspiracies. Style, setting, characters and simple stereotypical events bring the mobster stories to life. As a player-reader you are not just guided, you are spoken to. A recognisable rhetoric meets you; the voice of a genre. This voice is your dialogical partner, in a mythical world especially made for you. (Klevjer 2002, 201)

While here Klevjer is concerned with the tone that audiovisual representation lends to the

player's actions, there is a clear parallel with Kanaga's (2011) suggestion above that the feel

of a videogame could be considered its timbre, and where the feel of different mechanics in

different contexts is dependant on how those actions look and sound. Audiovisual

representation does not just give context to videogame action; audiovisual representation

constructs videogame action. Before the videogame player 'acts' in a strictly mechanical or

haptic sense, they actively look at images and listen to sounds. It is important, then, to

account for looking and listening as bodily acts in their own right.

Such a move can be made through Sobchack's (1992) work on the phenomenology of

film experience. Sobchack hopes to understand the corporeal engagement between a film and

its viewer, much as this thesis works to do the same for a videogame and its players. While

much scholarly work around videogames would distinguish between acting and viewing,

such as Galloway's aforementioned claim that "play is absent" when the player stands

inactive on a street corner in *Shenmue* (2006, 10), Sobchack's work on cinema frames viewing *as* acting, and addresses explicitly the *act of viewing* and the way it

> implicates both *embodied, situated* existence and a *material* world; for to see and be seen, the viewing subject must be a body and be materially in the world, sharing a similar manner and matter of existence with other viewing subjects, but living this existence discretely and autonomously, as the singular embodied situation that makes this existence also a unique matter that matters uniquely. (1992, 23, original emphasis)

In particular, and as her book is titled, Sobchack is interested in cinema's "address of the eye" as a "visual transcendence in bodily immanence" that allows "both the spectator and the film to imaginatively reside in each other—even as they both are discretely embodied and uniquely situated" (1992, 261). Ihde, too, looks distinctly at viewing as an act through both reading and moving image culture. He notes how reading is a structured perception that "normally, carries with it a dampening of bodily motion, a fixed place for its object, an enhancement of the visual, and the privileging of an elevated or overhead position" (1993, 86). For Ihde, it is a way of being-in-the-world that audiovisual technologies such as television and cinema obscure, since while they are still commonly "*viewed* from a usually *fixed* position", they "now begin to vary the 'text' with that which 'moves' and which develops a virtual 'movement' of bodily positionality" (1993, 86, original emphasis). Such paradoxical entwinings of discretely embodied actors that Sobchack and Ihde observe in cinematic spectatorship are only amplified in the embodied demands of videogame play.

While previous inquiries into the embodied aspects of videogame play have been right to draw attention to the very visible ways bodies engage with interfaces (such as: Ash 2013; Taylor 2012; Dovey and Kennedy 2006), Sobchack's and Ihde's work suggest it is important to also account for *the act of viewing* and *the act of listening* as themselves active bodily engagements with the videogame text. To call a cut-scene 'non-interactive' (as is common in both popular and scholarly videogame discourse) is inaccurate, as the player must

explicitly and directly interact with the moving images and sounds through the acts of viewing and listening. To fully appreciate the phenomenological aspects of videogame experience, then, is to understand the synthesis of these bodily engagements. It is to understand what it means to engage with images (moving or still), movements (physical or virtual), and sounds (effects or music) as a simultaneous encounter with a videogame's textual form through different sensorial fields. It is in the hybridity of these experiences that the feel of the videogame emerges and that an embodied textuality can be appreciated.

Thus, conceptualising the entanglement of player and videogame as a cybernetic 'circuit', or as a feedback 'loop' as illustrated by Swink's model of interactivity shown in Chapter One (see fig. 1.3), is perhaps itself too straightforward even as it (quite rightly) favours neither player nor videogame as a primary actor. Rather than a single, unidirectional flowing loop of input and output, arrows must also shoot back and forward between eyes and screens, between ears and speakers, between hands and controllers, between controllers and screens, between hands and eyes, between ears and controllers. Rather than a cybernetic circuit, it is more of a cybernetic *web* that the player finds themselves assimilated into and their senses stretching across.
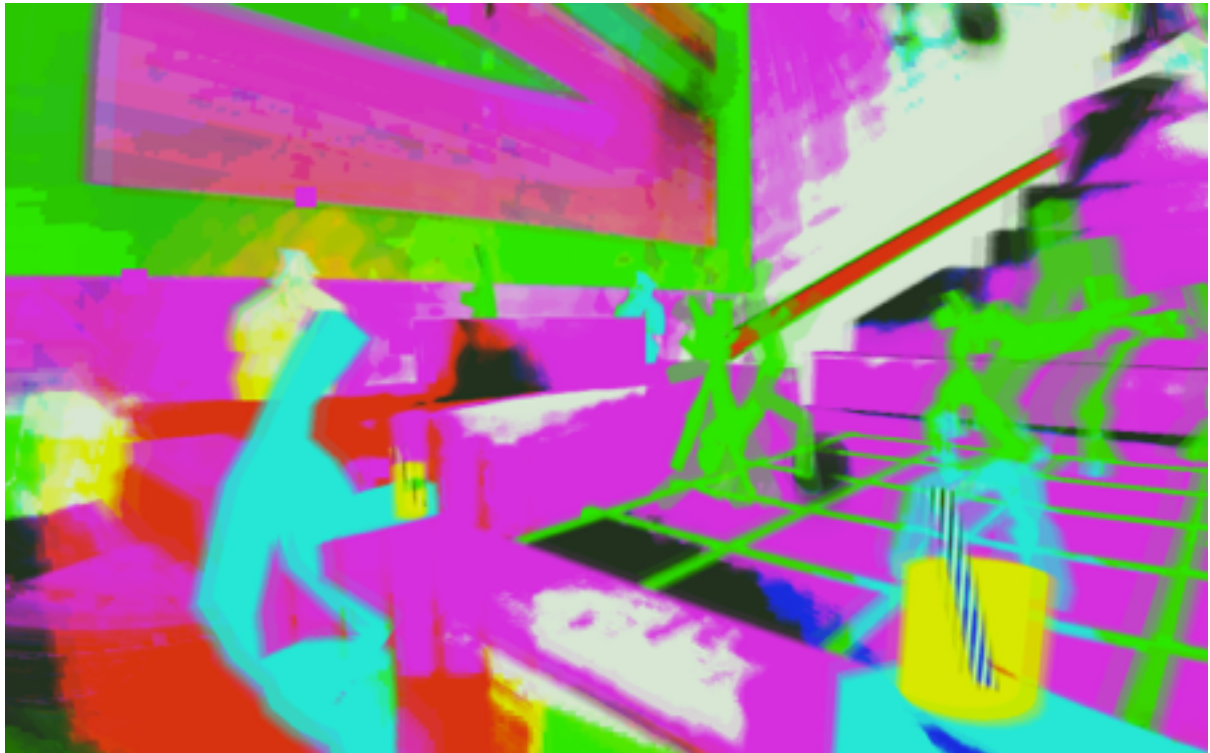
Figure 4.5. Having a drink and watching the dancer in *Slave of God*.
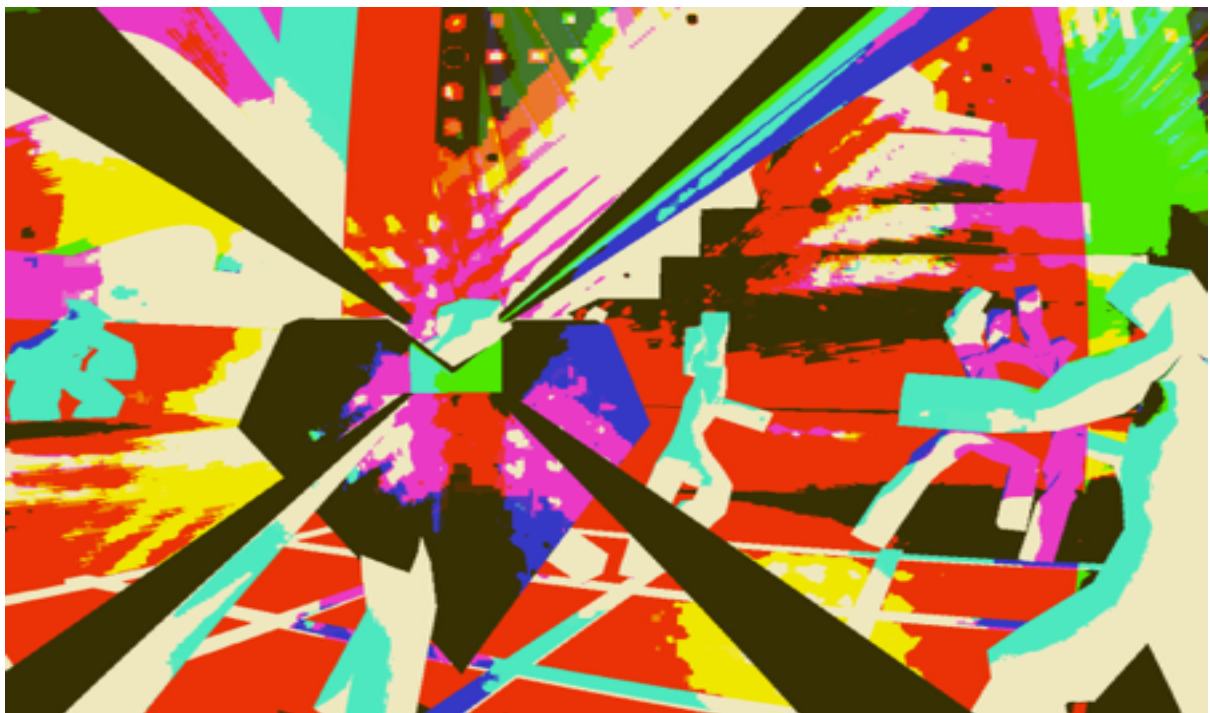

Figure 4.6. Trapped on the dance floor in *Slave of God*.

Slave of God

Lavelle's *Slave of God* (see figs. 4.5 and 4.6) exemplifies the significance of sensorial experience in and of itself without necessarily being 'output' for any particular haptic 'input'. *Slave of God* places the player in the body of a person at a nightclub. Controlled with conventional first-person controls on a keyboard and mouse, the player moves the character around the various spaces of the nightclub, from the dance floor, to the bar, to the men's bathroom. While there is an ultimate ending to the game, its dominant experience is one of self-paced exploration. What is significant and most immediately striking about Lavelle's game is the audiovisual depiction of the space. From the moment the player clicks on the quiet and minimal menu screen to start the game proper, they are hit with a barrage of lights and sounds. Ripples of colour quiver and convulse across the walls and floor, not necessarily proportional to the perspective the player is viewing them on. Wavering lines jump and jitter flatly across perpendicular walls, blurring like a 3D movie viewed without the right glasses. The colours of certain objects, such as people or cocktails, spill out beyond their object's borders to smear like watery paint. The space itself feels inconsistent, constantly shifting and morphing with the colours in kaleidoscopic patterns. Meanwhile, the music is loud and raving, a simple dance loop repeated over and over, but also morphing and shifting into quieter or louder versions depending on where in the club the player moves to. Near the dance floor, the colours are at their most dominant and the music at its loudest. If the player walks their character into the centre of the dance floor, their vision locks onto another dancer, so that 'A' and 'D' on the keyboard no longer strafe the player left and right but rotate around this other dancer. The player's camera involuntarily spins and blurs and distorts the entire screen, trapping the player in the dance (see fig. 4.6).

Various critics have commented on the phenomenological experience of playing *Slave of God*. Merritt Kopas notes that the game's unique style "chooses to emphasize *intensity of feeling* in order to create an experience that is in a way 'truer' than a photorealistic representation might be" (2014, 5-6, original emphasis). That is, *Slave of God* is more concerned with *feeling* like a nightclub than looking like one. In more detail, Cara Ellison similarly describes how playing *Slave of God* captures the feeling of being in a nightclub:

> *Slave of God* is wonderful at capturing the way music muffles and meanders in the brain when you are drunk under flashing lights; it's a sort of a little prayer to a one-off experience, something halfway from a nightmare to a delirious hallucination in the mind of someone who has been abandoned. The music weaves in and out and changes to adapt your environment down corridors and by the DJ stand. Better still, *Slave of God*'s eye-searing art stylings are angular bright primary colours, burning themselves onto the back of your pupils like laser camera film. Your view, controlled by your mouse hand, is constructed so that it gives a lazy fisheye vision that could only ask you to feel inebriated. (Ellison 2013, np)

Across these two critics we see this focus on how *Slave of God* feels to play through engaging with its sights and sounds. In Ellison's description in particular, we see the significant focus on the synthesis of how the game looks, how it sounds, and how it inscribes itself onto the player's body: vision controlled by a hand in such a way as to convey a sense of inebriation; colours that practically sear the player's eyes.

Developer and critic Robert Yang, meanwhile, is critical of the trend to casually describe synaesthesic game experiences like *Slave of God* (or, more commonly, *Rez*), as simply 'like being on drugs'. Analysing *Slave of God* in relation to his own in-development nightclub game, Yang sees such understandings of *Slave of God* as lazy and incomplete:

> There aren't any interactions or parts about using drugs, and so any imagined link to drugs is obviously a metaphor for some other feeling. And yet, to so many people, that's what they take away—'it's an acid trip simulator'—which is an incredibly basic reading at best, and represents a profound lack of imagination at worst. (Yang 2014, np)

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'Like being on drugs' does not adequately describe what it is like to play *Slave of God*. At the same time, to play *Slave of God* actually *is* like being on drugs insofar as its goal is to affect a physical, corporeal change in the player's embodied experience, and it is this corporeal change that 'like being on drugs' becomes a shorthand for describing.[46] Through its dizzying sights and sounds, *Slave of God* aims to overwhelm the player's senses, to warp them as the player navigates the space, bumping off walls and searching for the bathroom and becoming trapped on the dance floor. As Ellison notes, it communicates that sense—that feeling—of being lost, confused, and disorientated in a club.

There is little for the player to 'do' in *Slave of God* other than navigate its space. They can urinate in the men's room, dance on the dance floor, pick up drinks from the bar, and, eventually, stumble out onto the street at dawn as the sun rises. Yet, with its lack of challenges or 'interactions' in a traditional sense (and even a lack of signalling that the game can, in fact, be finished), *Slave of God* is exemplary of Kanaga's observations above that what most defines the videogame form is presence, movement, and sensation. While the player's ability to move the character through the nightclub space is vital for the disorientating sensation that *Slave of God* provides, the sensorial engagement of its sights and sounds are not solely connected to what the playable character is able to 'do' in this world but also to how the character (and through the character, the player) perceives the world. Ellison draws attention to the "fisheye vision" of the virtual camera, warping the already warped world even more, while the player's movements to different parts of the club indirectly affect what sights and sounds weave together around them. The 'meaning' of *Slave of God* is not in its mechanical systems or allowed player actions; it is in the inexpressible and intensely

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[46] Many early scholarly sources also compare playing videogames more broadly to taking drugs. For instance, Sudnow (1983) and Turkle (1995) each highlight the 'addictiveness' of videogames, and comment on the fact that 'user' is a term that could address both videogame players and drug takers. While reductive, the ease with which drug-taking metaphors are deployed to understand videogame play emphasises the corporeal change of embodied experience that each strives to offer.

physical sensations of both player and character fused together: the way it feels to be lost in a nightclub, to be overwhelmed by the lights and music. Indeed, one of the locations the player can 'discover' in the club is a back corner that can be retreated to, where the colours ripple less violently and the music softens. In the distance, the dance floor and bar still flash and pulse, but they are distinctly *over there*. The relief of finding this back corner, of escaping the constant barrage of colours and music, is experienced corporeally: a physical relief to be momentarily free of the overwhelming assault on the senses that *Slave of God* offers.

The audiovisual engagement of videogame play must be appreciated as not just the 'skin' or 'flavour' of the videogame's 'core' mechanics, but as centrally and directly engaged with by the player in their own right, constructing a cybernetic web of intermediations and engagements far more complex than the linear circuit of feedback loops. Not just simultaneous to the player's physical movement with input devices, but as equally contributing to the experience of videogame play: eyes engaged with screens while hands engage with controllers and ears engage with speakers as different sensorial fields of the one engagement of a videogame's form. This opens up the opportunity to better understand what the player experiences in a videogame in those moments not accounted for under the monicker of 'real-time control'; what the player is doing when they are supposedly not doing anything. There are no shortage of examples of moment in videogame play where the player remains actively engaged, incorporated as part of the player-and-videogame assemblage, through the acts of viewing and listening, even when they are not pressing buttons or 'interacting' in a strictly haptic sense: watching a character summon a mythical beast in *Final Fantasy VII* (Squaresoft 1997), standing on a street corner in *Grand Theft Auto IV,* listening to the narrator in *Bastion* (Supergiant 2011), hiding in a locker in *Alien: Isolation* (Creative Assembly 2014), watching the sunrise in *Minecraft* (Mojang 2011), or waiting for an item to restock in *Tiny Tower* (NimbleBit 2011). To ignore these moments of videogame play is not

to reach towards some core, essential 'gameness', but to fail to appreciate the full embodied experience of engaging with a particular videogame text.

Conclusion

To play a videogame is not just to act, but also to see and to hear and, above all, to sense. As Merleau-Ponty shows how the different sensorial fields open up different perspectives of the forms of different objects in a mundane and banal synaesthesia, so too do videogames use sights and sounds to not only flavour the feel of virtual worlds and objects, but to fundamentally construct them. The way a car 'looks' heavy when it collides with a truck in *Grand Theft Auto IV*, the way *Hotline Miami* 'sounds' fast-paced, and the way performing under pressure feels stressful in *Heavy Rain* (Quantic Dream 2010) are all fundamental to understanding how engaging with each of these videogames is meaningful and pleasurable. As *Audiosurf* shows explicitly, audiovisual design is not an interchangeable skin over core mechanics but itself a fundamental facet through which the player is able to perceive the videogame at all. Further, as *Slave of God*'s overwhelming sights and sounds demonstrate, not all engagements with a videogame are funnelled through an input device; there is a more direct back-and-forth engagement with eyeballs and screen, and ears and speakers *alongside* the engagement between hands and controller. Each complements and builds on the others, none more primary than the others, and it is here that a videogame has a felt, phenomenological meaning perceived by the embodied, distributed, sensing and performing player.

Across the past two chapters, what it means for a player to be entangled with a videogame has been enunciated. Bodies move against input devices; eyes track images and lights; ears attune to musical rhythms and audible textures. My analysis has resisted any

attempt to reduce or essentialise the phenomenon of play to a core 'gameness' to instead provide an appreciation of the embodied experience of playing a videogame as a particular, messy audiovisualhaptic form. The next chapter then turns to the question of what it means to engage with such a form over time.

Chapter Five

Lost Time: Repetition, Failure, and Permanence

> Games are about time travel, is what I'm saying. Every game is.
> - Jenn Frank, "The Critic"

> The player takes their pleasures from a text in which they play with dying, and not solely with a text where they play with killing.
> - Ben Abraham, *Permanent Death*

I have been playing *Minecraft* for two hours. When I started this session, I left the small house I built for myself in the forest in the hope of finding a new cave to explore. I found a small opening under a mountain in a direction I had not previously ventured and said goodbye to the surface. Despite the small opening, the cave opened up into a vast and complex system of caverns and dungeons that had been produced by the game's algorithms when the world was first created. Several in-game days and nights passed, each around ten minutes long. I remained underground with my tools, collecting stone and precious minerals such as iron, gold, and even diamond to take back to my base to craft into stronger and rarer tools and instruments. After two actual hours, my inventory was bursting at the seams, my character carrying as much as they could. I abandoned my steel axe to empty up the inventory slot for another sixty-four pieces of iron. I used up all the wood I had brought with me to craft new torches and to replace my damaged tools, and the empty slots left in the wood's wake were filled with coal and mushrooms and diamonds. I was heading back to the surface to place all my treasures in chests for safekeeping when I spied one last vein of diamond that I had missed on the way down. I hopped down to it and, hastily, chopped the first block away with my pickaxe while standing on it. Beneath it, though, was not a cube of stone; beneath it

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was nothing. I had chipped away at the ceiling of a hidden and vast pool of lava. There was no time to react. I fell into the lava and promptly burnt to death.

Death is typically no more than a nuisance in *Minecraft*. You respawn back at your base, albeit empty handed: anything you were carrying is dropped where you died, and to recover it you must walk back to that spot. However, dying in the lava meant all my diamonds, all my gold, all my iron, all my tools burned to nothingness. They were all gone. The loss stunned me. I sat there looking at the screen of my laptop for several minutes. Eventually, dispirited, I quit the game and walked away from my computer. Every previous death in the game had felt so trivial but the retrospective *wasting* of two hours of real labour, and the permanent destruction of those resources was felt like a physical, actual loss: I would never get those treasures back, and I would never get that time back.

A playable character's death is usually inevitable and uneventful in videogame play: a temporal glitch in the system brought around by the player's incompetence (Pias 2011, 173), an inevitable and intermittent interruption to the player's experimentation (Atkins 2007, 239), a pedagogical tool used by the game to teach the player how they should be playing (Sudnow 1983, 162), a mistake to undo and a lesson learned. The character dies, and the player presses 'start' to continue from the previous checkpoint or save point, or instead to 'respawn' at some distant location in the game's world with the actions of their previous incarnation still intact. Perhaps the player has to spend a few seconds watching the character graphically, spectacularly die first, as in *Dead Space* (Visceral 2008) or *Tomb Raider* (Crystal Dynamics 2013). Often, the player will be punished financially, maybe losing some in-game items or currency, as in the Grand Theft Auto and Pokémon games. However, the most important thing lost in the death of the character is usually time — the time that the player spent directing the character through the game since the last checkpoint, or the time they spent

accumulating the resources that were taken away upon death. When the character is resurrected, the time and labour the player invested in the character's previous incarnation is not. Character death, then, despite often being depicted as a non-event, acts as a fulcrum for the experience of temporality in videogame play, around which rhythms of progression and repetition hinge.

When considering videogame play, the embodied experience of time is as important as the embodied experience of space, and thus to understand the embodied textuality offered by videogames requires an appreciation of how time is not only experienced but *constituted* in the cybernetic web of player-and-videogame. While in the previous chapter Merleau-Ponty's work on sense experience was vital, here I find significance in his work on the perception of temporality. Merleau-Ponty insists that time should not be understood as "an object of our knowledge, but as a dimension of our being" (2002, 483):

> To analyse time is not to follow out the consequences of a pre-established conception of subjectivity, it is to gain access, through time, to its concrete structure. If we succeed in understanding the subject, it will not be in its pure form, but by seeking it at the intersection of its dimensions. We need, therefore, to consider time itself. (Merleau-Ponty 2002, 477)

Our embodied presence in any current present is always in relation to perceived pasts and perceived futures in such a way that "consciousness deploys and constitutes time. Through the ideal nature of time, [consciousness] ceases to be imprisoned in the present" (Merleau-Ponty 2002, 481). Thus, Merleau-Ponty notes, time is "not a real process, not an actual succession that I am content to record. It arises from *my* relation to things" (2002, 478).

In videogame play, time arises from the player's relation to the game. As the above *Minecraft* anecdote shows, the potentiality of pasts and futures are ever present in videogame play, returning and repeating or lost forever around the phenomena of character death. Character death, or the potential of failure more broadly, is central to the player's experience

of videogame time. Barry Atkins notes that the player "plays with the possibility of avatar death at any given moment" and "navigates not only a complex spatial architecture of ruined spaces, but a complex relationship between life and death and a past, present and future of ruined bodies as he or she moves intermittently through game space" (2007, 239). To play a videogame is to play with time through death, memory, and failure.

This chapter contributes to a phenomenology of videogame experience through an examination of how temporality is constituted in the cybernetic web of player-and-videogame as complex, multicursal, and rhythmic. The complex embodiment across worlds and bodies already demonstrated by the previous chapters demands an appreciation of time as a complex assemblage of cyclical and linear *rhythms* across the hybrid worlds of videogame play, where failure and repetition become crucial components of progression and completion. As Chapter Three's discussion of dressage and attunement has already suggested, through repetition and failure multiple pasts and lost futures converge on the present play experience to intermediate each other through muscle memory, genre conventions, retries, Game Overs, serial aesthetics, and wasted time. To play a videogame is to overwrite invalidated pasts and to peek at alternative futures.

This chapter takes the experience of character death as its focus to look at how different videogames create difference experiences of temporality for the player, imbuing actions and potentialities with different sensations of permanence or impermanence. The first section outlines how the progression of time in videogame play has previously been conceived to work by scholars before moving towards an understanding of embodied videogame time through Lefebvre's work on rhythm and repetition. From here, the remainder of the chapter turns towards the phenomena of character-death specifically. The second section looks at conventional notions of failing and repeating a task, starting with the

normalisation of the convention with arcade games chasing 'coin drops', and moves on to explore how various videogames strengthen or lessen the impact of death and repetition through creating different relations to the time the player has committed to the videogame thus far. What will be common across these examples will be a commitment to death as a form of experimentation or inauthentic spectacle for the player as they play *with* the character and not just *as* the character. In contrast, the final section looks at the phenomena of 'permanent death' through a variety of genres alongside Ben Abraham's *Permanent Death* (2009) project in *Far Cry 2* (Ubisoft 2008), and my own *Towards Dawn* (Keogh 2010-2012) project in *Minecraft*. Permanent death contrasts the conventional experience of character death as trivial and temporary to instead end the player's session of a videogame with the death of that character, putting extra pressure on the player to *never* fail, to *never* repeat. This particularly consequential type of character death is completely dependent on the investment of the player's actual time to provide a sense of tension while the character lives, and a sense of permanent loss once the character dies. However, as this chapter will ultimately show, what is perceived as 'temporary' and 'permanent' in videogame time is complex and intermingled, with each depending on the other. By its conclusion, the chapter will have outlined how the experience of time is mediated by and contributes to the embodied textuality of videogame play through the event of character death specifically and failure generally.

Repetitive Play, Rhythmic Play

The constitution of time in videogame play is complicated and intricate. While the topic could and has filled entire theses on its own (Jayemanne 2013), here it will suffice to account for how the progression and repetition of time is perceived by the player through the co-

present embodiment of actual and virtual worlds and bodies: how events around character death come to be seen as happening either 'before' or 'after' or most crucially '*instead of*' previous and future played events.

Actual Time and Virtual Time

In *Half Real* (2005), Juul attempts a preliminary understanding of the function of time in videogame play within his broader dichotomous conceptualisation of videogames as 'real rules' and 'imagined fiction'. Juul uses various diagrams to show how 'play time' (the actual progression of time spent in front of the videogame) comes to be mapped onto 'fictional time' (the virtual progression of time in the diegesis of the virtual world) (2005, 141-156). Juul highlights a fluidity of relations between the two, such as the 1:1 ratio of 'real time', where a minute of play time equals a minute in the actual world, as seen in racing games like *Gran Turismo* (Sony 1997) or abstract games like *Tetris* (Pajitnov 1984); 'scaled time', where the actual progression of time is mapped to some faster period of time, such as the passing of a virtual minute in *FIFA 15* (EA 2014) or virtual year in *Civilisation* (Microprose 1991) in the space of an actual second (or 12 virtual hours passing in 10 actual minutes, as in the above *Minecraft* example); and the fluctuating flow of narrative-driven games where play time is interspersed with the watching of cut-scenes even as fictional time continues to progress.

Juul's observations of two simultaneous and interrelated flows of 'real' play time and 'imagined' fictional time are a fruitful starting point. However, as discussed earlier in this thesis and extensively by Wilson (2007, 206-233), Juul's reduction of videogame play into distinguishable 'actual rules' and 'imagined fictions' fails to account for how the actual and the virtual hybridise and intermediate each other in the act of videogame play. For instance, the notion that play time is *interrupted* by a cut-scene ignores the very real engagements the

player has with the sight and sounds of the cut-scene even if they are not pressing buttons (as explored in Chapter Four) not to mention the various ways the player's actions may influence what the cut-scene looks like, such as what weapon a character is holding, or the background appearance. Further, cut-scenes commonly provide a moment of rest or downtime after a flurry of play or, historically, provide a reward of technological spectacle with animations rendered at a higher fidelity than can be processed during real-time play. A distinction between 'playing' and 'cut-scene' further perpetuates the privileging of a disembodied 'action' as central to videogame play while downplaying those pleasures that cut-scenes offer.

This assumed centrality of the player's 'actions' and autonomous agency is also reflected in Juul's claim that time in videogames rarely attempts to flashforward or flashback since "to describe events-to-come would mean that the player's actions did not really matter" (2005, 147-148). Yet many videogames, even at the time Juul was writing, had already denied such a narrow, linear notion of videogame time as subservient to player agency through successfully incorporating flashbacks into their play without the player's agency destroying anything: *The Legend of Zelda: Majora's Mask* (Nintendo 2000) has the player weaving a temporal path back and forth across the events of a three-day period; *Half-Life* and its two expansions *Opposing Force* (Gearbox 1999) and *Blue Shift* (Gearbox 2001) weave together the simultaneous narratives of three characters, with each occasionally overlapping (but incapable of altering) the events of the other; and as I have explored elsewhere (Keogh 2014b), *Final Fantasy VII* presents multiple unreliable retellings (and replayings) of the past through the 'Nibelheim Incident' to force the player to constantly question what they actually know about their character's past. More recently, games like *Thirty Flights of Loving* (Blendo 2012) have no inhibitions when throwing the player back and forward in time through instantaneous cuts to produce abbreviated and cinematic perceptions of videogame space (Golding 2013b). To deliberately narrow the scope of the

player's possible actions in such a way that they are unable to 'break' anything in their time travel directly contradicts early accounts of time in videogame scholarship that takes the real-time control of the player as evidence that videogames are locked into an eternal present. Jenkins dismisses such assumptions simply: "Games are no more locked into an eternal present than films are always linear" (2004, 127). However, the anxiety of the player as possessing enough power that they *could* break something with their actions persists, and many videogames consciously and explicitly play with this anxiety of the player 'breaking the future' with actions in the past. For instance, *Metal Gear Solid 3: Snake Eater* (Konami 2004), a prequel set decades before the earlier games, claims a 'Time Paradox' has occurred if the death occurs of either the playable character or any antagonists present in the chronologically-later games; or the 'desynchronisations' of *Assassin's Creed* if the player fails to successfully recreate the actions their ancestor has already performed centuries in the past.

Time as it is perceived in videogame play is thus not straightforward enough to be mapped onto two linear, progressing arrows as though time 'itself' might exist separate and autonomous from the player's perception of it. Juul himself encounters this problem when he concedes various "violations of game time" (2005, 151), such as the continuing of atmospheric noises in *Black & White* (Lionhead 2001) while the game is paused, or the speeding up of diegetic time in *Grand Theft Auto III* (DMA 2001) even as action continues in 'real' time: driving a taxi around a city block can take, simultaneously, twenty seconds *and* twenty minutes while the three-minute song playing on the car's radio takes three in-game hours to reach its conclusion. Juul calls these violations "incoherent time" (2005, 151) and insightfully notes that such videogames "flicker" between, in *FIFA*'s case, "being a real-time game of 2 x 4 minute [halves] and an imagined full-length soccer match of 2 x 45 minute [halves]" (2005, 152). This notion of the player's experience of time in videogame play as

'flickering' between that imagined by the diegesis of the world (actively made-believe by the player) and that actually experienced by the playing body echoes Chapter Two's observations on co-attentiveness, where the player's attention fluctuates between the two worlds. This points towards a more nuanced and spliced understanding of actual and fictional time as hybridised and complicit rather than ideally and neatly set side-by-side and 'coherent'. Just as actual and virtual spaces are not discrete but entangled and caught up with each other, so too are actual and virtual temporalities. Time in *Grand Theft Auto III* and *FIFA '15* are not contrarian cases of incoherency but representative of the common experience of time in videogame as constituted by a player embodied across a hybridity of worlds and bodies.

Synchrony and Diachrony

Darshana Jayemanne provides an intricate and comprehensive account for this complexity and simultaneity of videogame time when he explore videogames as "apparatus[es] oriented to the production of a particular *performative multiplicity*" (2013, 118, original emphasis). As part of a philosophical project exploring the role of framing devices in videogame play and narrative, Jayemanne points towards 'diachronic' and 'synchronic' elements of play as fundamental to videogame time, where the diachronic performances of different players (and different plays by the same player) synchronise then differentiate at different points of a game, and it is in the muddle of the two (the diachronic tendencies of synchrony and the tendencies of diachrony to lead back to synchrony) that the "weft and warp of a videogame's temporal fabric" is constituted (Jayemanne 2013, 207). The *Minecraft* vignette of this chapter's introduction provides an example: all players of the game's survival mode similarly start at dawn in an unexplored world with no items. Most *Minecraft* players' opening moves will overlap: obtain wood, make a pickaxe, obtain coal for lighting and stone for better tools.

However, as time progresses, different plays will move towards diachrony as each player sets their own goals in their own world. But, over even longer play times, all plays will move back towards some sense of synchrony as most players will obtain certain rare items and work towards certain overlapping broad goals even as their world and moment-to-moment actions remains wildly different. Time in videogames must always be defined by its plurality and multiplicity—as much by what did *not* happen or could have happened or happened but was then overwritten by what 'actually' happened—across acts and framing devices:

> It is precisely because the temporal structures of gaming involve unique modulations of diachrony *and* synchrony that a whole cant of idiosyncratic terms arise. Terms like 'ticks' (referring to the sound of a clock), 'rounds' (a certain time interval in which characters have a defined capacity to act), 'dots' (damage over time) and 'dps' (damage per second) all indicate the strange sectioning of time effected by performances and framing devices in games. (Jayemanne 2013, 207)

What Jayemanne's work suggests is an ultimate non-linearity of videogame time, of its habit to not just progress ever forward but to rhythmically ebb and flow and turn in on itself. Through character deaths, save files, checkpoints, action replays, Let's Play videos, walkthroughs, skippable cutscenes, lag, fluctuating framerates, and countless other phenomena, time travel is a banal feature of videogame play.

Reaching towards this more complicated conceptualisation of embodied videogame time is to first acknowledge that fictional time does not always run consistently 'forward' into the future. Rather, videogame time folds back in on itself as players return to the past, jump forward into the future, or create multiple variations on a single event. From synchrony to diachrony back to synchrony and then to further diachrony, videogame time is represented less by the constantly progressing arrow than by one that spirals around onto itself. As Juul himself acknowledges in his more recent work on failure in videogames (2013), videogame play is as much about repetition as it is about progression: characters die; players get 'Game Over'; players pause the game; players go away for a week and then come back; players play

a game a second time; characters and players combine to fight different instances of the same enemies and face incrementally difficult versions of the same challenges time and time again between the beginning and end of a videogame—if the videogame has an end. Repetition and failure are, more often than not, a vital component *of* progression. As Juul notes: "Though we may dislike failure as such, failure is an integral element of the overall experience of playing a game, a motivator, something that helps us reconsider our strategies and see the strategic depth in a game, a clear proof that we have improved when we finally overcome it" (2013, 9). This has already been touched upon above in Chapter Three's discussion of dressage and Sudnow's insights on the significance of repetition in programming an optimal player. Time does not constantly progress in a straight line, with the past left behind and the future somewhere ahead of us; rather it loops back in on itself, with past experience and future expectations both mingling and mediating the present playing of the game.[47]

Rhythmic Play

This accounting for repetition and progression, of synchrony and diachrony, points less towards a linear progression of time in videogames and more towards a notion a gaming *rhythms*. The embodied rhythms of everyday life are central to Lefebvre's *Rhythmanalysis*, which provides a useful foundation for thinking about progress and repetition in games. While Lefebvre's work has been used by others to discuss playing videogames—not least of all in Apperley's (2010) work on the rhythms of the situated 'gaming body' that examines the

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[47] Issues of repetition are also of crucial importance to the visual design of many videogames, where repeated assets with minor deviations are commonly used to signify different characters or enemy types (for instance, the differently-skilled green and red Koopa Troopas in *Super Mario Bros*). David Surman explores the significance of this visual repetition through the notion of 'serial aesthetics' across two articles looking specifically at the the Pokémon games (Surman 2009), and *We Love Katamari* (NOW 2005) (Surman 2008).

context of gaming in everyday life—of interest to me here in particular is Lefebvre's

discussion of the interdependency of 'cyclical' processes and 'linear' repetition:

> Cyclical processes and movements, undulations, vibrations, returns and rotations
> are innumerable, from microscopic to the astronomical, from molecules to
> galaxies, passing through the beatings of the heart, the blinking of the eyelids and
> breathing, the alternation of days and nights, months and seasons and so on. As
> for the linear, it designates any series of identical facts separated by long or short
> periods of time: the fall of a drop of water, the blow of a hammer, the noise of an
> engine, etc. (2004, 76)

While Lefebvre acknowledges that cyclical processes are often connotatively perceived as

favourable in their 'worldliness' or 'naturalness' and linear repetition as monotonous, tiring,

and tied up with labour (not dissimilar to the Nature/Culture dichotomy Latour observes in

the Modern project [1991, 10-11]), Lefebvre stresses the interdependency of both in the

rhythms of the body and everyday life. Rather than one either being objectively 'better' or

'purer' than the other, "it is their relation that enables or rather constitutes the measure of

time, which is to say, of rhythms" (Lefebvre 2004, 8).

Time in videogames is likewise constituted by the embodied player's involvement in

cyclical and linear processes. While that constant, cyclical flow of play is commonly seen as

ideal, with the player's ability and the challenges of the videogame each escalating in turn in

the much lauded notion in videogame design of 'flow' derived from the work of Mihaly

Csikszentmihalyi (1990), this flow is not merely a constant progression forward but is always

already caught up with failure, death, and the stop-start repetition of practice and dressage.

The rhythms of playing a videogame—the means through which the player's body adapts

itself to and incorporates the passing of time during play—are found in the coupling of

cyclical processes and linear repetition. To continue with Lefebvre's terms, we can

reconceptualise Juul's player time and fictional time as instead cyclical processes and linear

repetition respectively. For the videogame player, there is a constant, cyclical process in the

passing of levels, loading screens, and cut scenes; in the bodily interruptions of sustenance and defecation (Apperley 2010, 40); in the fluctuation of agency and power between player and machine (Giddings and Kennedy 2008, 30); of inputs and outputs across the cybernetic circuit of player-and-videogame (Swink 2009, 64). But cutting across these are the linear repetitions of failing and trying again, of the repeated switching on and off again of digital buttons to perform the same stop-start actions on one level after another. The embodied constitution of time in a videogame, the rhythms of play, are in the ensemble of cyclical and linear processes.

Apperley draws on Lefebvre extensively in his own discussion of gaming rhythms, but for different ends. More concerned with the gaming situation and the actual context that videogames are played in, Apperley is wary of cybernetic understandings of videogame play as forwarded by this thesis, warning that they can be "inward-looking" (2010, 38) and "closed" (2010, 48), and that cyclical rhythms instead suggest that

> the physical needs of the gaming body, and the ways that meeting these needs are organized are an important part of the gaming experience… both the machinic rhythm of play itself, and the wider rhythms of everyday life also have significant impacts on the experience of gaming. (2010, 41)

Apperley grounds his research in the rhythms of the gaming situation through an ethnographic study of the videogame-playing body in internet cafes, highlighting a range of contextually specific ways the circuit of player-and-videogame is influenced by 'external' rhythms: timezones, toilet breaks, eating, work schedules and so on.

While this thesis *is* primarily concerned with that focal circuit of the player's body incorporated with the videogame hardware and audiovisual representation in the act of play 'itself', this complements Apperley's own work rather than counters it. Apperley's work remains a significant reminder that this embodied, corporeal circuit is not hermetically sealed but always already situated in particular material and social contexts—not a closed circuit but

a subsystem that branches out and is situated in much broader networks and rhythms. The experience of time in videogame play, then, is always already embedded in and mediated by the rhythms of the player's everyday life, not detached from them.

Across all these theorists emerges a need to account for videogame time as more complex than a simple forward, linear progression. Time in videogame play wraps around on itself through rhythms and repetition. With these theoretical accounts of videogame time and rhythms explored, this chapter now turns to particular phenomena of character death to more deeply explore how a perception of this relationship between progression and repetition is harnessed by different videogames.

Die and Try Again

Death and failure have long been central to videogame design. *Spacewar!* (Russell et al. 1962), as a videogame played between multiple players, all but demanded that someone be able to fail in order for someone else to be able to win, and that failure arose in the destruction of the losing player's spaceship. In single player videogames such as *Breakout!* or *Space Invaders*, often framed as player *versus* computer, the player had to be able to lose against an antagonistic computer if their victories were to highlight the empowerment and autonomy central to the hacker mythos early videogames emerge from (Simon 2007, 165; Turkle 2005, 207; Dovey and Kennedy 2006, 67; Keogh 2015a; see Chapter Six). As videogames became commercialised and made their way to the arcades, where players paid per play, design decisions around death and failure became central to how profitable a videogame might become, with profit turnover requiring a carefully designed balance between a videogame being accessible and learnable enough that a player would put money into it, but difficult enough that they would not be able to spend too long playing without

dropping more coins into the slot. As videogames left the arcade and became normalised in the home, designing around failure and retrying persisted. Sudnow (1983) discusses this in great depth in regards to the early Atari ports of arcade games, describing how his constant restarting of *Breakout!* the moment he made a mistake conflicted with how the game had originally been designed to play: in an arcade, imperfectly, with many mistakes made, and many coins dropped:

> To care in the right way you must submit to those stimulations encountered when the full game is played from front to finish [that is, from start to eventual Game Over]. Cut yourself off from these, go for consistency with techniques that work elsewhere, step outside the scheduled front to back way of learning on which the game's program and profit depend, and you'll fail… Competence is possible only when action is motivated in those ways the game itself motivates it, and the game motivates action in ways proven to be most profitable in a rapid coin turnover scheme. (1983, 162)

Death and failure justify a game to be mastered, a skill to be learned through repetition, and a means for a burgeoning creative industry to turn a profit. To die and try again—itself a paradoxical turn of phrase anywhere but concerning videogames—has long been central to videogame play.

Finite Lives

Many arcade games capitalised on this model of *inevitable* death, and this lead to particularly dark and cynical fictions where the player never 'won' in an ultimate sense, but simply put off losing for as long as possible. Wilson explores how *Missile Command* in particular—with its inevitable lose state brought around by an unseen, off-screen, missile-launching enemy— depicts a dystopic and dark world that mirrored its own time's anxiety of nuclear holocaust through "an unalterable *condition of war* that held the game's fictional world in a perpetual state of crisis" (2007, 252, original emphasis). In such videogames, the player is trying to

'win' against the computer, but this is an ultimately futile endeavour. More so, they are trying to win against other players by scoring a higher score through playing more felicitously (Jayemanne 2013, 23) while delaying inevitable death for as long as possible. A convergence of progression and repetition appears: the player has multiple lives to try again and again, but death is also eventually ultimate and permanent to the current play session, concluding in the final 'Game Over' (and, often enough, the option to 'Continue?' at the expense of another coin). The only hope for the player to truly 'win' against the machine is in surviving long enough to overflow the machine's memory to achieve an aptly named 'kill screen': if the player does not die, the videogame must. While contemporary technologies have all but relegated the kill screen to an arcade relic, such design decisions of inevitable player death and high-score chasing persist in mobile games such as *Ziggurat* (discussed in Chapter Two) and *Flappy Bird* (Nguyen 2013): a good player does not win; a good player simply prevents failure and death for longer than others.

As videogames left the arcade and became normalised in and designed natively for home consoles and personal computers through the 1980s and 1990s,[48] the design focus, too, moved away from inevitable failure towards alluring narrative closure, yet with many of the coin-drop influenced features still persisting. For instance, into the 1990s, it was still normal for a console videogame to offer a finite number of character lives, followed by a 'Game Over' screen if those lives were depleted. A videogame like *Super Mario Bros* might have an ultimate ending, but the player would still have to play well enough to reach it. Much like the arcades, many videogames offered an opportunity to 'continue' after a Game Over, such as *Sonic the Hedgehog* (Sonic Team 1991), which gave the player one extra Continue for each secret Chaos Crystal they found. The ability to obtain an ultimate Game Over increasingly conflicted with both the commitment by videogames to obtaining a narrative conclusion (as

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[48] See Donovan (2010) and Nicoll (2015) for detailed accounts of this history.

opposed to simply 'beating' the game), as well as the gradually increasing length of home videogames no longer designed to be finished in a single play session. In *Spyro The Dragon*, for instance, the player still has a finite number of lives, but the game's state is saved automatically and regularly, meaning a 'Game Over' merely adds the arbitrary annoyance of returning to the title screen and reloading the saved file to the beginning of the stage where the player died. Here, ingrained and dominant design norms underlying traditional videogame design (a game must be challenging, difficult, learnable, failable, and lure more coins out of players' pockets) clash with many videogame works' increasing desire to tell stories or be otherwise conclusive. Videogames increasingly removed the concept of a finite pool of lives, relegating the 'Game Over' screen to largely a relic of the past. The platformer *Oddworld: Abe's Oddysee* (Oddworld Inhabitants 1997), for instance, advertised on its cover the unique feature that the player would have an infinite number of lives; however, rather than a sign that the game was easier than other platformers that might only offer three lives, this endless possibility of dying and trying again was used to market boastfully how difficult the game would be: so difficult that you will die—a lot. Character death (and failure more broadly) thus remained a core and inevitable part of videogame temporal design through the 1980s and 1990s and into the 2000s: not simply as something to be avoided at all cost, but a fundamental and spectacular aspect of progression itself.

Rewind and Overwrite

This is best seen in those videogames that incorporate some sort of time control mechanic within the game's diegesis where the player does not simply return to an earlier game state upon death but controls the flow of time, rewinding the videogame to undo a failure and try again as one rewinds a videotape. Writing on *Prince of Persia: Sands of Time* (Ubisoft 2003)

and its particular time-rewind mechanic, Atkins draws attention to the inevitability of character death and repetition in videogame play, and the player's conscious obscuring of it in their quest for coherent progression. In *Sands of Time,* the player can hold down a button to rewind time a limited amount, watching their previous actions and encounters unravel in reverse so that they might be re-enacted. This allows the player to correct mistakes, refight lost battles, or re-attempt failed acrobatics. While the visual presentation of time rewinding is particular to *Sands of Time* (and found in similar time-manipulating games such as *Braid* [Blow 2008] or *Super Time Force* [Capybara 2014]), it simply justifies within its diegesis the player's entirely typical dressage: the player fails at a task, and tries the task again with the knowledge (and competency) gained from the previous failure. Atkins argues that videogame play is typically narrativised by players "post-hoc", downplaying the way videogames are actually experienced during play as fragmented texts fractured by the multiple and frequent deaths of the playable character (2007, 244). As the playable character dies and is reborn with every fatal mistake the player makes, the player receives "incomplete glimpses of the perfect textual body that gives pleasure only in their partiality" (Atkins 2007, 250). Failure is central to videogame play, and in the majority of videogames, character death is a simultaneously entertaining and frustrating experience, both interrupting that 'complete' and unbroken text of the perfectly played game and also allowing brief but alluring glimpses at not just what should be, but what *could* be.

Murray similarly sees the film *Groundhog Day* (Ramis 1993), in which the protagonist is forced to live out the same day of his life over and over again, as being "as much like a videogame as a linear film can be" (1997, 36). Perhaps even more relevant, the recent film *Edge of Tomorrow* (Liman 2014) uses a similar conceit to have its protagonist fight an alien army over and over again until he manages to do so without dying. While *Groundhog Day* allows its protagonist to experiment with his repeated day (to see what he

could do), *Edge of Tomorrow* has its protagonist repeat an experience in order to learn exact enemy placements and the minute bodily movements needed to stay alive (to see what he *should* do), not unlike the dressage demanded of videogame play and afforded by regular character death. Much like *Edge of Tomorrow*'s protagonist, the videogame player's superpower is remembering what is yet to happen. It is only post-play that the felicitous fragments of play are stitched together into one, coherent and continuous narrative of what 'actually' happened, much like the best clippings of a film shoot stitched together to obscure the actors' many bloopers. The character might die because of the player's missteps or incompetence but, like the prince of *Sand of Times* narrating the story of the videogame as though it has already happened to him, as though his story from start to end has already been authored, the game and player each say "No no no, that is not how it happened" then go back, together, and try again.

What this implies, for Atkins (and similarly for Jayemanne above), "is that we should consider videogame play as a matter of live performance in the moment of play, rather than a matter of straightforward reception or decoding where meaning is only revealed when the text is decoded in full" (Atkins 2007, 248). This idea of the videogame text as a "live performance" coheres with this thesis's commitment to the videogame's embodied textuality emerging as the player-and-videogame in the moment of play, and echoes analogies by other theorists such as Kirkpatrick's comparison of videogame play to dance and Sudnow's comparison of videogame play to jazz piano. How a videogame depicts and deals with the passage of time through death and progression is central to how the videogame functions textually. Even if after-the-fact the player suppresses those failed temporal strands as inauthentic, those inauthentic strands remain present, influencing future plays of the game: a boss's weak point learned too late in the battle can be exploited right from the start of the next attempt; the diamonds burned in the lava in *Minecraft* remain burned after I return;

Tomb Raider and *Dead Space* provide intricately, morbidly animated death scenes of my

characters who in their respective stories never die, providing a rewarding and graphic if non-

canon spectacle for my failure before returning me to a canonical timeline; a high score in

Space Invaders comes only with the practice that requires dozens or perhaps hundreds of

deaths and restarts (and, most explicitly, a score from a past play to compete against). The

character dies and is resurrected, but the player continues to persist, taking the previous

attempts and inauthentic strands with them into the next life. More than the ideal imagining

of how a videogame might be successfully completed, it is death, failure, and repetition that

are core to the temporal pleasures (and frustrations) of videogame texts.

Repeating Character, Progressing Player

If the character's mortality is central to most videogames, it is overcome through the player's

immortality. Character death, typically, sends the player back to some previous moment

before the character died in order to try the challenge again. So enters the parallel idea of

'saving' the game, storing a copy of the videogame-in-progress to the hardware's memory.

Jayemanne discusses the significance of saving the game in his discussion of synchrony and

diachrony, noting that saving the game "establishes a point at which the performances

conducted thus far are synchronised—marking a game state from which further performances

can be undertaken (each of which will be diachronic with respect for one

another)" (Jayemanne 2013, 207). Atkins, too, draws attention to saving the game as drawing

together selected performances into an "ideal" performance while leaving others aside (2007,

247). The ability to save the game is central to the player's immortality in the videogame

circuit, assuring the player that there will always be another chance.[49] This is seen most clearly in those videogames that threaten the sanctity of the save game, such as when the protagonist of *Metal Gear Solid* is being tortured and is explicitly threatened that unless the player chooses to submit, the saved game will be deleted, raising the stakes in a way that character death never could. Similarly, survival horror game *Eternal Darkness* (Silicon Knights 2002) sometimes pretends to corrupt the player's saved data, extending towards the player the terror and sense of vulnerability horror games typically reserve for the playable character. Suddenly, it is no longer just the character at risk of death, it is the player at risk of having their connection to the videogame severed, at risk of losing all the time invested to reach the synchronised events of their playing of the videogame up to this point.

What this points to is a paradox around failure, repetition, and progression: character death is a punishment insofar as it disposes the time the player invested into that instance of play from the previous save point to the character's demise, but that death is also a significant element *of* progression and learning how to play the videogame as well as, often, a spectacle in its own right. Time in videogames, then, moves both cyclically and linearly in complementing rhythms around the phenomena of failure and character death—both stop-starting and constantly progressing. Further, how videogames depict the temporal and spatial continuance or interruption around character death signifies and contributes to the embodied rhythms of play that the player find themselves caught up in. For instance, in 2001 when most console-based action games still made a big deal of character death with dramatic music, overwrought animations, and long loading screens before returning the player to some long-past checkpoint, *Halo* altered things significantly through a save system that updated

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[49] While I say the player is 'immortal' in the play circuit to suggest that the virtual events that regularly slaughter the character are of no harm to the persisting player, a sobering exception to this is the various highly-publicised reports of players dying from exhaustion or malnutrition after playing videogames for a prolonged period of time (see Apperley 2010, 43).

automatically after every moment of progress (whenever the player was deemed safe by the computer). Death can come sudden and swift in *Halo*, with a single well-placed grenade or poorly planned assault. Upon death, the camera switches to third-person and watches the character's body ragdoll from the fatal blow, but then returns to the previous checkpoint within seconds—sometimes before the character's body has even landed. Here, the setbacks of character death are at their most insignificant: little time has to be repeated, and less time has to be spent waiting for the game to recommence. This gives *Halo* a particular pacing where character death is but the faintest hiccup in the ongoing performance, and affords a certain gung-ho play style where the player can jump into the fray and take risks, confident they will lose little if they fail.
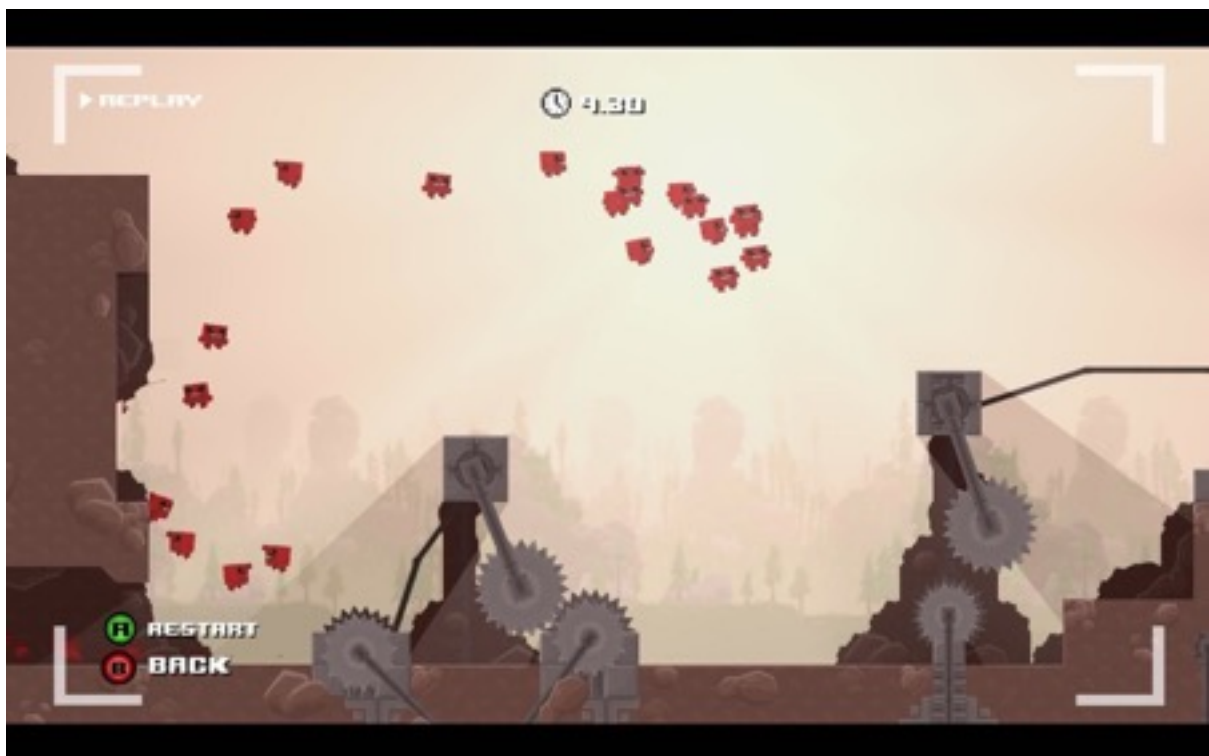

Figure 5.1. The player's multiple attempts of a single level all shown together in *Super Meat Boy*'s replay mode.

Other games embrace this paradox of repetition and progression explicitly, depicting character death as a significant process of learning and progression in itself by depicting

character death as the *forward* progression of time, not a rewinding to some previous state. Both *Hotline Miami* and *Super Meat Boy* (Team Meat 2010), for instance, are difficult games that commonly require dozens of deaths to complete a short stage. Rather than being frustrating, however, resurrection is near instant and, significantly, the non-diegetic music played over the stage does not stop and restart with each death but continues uninterrupted, stitching each failure together as rhythmic beats towards eventual completion. Visual flourishes, too, reinforce the notion of progress in *Super Meat Boy* as splats of blood left on the surfaces of the stage from previous deaths persist through each reattempt, suggesting that the previous deaths were not undone but progressed -beyond. This has a particularly spectacular payoff when the level is finally completed, and the player is rewarded with a replay of every diachronic iteration of all their past attempts playing simultaneously in a flow of Meat Boys that literalise Jayemanne's performative multiplicities (2013, 118), splatting themselves against blades and into salt piles until the single survivor—the single successful and 'authentic' run—reaches the end (see fig. 5.1). Here, every single 'failure' provides a contribution to the spectacle of the replay, and each provides an important step in configuring the player through dressage to the particular challenges of that stage.

There are no shortage of examples of character death depicted as a moving forward of time in different ways. The infamously difficult *Demon's Souls* (From 2010) and *Dark Souls* (From 2011), in which death is certainly inevitable for the novice and expert player alike ("Prepare to die!" taunts the back cover of the retail release of *Dark Souls*), dampen the frustration felt at the games' steep learning curves through a similarly constant progression of time. Upon death in *Dark Souls*, the player returns to the previous bonfire checkpoint, keeping all items they obtained before death, but losing all the valuable souls they had gathered; they then have the opportunity to venture forward again and find their own corpse to reclaim those souls. Here the forward progression of time after death is diegetically

explicit as the player-character traverses to and stands over their own corpse. *Grand Theft Auto III*, too, trivialises character death as the player is not sent back in time, losing progression, but instead reappears at the in-game hospital, six in-game hours into the future. But whereas *Demon's Souls* and *Dark Souls* depict time in this way to soften the blow of frustrating and challenging deaths, *Grand Theft Auto III* does it to *trivialise* the impact of those deaths in the first place: a juvenile playground world where the player is meant to cause chaos would be less alluring if death was a significant setback. Perhaps most common are multiplayer games, where the presence of multiple players in the system means time can only ever move forward upon character death and resurrection, as the character is "respawned" while other players continue to play. This communicates to the player that death here is not a setback or failure to be forgotten, but that repetition of attempts and death are part of what it means to progress in these games, all part of the ebb and flow of the game's rhythms.

What these various and diverse examples demonstrate are the different ways videogames use fictional depictions of death or failure to afford the dressage of the player. The linear repetitions brought about by the interruptions in the character's life relate to the perpetual and cyclical rhythms of play to make the player perceive failure in a certain way, to embody the constitution of time during play in a certain way. If the videogame text is produced in the live, present performance of player-and-videogame, then that text is constituted by past failures and future potentials, and various authentic and inauthentic temporalities that both frustrate and entertain the player, that send them both back and forward in time.

Permanent Death

If character death typically converges failure and progression, pasts and futures, authenticity and inauthenticity, and cyclical and linear processes, then this embodied constitution of time in videogame play is insightfully contrasted against those videogames where character death is treated as a permanent event that cannot be undone. As opposed to the relative frivolities of the above examples of character death, 'permanent death' ends a videogame at the death of the character, forcing the player all the way back to the beginning of the game if the character dies even once, and, if the game is one that procedurally generates levels, such as *Spelunky* (Yu 2008) or *Minecraft*, destroys that instance of the game forever. While most videogames allow—or even encourage—the reckless sacrificing of the character's body in the name of experimentation and practice, permanent death insists that the player is more empathetic to the concerns of the character's mortality. While the insignificance of character death typically calls the player to *play with* the playable character as much as they might identify with them (Atkins 2007, 247), permanent death demands that the player treads carefully, thinking before they act and treating the character's corporeal fragility as significantly as their own. Consequentially, the tone of the player's performance in a permanent death game is less one of experimentation and more one of caution and consideration, of constant progression without a sense of repetition. The contrast this provides to conventional character death reinforces this chapter's exploration of how temporality, through failure and progression, is perceived by the embodied player around the event of character death.

While a sense of permanency certainly exists in those arcade games discussed in the previous section that eventually inevitably end in a Game Over, those games commonly give the player a finite but plural number of lives that still give the player an immortality over individual instances of character mortality. Videogames that deliberately strive to imbue a

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sense of permanency in death, however, commonly give the character only one life, and one death will spell the death for this particular instantiation of the player-and-videogame. Traditionally, permanent death belongs to the niche genre of the roguelike, spawned by the game *Rogue* (Toy and Wichman 1980). Death in such videogames was 'permanent' in the sense that the videogame would procedurally generate the world each time the player enters it. Items, monsters, and room layouts are different each time; if the player dies, their one chance of completing that instance of the game is lost.

Other videogames beyond the roguelike genre have experimented with providing permanent death modes. An update to *Minecraft*, for instance, provided the opportunity to start a new world as a permanent death world. Upon death, the game would delete the world instantly, with all progress made in that world lost. In the Japanese mech game *Steel Battalion* (Capcom 2002), there are two layers of character death: once the player's giant robot (ostensibly the player's avatar as they steer it through the world) is destroyed, the player has a set time to eject the pilot from the cockpit before the mech explodes; if the player fails, the pilot dies and the player's progress in the game is deleted. Videogames with multiple playable characters, too, often use permanent death to allow some characters to die permanently while the game is still able to progress through the bodies of other characters. In videogames such as *Heavy Rain* this gives a sense of permanency to the player's narrative-based choices, a consequence that will persist rather than be undone. In other videogames, permanency through death is more implied than explicit. In *DayZ* (Hall 2012), death has the player respawn on the beach at the edge of the game's expansive map. While this is, technically, just the player respawning as they do in any multiplayer game, all items and weapons and food and resources are lost upon death, unravelling days or weeks of progress.

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The death feels 'permanent' insofar as all the labour invested since the start of the previous life is lost, even as the world and its other players persist. [50]

Projects of self-imposed permanent death, such as voluntarily deleting a saved game file on the character's death, demonstrate how permanent death alters the player's experience by giving an opportunity to compare and contrast the actions and motivation of a permanent death play of a game with a conventional playing of that game. Altering character death to feel 'permanent' for the player is an example of what Felan Parker describes as 'expansive gameplay', which "involves players dictating additional or alternative rules from completely *within* the confines of the existing game rules, using the game in a very different manner" (2008). Rather than using the game in a manner completely at odds with its designed intent—such as modding or Joseph DeLappe's interventional *dead-in-iraq* project (2006-2011)—expansive gameplay plays within the existing confines of the videogame. Permanent death plays of videogames that do not include a designed option for permanent death supersede the stop-start 'what if' of traditional experimentation with a close coupling of the player's concerns with the character's bodily existence and a real-time, uninterrupted narrativisation of play—what is happening right now is what happens, and that is it. In the remainder of this section, I look at two player-driven and publicly spectated permanent death projects: Ben Abraham's *Permanent Death* (2009) project undertaken in the game *Far Cry 2*, and my own *Towards Dawn* project undertaken in the game *Minecraft* (before permanent death was added as a formal feature) between 2010 and 2012.[51] By looking at how our own play behaviours and priorities were altered by the looming threat of permanent death, and the investment garnered from readers of our coinciding blogs, this section demonstrates that

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[50] See Carter et al. 2013 for a thorough analysis of death in *DayZ*.

[51] While *Minecraft* was ostensibly released in 2011, it has been publicly available since 2009, with regular updated adding new features to the unfinished game. The *Towards Dawn* project thus took place in an ever-changing game.

permanent death, like all character death, is most significant in how it influences the player's lived experience of the player-and-videogame assemblage and constitution of played time.

Permanent Death in Far Cry 2

Following a discussion with Clint Hocking, the lead designer of open-world first-person shooter *Far Cry 2*, about "impermanence of player decisions in the face of prevalent saving and reloading," Abraham decided to conduct an experiment where he started a new game of *Far Cry 2*, making the promise that he would delete his game if his character died (Abraham 2013, 1). Abraham kept an online diary of his journey with his blog series "Permanent Death," and attracted a wide readership within the then-nascent games criticism and blogging community. After the project was over, Abraham compiled the blog post into an ebook by the same name. At the beginning of his first post, Abraham discusses why he opted to conduct the permanent death play of the game: "Death in games is often very… temporary. I want to find out what happens to me as a player if I make my videogame death much more permanent" (Abraham 2009).

Games journalist Kieron Gillen, writing of Abraham's project, argues that what was special about it was not simply that Abraham tried to create a more difficult experience for himself, but an experience that could be used as a source of writing. Through the pressures of permanent death, the tone of playing *Far Cry 2* changed for Abraham so that every action performed or reconsidered carried its own narrative weight: "When game over *means* game over, everything changes" (Gillen 2009, np, original emphasis). As opposed to the 'post-hoc' narrativisation observed by Atkins above, there is no opportunity to revisit the past and fix mistakes when the character's death is permanent. The videogame is not experienced as a series of textual and temporal fragments aiming for an ideal or felicitous mode of play, as

Atkins and Jayemanne each observe in conventional videogame play; rather, the videogame-as-played *is* the videogame-as-narrativised. Permanent death does not just make the game more difficult via harsher consequences, but allows a story to be acted out and narrativised in 'real'-time, where a single mistake may be less a blooper and more an ultimate conclusion. In Abraham's writing, his preoccupation with not dying permeates every page and every act, and the few mistakes he does make, such as failing to spy a guard standing nearby, create tense moments for the reader caught up in his plight as not one possible story, but as *the* story.

Most significantly, the pleasure of whimsical experimentation through the player's ultimate immortality across the character's resurrections is replaced through permanent death with the pleasure of every action feeling weighted and significant through the player-as-character's mortality. As Hocking puts it in his foreword of Abraham's book:

> 'Permadeath' … effectively re-couples player and avatar, an interesting consequence of which is the 'porting over' of the authentic desperation of life's struggle. The permadeath restriction forces a player to adapt to overcome the biggest challenges one will ever confront in a game, or in reality: his or her own fickleness, foolishness, cowardice and frailty. (Hocking, in Abraham 2009, 2)

Permanent death limitations alter the experience and constitution of time in videogame play through downplaying those linear processes that stop and restart with the character's death, and thus emphasising the consequential nature of the player's own imperfection. The character's body is no longer a thing to play with or a grotesque spectacle to watch die, but a vulnerable rhythm for the player to get caught up in; the role of the character as the player's umbilical to and as part of the textual experience is highlighted in its fragility.

Permanent Death in Minecraft

In part influenced by Abraham's project, I undertook my own permanent death experiment in the aptly-named 'survival mode' of the game *Minecraft*. Death in this mode of *Minecraft* is not temporal for the character so much as it is spatial: death means being forced to be somewhere else, not some *when* else. The consequences of a character's death—and the intensity of acting while alive—are constantly in flux, proportional to both the distance travelled from the spawn point and the value of the items in the player's inventory. In earlier versions of *Minecraft*, death would have the character drop any items they are carrying, and teleport player and character back to the position they first entered the world. Later versions of the game added bed items that the player could place anywhere in the world and sleep in to alter where they would respawn upon death. The fluctuating consequences of death remain the same: if a zombie kills the player several steps from their base, death might be just a minor inconvenience as the player spends a minute running back to the spot of their death to pick up the items they dropped. But if the player has spent the past few hours deep underground, exploring and mining a rich labyrinth of caves, character death might be a harsh and anguishing experience. All that iron, diamond, gold, *and time* lost to a pool of lava or forgotten in a dark recess of the world.

Of course, the harshness of death also depends on what the *Minecraft* player is hoping to achieve. Although more recent updates have added quest and goals, *Minecraft* is primarily known for its open-ended play of simply dropping the player in a procedurally generated world with no guidance. It is not just the player's goals that are highly individualised, but the world the player finds themselves in, too. Every new game of *Minecraft* uses algorithms to produce a world with its own unique topography of forests, ocean, and mountains; and its own subterranean labyrinth of caverns, abandoned mines, and minerals. While a new world

will start at a certain size and is limited to that size on console and mobile versions of the game, on PC more 'chunks' of world generate as the player walks around, giving the illusion of an enormous, inexhaustible world spread out in every direction, limited only by the player's commitment and hard drive capacity. This makes *Minecraft*, like those games in the roguelike genre, particularly amenable of the permanent death rule, with an entire world being lost upon the character's death.

Occasionally, in previous sessions of *Minecraft* play, motivated by *Minecraft*'s perpetual world generation, I would take my avatar on long walks into the unknown. I would spend hours lost in a forest or on a foreign continent. Eventually, this interest in exploring the unknown became my primary way of engaging with *Minecraft*, and in 2010 I commenced a publicly documented project where I would play as a nomad, walking east towards the sun. I called the project *Towards Dawn*; the plan was, simply, to see what was 'out there' in one particular world. While the project was not originally conceived of as a permanent death way of playing *Minecraft*, it soon became clear that that was what I was doing. As beds had not yet been implemented in the game, the further I walked from my initial spawn point, the more progression would be lost on my eventual death. Whereas Abraham created a permanent death style of playing *Far Cry 2* through the promise to himself and his readers that he would delete his file after death, the constraints built into *Minecraft* meant I did not have to make such an oath—the further I walked, the less likely I would be to repeat this journey if I were to die.
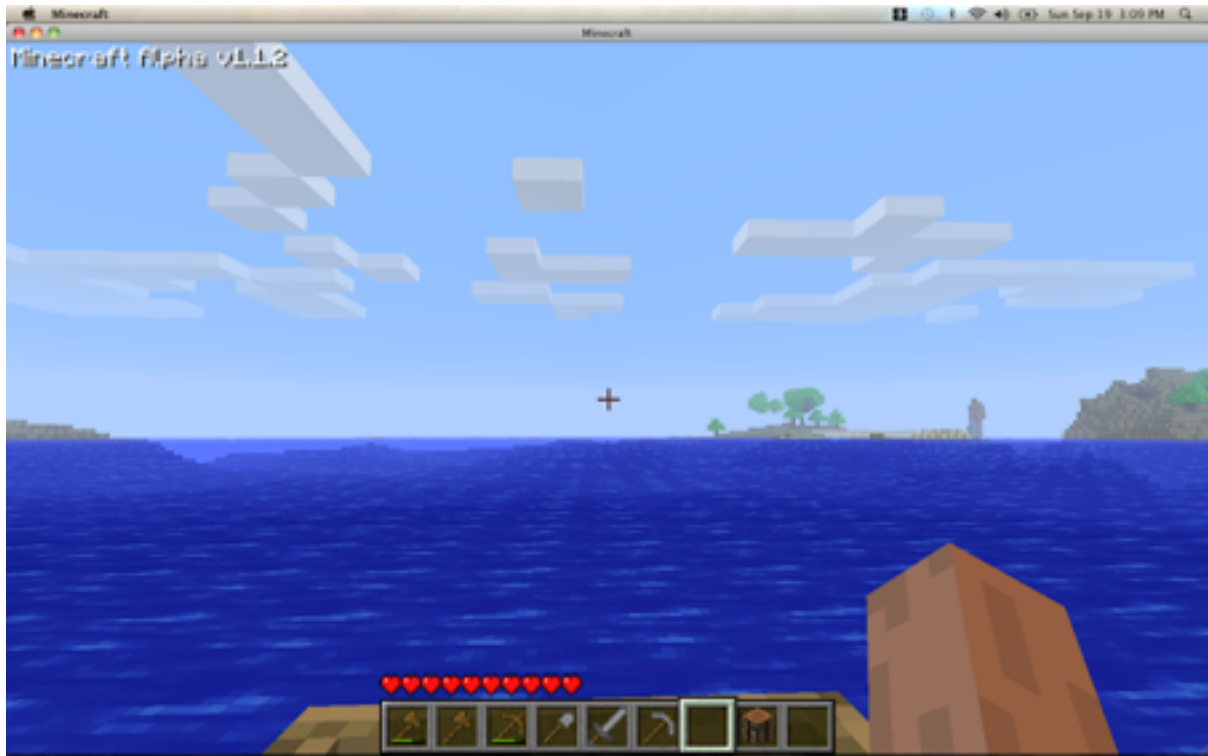
Figure 5.2. The beginning of my *Towards Dawn* journey in *Minecraft*.

The encroachment of permanent death changed the way I engaged with *Minecraft* in significant ways. Most importantly, my relationship with the landscape around me altered dramatically. Just as Abraham's every action became a conscious consideration of how to remain alive in *Far Cry 2*, my every step further into this world became fraught with anxiety. I would track the safe route down a mountain without falling further than two blocks, whereas before I might have leapt from the top into a pool of water below. I would never dare to head outside at night or too deep underground, scared as I was of the monsters lurking in each. Instead, I would spend the ten minutes of night time sitting in my hastily constructed shelter, gripping my sword, and spying for monsters. The ominous threat of character death bringing an end to the adventure focused my attention to a heightened level of vigilance, watching every step my character took with the greatest care. It focused my attention on the corporeality of my character. Activities that would have typically felt mundane before, such

as sitting in a boat in the middle of the ocean for ten minutes waiting for night to pass, were rendered significant. As the game continued and I journeyed further, I had more to lose and death became an ever more pricey proposition. Instead of a post-hoc narrativisation that has the player mentally stitch together the successful fragments of play into a canonical memory of how the game played out while obscuring those fragments where they make mistakes, the permanency of my character's potential death meant I was living the narrative of my character's life in present tense as I played. Sitting idly at my computer for ten minutes as my character floated in the middle of the ocean was not an interruption of play, but an active and playful engagement where my concerns for character death and game termination were at the fore of my mind.

As Abraham kept a blog of his *Far Cry 2* permanent death play, I maintained a blog that coincided with my adventure. *Towards Dawn* gathered and maintained a steady readership for the length of the project. As the project continued, those readers that wrote comments on each entry often expressed a personal investment in the character's story and wellbeing, and regularly offered tips and advice for how to make certain tasks easier. The investment of my readers was most apparent around forty in-game days into the adventure, when my character rode a boat out into an ocean that took an in-game week to cross. When I mentioned in a post that I was concerned the game had glitched and there would be no more land, and that maybe I should just jump my character into the ocean and end it all, readers began leaving messages of support, determined to see the journey continue. One anonymous commenter wrote: "Keep going on mate! This is getting more interesting with the updates! I acknowledge that this cannot continue forever, but more would be certainly sweet."

Just as with Abraham's *Permanent Death* project, permanent death was not just a consequence that would affect me eventually, but an omnipresent consideration that

permeated my every action leading up to that eventual death. It weighed every act with a sense of significance. If my character died, my journey east would be over; nobody would ever see this world again; and, significantly, a blog that had gathered a significantly-sized readership would come to an abrupt end. It is the *potential* of character death—and what actual investment would be lost with that death—that influences every moment of play. In any previous world, I would not have thought twice about jumping in the ocean, drowning, losing my equipment, and returning to my base. But here, there was so much more at stake—both within the game and surrounding it. Not dying was more important than anything else, so I chose instead to be stranded for a week, and my readers chose to stay with me, invested as they were in my character's mortality. The player of a permanent death game no longer throws the character's body around on an experimental whim; the stakes are much too high for that. 'What if' is no longer a reason to play *with* and be taught by the videogame, but a reason to play the videogame with more care. The world is no longer full of possibilities; it is now full of dangers that could short-circuit the player-and-videogame assemblage at a moments notice.

Such permanent death projects and the emotional commitment they foster are not an argument for permanent death as more 'meaningful' than typical character death; rather, they provide another example of how actual rhythms of videogame play are always mediated by how character death is both depicted and imagined, and what consequences it brings with it. To contrast, in *Ziggurat* (detailed in Chapter Two), the game restarts after only one death, but the brevity of a single play session ensures this is not imbued with the same sense of permanency as a death in *DayZ*, which is not actually permanent at all. What the various depictions of character death as permanent or impermanent across the videogames and

projects detailed in both this section and the previous sections suggest is rather that how players perceive time through any particular videogame is tied up with the labour of failure in a synergy of progression and repetition.

Conclusion

The *Minecraft* anecdote that began this chapter, where I fell into lava and lost two hours worth of valuable resources, was not a permanent death experience, *per se*. My character respawned back at my base, and the diegetic time of the virtual world moved forward. The sun was in the middle of the sky when I first went underground and now, many in-game days later, it was just rising on a new one. The crops I had planted when I ventured out had since grown into maturity, and the ore I had placed in my furnace was now smelted. Whilst alive, I was not playing 'as if' my death would be permanent, and thus made rash mistakes. Yet, the sense felt upon death of a tangible, permanent loss was undeniable—both of my own time and investment in the game over the past two hours, and of the rare resources that had been removed from this world forever. What this chapter's analysis of temporality's constitution in videogame play through failure, repetition, and permanence demonstrates, then, is not two distinct 'modes' of character death (permanent and impermanent) but a complex ensemble of processes that constitute videogame temporality, some of which the player perceives as cyclical and ongoing, and others they perceive as linear and repetitious. Repetition and progression, retries and ultimate conclusions, diachronic alternatives and synchronic experiences are all caught up in an embodied rhythm of videogame play where the diegetic experience of temporality is perceived through multiple diegetic and nondiegetic strategies such as music that does not halt on the character's death in *Hotline Miami*, or a world that will never be seen again in *Minecraft*.

This chapter has explored the significance and complexity of the constitution of temporality in videogames at the intersection of progression and repetition. The first section challenged conceptualisations of discrete actual and virtual times through Lefebvre's notion of temporality as constituted through cyclical rhythms and linear processes. The following two sections turned to the various ways character death is depicted by different videogames as either trivial or permanent. Videogames use the permanency or impermanency of failure (or the lack of possible failure) to forge a particular coupling between the player's actual labour over time and the authentic and inauthentic performances of the playable character within the videogame's world. If videogames are played and performed in the present, actively constructing the text between player and videogame in the moment of play, then they are also caught up in broader rhythms and contexts where pasts and futures make themselves present through failure and repetition, or the threat thereof. To properly account for the embodied textuality of videogame play is to account for how temporal events in a particular videogame are not just remembered post-hoc, but for how they are dynamically constructed through authentic and inauthentic performances, through cyclical progression and linear repetition.

Over the previous chapters, this thesis has enunciated the player's embodied, integrated emergence from and as part of the circuit of videogame play to challenge assumptions about how the player experiences videogames. The centrality of 'action' and 'interaction' has been interrogated and superseded by Hayles's notion of 'intermediation' that sees both player and videogame as actively and reflexively mediating the embodied experience of play. The notion of 'immersion' that cannot help but perpetuate both mind/body and form/content dualisms has been rearticulated as a voluntary illusion entered into through the player's amalgam, posthuman co-attentiveness that sees their cyborg embodiment distributed across worlds and bodies. The significance of dressage and a kinaesthetic

knowledge of the hands has challenged assumptions that more 'natural' input devices are fundamentally better for achieving this perceived sense of immersion. The engagement players have with the sounds and images of videogames has been shown to be no less primary than their engagement with buttons and rules. Here, the complex manners in which videogames constitute and embody senses of temporal progression and repetition have been explored. To echo this thesis's introduction, what these chapters have done together is challenge and complicate presumptions about how the player becomes entangled with the videogame during play. They provide a lens and a vocabulary through which the unconscious elements of videogame play can be appreciated alongside those elements consciously considered by players. Thus, the following and final chapter will conclude this thesis by looking to the future and asking what happens if we take this thesis's enunciations seriously. It will show that a diverse spectrum of videogame experiences obscured by existing pre-conceptions are made legible when one accounts for the embodied textuality of videogame play.

Chapter Six

From Hackers to Cyborgs: Appreciating Videogame Experience

If my nightmare is a culture inhabited by posthumans who regard their bodies as fashion accessories rather than the ground of being, my dream is a version of the posthuman that embraces the possibilities of information technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and celebrates finitude as a condition of human being, and that understands human life as embedded in a material work of great complexity, on which we depend for our continued survival.

- N Katherine Hayles, *How We Became Posthuman*

As the opening credits of the military shooter *Call of Duty 4: Modern Warfare* commence, the player's perspective plunges from the god-eyed, "global network" of war (Dyer-Witheford and de Peuter 2009, 109) down to the surface of the planet to enter the body of a fictional country's president being dragged out of his palace during a military coup. The player, as this character, is thrown into the back of a car and driven across the city (see fig. 6.1). The player has no control over the captive leader's navigation, but can choose where to look by rotating the gamepad's right thumbstick. Through the windows of the car the military coup plays out in a series of vignettes: people running into their homes and locking their doors; a tank rolling down the street; government supporters lined up against the wall; a man spraying graffiti in an alleyway. All the while, the car radio blasts the speech of the usurper that is responsible for the player-character's capture. As the car reaches its destination, the player-character is removed from the car, dragged into an arena, tied to a post, and executed by a point-blank shot to the head by that usurper in front of a live audience, setting up the plot for the rest of the game. This transit scene is an instance of a common trope in story-driven action games ever since *Half-Life* had the player-as-Gordon-Freeman ride the Black Mesa rail network to his job (Golding 2014, 73). *Modern Warfare*'s opening credits are a powerful and evocative scene, but it is a scene where the player ostensibly does not 'do'

anything. They cannot escape the car; they cannot determine where the car will go; they can only sit on the back seat, look around, listen, and wait to be delivered to their execution. Yet, undeniably, the player is still engaged with this part of the game, still actively experiencing it. Through their inability to do anything but look and listen at the scenes around them, the player is incorporated into the experience of the despondent character, and the character into the experience of the restricted player.

Figure 6.1. The player-character being driven to their execution in *Call of Duty 4: Modern Warfare*'s "The Coup".

The last two decades has not only seen the rise of moments in videogames like this scene in *Modern Warfare*, but entire videogames built around such minimal, experiential engagements. Videogames such as *Dear Esther*, *Proteus*, *Journey*, and *Gone Home* (Fullbright 2013) focus primarily on the player's navigation and sensorial perception of a virtual space while minimising any form of mechanical or systemic challenge. Other videogames, such as *Lim* (Kopas 2012), *Dys4ia* (Anthropy 2012), and *Mainichi* (Brice 2012) explicitly focus on an *inability* to meaningfully act or achieve goals. Such videogames are

commonly dismissed (or at least downplayed) by both popular and scholarly critical discourses as either videogames where the player does not do anything or, worse, as not *really* videogames at all. The pleasures such videogame experiences provide remain opaque.

Throughout this thesis, I have advanced a phenomenology of videogame experience that accounts for the player's embodied engagement of the videogame as seen, heard, and touched—that is, as played. In this final chapter I demonstrate how accounting for the embodied textuality of videogame play renders legible those videogames that value technological engagements and intercorporeal pleasures beyond the strictly ludic ones of goal-based mastery and challenge. In the introduction to this thesis, I contested action-centric notions of videogame play that are pervasive in scholarly writing on videogames and made explicit when Galloway claims that "no gameplay is actually happening" at the moment the player allows the playable character to stand stationary in the game *Shenmue*, letting the virtual day roll into virtual night (2006, 10). I argued that this tacitly implies that the player is only playfully engaged with the videogame when they are pressing buttons on the input device. Such a focus on intentional and exertive action reduces our appreciation of the full embodied experience of engaging with a videogame to a peripheral concern, rendering moments such as *Modern Warfare*'s transit scene into secondary 'non-play' engagements to be stripped away rather understood in their own right.

For Galloway, such experiential videogame moments that depend primarily on an embodied audiovisual engagement (as opposed to the player's ability to exert change) do so due to their reluctance to embrace "the pure uniqueness of video gaming" (2006, 11). This thesis, on the other hands, rejects that a 'pure uniqueness' of the videogame form exists. This chapter makes the case for how an analysis of videogames that accounts for both their textual and experiential properties—that is, their embodied textuality—does not see such videogame

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performances as the player 'doing nothing'. Rather, they demand (like all videogames and indeed all texts demand) particular integrations of flesh, sensorial perception, hardware, and audiovisual signs no more or less experiential than the most complex mechanistic videogame works. Here, this thesis's ultimate contribution is made: a phenomenology of videogame experience is shown to allow a more nuanced appreciation of the diverse spectrum of embodied pleasures and meanings of individual videogame works beyond the narrow, normative, and market-driven standards videogames are predominately measured against.

To do this, I take seriously the notion that has been present throughout this thesis: that videogame players are cyborgs. This is in contrast, I show, to a traditional understanding of videogame players as *hackers*—as empowered and autonomous actors working to subdue and optimise both complex systems and computational software. Videogames are historically entrenched in hacker paradigms of empowerment and control that cultivate a normative, dominant, neoliberal, technofetishist, and ultimately masculinist player identity that solidifies the values of certain modes of videogame experience while marginalising others. If videogames are dominantly understood as empowering a player to make choices and perform meaningful actions on a world, then what oppositional play styles and design ideologies are marginalised by this dominant understanding? Reconceptualising the player as an integrated cyborg allows a transition from considerations of videogame play as primarily an exertion of power to primarily an experience of embodied intercorporeality (of which an exertion of power is one potential result). Videogame play lost its corporeality through the mythos of the hacker, but it can be reclaimed through the figure of the cyborg.

As this thesis has depended on both cyborgian and posthumanism literature to advance its phenomenology of videogame experience, in this chapter it echoes the concerns

of these scholars in accounting for experiences beyond the dominant and hegemonic. Hayles proposes:

> [If] there is a relation among the desire for mastery, an objectivist account of science, and the imperialist project of subduing nature, then the posthuman offers resources for the construction of another kind of account. In this account, emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject's manifest destiny to dominate and control nature. (Hayles 2004, 288)

As videogames are enthusiastically and dominantly imagined and marketed as 'more interactive' than film or literature, videogames have long naturalised such ideals of the liberal humanist subject (mastery, domination, individualist agency)—itself a dominant conceptualisation of 'Human' that, as we saw in Chapter One, "may have applied, at best, to the fraction of humanity who had the wealth, power, and leisure to conceptualize themselves as autonomous beings exercising their will through individual agency and choice" (Hayles 2004, 286). This thesis's dedication to the cyborgian or posthuman amalgamation of player-and-videogame, on the other hand, challenges these notions and demands a reconsideration of the player as other than an intentional, autonomous agent. The player, as this thesis has understood them, is not 'in charge of' the videogame's systems but assimilated into them so that the system *is* the player-and-videogame across bodies and worlds. The player makes some choices, but always within the affordances and constraints provided by the videogame. The videogame is mediated by the player, and the player is mediated by the videogame. The very illusion that the player 'controls' the videogame, this thesis has argued, like Hayles, "bespeaks a fundamental ignorance about the nature of the emergent processes through which consciousness, the organism, and the environment are constituted" (Hayles 2004, 288). Through this final chapter I interrogate where these presumed qualities long considered natural to the videogame form emerged from; how their uncritical deployment perpetuates a

hegemonic understanding of videogames and their players; and how this thesis's commitment to the embodied textuality of videogame play renders legible forms of videogame experience that explicitly oppose, interrogate, and mistrust these dominant qualities.

The first section will trace a history of the gendering of technology generally and videogames specifically in Western societies through the twentieth century, exploring how the computer came to be designated as offering a masculinist empowerment, and the direct influence this had on videogames—or, more accurately, how videogames emerged from this masculinised space of computing. This masculinisation is distilled through the 1980s and 1990s into the figure of the 'gamer' as it emerges as a direct descendant of the hacker mythos of the 1960s and 1970s: a commodified identity that favours a specific and narrow conceptualisation of videogames as software and videogame play as software configuration. The second section sets up the cyborg-player as a contrast to the hacker-gamer through the historical deployment of the cyborg as an explicitly feminist conceptualisation of embodied being. The cyborg, contrasted with the hacker, challenges dominant values and understandings of videogame play to expose a much broader spectrum of pleasures. The third section complicates this potentially too-simple binary of hacker/cyborg by demonstrating how the cyborg-player is not the oppositional antagonist to the hacker-gamer, but the broader spectrum of identities that the hacker-gamer often stands in for—not dissimilarly to how white, Western Man often stands in for the much broader spectrum of human identities. As the gamer is but a (dominant) subset of the diverse range of videogame players that exist, the hacker is but a (dominant) subset of the diverse, cyborgian range of ways that flesh and machine may come together; recognising this entanglement is vital for a phenomenology of videogame experience that accounts for how videogames are actually experienced, not just how they are normatively imagined to be engaged with. The figures of the hacker and the cyborg intersect and influence each other as metaphors for the player to understand their own

role in a range of contemporary videogames, both dominant and oppositional. As they provide identities for players, they can provides lenses for scholars through which to comprehend how players perceive their own incorporation with the videogame, and how they understand the videogame through that perception.

Gamers as Dominant Hackers

That both the dominant videogame culture and industry continue to be significantly gendered is neither a new nor controversial claim (see, for example, Wajcman 1991; Murray 1997; de Peuter and Dyer-Witheford 2005; Dovey and Kennedy 2006; Kennedy 2007; Lister et al. 2009; Hjorth and Richardson 2009; Juul 2010; Shaw 2011; Taylor 2012). The videogame industry is disproportionately and historically male (especially at the upper levels of creative leads and producers); mainstream videogame journalism predominately employs male editors and writers, and addresses a readership of 'gamers' that are more often than not presumed to be male (de Peuter and Dyer-Witheford 2005; Kirkpatrick 2012; Nicoll 2015). Most significant for this chapter, the long term consequences of this masculinising of videogames culture influences which videogame experiences and players are legitimised by a discourse, and which are marginalised:

> What remains troubling is that within the industry itself, and also within the academic community, games which have attracted a more gender balanced playing audience, such as *Everquest* and *The Sims*, are frequently cited as deviations from the 'classic game model' (Juul 2003), which implicitly works to reinforce the notion that these are not *really* games and their players are not *really* gamers… The heavily gendered culture of the computer game therefore produces a privileged (but naturalized or normalized) set of play preferences and practices. (Dovey and Kennedy 2006, 37)

Certain videogames and players being marginalised as 'deviations' is a crucial point, especially in light of the more recent discussions of casual games and avant-garde scenes that

exist largely beyond the normalised preferences of the videogame industry (Juul 2010; Kopas 2012; Street 2013). These oppositional identities will be the topic of the next section, however, and here is it is important to first identify where these naturalised 'legitimate' preferences and practices emerge from.

Computing as Masculine Culture

The history of videogames is enmeshed with the history of computing. While rich commonalities can be traced from videogames back to the new media artworks of the 1960s such as those of Fluxus artist Nam June Paik (Wilson 2004, 88); to the penny arcades, nickelodeon cinemas, panoramas, and theme park attractions of the 19th Century (Huhtamo 2005; Golding 2014); and back further to the aesthetic practices of the Baroque era (Ndalianis 2004; Jayemanne 2013), it is those institutions and people formative to the early years of electronic computing that created the first videogames and shaped the social contexts through which the medium would be popularly understood. Videogames had, and have, a dominant ontology as computer program, and computer programming has a dominant ontology as a masculinist practice.

Yet, at the same time as Alan Turing was working on an algorithm that would allow a computer to play chess, most computers were, literally, women. The term 'computer' originally belonged to those human clerks hired to punch out calculations that would be passed on to gunner officers to aim artillery or other weaponry during World War II. These human computers were commonly women, as they were cheaper to employ than equally-qualified men. The women computers, however, were gradually replaced with computing machines such as the ENIAC, designed at the University of Pennsylvania and funded by the US Army. While several woman-computers were initially retrained as programmers to use the

ENIAC, they were removed from the project when the machine was transferred to a military base (Chun 2011, 29).

Such an anecdotal etymology of 'computer' transitioning from the organic (nature) to the mechanical (culture) and from the clerical (feminine, banal) to the militaristic (masculine, meaningful) provides a compelling origin myth for the digital computer through which Dovey and Kennedy understand the videogame as "both the prodigal son of the military/industrial/capitalist complex and its illegitimate unruly child" (2006, 36). Dovey and Kennedy's gendering in this metaphor is deliberate. As computers become increasingly significant devices through the latter half of the twentieth century, they become entrenched in broader patriarchal structures that inscribe them as mathematical, scientific, important, masculine. This inscribing of the computer as masculine leads to it being embedded, more often than not, in those parts of society already inscribed as masculine: the science lab, the math's classroom and, in the home, the son's bedroom over the daughter's (Wajcman 1991, 154; Lister et al. 2009, 246). As the ENIAC programmers were physically excluded from the explicitly masculinised space of the military base, women were nominally excluded from decades of computing. By 1962 when a group of male student hackers at a military-funded lab at MIT repurposed the PDP-1 computer to create the first videogame, *Spacewar!* (Crogan 2011, 38), computers were exclusively the realm of wealthy, typically military-affiliated university institutes, situated in spaces already long inscribed as masculine.

The Hacker Mythos

In accounting for the ubiquitous masculinising of the videogame form, it is telling to take seriously the notion that the hacker of the 1960s and 1970s functions as not just an origin story for the contemporary videogame, but a precursor for the modern, consumerist identity

of the gamer. Lister et al. observe that "if computers and video games have made computer technology accessible and popular, they have, in doing so, effectively commodified computer technology, turning the radical hacker ethic into consumerist entertainment" (2009, 290). Wendy Hui Kyong Chun draws a similar parallel with the rise of digital computing post-World War II coinciding with the emergence of neoliberalism (2011, 7). The dream, for both dominant videogame design and a neoliberal world, is "the resurgence of the *seemingly* sovereign individual, the subject driven to know, driven to map, to zoom in and out, to manipulate, and to act" (Chun 2011, 8, original emphasis; see also Burgess 2012). Directly influenced by a neoliberal humanist subjectivity through their ancestry of the hacker cultures of the previous decades, those videogame works most valued by videogame critics, enthusiasts, and scholars alike are those that allow the player to express an individualistic sense of freedom, agency, autonomy, power, and control: players take on powerful roles like commander, mayor, god, soldier, gangster, or superhero to both save the world and, more often than not, save the girl. Critical discourses surrounding videogames have been quick to embrace these values as seemingly inherent to the videogame form rather than socially constructed through the form's most dominant works.

Hackers birthed the videogame form, and imbued in them an ethos, attitude, and culture "that is produced by the conjunction of particular kinds of young men, technology and the mathematical systems of coding that are the language of computing" (Dovey and Kennedy 2006, 38). The mythos of hackers building up technology in campus dorm rooms and garages re-inscribes a dominant masculinity, as feminist scholars of technology have traced. In particular the work of Sherry Turkle (2005 [1984]) and Judy Wajcman (1991) is significant here. Turkle's ethnographic research on the hacker culture of MIT's campus through the 1980s reveals a culture that is masculinist and hostile to women; that is more interested in "playing with" computers than simply using them; that appreciates formal

complexity for its own sake; and which views complex systems as something that must be defeated in contest (2005, 194-197). Turkle's hackers are playful in a strictly ludic, goal-orientated sense: the computer offers a problem to be solved. Tellingly, when Turkle expresses to one of her interviewees that she wants to understand the 'feel' of hacking, the hacker suggests she plays the videogame (contemporary at the time of the interview) *Adventure* (Atari 1979). *Adventure*, Turkle found, captured the hacker experience of "living with his [sic] code" much better than a simple computer programming course: "It is the introductory computer course that fails to give its students a sense of what programming is to its virtuosi. When systems get complex they become worlds that you can live in" (2005, 206). While videogames do not require the same programming literacy as does hacking complex computer systems or hardware, they typically value similar experiences of comprehending and mastering systems, and similarly celebrate virtuosity. Both the hacker and the gamer prioritise the pleasure of bringing complex, untamed systems under control.

Wajcman builds on and critiques Turkle's work to contextualise the hacker mythos within broader cultural factors such as race, class, sexuality, gender, and age. Wajcman notes that while the individuals that make up hacker collectives commonly self-identify as losers or loners, these "mainly white middle-class men [draw] on the culturally dominant form of masculinity for their notions of risk, danger and virility in their work" (1991, 144). Wajcman highlights the "complex relationship between knowledge, power and technology" (1991, 144) that is pointed to through how the men in these hacker collectives both lack and possess power through their technical expertise: many hackers are marginalised from dominant understandings of masculinity built on physical prowess, but also possess particular cultural and societal privileges through their *technological* prowess. Importantly, Wajcman is critical of Turkle's tendency towards gender essentialism (Wajcman 1991, 157) instead situating masculine approaches to technology through the historically unequal access to computers

between genders. Computers became coded as masculine as they became machines linked with military bases and the scientific and mathematical faculties of schools and universities. The pre-existing gender disparity in educational departments is thus re-inscribed through access to computers (Wajcman 1991, 152). Wajcman is writing several decades ago, but the observations are as persistent as they are historical: computer practices (and by extension, discourses around videogame play) are naturalised as masculine, as the realm of the engineer and the mathematician, and thus they inherit and perpetuate neoliberal and masculine values of control, mastery, and autonomy.

From Hacker to Gamer

Significantly, while Turkle is celebratory of her ability to comprehend the pleasures of hacking through early videogames, Wajcman's explicit link between videogames, hacker culture, and dominant masculinities is more critical:

> Games are the primary attraction of computers for children. Given that it is men (often computer hackers) who design video games and software, it is hardly surprising that their designs typically appeal to male fantasies... Many of the most popular games today are simply programmed versions of traditionally male non-computer games, involving shooting, blowing up, speeding, or zapping in some way or another. They often have militaristic titles such as 'Destroy All Subs' and 'Space Wars' highlighting their themes of adventure and violence. No wonder then that these games often frustrate or bore the non-macho players exposed to them. (Wajcman 1991, 154)

While videogames today encompass a far broader diversity of genres and forms of attention, that Wajcman's observations of the state of the videogame form could still be made (and indeed often are made) points directly to the lingering legacy of the 20th Century hacker and its masculinist normativity on videogame culture and production—on what is valued and by who: "the new technology [of videogames] was slotted into a pre-existing male subculture and took on its masculine face" (Wajcman 1991, 155).

The roots of these dominant videogame values through hacker cultures (and thus through a neoliberal humanism) is echoed in research conducted by Kirkpatrick (2012) that traces the notions of 'gameplay' and 'gamer' as they emerged through the UK enthusiast press through the 1980s and 1990s. 'Gameplay' comes to mark "the point at which gaming bids for autonomy as a cultural practice" and is thus deployed, deliberately, in opposition "to things like graphics, character, plot and so on" (Kirkpatrick 2012, np). Kirkpatrick traces the etymology of 'gameplay' as an essence that is meant to distinguish videogames as a unique cultural practice but which instead comes to signify "the tastes and preferences of the authentic gamer" (Kirkpatrick 2012, np). Through Turkle's, Wajcman's, and Kirkpatrick's work we can see how the hacker mythos of early videogames culture up to the mid-1980s is distilled into the consumerist identity of the gamer, crafted and cultivated by a consolidating videogame industry to be a stable, homogenous target audience of young men with narrow tastes as defined by 'authentic' gameplay. Two crucial points are highlighted in Kirkpatrick's study. The first is how authentic gameplay, that essence possessed by 'good' videogames, is perpetual and reinforced: "it is both a stake in the game and the decisive move made by winners. Successful game designers produce videogames with gameplay and in persuading players this is what they have done they determine what 'gameplay' signifies" (2012, np). The second is how the gamer that appreciates this gameplay is more assuredly addressed by videogame magazines into the 1990s as a teenage male whose identity *as* a gamer is explicitly differentiated from other (non-gamer) people's identity as adult, parent, or woman. In short, through the 1980s and 1990s, the dominant videogames were those produced by and for young men, and it is the success of these videogames that determined what was canonised as a good videogame moving forward.

While Kirkpatrick does not focus on more contemporary discourses, the lasting effect of the hegemonic and gendered tendencies he observes is exemplified in more recent

interviews conducted by Adrienne Shaw that explore just who self-identifies as a 'gamer', confirming that "male interviewees were much more likely to identify as gamers than female, transgender or genderqueer interviewees" (2011, 34) and that such self-identification has little to do with how often the interviewees played videogames. In other words, many non-male videogame players, even if they play videogames frequently, do not consider themselves to be 'real' gamers or the videogames that they play to be 'real' videogames. Thus, the gamer identity becomes one of legitimisation and authenticity along predominately gendered lines.

As a consequence of videogames' historical construction as masculine and its alignment with the hacker mythos that favours technological competency, formal virtuosity, and systems literacy, discourses around videogames (both scholarly and popular) have produced what Dovey and Kennedy note is "an 'ideal' player subject that is naturalized as 'white', 'male' and 'heterosexual'" (2006, 63). Dominant understandings of videogame play —taking masculinist and neoliberal ideologies as inherent values—obscure the heterogenous spectrum of meaningful and significant experiences players have with videogames. These understandings instead allow a highly gendered and conservatively formalist notion of videogame play to dominate: those videogames that have goals to achieve, complex systems to master, and challenges to overcome become exemplary of a videogame form perceived as primarily about acting and exerting power. At the same time, those videogames deemed to be too easy (not enough challenge), too cinematic (not enough gameplay), or too 'linear' (not enough complexity) are marginalised as lesser examples of the form. Just as the hacker is concerned with mastering complicated systems and ultimately beating the form of the computer, so too is the gamer concerned with mastering complicated systems of mechanics and ultimately beating the form of the videogame. This ludic-centric notion of what a 'good' videogame allows the player to do is perpetuated through early game studies, as Rune Klevjer explicitly notes when he accuses ludology of being "partly rooted in the dark arcade of the

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late 70's and early 80's, partly rooted in hacker culture" (2002, 193). That the study of videogames in many institutions still finds an uneasy home between humanities and computer engineering departments points towards the everydayness of these tensions.

The hacker mythos of videogame play points to the dominant, normative, hegemonic, and masculine; it points to that audience with the most power, and speaks to their values while marginalising and obscuring a plethora of other identities and values that persist in videogame cultures but which are delegitimised by a dominant and commodified discourse. Accounting for the embodied experience of videogame play as a coming together of player-and-videogame challenges this discourse. It provides a space and a method to account for those videogame works beyond dominant values of mastery and control and agency not as 'deviations' but as videogame experiences in their own right. To do this requires players that are not hackers, but cyborgs.

Players as Integrated Cyborgs

As a response to the masculinising of science and technology discourses, the cyborg enters critical discourse through Haraway as "an ironic dream of a common language for women in the integrated circuit" (1991, 149). The cyborg embraces the hybridity, impurity, and ultimate partiality required for flesh to incorporate with machine, and this embrace destabilises the hegemonic dominance of those above identities that seek to transcend and dominate the machine, rather than corporeally integrate with it. For Haraway in particular, the cyborg is an explicitly feminist metaphor that contests not just dominant knowledges, but dominant *ways of knowing*:

> Perhaps, ironically, we can learn from our fusions with animals and machines how not to be Man, the embodiment of Western logos. From the point of view of pleasure in these potent and taboo fusions, made inevitable by the social relations of science and technology, there might indeed be a feminist science. (1991, 173)

Where the hacker strives for autonomy and dominance over the machine, the cyborg embraces the fact it is always already in part shaped and mediated by the machines it integrates with: always already partial, always already mediated. Not seeing from above, like God or Golding's configurative player (2013a) normalised in both scholarly and popular videogame discourses, but seeing from *somewhere*, from a situated and partial perspective, like Golding's navigating player (2013a). Hayles has similarly utopic hopes for her embodied posthuman:

> To conceptualize the human in [terms of posthumanism] is not to imperil human survival but is precisely to enhance it, for the more we understand the flexible, adaptive structures that coordinate our environments and the metaphors that we ourselves are, the better we can fashion images of ourselves that accurately reflect the complex interplays that ultimately make the entire world one system. (2004, 290)

It is here we see the full significance—the full urgency—of this thesis's desire to see the player and the videogame as each reflexively constructing the other in intermediating assemblages of flesh and machine: such is the way to accurately reflect the complex interplays of player and videogame that are obscured through dominant teleologies such as immersion or interactivity. To account for videogame play as it is actually experienced, as opposed to how it is popularly imagined and marketed, requires a move away from the hacker-gamer and towards the cyborg-player.

Beyond 'Gameplay'

As Dovey and Kennedy note in their own exploration of the gendering of videogame culture through the hacker mythos, "If a particular group is dominant then we can be sure that there

are other stories, identities and creative processes that get written out of the discourse of dominance" (2006, 76). Videogames that have not offered pleasures strictly aligned to those of goal-based ludic play have been marginalised by videogame discourses for some years, as Dovey and Kennedy noted above of Juul's sidelining of *The Sims* in his Universal Game Model; or Kirkpatrick's more recent claim that *Second Life* (Linden Lab 2003)—similarly played by a more diverse audience than most videogames—is not a game at all (2013, 42). Those videogames that focus less on mastery and control and more on participation and integration are both more accessible and attractive to a broader range of people than the young men targeted by blockbuster videogames and, simultaneously, are marginalised as less legitimate by those who continue to determine the evaluative discourse around videogames.

In *Dear Esther*, for instance, the player wakes up on the shore of an island and makes their way inland to the summit of a mountain. As they walk through the caves and up the paths and along the beaches of the island, various objects and landscapes can be looked at, and a narrator speaks of events surrounding a past car crash. On each play, different artefacts can be found scattered around the world in different locations, and ghostly spectres may or may not appear at different moments. *Dear Esther* consciously rejects conventional videogame values of agency, empowerment, choice, and systemic complexity in order to provide a slow, evocative exploratory pleasure of navigating the space of the island. This minimalism of player ability, however, perplexed many videogame reviewers. Consider this negative review from the Australian magazine *PC Powerplay*:

> *Dear Esther* is not your traditional concept of a game [...] There's little actual gameplay to speak of: you move about with the arrow keys in first-person, and that's pretty much it. There are no enemies, no puzzles, nor any items or objects to interact with. You cannot jump, or sprint, and the game will automatically crouch for you if need be. You have a flashlight, but the game will turn it on and off for you. These automatic actions drive home the feeling that you're not even really in control of your character—you're more of an observer inhabiting their headspace. There is one walking pace, and it's deliberately ponderous so that you might take time to appreciate the environment around you because that's really all there is to do. (Hindes 2012, 48)

Instead of comprehending what particular engagements *Dear Esther* offers, the reviewer can only list those formal elements not present: a lack of objects to interact with, a lack of enemy or puzzle challenges, a lack of things to 'do'. The review suggests that *Dear Esther* is a game of poor quality because it lacks the typical challenges of dexterity and intellect to be mastered —you are not even "really in control" of your character. When the reviewer says there is "little actual gameplay," they are taking the narrow (yet dominant) conceptualisation of gameplay observed by Kirkpatrick to reinforce the dominance of the authentic gamer and their authentic videogames, and they are allowing it to stand in for the myriad of engagements possible with videogames. Similarly, a demonstrative user review of the similarly experiential *Gone Home* (Fullbright 2013) on review amalgamation site Metacritic complains that "The only semblance of gameplay *Gone Home* has to offer is 90 minutes of pitiful, painfully easy exploration... To call this a video game is insulting!" Here, *Gone Home* is not only a game of poor value due to its lack of normative qualities, but a threat to the very concept of 'Videogame'.

Dear Esther and *Gone Home* (and similarly *Slave of God* discussed in Chapter Four) are exemplary of nascent modes of videogame design that do not offer the pleasures of mastery and control that the hacker-gamer identity privileges. Rather, they offer little more than a path to walk down or an environment to explore. There is a distinct lack of anything to 'do' in such videogames, a lack of explicit choices to be made beyond the navigational, an

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inability to impact or alter the world from some position of power. Instead, the pleasures of *Dear Esther, Gone Home*, *Slave of God*, and many other videogames produced beyond the confines of the high-budget blockbuster industry are phenomenological, explicitly that of situated navigation rather than godlike configuration, and they require am integrated and cooperative relationship between the human and the computer—they require cyborgs willing to integrate with the machine, not hackers determined to master it.

Marginalised Videogame Identities

Importantly, and not coincidenta

lly, the videogames least capable of being evaluated positively by a hegemonic, hacker-gamer discourse are those videogames that most explicitly react against the masculinist dominance of the blockbuster videogame industry. The last decade has seen the rise in casual mobile games with popular appeal to demographics beyond a core gamer consumer base (Juul 2010; Hjorth and Richardson 2009; see Chapter Two). Casual games, such as *Candy Crush Saga* (King 2012), *Kim Kardashian: Hollywood* (Glu 2014), or *Flappy Bird* have their overwhelming commercial and popular success trivialised by critiques of how simple they are to play, and the seemingly superficiality of their fiction (see Schreier 2014)—as though a woman networking in Hollywood is more superficial than a hulking space marine saving the earth. At the same time, waves of avant-garde developers—many of whom are women, people of colour, and/or transgender—emerge from backgrounds with little investment in pre-existing videogame culture or its normative, hacker-influenced values, and the critically acclaimed videogames they have created challenge dominant understandings of the videogame form. These artists (such as Anna Anthropy, Liz Ryerson, Ian McLarty, TheCatamites, Mattie Brice, Soha Kareem, Stephen Lavelle, and Zoë Quinn) and the

platforms that support them (such as more accessible development tools like GameMaker and Unity, and distribution platforms on which to sell videogames such as Newgrounds and itch.io), each has been forced to confront a dominant understanding of videogames incapable of appreciating them.[52]
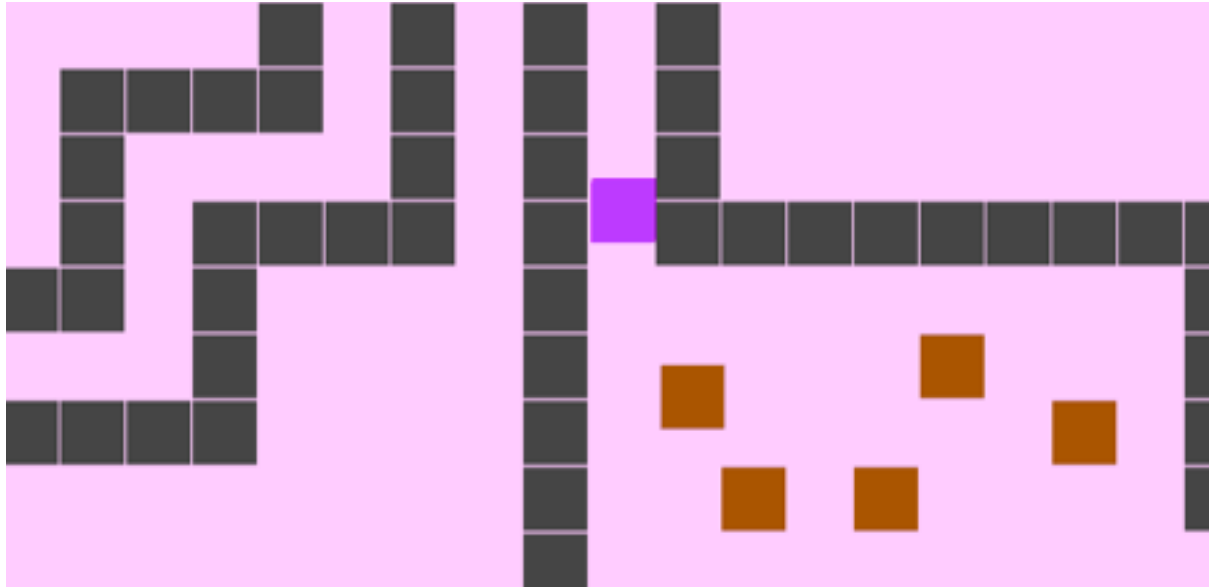

Figure 6.2. Merritt Kopas's *Lim*. The player must navigate a simple maze by blending in with other squares. This is complicated, however, by the 'blend' button slowing down the player's movement and producing unsettling noises. Sometimes the player's square is pushed beyond the confines of the maze by the other squares and the game becomes unwinnable.

Samantha Allen (2013) succinctly highlights how the ideological notions behind a videogame's designed experience either perpetuates or contests hegemonic understandings of videogame play as dependent on mastery and autonomy. In a comparative essay on how movement is conceived by the open-world and critically acclaimed blockbuster *Skyrim* (Bethesda 2011) and Anna Anthropy's autobiographical *Dys4ia*, Allen notes that the freedom of movement taken for granted by players in many blockbuster videogames closely parallels the freedom of social movement possessed by the predominately white, straight, and male

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[52] Such artists commonly exist outside of conventional understandings of both blockbuster and 'indie' videogames, and more commonly rally under banners such as zinester games (following Anthropy 2012); art games (Parker 2013); DIY games; or, most recently, altgames (Kareem 2015; Quinn 2015). I explore the tensions between blockbuster, indie, casual, and DIY videogame design cultures elsewhere (Keogh 2015b).

creators of those videogames. *Skyrim*'s "implicitly masculine" open world focuses primarily on allowing the player to determine their individualistic fate with a "supreme motility [… that] functions as an exaggeration of a freedom that [cisgender gamers] already enjoy in the physical spaces of non-game worlds" (Allen 2013, np). Meanwhile, the strictly scripted and sometimes impossible challenges of *Dys4ia*—a videogame explicitly about the experiences of a transgender woman— "allow[s] the player to acutely feel movement constraints, spatial restrictions and the uncertainty, sometimes the impossibility, of success" (Allen 2013, np). Videogames by marginal developers often communicate more explicitly through a *lack* of freedom of movement, such as the various constraints placed on the player in videogames such as *Dys4ia*, *Lim* (see fig. 6.1), or *Mainichi*. In *Mainichi*, the simple act of walking down the street is complicated by the character's status as transgender, as other characters regularly halt the character's progress to whisper near her or outright abuse her. The day repeats and players can make different choices about how they approach the day and how they present themselves. This initially suggests to the player an ability to improve things through personal choice, but regardless of what choices they make, some form of abuse will occur. Here, an explicit *lack* of ability to alter the world through choice is how the game communicates with the player. Similarly, the player of Robert Yang's *Stick Shift* (2015) has a 48% chance of being pulled over by the police and locked out of retrying the game for a number of hours. This 48% probability is equal to, Yang notes in his artist's statement that accompanies the game (2015), the number of LGBT violence survivors in New York who in a survey say they experienced police misconduct. Here, again, a restriction on the player's experience trumps any liberating empowerment of the player. Players are incapable of avoiding the ending *Stick Shift* has in store for them through either choice or prowess; they are at the whim of the videogame. Rather than the empowerment fantasies of domination preferred by the hacker-gamer, these videogames produced by those other than the most empowered members of

society—produced by those "who are not allowed to *not* have a body" (Haraway 1988, 575) —are disempowered realities of integration. Such videogames can only be appreciated by players who are not hackers determined to understand and control and exert agency over the videogame's systems, but players who are cyborgs willing to integrate with, incorporate, and become part of the videogame's systems.

That such videogames do not speak to dominant understandings of both videogames and players, along with the lack of technological spectacle consequential to such games typically being made without the advanced resources available to a large studio (game designer Raph Koster once notoriously dismissed *Dys4ia* as able to be built in presentation software Powerpoint [Koster 2012]), commonly mean that such videogames find themselves dismissed by both academic and popular discourses as less than legitimate videogames due to a lack of certain virtuosities: the virtuosity of a skilled player to defeat them, and the virtuosity of a technically (and economically) skilled creator to create them. This is perhaps most relevant of all to the renaissance of interactive fiction videogames seen through the open-access development software Twine (see Hudson 2015; Kopas 2015a). As a free tool that allows the production and distribution of interactive fiction works through basic HTML, Twine has become a hotbed for alternative and amateur videogame works. Kopas observes that "in the context of a medium that historically hasn't made any space for explorations of weakness, hurt, or struggle," Twine videogames "explore complex issues around embodiment and affect in wildly divergent ways (2015, 4).[53] However, these works have also met strong

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53 Compellingly, many Twine works deal explicitly with corporeality and viscera and cyborgism. Eva Problems's *SABBAT* (2013) has the player perform rituals with animal viscera to morph their body into a powerful demon; Tom Mchenry's *Horse Master* (2013) has the player take care of both a monstrous creature and a drug addiction; and Porpentine's *CYBERQUEEN* (2012) has the player meticulously tortured and dissected in gruesome detail by a sentient computer system. A history exists here, too, through Shelley Jackson's *Patchwork Girl* (1995), which explores the distributed and monstrous subjectivities of both corporeal beings and digital texts (see Hayles 2005).

opposition from established videogame discourses as not 'real' games, despite the long, and intermingled history of videogames and hypertext fiction.

A narrow focus on videogame play that privileges autonomous action and the mastery of complex systems through individualist agency obscures this broader spectrum of embodied textualities afforded by videogames that exist beyond the dominant, industrial modes of production and the hacker-gamer identity such modes of production cultivate for their sustainability. The figure of the cyborg offers an alternative way to consider the player's integration with the videogame as partial, mediated, embodied, and imperfect. Acknowledging the rhetorical and evaluative strategies used to both centralise the hacker-gamer identity and marginalise the cyborg-player is crucial to allowing a critical discussion of the videogame form to move beyond and react against its most normative instances.

Domination Through Integration, Integration Through Domination

In Sega's *Binary Domain* (2012), rebuilding the sunken cities of the near-future, post-climate change world demands a massive labour force, motivating swift advancements in robotic technologies. However, with new technologies come new anxieties. The United Nations passes a New Geneva Convention that inscribes into international law the banning of creating robots that could pass as human—a convention for the nonrights of nonhumans. As the game begins, the playable character and protagonist, Dan Marshall, joins a UN Security Council-sanctioned task-force known as a 'Rust Crew' to infiltrate Japan to investigate a suspected breach of the New Geneva Convention by the Amada Corporation. There is reason to believe that Amada has not only created robots that pass as human, but that these robots are themselves unaware of what they are, living their day-to-day lives unaware that they are, in fact, not 'real' humans. While *Binary Domain* plays as a standard third-person shooter, where

the player navigates Dan to cover before shooting at advancing robotic armies, the narrative unfolds more complexly against this mechanically conventional backbone. It becomes increasingly unclear just who is human and who is machine, and why it should even matter in the first place. Suspicion turns to each of Dan's allies and enemies in turn before, finally, turning to the *Binary Domain* player themselves. Late in the game, after one particularly difficult skirmish, one of Dan's allies mockingly compliments Dan's prowess and asks if he is sure he is not part robot himself. Dan, controlled and augmented by a player wrapped around a videogame controller and facing a television screen, fights so well and is so strong that his squadmate suspects that he may not actually be a 'real' human at all. This squadmate, ironically, suggests that the assemblage of flesh and machine that allows the character to perform so admirably (playable character, virtual camera, and a corporeal player entangled with videogame hardware able to retry the skirmish over and over until they get it right) might be a cyborg.

Here, the anxiety is not of the cyborg as less than human but of the cyborg as more than human, as too perfect, as possessing *too much* power through its augmented body, as being a threat to the domination of the human. This complicates what this chapter has up to now risked presenting as too straightforwardly an oppositional dichotomy. The hacker and the cyborg, as ontological metaphors for understanding the formative identities that mediate videogame culture, do not exist as distinct from one another but as entangled with and constantly reacting against each other. The domination and mastery of the hacker requires machine-like ability, while the cyborg exists, has always existed, in a direct relationship to the hacker from its inception.

Dovey and Kennedy, in their own discussion of the hacker mythos and dominant videogame technicities,[54] point towards this intricacy, where the "lone individual genius" hacker is often described as having "machine-like minds and inhuman propensities" (2006, 69). In particular, Dovey and Kennedy look at the boasting of Kushner in his book *Masters of Doom* (2003) that game developer John Romero could play *Pac-Man* with his eyes closed. Whereas Kushner presents this anecdote as an example of Romero's mastery of the computer, Dovey and Kennedy offer an alternative reading where the machine has fully trained Romero to respond in the optimal manner (not unlike Sudnow's notion that the videogame programs the player through the repetition of behaviours, explored in Chapter Three). Similarly, speedrunning communities that work to use exploits and hacks to finish a videogame as quickly as possible, are almost computer-like in their split-second inputting of exact button presses and hunting down of exploits in the code. The best hackers, it seems, are cyborgs.

While *Binary Domain* comments explicitly, if flippantly, on the complex overlap between hackers and cyborgs, it is seen less explicitly in a range of blockbuster videogames that use the metaphor of cyborgism to explain the playable character's improbable and exceptional physical strength and dominance over the world that is typical of hacker-influenced videogames—where the physical prowess of macho characters in the virtual world becomes directly analogous to the technological prowess of the hacker-gamer in the actual world. Master Chief, the playable character of *Halo*, is explained to be a biologically-engineered supersoldier, augmented further with alien-technology armour and recharging shields; *Assassin's Creed* uses a framing device of a character connected to a machine enacting another character to explain their powerful abilities; the playable character of

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[54] The concept of technicity was first coined by David Tomas in an exploration of William Gibson's *Sprawl* novels. Tomas forwards technicity to account for the "different systems of identity composition" that emerges in "cyborg-dominated culture" (1989, 123). I elaborate on the significance of technicity to videogame cultures through a close analysis of *Binary Domain* elsewhere (Keogh 2015a).

Bioshock (2K Boston 2007) augments their body with powerful potions; *Metal Gear Solid*'s Solid Snake is an engineered supersoldier, augmented by nanomachines; in *Deus Ex: Human Revolution* (Eidos 2011), a videogame explicitly concerned with technological augmentation of the human body, the hardest difficulty setting the player can choose is explained as being for players who are "one with the machine." Such cyborgism is not limited to science-fiction worlds. The playable characters of contemporary military shooters such as *Call of Duty: Modern Warfare* are augmented with unmanned drones, night-vision, and laser-sights; the undead ranger of Tolkien fantasy game *Middle-Earth: Shadow of Mordor* (Monolith 2014) is augmented by an Elven wraith. Across all these stories is the implicit or explicit suggestion that the human's *domination* over their world is always dependent on the human's *integration* with nonhuman technologies.

This is worth stressing: the point is not that some videogames demand hackers and that others demand cyborgs, but that *all* videogame play augments and restricts the player's corporeal experience in particular ways through sights, sounds, and interfaces. The hacker and the cyborg provide two metaphors through which this augmentation can be understood. The dominant values of the hacker-gamer are but a subset of a much broader spectrum of potential values afforded by the embodied textuality of videogame play. Those values that have long dominated understandings of videogame play (mastery, agency, autonomy) have been instilled by those who, to echo Hayles, "had the wealth, power, and leisure to conceptualize themselves as autonomous beings exercising their will through individual agency and choice" (2004, 286). Videogames by marginal developers such as those detailed above, on the other hand, demonstrate how accounting for the embodied textuality of videogame play contests the dominance of these hegemonic, and narrow ways of appreciating videogame experience.

Conclusion

The player-character's kidnapping and execution during the opening scenes is not the only time the player is forcibly and unavoidably killed by *Modern Warfare*. In a later level, the player takes on the role of an American marine invading the same fictional Middle-Eastern country in the hopes of toppling the same military leader that executed the player-character during the coup. After fighting through the skies and through the streets in a series of impressive and violent set pieces, the American forces become aware of an armed nuclear warhead in the city and are forced to retreat. They are too late, however, and the player watches from the rear of a transport helicopter as the expanding mushroom cloud catches up to and devours the player, the character, the helicopter, everything. Moments later, the player wakes up among the bodies and ruin of the crashed helicopter. Whereas movement in *Modern Warfare* is typically fluid and swift, here the player-character can only crawl at a slow pace as they drag their broken virtual body (depicted in the way the camera lurches forward with each second step) out onto the destroyed street. In this short stage, there are no enemies, no weapons, no challenges. The player simply limps their character's broken body forward for a short while before, inevitably, they collapse and die.

Here, in the blockbuster Call of Duty franchise that is exemplary of the hypermasculine, militaristic empowerment at the core of dominant videogame design, the player is subservient to the will of the videogame and the fragility of the character's virtual body. Neither of these inevitable deaths of the player-character (their execution at the start of the game, their death halfway through the game) can be adequately accounted for by an analysis that privileges mechanical action, empowerment, or individual choice. The pleasures of these scenes are not the mechanical mastery of a technological object but, first and foremost, complex and shifting embodied experiences that incorporate hands and controllers;

eyes and images; ears and sounds; and bodies, worlds, and temporalities. Such scenes highlight the urgency of Giddings and Kennedy's claim that videogames demand "a new conceptual language [that attends] to both the operations of nonhuman agency and the human pleasures of lack of agency, of being controlled, of being *acted upon*" (2008, 30, original emphasis). It is at this ontological intersection of both controlling and being controlled by technology that the cyborg enters critical discourse through Haraway. It is through the cyborg-player that the embodied textuality of videogame experience is rendered legible.

This chapter has highlighted how videogame play lost its corporeality through the mythos of the hacker, and how it might be reclaimed through the figure of the cyborg. The important point is not that posthumanist cyborgs are a hybrid of machine and organism whereas humanist hackers are not, but that the dualisms that allow the hacker to be seen as distinct from the machine—Nature distinct from Culture, Man distinct from Machine, mind distinct from body, gamer distinct from non-gamer—are themselves constructed mythologies at the services of a dominant and hegemonic perspective. Instead, focusing on the inherent cyborgism of videogame play—where human players are integrated with, embodied through, and constituted by the videogame—provides fruitful ground to explore broader capabilities of the videogame form, along with more nuanced ways of comprehending them. It puts back into play the corporealities of videogame engagement that are commonly displaced in instances such as when Galloway claims that "no gameplay is actually happening" at the moment the player stands on a virtual streetcorner to watch the sunset (2006, 10). It allows an appreciation for those videogames and critical manifestos from recent years that work to explicitly de-centre the concerns of a pre-existing, autonomous, hermetic player in videogame design, understanding the player more as one element in a much larger circuit than as looming over and comprehending a system (see Brice 2014; Polansky 2014; Kopas 2015b). It allows a renewed appreciation for the videogames of the past, oft dismissed as

technologically 'lesser' than present or future videogames rather than embodied experiences with sights, sounds, and interfaces in their own right. It allows for understandings such as Golding's (2013a) that see the player as navigating from within, rather than configuring from above, not unlike Haraway's feminist subjectivity that insists we *always* see from somewhere (1988, 882). It allows a space for the myriad of players that would rather be cyborgs than goddesses. It renders legible, as this entire thesis has strived to render legible, a more nuanced understanding of videogame experience as an embodied textuality, as a play of bodies.

Conclusion

We count and count and count until we invent a numbering system, based on ten digits, and some years later, having long since lost sight of how that system originally related to our anatomy's way of seizing hold of the world, we use ten digits to type instructions directing electricity to outline our body's mathematics back at itself. And we're thus now incarnated in the coolest digital version of ourselves to ever come along, a self-actuating, glistening little creature under glass that we now and then poke at through wires.

- David Sudnow, *Pilgrim in the Microworld*

Nintendo's *Game & Wario* (2013) is a collection of small games that take advantage of the WiiU's tablet GamePad controller. In one of these games, "Fruit" (see fig. 7.1), one player chooses a character on the screen of the GamePad, and walks around a city block crowded by similar-looking albeit computer-controlled characters while collecting several pieces of floating fruit within the allotted time. At the same time, up to four other players are looking at the same game space on the television screen. These players hold no controllers, nor are their motions being detected in any way. They are simply looking at the television, trying to determine which of the many on-screen characters is the thief-player. At the end of the round, the GamePad is passed around the players, and each guesses who the thief-player was from a lineup of suspects.

"Fruit" provides a useful analogy on which to conclude this thesis, highlighting both the research problems this thesis has hoped to address, and a useful metaphor going forward. Those players who are not the thief are very much *players* of the videogame, as "Fruit" itself identifies them. Yet, they are not 'acting' for the duration of the game in any conventionally understood way. They are not inputting; they are not interacting; they are 'merely' looking and paying attention (and, possibly, talking and collaborating). Without any form of input device, they are still playing a videogame; they are playing "Fruit" through an embodied, perceptual engagement that encompasses more than a pushing of buttons to alter on-screen

imagery—they are playing "Fruit" through the act of looking and the act of listening. At the same time, the very challenge these players face in trying to distinguish the thief from the passers-by—trying to pinpoint a 'player' distinct from the 'videogame'—echoes the difficulty faced by videogame studies in trying to distinguish between the player and the videogame as discrete objects of study while the player gripping the controller is doing all they can to ensure such a distinction remains impossible.

Figure 7.1. The player hidden amidst non-playable characters in the "Fruit" minigame of Nintendo's *Game & Wario*.

This thesis has forwarded a phenomenology of videogame experience that understands and appreciates videogame play as at once experiential and textual, as perceived through an amalgam embodiment *of* the videogame that is dynamic, emergent, and cyborgian. It has done this by resisting any urge to essentialise or purify the videogame form as somehow distinct from other media while, at the same time, showing a close commitment to the particular embodiments and engagements demanded of the videogame form. Presumed qualities such as agency, choice, interactivity, and immersion have been rejected as

foundational elements of the videogame form to be instead interrogated as emergent perceptual experiences constituted by the player's embodied, situated, intercorporeal engagement with the videogame. The phenomenology of this thesis has been concerned not with what players do with videogames, but how players come to be embodied through the videogame so as to feel a sense of co-presence across worlds and bodies in such a way that actual and virtual worlds and objects are neither distinct nor hermetic. It has focused on the *splice* of videogame play, on those videogame play experiences not easily distilled to actual or virtual elements. It has embraced the irreducible hybridity of videogame entanglement in order to appreciate the form's complexity, not to resolve it; in order to comprehend the pleasures and meanings of videogame play.

In the introduction I demonstrated a suspicion for the presumptions that exist within the scholarly study of videogames that the following chapters actively worked to interrogate. I highlighted the shortcoming of methods that focus squarely on either 'the player' or 'the videogame' to conceptualise the experience of videogame play, instead paving the way forward to account for the player-and-videogame as an irreducible amalgam. A focus on player 'actions' (what the player chooses to do) at the expense of the embodied, sensorial experience of engaging with a videogame as sights, sounds, and haptics was shown to be ultimately *dis*embodying, and a phenomenology of videogame experience was proposed to instead, counterintuitively, start not with the the player's biological body but with the emergence of the player's embodiment through the videogame. On the other hand, the essentialist tendencies of understanding videogames as digitalised non-digital games at the expense of the broader spectrum of media and forms that videogames intersect with was contested to instead understand videogames *as videogames*—as the particular, messy, intricate coming-togethers of media and forms that videogames are without distilling them to any one previous form in particular, including non-digital games. To understand the

experience of videogame play, I argued in this introduction, is to embrace (without resolving) the splices of actual/virtual, player/character, embodied/textual, active/passive, acting/ interpreting. A phenomenology of videogame experience must account for the player-and-videogame as a reflexive, dynamic, irreducible whole.

Chapter One introduced a body of literature to account for this constitution of player-and-videogame through the work of Merleau-Ponty, augmented through the more recent phenomenology and embodiment work done by feminist theorists such as Weiss, Hayles, and Haraway, and postphenomenologist Don Ihde. This literature complicates the normative presumptions about *the* body persistent in early phenomenology. These theorists were linked to those videogame scholars already working to account for the intricate, posthuman, and cyborg relations between players and videogames that this thesis has drawn from throughout, including Sudnow (1983), Dovey and Kennedy (2006), Lister et al. (2009), Giddings (2007), and Taylor (2009). Through these theorists, a sense of posthuman or cyborg embodiment where the player and the videogame reflexively constitute each other was conceived of to account for the player's embodiment across actual and virtual worlds and bodies, rather than a simple, dualistic notion of the player being either 'in' or 'at' the videogame. This allowed this first chapter to argue for an *embodied textuality* of videogames that accounts for their embodied, experiential engagement as meaningful in itself: how a videogame 'feels' to play is fundamentally tied to what that videogame is 'about'.

Chapter Two, then, turned to the questions of presence and attention that such a reconfiguration of actual/virtual embodiment demands. Through the body of literature that has emerged around mobile phone practices (including mobile play) and mobile media's construction of explicitly 'hybrid' worlds, this chapter forwarded the notion of *co-attentiveness* to demonstrate how a sense of immersion in a virtual world is a voluntary

illusion entered into by a player who is never not aware that they are sitting in front of and looking at a screen. This suggests a fluidity of attention and focus across worlds and across bodies; a straddling of worlds rather than an all-or-nothing presence in one world or the other, and it permits (or even demands) a similar fluidity in analysis and description across actual and virtual components of play, accounting for a sense of immersion in a virtual world as constituted by, rather than a requirement of, the player's perceptual engagement with the videogame.

If Chapter Two showed how the player consciously ignores components of the videogame circuit, Chapter Three turned its focus explicitly to those actual behaviours and engagements that are crucial to, but obscured by, the player's conscious attention being drawn to the screen. I drew on Lefebvre's notion of dressage and Ash's work on attunement to look at how the player is produced by the videogame as an accustomed subject through the repetition and naturalisation of behaviours. This was used to particularly account for the work of the hands in conventional videogame play, and the case of gamepad input devices was used to account for the *embodied literacy* demanded by an embodied textuality, where the player's learning to 'read' becomes as much about learning to incorporate a physical tool into their embodied being as much as developing critical capacities. This chapter contested commonly held notions that more accessible and 'natural' input devices more inherently facilitate a sense of immersion to instead account for how those players literate in particular devices become attuned to them no differently than a musician becomes attuned to a particular instrument. Following the descriptive phenomenology of Sudnow in *Ways of the Hand* where he watches as though from afar as his hands dance across the piano keyboard with their own, unconscious knowledges, this chapter detailed various kinaesthetic knowledges the literate gamepad player obtains and deploys, such as rolling the thumb across various buttons, or moving two thumbsticks at once to turn a corner in a three-dimensional

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space from a first-person perspective. This was presented through a genealogy of dominant gamepad design to show how the gamepad and the literate hands shape each other. The examples of this chapter were specific but its arguments were broader: to fully appreciate the embodied experience of those most seemingly 'inert' videogame experiences (those of the console of desktop computer player) is to account for the complex, intricate, and very much *learned* actions of fingers and hands that players themselves may not have a conscious knowledge of.

As the introduction of this thesis problematised and the particular case of *Game & Wario*'s "Fruit" above demonstrates, it is not solely through the actions of the hands that the videogame is perceived. Chapter Four complemented Chapter Three's focus on the hands with a focus on the eyes and ears. It returned to Merleau-Ponty, particularly his work on sensorial experience and his notion that "the senses intercommunicate by opening to the structure of things" (2002, 266), to reconsider the player's embodied role in the videogame text in a way not reducible to one of producing material change through intentional action. Merleau-Ponty's work was connected here to Swink's work on game feel, which, while prescriptive, represents the most exhaustive attempt to date to describe the embodied engagement of a player that allows virtual objects to feel tangible. Following this argument, I discussed the primacy of audiovisual engagement with videogames: the *act of looking* and the *act of listening* as primary engagements with the videogame in and of themselves, not merely as secondary to an engagement with a mechanical core through haptic input. The work of composer, designer, and theorist David Kanaga who sees a shared ontology of music and videogames as *played form* was deployed to look at the musicality of play in *Audiosurf*, where playing a song-as-videogame feels like playing a song-as-music. This was then complemented by a study of *Slave of God* and its overwhelming sensorial experience both connected to and distinct from the player's haptic engagement. Here, an engagement with the

sights and sounds *in and of themselves* is significant and requires accounting for. Across Chapters Three and Four this thesis's main theoretical claims were enunciated: the need to account for augmented embodied perception—for hands wrapped around input devices, eyes focused on screens, and ears focused on speakers—when accounting for what a particular videogame-and-player experiences.

Chapter Five turned to the question of temporality as it is constituted in videogames through the oft-ignored, banal phenomenon of character death. I considered Lefebvre's notion of cyclical and linear rhythms as constituting each other alongside Jayemanne's work on synchrony and diachrony to explore the often paradoxical ways that a range of videogames depict events as both temporary or permanent, as inauthentic and authentic. The fragmentary way videogame texts are engaged with by players as felicitous moments separated by non-canon experimentation demonstrates how videogame performances are narrativised by players after-the-fact. These various constitutions of fragmentation and impermanency were contrasted with two 'permanent death' projects that aimed to intimately connect the character's mortality to the player-and-videogame assemblage's persistence. This chapter ultimately came to a more nuanced understanding of the role of repetition and failure in videogame play, as contextualised by this embodied temporality. Just as the previous chapters each accounted for those elements crucial to the experience of videogame play that exist beyond the player's conscious consideration, Chapter Five's focus on temporality through character death highlighted how the videogame text is experienced through authentic progression and inauthentic repetition, not just as it is ideally narrativised post-play.

Finally, Chapter Six turned to this thesis's ontological and methodological contribution. A phenomenology of videogame experience as this thesis has outlined allows for a much broader spectrum of videogame design ideologies and player identities to be

appreciated than is accounted for in dominant, hegemonic, conservative understandings of videogame design. The *dominant hacker* and the *integrated cyborg* were presented as metaphors for two formative ways of identifying with videogames. The hacker, this chapter showed, connects to a historically hegemonic and patriarchal culture around technology broadly and videogames specifically that emerges in recent decades as the commodified 'gamer' demographic. I explained how videogames are imagined through this conceptualisation as narrowly concerned with mastery and control, and I contrasted this with the more diverse spectrum of cyborg engagements that videogames allow as embodied, intercorporeal form. This final chapter showed how prescriptive teleologies that privilege challenge, agency, choice, and a sense of immersion through graphical fidelity are unable to account for—indeed, they marginalise—a vaster spectrum of videogame works and experiences. Instead, when one accounts for the embodied textuality of videogame play, those moments in videogame play where the player is 'doing nothing', those moments that simply 'feel good', and those moments where the player is being *acted upon* become appreciable as embodied experiences no less primary than configuring mechanical systems. In short, through a phenomenology of videogame experience and the embodied textuality it supports, a much broader range of videogame texts are rendered legible.

This is what this thesis has ultimately contributed to the fields of cultural and media studies broadly and videogame studies specifically: a more nuanced vocabulary to problematise and account for those engagements with the videogame taken for granted as either the background against which videogame action happens or as peripheral to that action. As Merleau-Ponty problematises the taken-for-granted-ness of the effect of our embodied perception on our conscious perception and sense of being-in-the-world, so this thesis has challenged and interrogated the often taken-for-granted experience of playing a videogame on our conscious interpretation of that videogame as a textual artefact. Through the concepts

forwarded by this thesis, specific videogames and the intimate pleasures they afford—at once experiential and textual—can be explored, described, and analysed. It provides an opportunity to differentiate two mechanically similar videogames in terms of how they feel to play. It provides a textuality of the videogame form that does not remove 'non-play' components until it arrives at a pure, essential 'gameness' but which accounts for the videogame in all its embodied messiness. It provides an opportunity to evaluate a videogame work without reducing it to a digitalised non-digital game. It provides a path forward where both blockbuster videogames produced by a consumerist industry and personal works produced by individual artists can be understood as competent works of the videogame form that demand particular embodied engagements through eyes-on-screens, ears-at-speakers, and hands-on-controllers. It provides a way not only for videogames to be differentiated from both earlier audiovisual media and non-digital games, but for the rich commonalities and overlaps with each to be recognised, investigated, and celebrated.

More could always be done, and this thesis has opened various potential avenues for future research. Following Chapter Three's focus on the gamepad, other input devices (such as the typical QWERTY keyboard or the arcade machine's joystick and buttons) could be examined to flesh out, literally, the descriptions of how hands (and other limbs) function at input devices. Both online and local multiplayer games could provide crucial opportunities to challenge and further complicate the observations of this thesis, not by negating the primary player-and-videogame assemblage but by asking what happens in the assemblage of multiple player-and-videogame assemblages? Similarly, the rising trend of spectated videogame play through Let's Play videos and livestreaming provides exciting challenges for a phenomenology of videogame experience when many experience videogames primarily as viewed rather than played media. What is perhaps most lacking from this thesis's study is a more materialist concern for the videogames 'themselves' in relation to the player—the coded

and technological (and, further, the economic, political, and cultural) affordances and constraints that underlie the player's engagements. It is one thing to understand how a certain combination of animation and music is perceived by players, it is another to understand why they were combined in such a way in the first place. A phenomenology of videogame production would be a powerful complement to this thesis's phenomenology of videogame play. I do not believe any of these as-yet unanswered questions to be flaws with the phenomenology of videogame experience this thesis has forwarded, but potential trajectories down which it could be expanded and built on to ensure the cybernetic circuit of player-and-videogame is never considered too neat, unified, generalised, or sealed.

Through looking at images on screens, listening to sounds through speakers, and moving fingers and limbs across and against tactile input devices, videogames augment embodied perception in such a way that the player can perceive a tangible sense of presence across words and across bodies. The player does not simply step into a new body, nor do they simply step into a new world. Instead, videogame play is a *partial becoming*. It is, ultimately, *a play of bodies*, altering, augmenting, enhancing, restricting, and skewing embodied perception to partially and imperfectly embody other presences and contexts. To perceive through a videogame is to incorporate it; to experience videogame play is to take on a certain, cyborgian embodiment of flesh, hardware, and fiction across worlds and bodies. Before and as the foundation for any conscious engagement with a videogame as text is a bodily engagement with the videogame as experienced form. The creative works that belong to the videogame corpus thus require an *embodied textuality* that can attest to both their experiential and textual qualities as spliced and irreducible. What a videogame feels like to play is inseparable from what that videogame is about. A comprehensive method of analysing videogame works is one that accounts for a phenomenology of videogame experience.

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