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Medium of Modulation:

The Contradictory Configurations of Power in Video Games

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Medium of Modulation:

The Contradictory Configurations of Power in Video Games

by

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Dedication

Dedicated to my family and my Austin community of friends;

Most importantly, I dedicate this thesis to my brother, Nicholas. His creativity inspires me, his wit puts a smile on my face, and his love lifts my spirits.

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Abstract

Medium of Modulation: The Contradictory Configurations of Power in Video Games

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Video games have formal structural properties that create tensions between simplicity and complexity, transparency and obfuscation, systems of power and individual empowerment. This thesis investigates these tensions in two directions of inquiry: 1) video games as software and 2) video games as assemblages within media ecologies. One dives into video games' code. The other challenges video games' boundaries to understand how they intertwine with other media systems. These two perspectives complement each other to expose the contradictions of power within video games as a medium. Drawing on Wendy Chun and Alexander Galloway, this thesis uses software studies to investigate how the properties of software condition video games' ludological structures. A theoretical approach to video games' existence as software exposes that they are not media objects with clearly defined, static boundaries. Instead, a video game is an assemblage of many component parts and interacting systems. Using Gilles Deleuze and Felix Guattari's understanding of assemblages, I argue that video games are constituted not only of the software contained within the game's executable code; they are always-already interacting

with other media systems, which in turn become component parts of the game. Matthew Fuller's theorization of media ecologies provides a framework for conceptualizing video games as software-based assemblages within intersecting media ecologies. Player-encoders, a term I develop in the thesis, are a site where both perspectives visibly intersect. Player-encoders are players who create paratextual media to complement existing video games. They decode games' structures, and then re-encode this knowledge into paratexts that other players can utilize. By encoding new media objects through the process of decoding existing games, player-encoders expose the tensions between powerful systems and individual empowerment. Video games as software, as assemblages in ecologies, and as affected by player-encoded paratexts, reveals them to be unstable media objects modulating within contradictory configurations of power.

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Introduction

At its most basic ontological level, a video game is software. In his seminal work, *The Language of New Media*, Lev Manovich calls for a shift from media studies to “software studies.”¹ Amongst other observations, Manovich emphasizes properties inherent to software that allows it to be *modular* in its structuring. In older forms of narrative media, there is a structure within the media object that relies more on cultural norms of visual language and storytelling conventions. There might be modularity in its construction (such as the process of editing a book or a film strip), but once completed, they are experienced linearly. A book is normally read from the first page to the last. A movie like *Citizen Kane* or *Pulp Fiction* may tell the story “out of order,” but anyone who watches these films will see the scenes in the same sequence. In video games, the modularity of software allows for the same basic narrative components designed in the game to be played out in many different ways.

Video games share narrative techniques with older media forms, depending on how much developers aim to tell a story, but at their core video games contain a *ludological* structure. This other type of structure, the algorithmic structure that defines the rules of the game, is what sparked the ludology versus narratology debate within game studies.² The ludological position argues for seeing games as fundamentally based on their rules. The ludological structure of a video game is more commonly discussed as the gameplay mechanics.³ The narratological position reads video games as “texts,” similar to reading a novel, play, or film. As will be seen throughout this thesis, I do not ignore the potential for narrative within video games, but their most defining feature is that their modularity allows for a controlled variance, or a restrictive form of open play.

The term “ludology” as a way to describe the study of games was developed by Gonzalo Frasca and Jesper Juul in the early 2000s. In the essay, “Ludologists love stories, too,” in which Frasca tries to clear up what he considers to be a misunderstanding of the term, he claims that “the expression seems to have started gaining acceptance around 1999, after [his] publication of ‘Ludology meets narratology,’ which was followed in the year 2000 by Jesper Juul’s ‘What computer games can and cannot do.’”^{4 5} In “Ludology meets narratology,” Frasca argues that despite the presence of narrative in video games, “there is another dimension that has been usually almost ignored when studying this kind of computer software: to analyze them as games.”⁶ Frasca points out that because games had been neglected in academia, “game formalist studies are fragmented through different disciplines.”⁷ For this reason, he proposed the unifying term, ludology, which would be analogous to the way that narratology unifies the diverse academic work that studies narratives. Ludology would simply be a term that describes the study of games, and particularly their formalist properties as games.

By studying video games’ rules and systems, ludology does not eclipse narrative engagement, but rather complements narratology to open up new ways of understanding both the potential for games and their narratives. In defining ludology, Frasca states that “*ludus* have a defined set of rules. These rules can be transcribed, and easily transmitted among different players. Sometimes rules are backed up by organizations that define their rules, like FIFA for soccer.”⁸ For Frasca, a game’s ludological structure is a clearly defined set of rules. Games (like soccer) that rely on humans to manage and understand these rules may be clear, because they are limited by the capacity of humans to easily understand the rules. But when the ludic structure of a game is defined through algorithms constructed by computer code, the game’s systems can become complex beyond a single human’s understanding. This is not a comment on the potential complexity of the game, itself. The

game Go, which originated in ancient China, has a relatively simple set of rules with highly complex variability.⁹ But, as I will demonstrate, video games being software provide the opportunity to construct highly complex ludic systems that are not easily translatable to human understanding. I will argue that within their potential for high variability, video games possess tensions between simplicity and complexity, transparency and obfuscation, systems of power and individual empowerment. This thesis investigates these tensions in two directions of inquiry: 1) video games as software and 2) video games as assemblages within media ecologies.

Looking at video games' software structures is a way to understand how they function at the smallest, micro level. It shows the affordances and limitations of software that affect the underlying structures of video games. But because software is modular, nonlinear, and processual, video games' ontology as software makes them readily available to actively intersect with other media objects. While I believe it is important to conceptualize video games as coded, ludic structures, their very nature, as such, propels them into other media objects. Player-encoders—players who create new media objects based on their gameplay experiences—illustrate this point very visibly. Player-encoders learn to understand video games as ludic systems driven by coded algorithms, and then translate this knowledge into media objects to help others understand the game better. Investigating the tensions within video games' software structures reveals that these tensions are not contained within a clear boundary of their code. The fragmented modularity of code also encourages the video game to work in tandem with a complex network of other media systems that form many interacting media ecologies.

VIDEO GAMES AS SOFTWARE

First, video games can be understood as software, which requires turning one's attention to their code. Chapter 1 places video games in dialogue with "software studies," but more specifically the theoretical discussions of software in the work of Wendy Chun and Alexander Galloway. In this context, video games are processual, modular, and algorithmic in nature. In other words, the ludic structure of the game is embedded in the algorithmic structure of its software. However, as Chun's *Programmed Visions* makes evident, locating software is inherently tricky.¹⁰ If it is difficult to place the source of software (which Chun argues is and isn't the source code), then it is also difficult to place the source of a video game. Should one take a phenomenological approach that sees video games as the played experience, or should one look "under the hood" to see how their algorithmically-driven software systems function? Both seem relevant to understanding the medium. I do not want to present a case that falls into technological determinism, but the coding and algorithmic structures of video games *do* matter. They affect who has access, how much access, and the degree to which a game can be reverse-engineered, decoded, modded, or hacked.¹¹

Since Frasca and Juul's early essays that defined ludology, the study of games' ludological properties has certainly become a major part of game studies. Though analyzing games formally as games is no longer ignored, there has been too little conversation between game studies and another emerging field: software studies. The term was first used by Lev Manovich. Since then other media theorists, such as Wendy Chun and Alexander Galloway, have expanded software studies in much of their work. While Frasca, Juul, and others have taken on the project of understanding video games ludologically, software studies provides a method for understanding video games ludology as not just a set of rules, but as a set of algorithms constructed in *software*. In *Programmed*

Visions, Wendy Chun investigates software's paradoxical nature. She does not write specifically about video games, but because video games are a form of software, her work speaks to the latent paradoxes and tensions within video games' structures.

Central to Chun's argument about software is that it obfuscates its own ontology. The materiality of software exists in the binary electronic pulses in a computer's hardware, but even this does not fully pinpoint its origins. Software is essentially a set of instructions written in code, and it is impossible to fully predict the outcome of the code without executing the software. For Chun, it would be wrong to think of a program's code on a hard drive as the software, because it is not fully formed until executed. Therefore, on even its most material level (software as binary electronic pulses), it paradoxically exists as a static object on a hard drive *and* as a processual set of instructions that is executed by the computer's hardware (processor, RAM, video card, etc). Very few people ever experience software on this level, however. Even most computer programmers write code with a computer language (as opposed to binary), which already introduces layers of obfuscation between the programmer, the code, the compilation of that code, and then the execution of the compiled code. Today, by the time the average user launches an app and uses it, there are countless layers of obfuscation between their interaction with its interface and the actual material execution of the code in the computer's hardware. While Chun's attentiveness to the very technological ontology of software may seem abstract, it has important implications for video games.

Already, one can see that an investigation of video games' form is embedded with tensions in its layers of obfuscation, and in these tensions are serious concerns of power. Chapter 1 dives into the games' underlying software structures to investigate a tension between the code and the visual; the technological underpinnings and the phenomenological experience. Chun argues in *Programmed Visions* that it is precisely

software's ability to obfuscate that makes it so enticing. As software, video games are both empowering and powerful. They empower in their ability to provide players with tools to play out fantasies and beat (or "dominate") the game. Video games create a feeling of control over a virtual environment, and they allow the player to embrace that control in a series of increasingly difficult challenges. Often video games' content very directly plays into a desire for control by taking place in fantastical settings and by having the player become extremely powerful (often god-like or the king) within its narrative.

Even in a simple, abstract game like *Candy Crush Saga*, the player's choices are framed as a way of taking control of the game's challenges and content.¹² The actual gameplay of *Candy Crush Saga* is a "match-three game"; the player is presented with a grid of candies, which they must swap around to match three candies of the same color in a row. This game could be played with squares or dots of different colors, and it would make no fundamental difference to the gameplay. But despite being abstract in its gameplay, *Candy Crush Saga* has a "meta game," where the player solves the match-three puzzles so that the character, Tiffi, can solve problems in the Candy Kingdom. This skeletal story frames very abstract gameplay within a narrative of becoming powerful.

Despite video games' ability to make the player feel power, video games' process of gameplay is inherently restricted by its code. The player can only perform what has been encoded, and can only understand the way the code works insofar as the designers allow. The code, which is normally unalterable by the player, creates a false sense of empowerment. The code therefore is very powerful in its ability to restrict and control play while simultaneously providing a virtualization of sovereignty.¹³ In fact, a game that begins with an all-powerful player is boring. In Jesper Juul's *The Art of Failure*, he explores why failure is often a necessary component of making video games fun. Most games aim to create a balance between the desire of the player to be powerful and the need to present

challenges that mitigate that power.¹⁴ Juul's book is a compelling exploration of why we play games despite how frustrating they often are when we die or lose in them. But I turn to software studies because it provides a way of understanding this process as not just an aspect of game design, but as also a property of how software is structured and the faith we place in those structures.

VIDEO GAMES IN MEDIA ECOLOGIES

The second approach, explored in chapter 2, moves in the other direction, expanding and blurring the boundaries of video games by seeing them as participants in an ever-evolving media ecology. Ecology, a term originally used for the scientific study of how biological and environmental systems interact, is a useful model for the multiplicities of interlocking systems that intersect in increasingly visible ways in our post-digital, post-Internet present. While the term has been evoked by many media theorists with various intended meanings, I most closely follow Matthew Fuller's theorization of media ecologies, as developed in his book *Media Ecologies: Materialist Energies in Art and Technoculture*.¹⁵ From this perspective, video games as a medium is a starting point that can reveal an exploratory explosion of interconnected media networks. Video games often interact with multiplicities of other systems. This is not merely a result of access to the information flows on the Internet; video games formal structures, as interactive pieces of software, often demand that players seek information outside of the game. For this reason, Fuller's use of media ecologies provides a methodology for seeing video games as not just software systems, but as an ecology of intersecting systems that influence one another.

“Assemblage” and “rhizome” are two important terms for Fuller's use of media ecology. Fuller is largely drawing from Gilles Deleuze and Félix Guattari for all three terms (ecology, assemblage, rhizome). While these definitions will be unpacked more fully in

chapter 2, preliminary definitions are helpful. One has already been provided for ecology: a set of intersection systems that collide and collude to create highly complex interactions. Assemblage, a term developed by Deleuze and Guattari in *A Thousand Plateaus*, is useful in thinking of media objects as not static and cohesive, but instead as a set of component parts that can be swapped out with other parts in an ongoing process.¹⁶ Assemblages can describe video games' modularity, which allows for its component parts to be interchangeable through updates and mods, but assemblages can expand video games component parts beyond the boundary of its software to include many other parts that contribute to how people play games. I am referring to the many ways that players use resources outside video games to play video games (online forums, streaming video walkthroughs, and wikis).¹⁷

Rhizomes, another term developed in *A Thousand Plateaus*, are structures with a type of shape that is nonhierarchical. Deleuze and Guattari borrow rhizome from biology, which describes plants that do not have hierarchical, branching shapes (like trees), but instead have shapes where any point can offshoot or combine with any other point (think of the shape of a raw piece of ginger). Rhizomes describe the shape of many nonhierarchical formations, such as the flow of money in global economies or the flows of information on the Internet. When one views video games as assemblages that form interacting media ecologies, the shape of these highly complex media formations is rhizomatic. This is not to say that issues of concentrations of power are not important, but that a top-down model of hierarchical branching is not an adequate model for understanding how concentrations form. Instead, video game media ecologies present a very fragmented, disjunctive rhizome of information, capital, and power.

As will become evident throughout the thesis, paratexts are hugely important to how people play games in a way that is unprecedented in other mediums. Paratexts, a term

developed by Gérard Genette in *Paratexts: Thresholds of Interpretations*, are media objects that surround a specific media object in order to help support or interpret that object.¹⁸ For Genette, who was writing primarily about books, paratexts include a book's title, preface, appendix, blurbs, front and back covers, and more. But interviews, reviews, scholarly criticism, and advertisements are also paratexts. Genette sees paratexts as “accompanying productions” that “ensure the text's presence in the world, its ‘reception’ and consumption.”¹⁹ Due to the interdependence of video games and the paratexts players use to play them, the boundary between the game (as the primary text) and its paratexts is blurred. Paratexts are often part of the normal modes of play, and are therefore part of the game, too. Rather than objects with clear boundaries, video games are assemblages that include their paratexts in their component parts. The interaction of video games with online communities and paratexts is one example of an assemblage that is constructed through rhizomatic connections.

When looking at video games as assemblages participating in media ecologies, tensions are present that are similar to those found in video games' code. While a body of work exists aiming to present empowering, nuanced perspectives on media reception, we cannot disregard the overwhelming amount of power that media industries retain, even over the very websites that allow for user content creation. For example, YouTube is an important website that allows users to post helpful videos and provides other users access to the videos, but it is owned by Google, an international, multi-billion dollar corporation. YouTube provides a service to video game communities, but they also own and capitalize on the content made by players. In Stuart Hall's seminal essay “Encoding/Decoding,” he inspired a new model of reception studies that was attentive to the various ways consumers read and use media objects.²⁰ Hall's essay was specifically responding to television production/consumption, but the encoding/decoding model is useful in other mediums as

well. Video games, in particular, relate to television production practices because they often have very regular production cycles. Many video game series, such as the first-person shooter franchise, *Call of Duty* (Activision 2003-present) release at least one game per year. There are also regular production cycles even within a single game, because developers normally release patches, updates, and downloadable content (DLC) to alter the game after it has been released. Hall's model gives some agency to television viewers, but he still sees decoders (consumers) as complicit or resistant to media encoders (producers), who ultimately are in a better position to define the semiotic relationship of media and their consumers. This tension of power is still present in video games, despite the idealistic hope that some may have for the medium to liberate and empower players.

When I say “idealistic hope,” I am referring to a general tendency to be hopeful or idealistic about new technologies, but this strand of discourse was particularly prevalent within academia in earlier scholarship about new media and video games. In particular, I am thinking of Howard Rheingold's work on virtual reality and online communities.²¹ Janet Murray is someone whose work I admire, but she is notably optimistic about video games and interactive narratives.²² For example in her essay, “From Game-Story to Cyberdrama,” Murray is inspired by *The Sims* to the point of stating that it is “a simulation, a story world, opening the possibility of *David Copperfield* or *Middlemarch* or *War and Peace* emerging some day.”²³ ²⁴ To hope for *War and Peace* to come out of “open-world” games like *The Sims* is a tall order. More recently, in *The Ecology of Games*, Katie Salen argues in the introduction (titled “Toward an Ecology of Gaming”) for the importance of understanding the video games' potential for youth empowerment.²⁵ Her use of the word “ecology” is very different than my use (this distinction will be addressed in chapter 2), but Salen states that the collection of essays in *The Ecology of Games* addresses how “gaming as a productive literacy drives feelings of personal agency.”²⁶ I find this to be hopeful rhetoric.

This is not to say that these examples are uncritical or shallow—far from it. Rather, I believe that seeing video games as potentially empowering is a dangerous axiom that should *specifically* be challenged. As will become evident, because video games are assemblages constructed through a complex network of paratexts and originary media objects, the configurations of this power have become at times obfuscated and decentralized and therefore take some effort to bring to light.

PLAYER-ENCODER

Chapter 3 uses the *player-encoder* as a way to see how video games as software *and* as assemblages intersect. Player-encoders are those players who produce the majority of video game paratexts. Most (though not all) player-encoders do this for free in a process of collective intelligence. Originally theorized by Pierre Lévy in *Collective Intelligence*, the term has come to describe the way knowledge is created and shared in online communities, such as Wikipedia.com.²⁷ Jane McGonigal’s essay “Why *I Love Bees*” draws on Lévy’s concept to understand alternative reality games (ARGs), in which large amounts of players try to decipher cryptic websites while the game developers actively develop and respond to the players’ actions.²⁸ McGonigal uses collective intelligence to describe the ability of massive groups of people to collectively solve highly complex puzzles. By having many people (often hundreds and sometimes thousands or more) working simultaneously on solutions, the probability that one of them will stumble upon a clue to the solution increases exponentially. In video games, the large numbers of players who contribute to online resources, such as wikis and forums, creates a collective intelligence phenomenon where there is a high probability that all secrets in a game will be discovered and then distributed online. These player-encoders create paratexts that function to assist other players in playing a video game. What is unique to video games is not that people create

these paratexts, but that increasingly it is necessary (and if not necessary, then an understood option) to utilize these external resources to play the game. A video game is often so complex that players require assistance to navigate the game and negotiate its systems. This unique demand for paratextual assistance, coupled with new opportunities for collective intelligence on wikis and forums, creates a new type of power in player-encoders that functions sometimes between video game developers and video game players, and sometimes parallel to both of them. Player-encoders, therefore, both complicate and make more explicit the power relations within media ecologies. Player-encoders mere existence, and other players' reliance on their paratexts, requires that any discussion of video games as participants within global capitalist structures of media circulation must also speak to the decentralized, rhizomatic formations of video game paratexts.

When looking closer at player-encoders, themselves, they also bring to the fore the tensions between software's power and player empowerment present within video games' ontology as software. Player-encoders, in order to create useful paratexts, must either figuratively or literally decode the game. Figuratively, player-encoders must understand how the game functions, ways of optimizing performance, methods for increasing efficiency, or at the very least know something useful for other players. Some player-encoders literally decode the games' code in order to better understand hidden mechanics, uncover deleted content, or to "hack" the game for other ends (for example cheating and modding). Player-encoders represent players who do not merely accept the code's powerful restrictions. They seek further empowerment by either helping others beat the game, or by understanding the game's systems on a heightened level that allows for new forms of control. But this does not escape the dichotomy inherent to software; even by gaining full

mastery and understanding of a game, a player is still restricted by its algorithmic functions and an irreversible process of obfuscation.

POWER

A continuous thread throughout this work is a critique of power within late capitalism. The thesis will conclude by taking up issues of power more directly, but each chapter teases out different contradictions of power within video games. Both Chun and Galloway question the notion that software is potentially empowering. This backlash is in lieu of more utopian discourses surrounding new media. Game studies has similarly hopeful discussions about video games' ability to give agency to players, of which I am very suspicious. Chapter 1, by looking at the structures of video games' code, exposes tensions in that software's ability to empowerment is constructed through powerful systems of control. Chapter 2, by placing video games within media ecologies, demonstrates that within the highly complex, rhizomatic formations in which video games participate, there still remains hegemonic structures of encoding/decoding. Chapter 3 uses the player-encoder and their paratexts as a site where tensions of power in chapters 1 and 2 interact and push against one another. Player-encoders seek to gain power over video games' systems of control by decoding games' code; they then project their drive for empowerment outside the game by creating online paratexts that display their knowledge of games' coded systems. But even in these online spaces, the complex industrial formations of late capitalism affect where these paratexts can be created and who owns them.

I would like to emphasize that I do not intend to undermine an individual's feeling of accomplishment or sense of empowerment when playing a video game. I play video games almost every day, and like most gamers, I like to brag to my friends when I accomplish something difficult. My critique of power and empowerment lies in a suspicion

of the axiom that interactivity equals empowerment. This causes a dangerous tendency to think that the more flexible and open a game, the more it is potentially empowering. In truth, the more flexible a game, the more powerful the *illusion* of empowerment and the more tempting it is to embrace this illusion.

In discussing online communities and player-encoders, the term “media ecology” points to nature as a useful metaphor for complex, self-regulating, and intersecting systems. But just as the field of ecology in biology ultimately led to the previously hidden phenomenon of global warming, an ecological analysis of video games reveals complex power structures that are often not very visible. Video games’ indebtedness to content created by player-encoders, and the potential for exploiting their willingness to do so, have become dangerously normalized. Similar to ecological studies of widespread environmental harm, one must analyze how several systems interact in order to see the flows of information and of capital that surround video games. In a video game media ecology, the players are not only potential customers, they are also resources. Player-encoders create free content for other players to consume. This fulfills the paratextual function of making a game *playable*, and it frequently provides new sources of revenue and research for media corporations.

The new relationship between media producers and their consumers—most evident in the circulation of information between player-encoders and players—is best described as a manifestation of what Gilles Deleuze referred to as *societies of control*. In his uncharacteristically short and direct essay, “Postscript on Societies of Control,” Deleuze notes the beginnings of a shift away from Foucauldian disciplinary societies.²⁹ Disciplinary societies rely on environments of enclosure, which Deleuze summarizes as “particularly visible within the factory: to concentrate; to distribute in space; to order in time; to compose a productive force within the dimension of space-time whose effect will be greater than the

sum of its component forces.”³⁰ Control societies do not enclose; they flexibly modulate. They are defined by a never-ending series of processes, variations, movements, and iterations. In control societies, it is near impossible to move outside of the process of modulation (to exist “outside the system”). Deleuze argues that it is not merely science fiction to create Guattari’s imagined city, “where one would be able to leave one’s apartment, one’s street, one’s neighborhood, thanks to one’s (dividual) electronic card that raises a given barrier; but the card could just as easily be rejected on a given day or between certain hours; what counts is not the barrier but the computer that tracks each person’s position—licit or illicit—and effects a universal modulation.”³¹ In truth, these cities already exist, albeit in virtual environments.

Video game developers, by coupling video games’ mechanics and content, have already created many such cities. Additionally, by relying on corporate infrastructures to access, navigate, and contribute to the Internet, even supposedly empowered players and player-encoders must negotiate their roles within the larger media ecology through flexible systems of control. Although this last statement could be said of anyone active on the Internet, what makes video games particularly interesting is their potential to make these contradictions explicit. As a medium reliant on software and based on systems, video games are both the most actively dependent on systems of control and the most capable of subverting them. But to tap into their potential to do so, we must first better understand how they function. In a hauntingly, matter-of-fact way, Deleuze states that “there is no need to fear or hope, but only to look for new weapons.”³² I believe video games are perhaps a site to develop those new weapons.

INTRODUCTION NOTES

1. Lev Manovich, *The Language of New Media* (Cambridge: MIT Press, 2001), 48 (emphasis in original).

2. For summaries of the ludology/narratology debate, see Henry Jenkins, "Game Design as Narrative Architecture" in *The Game Design Reader*, eds. Katie Salen and Eric Zimmerman (Cambridge: MIT Press, 2006), 670-689. Also see Simon Egenfeldt-Nielsen, et al. "Narrative," in *Understanding Video Games* (New York: Routledge Press, 2008), 169-204.

3. In consideration of space, the difference between ludology and mechanics cannot be fully discussed here, but I do not see them as exactly the same. Put briefly, the mechanics normally refer to the way that a player experiences the rules of the game (this would be more of a phenomenological perspective), whereas ludology refers to perhaps, but not necessarily, a deeper understanding of the game as coded software.

4. Gonzalo Frasca, "Ludologists love stories, too: notes from a debate that never took place," *DIGRA 2003* (proceedings of the 2003 DIGRA International Conference: Level Up, November 2003), 2, http://www.ludology.org/articles/Frasca_LevelUp2003.pdf.

5. Jesper Juul, "What computer games can and can't do," *DAC* (presented at the Digital Arts and Culture conference in Bergen, August, 2000), <http://www.jesperjuul.net/text/wcgcacd.html>.

6. Gonzalo Frasca, "Ludology meets narratology," *Ludology.org* (1999), accessed on April 6, 2016, <http://www.ludology.org/articles/ludology.htm>.

7. Ibid.

8. Ibid.

9. In Go, two players place black or white colored stones at points of intersection on a grid. Each player tries to control more of the board than the other player; and each player can "capture" another player's pieces by surrounding them, causing the captured pieces to be removed from the board. Despite this simple set of rules, Go is a highly complex game.

10. Wendy Hui Kyong Chun, *Programmed Visions: Software and Memory* (Cambridge: MIT Press, 2006).

11. Modding (short for modifying) describes various methods whereby a player alters a video game. This can be as simple as adding in new music, or as complex as changing the graphics and adding completely new gameplay content. Hacking is a broader term for using the game in ways unintended by the developer, such as decoding the code or repurposing the game for other uses. While modding and hacking are examples of altering the code, it is still only in reaction to the code that is already in the game. Therefore, it is still very much limited by a video games' software.

12. *Candy Crush Saga*, King (Activision Blizzard, 2012).

13. Wendy Chun argues that both the act of coding and the act of using a program creates a feeling of sovereignty, because the coder or the user feels like they have control over the program. In truth, however, this is an illusion created by the obfuscation of the systems that the user is reliant on to make use of the computer. See Wendy Chun, "On Sorcery and Source Codes," in *Programmed Visions*, 19-54.

14. Jesper Juul, *The Art of Failure* (Cambridge: MIT Press, 2013).

15. Matthew Fuller, *Media Ecologies: Materialist Energies in Art and Technoculture* (Cambridge: MIT Press, 2005).

16. See Gilles Deleuze and Felix Guattari, "Introduction: Rhizome," in *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 3-25.

17. Outside resources can be understood as paratexts, which will be discussed in more detail shortly.

18. Gérard Genette, *Paratexts: Thresholds of Interpretation*, trans. Jane E. Lewin (Cambridge: Cambridge University Press, 1997).

19. *Ibid.*, 1.

20. Stuart Hall, "Encoding/Decoding" in *Media Studies: A Reader*, eds. Paul Marris and Sue Thornham (Edinburgh: Edinburgh University Press, 1996), 41-49.

21. See Howard Rheingold, *Virtual Reality* (New York: Simon & Schuster, 1995), and Howard Rheingold, *The Virtual Community* (Cambridge: MIT Press, [1993] 2000).

22. See Janet Murray, *Hamlet on the Holodeck* (Cambridge: MIT Press, 1997).

23. *The Sims* (Maxis, 2000) is an open-world video game in which the player manages one or more characters' lives. A section in chapter 1 will analyze the series of games in more detail, but here it is relevant to know that most of the actions in the game consists of micromanaging the lives of people in the game as they live a relatively mundane, middle-class suburban life: going to work, dating, working out, consuming media, buying household items.

24. Janet Murray, "From Game-Story to Cyberdrama," in *First Person: New Media as Story, Performance, and Game*, ed. Noah Wardrip-Fruin (Cambridge: MIT Press, 2004), 5.

25. Katie Salen, "Toward an Ecology of Games," in *The Ecology of Games*, ed. Katie Salen (Cambridge: MIT Press, 2008), 1-17.

26. *Ibid.*, 12.

27. Pierre Lévy, *Collective Intelligence: Mankind's Emerging World in Cyberspace*, trans. Robert Bononno (New York: Basic Books, 1999).

28. Jane McGonigal, "Why I Love Bees" in *The Ecology of Games*, ed. Katie Salen (Cambridge: MIT Press, 2008), 199-227.

29. Gilles Deleuze, "Postscript on Societies of Control," *October* 59 (Winter 1992): 3-7.

30. *Ibid.*, 1.

31. *Ibid.*, 7.

32. *Ibid.*, 4.

1.

To Play with Code: Video Games as Software

Software studies, particularly the work of Wendy Chun and Alexander Galloway, goes further than most ludologists in that it “aims to find ways of expanding and intensifying reflection on software and computational culture *in general*.”¹ As I engage with Chun and Galloway's theorization of software in the next section, I aim to put them in conversation with each other, but also in conversation with video games and game studies. This is crucial to investigating video games because their structure, as software, already presupposes other, deeper layers. For example, this chapter begins with a discussion of medium-specific ways video games spatialize time. One way this property of video games is made explicit is in speedrunners' use of sequence breaking, which is when a player uses a glitch to skip large portions of a game. Video games' software structures also possess paradoxes that affect gameplay. One paradox is that video games incite empowerment in players through the obfuscation of its encoded systems. To illustrate this, I analyze the paradoxical relationship between a player's desire for control of the player-character and the ability of a controller to provide that control. I argue that the more buttons a controller has, and the more actions a video game gives the player, the more the game must obfuscate how those actions function, paradoxically taking away direct control from the player. In a second paradox, I take up Wendy Chun's assertion that software is unknowable, but makes things otherwise unknowable more knowable (such as being able to compile large data sets to show the trend of global warming). To continue this assertion in the context of video games, I put Wendy Chun's use of metaphor, and Alexander Galloway's use of allegory in conversation with each other to understand video games as providing only an allegorical form of “knowing” the game and its systems.

SPATIALIZING FRAGMENTED TIME; RECONSTRUCTING COHERENT TIME

In Henry Jenkins' essay "Game Design as Narrative Architecture,"² he challenges the narratology/ludology binary by presenting several ways in which games offer wholly unique modes of storytelling, in that they can *spatialize narrative*. Traditionally, narratives unfolded through the construction of time. A book or a movie may spatialize narrative in the materiality of the medium (the pages or the film strip), but as stated previously, these mediums only allow for one-directional experiences (from first page to last, or from the beginning of the film to the end). Wendy Chun's theorization of software in *Programmed Visions* provides some insight into how software's technological properties allows for new configurations of time and space.³ Video games, as software, are different from older media because "software's temporality...is converted in part to spatiality, process in time conceived in terms of a process in space."⁴ Chun literally means the code, itself, as a material object that takes up space. The "space" of the code could be in the pattern of holes on a punch card, in the electronic pulses on a hard drive, or as text on a computer screen. But code is not "read" by a computer; it is executed. Code is not static; it is an ongoing, looping process based on the controlling principles of cybernetics. Alexander Galloway thinks of code as a protocol—a set of instructions.⁵ Code is a set of instructions that is meant to take place *over time*, often in carefully controlled intervals. Some processes are designed to be completed as quickly as possible, such as resolving a URL and loading the appropriate website. Others must take place over a specific period of time, such as a character's walking animation or video playback. Either way, time is a component; to follow the code's algorithmic path for a particular set of conditions is to follow a *sequence* of events.

There is an important distinction between an executed code's sequence and a motion picture's sequence of images. Both relate to time, but a motion picture's sequence is always predetermined. Not only this, its sequence is limited to the duration and ordering of a sequence of *images*, whereas software's sequence is not predetermined and is a sequence of *processes* or *actions*. Technically, even watching compressed digital video follows these properties of software. The video's codec determines the software's parameters for *reconstructing a virtualization* of the image as it is played. The image is not truly latent in the file like a frame is latent on a filmstrip. The computer's playback software, with the help of a codec's algorithms, must actively recreate the image each time the compressed video is played. Indeed, depending on the computer's capabilities, on the software used for playback, and on the monitor's resolution, the same file might be reconstructed in different ways. While compressed digital video utilizes the software's nonlinear spatialization, the goal is to imitate the linear process of film. Compressed video playback it is a coded process of reconstructing a *virtualization* of a linear sequence of images; variability is a byproduct of imperfection rather than a desired outcome.

Unlike traditional forms of media, video games can fully utilize software's inherent property of spatializing time. Two methods of implementing this, which have previously been discussed by game studies scholars, are branching narratives and emergent narratives.⁶ Branching narratives present the player with a set of choices at key moments in the narrative. The player's decision then determines which "branch" that the player-character will follow within a predetermined written narrative. This type of narrative is similar to a "choose your own adventure" book or online text-based interactive narratives that were popular in the '80s and '90s. Emergent narratives refer to a way of understanding "open world" games like *The Sims* or the *Grand Theft Auto* series, in which the player has the freedom to explore an open area and hopefully invent their own "story," by interacting

with the tools provided in the game's "sandbox." Game studies' discussions of constructing game narratives might provide some helpful concepts to consider when designing a video game's story, but they do not actually directly engage with my ontological concern with video game software structures. There is more to video games' spatializing of time.

If we temporarily put aside the question of narrative construction, we can see some of the larger implications of spatializing time. To reiterate, on its deepest level, any executed code is participating in a partial spatialization of temporality. While many of the complex particularities of how these processes work is obscured by the game's visuals, these visuals are still a process of spatializing temporality. Locomotive animations, whether it be running, walking, flying, rolling, etc, are all time-based commands that are constantly accessed and looped when needed. In fact, any visual action performed by the player-character is (in a well-designed game) a time-sensitive action that is repeatedly accessed in a nonlinear way. It is through an automated system of compartmentalized actions that the player can interact with this virtual world at all. Whether in simplistic and less resource-heavy turn-based games, or the fast-paced highly reactive qualities of recent action-adventure games, video games rely on software's spatialization of time-sensitive actions to function as a *video* game. I emphasize "video" to highlight that video games create movements through video screens, which we discern as movements partially controlled by the player's input. This is why video games may share certain qualities with a database, but are fundamentally different. Databases are only concerned with accessing information as *quickly* as possible. Video game designers go to great lengths to ensure a consistent and controlled duration to specific actions. These various duration-based coded sequences are also fragmented through modularity. A player-character's movements are ideally reconstructed as a fluid process of running, then attacking, then jumping, etc. If it is designed well, the characters' movements and actions are seamless and coherent. But, in

truth, this is an illusion of coherency, as each of these actions, and how they flow into one another, actually exist in the code as fragmented and modular. The illusion of coherency, if implemented correctly, is a powerful one. It allows for the player-character to *modulate* with the player's input, into a continuous temporality of the game's "present," that can only be re-experience afterwards via a digital video recording, itself a form of reconstruction.

In terms of narrative, we can begin to understand how there is a potential for true nonlinearity (as opposed to the linear expression of nonlinearity in *Citizen Kane* or *Pulp Fiction*) within the medium of video games. Software studies provides a way to think about the implications of spatializing narrative time. For Chun, spatializing time is part of an externalization of all aspects of self into data—a desire Chun sees as closely linked to not only how we design software, but also the leaps of faith we need to trust in it. If software fulfills a drive to know what is unknowable, it partially does so through a trust that it can express a representation, or a metaphor, for processes too complicated for humans to fully understand. For economists, this might be complex algorithms that analyze and then visualize big data, but for the video game player, video games create an approximation of reality by creating interactive environments. However, to do so, the designer and the player must trust the code to construct a narrative "present" through the coherent execution of fragmented actions.

Speedrunning

By spatializing narrative, video games allow for an ongoing process of discovery by the player. Even very linear, scripted games can make the player feel as though they have "stumbled upon" something new or hidden. This can extend beyond the normative forms of play. In extremes, the particular way that video games are spatialized can lead to

players who actively find ways to “break” the game to their own ends. Speedrunning, the act of playing through a game as fast as possible, consists of exploiting mechanics or discovering glitches that allow the player to beat a game at speeds that would otherwise be impossible. This is not just an act of becoming skilled at the game (although this is certainly necessary); it also the act of surveying, deconstructing, and even decoding the game to play it in a new way. It is also about power. A speedrunner does not just “beat” the game; they “dominate” it. By “dominate” (a term commonly used by gamers), I mean they possess an intellectual understanding and technical mastery of the game’s encoded systems that extend *beyond* the illusion of coherency.

Sequence breaking is a very tangible way to expose the latent spatialization of temporality within video games. A sequence break is when the player breaks the intended sequence of a game through an exploit or glitch, thereby allowing the player to skip large portions of the game. In *The Legend of Zelda: Ocarina of Time*, a game with a very active community of speedrunners, there is a known method for glitching a teleportation portal so that the “young Link” is teleported directly to the final boss, Ganon.^{7 8} The full explanation is too tedious to be described here, but basically the player uses another known glitch that allows Link to move while the teleportation animation begins (normally once the character walks into the portal, the player cannot move until the animation has completed, and the game has loaded the next area). This movement allows Link to walk to a door in the room. By opening the door at exactly the same time that the teleportation animation normally ends, the game tries to load two places at the same time (the area on the other side of the door, and the area that the portal teleports Link to). Unable to make sense of loading both rooms, the game adds the values of the two areas, which equals the value assigned to the final boss room. This method of sequence breaking allows the player to skip the majority of the game. The glitch is not an intended way to play the game, but it

shows how video games' fragmented spatialization of time and narrative can lead to unique (if unintended) relationships to time and space. While the designers created a game that aimed to tell a relatively linear story (albeit with some variability and openness), the software's inherent property of temporal spatiality could not be completely suppressed, and it was eventually exploited by speedrunners.

I wish to emphasize two key points that come out of understanding video games as involved in the process of spatializing time. First, it allows for a truly nonlinear experience. The mechanics of how characters move and react to other objects is fundamentally reliant on this property. This is especially true for the player-character, who must maintain coherent movements as it responds to input from the player. The recent success of *Her Story* is an example of a creative use of these principals.^{9 10} In *Her Story*, the player searches through a corrupt database of short video clips from fictional police interviews. The interviews involve the investigation of a missing man. The video clips are live-action, with the camera focused solely on the man's wife, Hannah Smith.¹¹ Because the database is corrupt, the player can only access clips by searching for terms that are spoken by Hannah in the clip, and the player can only access the first five clips in the search results. *Her Story* does engage with the logic of databases, but in a ludological way. If *Her Story* merely presented the player with a real database of clips, the player could easily watch all of the clips and discover the truth to Hannah's story. But the designer, Sam Barlow, introduces the ludological constraints of limiting searches to key terms and the first five results. These artificial constraints, narratively framed as a "corrupt" database, is what adds an element of play to searching a database. Barlow spatializes the audio of the video into searchable text transcripts, and through careful scripting and the limiting mechanics, the game forces the player through a convoluted process of manually reconstructing the video. Unlike other interactive movies, *Her Story* does not depend on branching narratives. Instead, there is an

end-goal of one linear, coherent story, but it can only be constructed through a nonlinear process of searching for fragmented scripts. So while there is an underlying linear logic to the story, it is accessed through the nonlinear logic of databases. *Her Story* does not have one method of searching, nor does it have branching multiples of searching. Instead, its artificially restricted database of video clips creates a process of play that is truly nonlinear.

The second key point offers a transition into the next section. Spatializing time becomes one potential site for negotiating the paradoxical qualities of video games as software. *Ocarina of Time* innovated 3D adventure games in many ways, but I believe that a large source of its appeal is due to both its *simplicity* and *openness*. By presenting the player with a large area to explore and much optional content, while still maintaining a clean visual design and a simple set of mechanics, *Ocarina of Time* exposes the paradoxical relationship between power and empowerment in video games. *Ocarina of Time* is a beloved game (the highest ranked game of all time on Metacritic) that was released in 1998—almost twenty years ago.¹² In that time, its speedrunning community has grown large and detailed in their speedrunning practices. *Ocarina of Time* (like many games that have strong speedrunning communities) has different *types* of speedruns (each with specific rules), speedrunning competitions, record keeping, and databases of speedrunning tricks. The ways speedrunning relates to media ecologies is discussed in chapters 2 and 3, but I also see this process as a way for players who love the game to expand their sense of empowerment that goes beyond what was designed in the game. It is (among other things) a reaction to the contradiction that video games create feelings of empowerment through powerful systems of control.

VIDEO GAMES OBFUSCATE AND EMPOWER

By looking beneath the surface of today's user-friendly GUIs (graphical user interfaces),¹³ Chun's *Programmed Visions* explores the inherently paradoxical ontology of software. In her book, Chun challenges the reader to investigate the particular ways that software is designed, as more than just an innocent desire for user-friendliness and functionality. *Programmed Visions* asks why we want these things, how software attempts to fulfill these desires, and the underlying historical and ideological basis for the logic of programmability. Chun engages with these questions at times on the most abstract level; abstract in that she discusses theoretical concepts, but also in that her main area of focus is on software's coding. Coding, itself, is an abstraction of the physical processes of hardware *and* an abstraction of the ways we actually encounter and use software. Chun aptly exposes the paradoxes and tensions within software, but she also importantly argues that they create systems of control.

Programmed Visions is mostly concerned with software *itself*. Interestingly, I find that one of the most exemplary media objects that actively engages with these questions is one that is notably absent from her book: video games. Software studies have much to say to game studies because video games' ontology is necessarily in the software. In this sense, video games are the most "new" of new media. Of all current, distinct mediums, they are the most dependent on software for their existence. Also, video games are pertinent to software studies because video games often make explicit the paradoxical aspects of software and our relationship to it. Games offer power and deliberately withhold it. They create a tension between individualism and the constraints of their processual constructs. Video game marketing often promises openness, while providing very closed, rules-based experiences. It is in this tension, which Chun argues is inherent to all software, that makes video games pleasurable.

Video games derive much of their pleasure from their ability to create discernable obstacles that are overcome through a feeling of empowerment. However, empowerment comes out of participating in very limiting, controlling coded systems that obfuscate their very existence. It is this paradox, which is inherent to the structure of software, that invites an analysis of video games as software. For example, video games are often marketed as very flexible and open. While the so-called "open world" game, *The Sims*, seems to be the golden child of the potentiality of open-endedness in video games, it is still a specific media object, and everyone who plays the game is playing the same encoded structure.¹⁴ This is why terms like "open-world" or "sandbox" are used to describe some video games. It implies that their algorithms can allow for seemingly infinite possibilities, if designed properly. But as anyone who has played a sandbox game long enough can tell you (especially after playing many different sandbox games), the game is never as limitless as it might initially appear. Eventually its modular, algorithmic nature reveals itself, often giving way to very predictably boring outcomes. For example, in order to keep one's Sims (the quasi-autonomous people whose lives the player is tasked to manage in the game) happy, there are sets of skills and activities the Sims must do—exercise, read, work, date, cook, and many others. But these choices are limiting. If there were no demand for more variability, there would not be so many successful expansion packs for the Sims series.¹⁵

With an open-world game like *The Sims*, one cannot ignore that without some serious modding, the game strongly adheres to normative notions of American middle-class suburban culture.¹⁶ There is no option to live in a different looking place, live in a different time-period, or advance in the game without balancing the characters' income with their spending. These options are not available because the developers did not encode them into the game's structure, nor did they design visual assets to create these alternative spaces. *The Sims* allows for the player to make certain choices about what to do within the

game's options. However, it is ultimately a very closed-off system that is limited by its encoding, but still varied through its modularity. Although a game's design may theoretically allow for infinite variation, the game is still bound to limitations within its software.

An open or sandbox video game does not simply provide pleasure through its "openness." Rather, it creates a complex set of systems that allows the player to actively participate in a negotiation of the tension between empowerment and restriction. This is actually a tension that exists in all video games (and in all software). Complete control of a computer's software would require a user to have full knowledge of a computer's hardware and methods for programming it. Not only that, they would also have to spend the time to write code for desired uses. As Chun's work shows, software obfuscates these processes in order to make them usable. By being "user-friendly," software has the potential to empower users by providing them with a set of tools and functions that work *automatically*. The paradox lies in that software's ability to empower the user is precisely a result of software obfuscating what it is doing. This is not only true for the average user of a computer; it is also true for programmers who rely on programming languages. Programming languages obfuscate many of the background processes of resource allocation, and they completely obscure any relationship the programmer has with binary or executable code. Video games are similarly pleasurable because they create multiple layers between the code and its visual manifestation, the process and the play. In doing so, they paradoxically create a false sense of empowerment through controlling systems. Unlike software more broadly, however, video games are often quite explicit about this.

Controlling Controller Paradox

A reliable method for user input is a crucial component of any video game. Today, most console and PC video games require either a keyboard and mouse or a current generation gamepad (often called the “controller”). While current popular video games have moved toward less difficulty with more buttons, early video games are especially restrictive through their high difficulty and limited controls. Many arcade games, sometimes called “quarter-eaters,” were deliberately designed to be so difficult that a player would need to feed the arcade machine quarters to gain more lives and continue playing.¹⁷ These games enticed players to play out fantasies of power, but at the cost of time and money. Many games also have very minimalist controls. *Pac-Man* only allows the player to control the direction of Pac-Man’s constant movement; it requires no button, only a joystick or direction-pad (d-pad) to play.¹⁸ *Donkey Kong*’s software allows for slightly more input from the player. The player can control Jumpman’s movement (left and right, moving or not moving) and can make Jumpman jump. Physically, *Donkey Kong* uses a joystick (movement) and one button (for jumping). In subsequent generations, video game controllers have added more and more buttons. The PlayStation 4 controller, called the DualShock 4, contains 14 buttons, with two joysticks and one d-pad. A personal computer can hypothetically make use of all the buttons on a keyboard and mouse. Despite an increase in buttons, and thus an increase in the potential complexity of controls, video games still allow for a finite set of options. In fact, many contemporary video games do not even utilize all available buttons. Of course, the high difficulty of some arcade games, and the limited controls in early video games, could be traced to the particular economic and technological conditions of the time period. This does not detract from my point, however. I follow the lineage of gamepad buttons as one manifestation of the very paradox mentioned above.

In analyzing the paradoxical relationship of empowerment and control, let us return to the discussion of character movements from the earlier section. In a 2D platformer like *Super Mario Bros.*, there is a more direct analogue between the player-character and the controller input. Mario has one simple running animation that consists of 3 sprites in each direction. If the player holds the B button, Mario moves faster and the running animation is simply sped up. If the player hits the A button, Mario jumps as a single, static sprite that glides laterally and horizontally. The game's software still obfuscates the calculations done to create these mechanics in real time, but there is a very simple and more direct relationship between what the player presses on their controller and Mario's movement on the screen. To put it in terms already discussed, Mario's minimalist mechanics require a small amount of fragmentation in order to *spatialize* Mario's movements (experienced and understood through time) in its software, and then *modularly assemble* these fragmentations of time into coherent movements. The minimalism of older games is one reason why many gamers still return to them; their simplicity allows for a precision that is lost in newer, 3D games. If Mario dies by missing a jump or hitting a Koopa (a turtle-like enemy), the player has a very clear idea of what went wrong and how to avoid it next time.

In a more "realistic" 3D action game, like the *Assassin's Creed* series, the relationship between controller input and the player-character's actions become more blurry. *Assassin's Creed* uses all buttons, joysticks, and the d-pad on the PS3 and Xbox 360 controllers, adding complexity and more variability to the actions the player-character, named Altaïr, can perform. But even just analyzing the act of moving through the game's virtual spaces is enough to show fuzziness in controlling Altaïr. Altaïr's ability to quickly scale walls and jump from rooftop to rooftop, inspired by parkour, is a major component of the gameplay. By holding down a button on the controller and moving the left joystick, Altaïr goes into a "sprint" mode. While sprinting, Altaïr will run more quickly, and he will

automatically jump from the edge of buildings, scale walls, or grab onto a ledge. This is a complex set of automatic actions that are performed by Altaïr through the use of one joystick and one button. While a player over time learns how to intuitively utilize the sprinting mechanic, Altaïr does not always do what you want him to, and sometimes it can be extremely frustrating in a decisive moment (like when being chased by guards or if he accidentally jumps off of a building and falls to his death). Often, when these mistakes happen, it is difficult to discern why Altaïr performed the unwanted action and what the player should do to avoid repeating their mistake. Sometimes one presumes that an unwanted movement from Altaïr was simply a glitch in the code. In truth, it is difficult to discern the difference between a glitch in the game and a mistake made by the player. The confusion between user error and software error, which is virtually non-existent in *Super Mario Bros.*, sometimes breaks down the illusion of controllability for the player. Instead of empowerment, this can often leave the player simply feeling frustrated and powerless.

Assassin's Creed adds complexity, variability, and *many* more actions for the player-character to perform when compared to the simplicity of *Mario*. Paradoxically, however, an increase in possible actions, driven by a desire for more controllability, increases the layers of obfuscation between the PC and the player. Altaïr's movement is certainly controlled by user input, but his realistic movement and range of actions while moving require that the video game's software to use intensive processing to create the resulted actions on the screen. No longer does pressing forward on the joystick simply cause the PC to move forward. The game factors the angle of the ground (flat, gradual slope, or steep slope), how much the player is pressing forward on the joystick, variations in the axis of the joystick's forward position (is the joystick pressed exactly forward, forward and slightly to the left?), if there are stairs, the texture of the ground (stone, grass, snow, dirt), and I'm sure other variables. Therefore, as games become more realistic and

more complex, they reinforce an illusion of increased user controllability, while doing so by taking on more control and automation.

Fantasies of power and desire for empowerment have combined with the problematic modern presumption of “progress” and individualism. Faith in technological progress motivates shifts in the economic and technological conditions of the industry toward an *increase* in “control” through “improved” gameplay. The very presumption that a more complicated controller leads to a better gameplay experience is predicated on a desire for control. However, the controller’s ability to increase variability of play, and thus improve controllability, is determined by the code’s ability to accommodate such complexity and variability. As new functions are added to the larger number of buttons, the video game’s software must also paradoxically increase its level of obfuscation.

DO YOU REALLY “KNOW” HOW TO PLAY?

Chun uses many playful doublings and paradoxical phrases in her prose and her section titles; to list a few: “Software, a Supersensible Sensible Thing,”¹⁹ “On Sourcery and Source Codes,”²⁰ “...Empowering Obfuscations,”²¹ “metaphor for metaphor”²², and software as “a visibly invisibly or invisibly visible essence.”²³ These poetic phrases sometimes make one pause in their circularity, but in truth, these stylistic choices are necessary to get at her central argument, which is: 1) that software, itself, cannot be located through normal means; and 2) that it is simultaneously both empowering *and* controlling. Software cannot be located through normal means because it exists in multiple layers, which mutually reinforce one another to create what we casually call “software.” Layers include the source code, the programming language used to write the source code, the compiled code, all the way down to the binary code. Chun calls software a metaphor for

metaphor because “the usual function of a metaphor [is] the clarification of an unknown concept through a known one, [but] if software illuminates an unknown, it does so through an unknowable (software).”²⁴ We can only engage with our computer's hardware and software, and the data and processes that they are capable of, through software itself. Even the act of programming in a programming language is done through a GUI. Chun goes on to say:

[Software's] combination of what can be seen and not seen, can be known and not known—its separation of interface from algorithm, of software from hardware—makes it a powerful metaphor for everything we believe is invisible yet generates visible effects, from genetics to the invisible hand of the market, from ideology to culture.²⁵

While Chun often focuses on the structure of software design, she also interrogates the desires we place into software—a desire to understand unknowably complex systems. In doing so, she draws connections between how software operates, our relationship to it, and therefore how it relates back to us, ourselves (economics, ideology, culture, genetics, thought, memory, and countless other aspects of the “human”). This is a powerful metaphor, indeed, and it is an extremely important concept to understanding the appeal of video games.

Video games are software, and they are thus able to provide powerful allegories for modes of perception. In line with Alexander Galloway's allegorical understanding of video games, I use the term allegory here to differentiate video games' particular form of metaphor.²⁶ *The Sims* series is pleasurable partially due to the interface's obfuscation of the algorithms that generate seemingly random events in the game. *The Sims* series relies on its algorithms to produce a gaming experience that one perceives as an allegory for daily life, when in truth it is an abstract expression of the structure of the software, which is unknowable. But the allegory is *powerful* because of software's ability to make visible

what is not visible. This is the second tension or paradox within video games' ontology as software. Video games are able to provide powerful allegories that make what is unknowable seem knowable, but they do so through their software, which is inherently unknowable.

The paradox of knowability through what is unknown is distinct from the first paradox I discussed (video games provide empowerment through powerful systems of control), but they are not unrelated. Altaïr's movement in *Assassin's Creed* plays into both of these paradoxes simultaneously. With an increase in perceived controllability comes more obfuscation of the relationship between user input and the Altaïr's movement—this is the first paradox already discussed. The second paradox is that an increase in complexity and obfuscation thus requires a visual representation that is seemingly knowable. At its most abstract level, the software's being is unconcerned with simulating an ancient recreation of Jerusalem or the imitation of human forms and movements. In the deeper layers of the code, many simultaneous objects and actions are processed, with algorithmically determined reactions to built-in contingencies. It is only the phenomenological experience of the user(s) that derives meaning from the software as something resembling human experience. The “skin” of *Assassin's Creed* is nothing more than a visual abstraction of the software's digital complexities. More specifically, its setting and characters are a *knowable* allegory for its unknowable software. Even as a player begins to “know” how to play the game enough to understand its systems, they may only do so through this knowable representation. Therefore, in truth, its systems are never fully knowable.

The inverse relationship between complexity and knowability does *not* mean that with a more complex game, the player is suddenly unaware of this relationship. Indeed, players are constantly reminded of the game's limitations either because there are always

actions they wish they could do but can't, or because games normally present obstacles that test the player's skill level through the limitations of the game's systems. The limitations can manifest through unintended character movement (as with *Altair's* sprint mechanic), "getting stuck" on a boss, or losing one's save data due to data corruption. In video games, their unknowable constructedness has many opportunities to make itself known. This is why video games are a medium where a player can literally play out the "drive to grasp what we do not know through what we do not entirely understand."²⁷

CONTENT AS MECHANICS; MECHANICS AS CONTENT

Chun explicitly states, when discussing computers' governmentality, that she makes the link "neither at the level of content nor in terms of the many governmental projects that they have enabled, but rather at the level of their architecture and their instrumentality."²⁸ Choosing a methodology that minimizes content's role in reading software is an important theoretical intervention; it successfully shows the ideological underpinnings that lie within software's more basic ontological layers—the code. Chun "reads" software architecture instead of narrative tropes. But the video game presents a curious case, because the two become intrinsically interwoven. The content and the form, the GUI and the mechanics, the narrative and its structure, are often inseparable.

Take a simple mechanic like jumping, which arguably first appeared in *Donkey Kong*. In *Donkey Kong*, the protagonist's name, Jumpman, already blurs narrative with mechanics. Jumpman, who in subsequent games was renamed to the more-familiar "Mario," is identified through his ability to jump—at that point a novel mechanic. Jumping has since become as ubiquitous in video games as cut/paste is in word processors. The jump is the ability to move *up* and *forward*; it is a mechanic that makes the player feel

free—free to move and free to dominate their space.²⁹ Another more dubious yet equally common example is the gun. Friedrich Kittler compares (both historically and conceptually) the gun and the camera as two different manifestations of externalizing power. To illustrate this link, Kittler returns to Etienne-Jules Marey's chronophotographic gun. The chronophotographic gun was a device that looked remarkably similar to a rifle with a revolver mechanism, which allowed the user to take a series of photographs while aiming it at a moving object.³⁰ Kittler observes:

The history of the movie camera thus coincides with the history of automatic weapons. The transport of pictures only repeats the transport of bullets. In order to focus on and fix objects moving through space, such as people, there are two procedures: to shoot and to film... With the chronophotographic gun, mechanized death was perfected: its transmission coincided with its storage. What the machine gun annihilated the camera made immortal.³¹

In a video game, the player is often in control of the camera, but unlike with film, video games provide cameras that do not immortalize,³² instead they exist for the present, and in a telling coupling, they often rely on the gun as a way to load meaning in their gaze. In first-person shooters (FPS), the gun's scope, the camera, and the character's POV are all one—compressed into a singular destructive, machinic subjectivity. The FPS, by its most basic genre requirements, intertwines the game's mechanics, methods of storytelling, and the player's subjectivity.

In Alexander Galloway's chapter, "Allegories of Control," he sees video games as allegories for what Deleuze calls late 20th century's transition to a "control society."^{33 34} The conclusion will return to both Deleuze and Galloway's discussion of societies of control in terms of what power structures are at stake in video games, but for now the concept is useful to understand video games as allegorical for software's controllability. Galloway uses the *Civilization* game series as a case study to work through this link.³⁵ He begins his analysis by briefly using a cultural studies critique of the series' content, pointing

out the simplistic, and at times racist, depictions of historical civilizations. This is merely a feint that allows him to move into his true argument, which exposes how protocols of informatics (the underlying structure of a *Civilization* game) must be understood by the player to win. In the process of understanding, the player eventually internalizes them and becomes a node in the protocol, itself. *Civilization* is one such series that is marketed as very open (a trend I discuss above), but it is all about control. In truth, the games are not open; they are flexible. Galloway insists that “while [flexibility] might appear liberating or utopian, don't be fooled; flexibility is one of the founding principles of global informatic control.”³⁶ The more flexible a system, the harder it is to break it or operate outside its constraints. Flexibility increases controllability.

Galloway and Chun are somewhat in agreement in their reading of software, algorithms, protocols, and the way information is understood in these systems—as fundamentally invested in control and flexibility. However, Galloway constructs a dichotomy in his discussion of allegories of control. He sees film as an absence of control, while video games as fetishizing control. He creates a distinction between traditional allegory and control allegories, with traditional allegories existing in cinema and control allegories in video games. He also argues that “the more one allegorizes informatic control in *Civilization*, the more [his] previous comments about ideology start to unravel. And the more one tries to pin down the ideological critique, the more one sees that such a critique is undermined by the existence of something altogether different from ideology: informatic code.”³⁷ *Civilization* is a real-time strategy game (RTS). The RTS genre are games that allow the player to take a Sovereign (almost god-like) position to build up military units and structures. The goal is normally to secure control of the game’s “map” and destroy the opponent’s units and structures. *Civilization*, as the name suggests, puts the player in control of a civilization that competes with one or more other civilizations. Other RTS

games, like *Starcraft*, might take place on alien planets or, like *Warcraft*, in a medieval fantasy setting. The basic goals and mechanics normally remain very similar, though. The gameplay is almost solely fixated on a top-down view of the map, where the player builds miniature structures and directs soldiers and vehicles.

Even in very different settings, RTS games' thin plots and abstracted representations of space normally position the player as a god-like controller of resources, whose only goals are militaristic. This is why Galloway can make such a strong argument for allegories of control. *Civilization* offers no mechanics outside a paradigm of increasing control, and therefore have little to no relationship with cinema's ideologically driven allegories that remove control. However, not all video games are so clear-cut. The jump mechanic in video games both reinforces and challenges this understanding of video games. It is telling that RTS games are one of the few game genres that never have any jump mechanic. There is no need to jump as the disembodied Sovereign that controls hordes of soldiers. "Jumping" literally has no place within an RTS's allegory of control. As stated previously, however, jumping is related to a player's desire to dominate space. While this is true, this desire does not always manifest in a strictly instrumental way. This is made evident by the common player practice of jumping around 3D environments for no particular reason. When playing an MMORPG,³⁸ it is not uncommon to watch someone running through an area (presumably toward a specific location), jumping along the way. In single-player games, players can feel compelled to simply jump about. Sometimes it is out of boredom, sometimes out of zaniness or experimentation. Whatever the motivation, it is often outside the instrumental utility of increasing control. In fact, it is more related to a desire for empowerment. It is a mechanic that creates a freeing, play-like feeling in reaction to the controlling physics of a game. Jumping is not a metaphor for a person that

jumps. It is also not always merely a node in a protocol for informatic code. It can also be its own allegory for the many meanings and associates that jumping can trigger.

Unlike Galloway, Chun argues for “interfaces as ideology,” stating that “in a *formal* sense computers...fulfill almost every formal definition of ideology we have, from false consciousness...to Louis Althusser's definition of ideology as ‘a “representation” of the imaginary relation of individuals to their real conditions of existence.’”³⁹ Galloway moves away from ideology as an adequate concept for critiquing video games. He understands ideological critiques as a form of textual analysis, which undermines the ludological systems present in video games. Chun shows that we can see the software and its interfaces as ideology, itself—not merely a byproduct of it. And yet, both authors are hesitant to see the content of interfaces or video games as a useful way of reading what is at stake in their informatics of control. I am interested in where these lines of thought intersect—where allegories of control become interfaces of ideology; where content in the game allegorizes the allegory of control, and on and on. These overlaps and intersections have the potential to exist in a self-reflexive game, and one need not necessarily look for it only in “experimental” video games, either. As I have already argued, the FPS collapses many of these properties into an inseparable, subjective experience. But this is just one basic mechanic, and there are many other places to look for these intertwinements.

The next chapter will zoom out from video games’ code to investigate how video games can be seen as participants in media ecologies that intersect with video game online communities and their paratextual resources. Online communities and paratextual resources will shift the place of focus (from video games’ code to online spaces) and the scale of focus (from the minutiae of code to transnational online communities), but the questions and concerns will be the same. In these spaces, too, tensions between individual empowerment and powerful systems of control are important. Video games’ formal

structures make them ready participants within outside, intersecting systems. But these systems are also extensions of the modulating logic of late capitalism, and they are affected by similar paradoxes.

CHAPTER 1 NOTES

1. Matthew Fuller, “Series Forward,” in *Programmed Visions*, by Wendy Chun (Cambridge: MIT Press, 2006), vii (emphasis added).

2. Henry Jenkins, “Game Design as Narrative Architecture” in *The Game Design Reader*, eds. Katie Salen and Eric Zimmerman (Cambridge: MIT Press, 2006), 670-689.

3. Wendy Hui Kyong Chun, *Programmed Visions: Software and Memory* (Cambridge: MIT Press, 2006).

4. *Ibid.*, 3.

5. Alexander Galloway, *The Interface Effect* (Malden, MA: Polity Press, 2012).

6. See Simon Egenfeldt-Nielsen, Jonas Heide Smith, and Susana Pajares Tosca, “Narrative,” in *Understanding Video Games: The Essential Introduction* (New York: Routledge, 2007), 181-184.

7. *The Legend of Zelda: Ocarina of Time*, Nintendo EAD (Nintendo, 1998).

8. Link is the default name for the player-character in all Zelda games. In *Ocarina of Time*, Link gains the ability to travel between two points in time (seven years apart). This allows the player to play as “young Link” or “adult Link,” each with different abilities. The game is designed for adult Link to do most of the combat, and without the described sequence break, only adult Link can defeat the final boss, Ganon.

9. *Her Story*, Sam Barlow (self-published, 2015).

10. I personally do not consider *Her Story* to be a “video game.” It is an interactive narrative, which is similar but not quite the same. However, it was marketed, reviewed, and received as a video game by most people, if for no other reason than because there is not an “interactive narrative” industry. I do not have the space to unpack the distinction. Regardless, *Her Story* is a good example for showing the properties of spatializing narrative, and even as an interactive narrative, it is one that does not have a “branching-path narrative.” For the sake of simplicity, I will refer to *Her Story* as a video game for the remainder of this essay.

11. Hannah Smith is portrayed by the British musician, Viva Seifert.

12. See <http://www.metacritic.com/game/nintendo-64/the-legend-of-zelda-ocarina-of-time>.

13. GUI (graphical user interface) is a general term for the graphical interface of software. This is most easily conceptualized in contrast to command-line systems, such as DOS, where information is displayed primarily with text. In text-based software, where command-lines are used to perform tasks, one must enter text-based commands to “do” anything. GUIs are not apparent to users today, because we rarely interact with software that does not have a GUI. Most of the interactions one has with their personal computer screen or mobile device is with a GUI, including a program’s buttons, menus, and ways of displaying information.

14. *The Sims*, Maxis (Electronic Arts, 2000).

15. The original *The Sims* (2000) had seven expansion packs. *The Sims 2* (2004) had eight expansion packs, with ten “stuff packs” (expansion packs that only added items but no new activities). *The Sims 3* (2009) had eleven expansion packs and nine stuff packs. *The Sims 4* (2014) so far only has two expansion packs and six stuff packs. The expansion and stuff packs reflect the series’ obsession with Western suburban consumerism, with titles like “Holiday Party Pack” (2005), “Kitchen & Bath Interior Design Stuff” (2008), and “Luxury Party Stuff” (2015).

16. A mod, short for modification, alters the code of a game in some way. Many games come with some sort of modding software that encourages players to create their own mods, such as games developed by Valve (*Half-Life 2*, 2004) and Bethesda (*Oblivion*, 2006, and *Skyrim*, 2011).

17. For more on the form of classic arcade games, see Richard Rouse III, “Game Analysis: Centipede,” in *The Game Design Reader*, eds. Katie Salen and Eric Zimmerman (Cambridge: MIT Press, 2006), 460-473.

18. A direction pad or “d-pad” is a type of button on controls that looks something like a plus sign (+). It pivots on an axis in the center, so that the player can press up, down, left, or right, but also up and right in a diagonal, as well as up and left, down and left, and down and right.

19. Chun, “Introduction: Software, a Supersensible Sensible Thing,” in *Programmed Visions*, 1-12.

20. Chun, “On Sourcery and Source Codes,” in *Programmed Visions*, 19-54.

21. Chun, “Daemoniac Interfaces, Empowering Obfuscations” in *Programmed Vision*, 59-96.

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22. Chun, *Programmed Visions*, 2.
23. Ibid., 1.
24. Ibid., 2.
25. Ibid.
26. Alexander Galloway, "Allegories of Control," in *Gaming: Essays on Algorithmic Culture* (Minneapolis: University of Minnesota Press, 2006), 85-106.
27. Ibid.
28. Chun, *Programmed Visions*, 9.
29. For more on the relationship between jumping and power, as well as a brief history of jumping in video games, see Jason Begy, "The History and Significance of Jumping in Games," in *GAME//PLAY//SOCIETY: Contributions to Contemporary Computer Game Studies*, proceedings of 4th annual Vienna Games Conference, (Munich, Germany: Kopaed, 2010).
30. Friedrich Kittler, *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford, CA: Stanford University Press, 1999), 123, 124.
31. Ibid., 124.
32. Of course, many players record their play sessions. Recently, video game consoles have this functionality built-in. However, this is a secondary aspect of playing a video game that does not undermine my assertion that a virtual "camera" in a video game is primarily used as a tool to observe the game's spaces, not to record the game itself.
33. Galloway, "Allegories of Control," 100.
34. Gilles Deleuze, "Postscript on Societies of Control," *October* 59 (Winter 1992): 3-7.
35. The *Civilization* series is a long running series of real-time strategy games. For the first game, see *Sid Meier's Civilization*, MPS Labs (MicroProse 1991). For the most recent major release, see *Civilization V*, Firaxis Games (2K Games, 2010).
36. Galloway, "Allegories of Control," 100.

37. Ibid., 102.

38. MMORPGs are “massive multiplayer online role-playing games.” In an MMORPG, hundreds and often thousands of players simultaneously play in the same virtual space, which today is normally a fully 3D space in the game.

39. Chun, *Programmed Visions*, 66.

2.

Expanding Outward:

Video Games as Assemblages in Media Ecologies

Chapter 1 dived into the ontology of software's code, and the inherent paradoxes embedded in their technological and social conditions. This chapter will move outside the code to understand games as participants within media ecologies. First, I will show how Gilles Deleuze and Félix Guattari's framework of rhizomatic assemblages are a useful way of understanding video games' interlocking systems, both inside their code and outside themselves into other assemblages.¹ Second, I will draw on Matthew Fuller's definition of media ecologies, which differs from some other uses of the term, to show how video game assemblages interact with other systems to form a complex ecology.² Third, as a way to understand the intersection of video games with other ecologies, a section on video game paratexts will discuss the particular ways paratexts function within video game ecologies. The last section, to transition into the next chapter's topic of player-encoders, will turn to Hall's encoding/decoding model of communication in order to position the factors of power and hegemony within video games' ecological structures.³

ASSEMBLAGES, RHIZOMES, AND ECOLOGIES

Video Game Assemblages

Video games are identifiable as media objects that present players with interactive, algorithmically constructed systems of play. Put simply, video games are media objects fully invested in the structure of software. As software, video games' properties lend

themselves to more readily participate in media ecologies as assemblages. I use the term “assemblage” in conjunction with Gilles Deleuze and Félix Guattari’s understanding of rhizomes. The two concepts are profoundly linked. Assemblages are self-organizing systems that are constituted of many component parts. Deleuze and Guattari, in *A Thousand Plateaus*, analyze concepts such as the novel and the State apparatus as assemblages that are not static wholes.⁴ Instead, assemblages possess unfixed parts that can be displaced or replaced among other assemblages. Video games, even within their own coded structures, readily exist as assemblages. To the player, a video game may appear as a coherent static media object, but to its programmer, it is a fragmented set of algorithmically generated processes—a set of component parts—that collectively work together to form the video game. One game’s modularity can allow for many layers of menus and submenus, series of “mini-games,” different difficulty modes, multiple player-characters, and fragmented storytelling.⁵

Video game assemblages readily interact with other assemblages that surround it. If the player is constantly referring to information in a pause menu, why not also have another “menu” in the form of a wiki loaded on another screen (a nearby computer, smartphone or tablet)? As a video game assemblage intersects with the multiplicities that contribute to both its construction and its use, the video game can be seen as participating in a rhizomatically shaped media ecology. Deleuze and Guattari write that “[a]n assemblage, in its multiplicities, necessarily acts on semiotic flows, material flows, and social flows simultaneously.”⁶ One can see how semiotic flows inform a video game’s ability to communicate meaning; its material flows affect the technological, economic, and industrial conditions of its production; and the social flows inspire its participation in our

collective culture, whether this manifests in online communities or elsewhere. Building on this framework, T. L. Taylor writes that video game assemblages are:

constituted by the interrelations between (to name just a few) technological systems and software (including the imagined player embedded in them), the material world (including our bodies at the keyboard), the online space of the game (if any), game genre, and its histories, the social worlds that infuse the game and situate us outside of it, the emergent practices of communities, our interior lives, personal histories, and aesthetic experience, institutional structures that shape the game and our activity as players, legal structures, and indeed the broader culture around us with its conceptual frames and tropes.⁷

Not only are components of assemblages “inside” the game itself, but they are also manifest in the complex interactions of outside assemblages, and their respective components—intersecting, exploding, and condensing.

A rhizomatic description is appropriate because rhizomes have a nonhierarchical shape with no beginning and no end. Where is the beginning or the end of the Internet or of the global economy? Any point can become both a beginning or form a (perhaps temporary) end. By interacting with multiplicities of the technological, economic, and social, a video game—like a rhizome—“ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles.”⁸ Video games participate in rhizomatically shaped linkages with other industries, mediums, online communities, and forms of knowledge.

Video Game Media Ecologies

Matthew Fuller’s *Media Ecologies* develops a very particular concept of media ecologies that he deliberately distances from some other instances of the term.⁹ There are many efforts by theorists in the humanities that compare art/media to nature, and more than one example of comparing media to ecology. Anyone who has worked in a corporate office

for any time will be all-too-familiar with efforts to create a good “ecosystem” within the company, which can mean a “welcoming” work environment or an efficient means of distributing information throughout the company. At the other end of the spectrum, Deleuze has famously utilized natural science terms as metaphors for abstract philosophical concepts (such as crystals in understanding filmic time, or rhizomes in understanding emergent, decentralized cultural formations).¹⁰ In its introduction, *Media Ecologies* explicitly distances itself from a technologically deterministic use of the term, which Fuller links to theorists like Marshal McLuhan, where “‘ecology’ is more usually replaced with the term ‘environment’ or is used as a cognate term where the fundamental difference between the two concepts is glossed over.”¹¹

Similarly, I invoke the concept of media ecologies in what Fuller describes as “some of the most interesting parts of literary studies in recent decades,” with Friedrich Kittler being the most prominent example.¹² In particular, I am interested in the term ecology as a way for dealing with how systems *interact*:

the only way to find out about what happens when complex objects such as media systems interact is to carry out such interactions—it has to be done live, with no control sample. Objects here should also be understood to mean *processes embodied as objects*, as elements in a composition. Every element is an explosion, a passion, or capacity settled temporarily into what passes for a stable state.¹³

It is not only relevant to think of media ecologies as the process of analyzing the way complex systems interact, it is also important to see processes as objects and vice-versa. Additionally, the ways in which these objects and systems interact are always-already intersecting with multiple forms, which Guattari called “modes.” Fuller quotes Guattari’s modes as including “‘mental,’ ‘natural,’ and ‘social,’” but he does not restrict media ecologies to these three.¹⁴ Instead, once one opens their attention to multiple ecological modes, “these or other modes of an ecology always demand carrying over into another

mode, another universe of reference, and always another, in order for these laboratories, whether in texts, persons, movements, or other scales, to have any function.”¹⁵

One reason to place video games within media ecologies is that video games have been barely discussed in this context.¹⁶ Fuller’s book focuses on (amongst other things) pirate radio in the UK and cameras as technocultural assemblages. Software studies writers such as Lev Manovich, Wendy Chun, and Alexander Galloway speak to software as inherently related to the intersection of logic systems (algorithms) and cultural practices/expectations, but they do not take up video games in the context of their intersection with other digital media systems as this thesis does (wikis, streaming video, forums, and others). But there is something more significant here than filling in a gap in knowledge. Without getting too caught up in debates on what constitutes a medium, the video game is the newest distinct “medium” in a post-digital age.¹⁷ Although video games were created before the widespread use of the Internet, their inherent existence as software also makes them the most readily available to speak to, respond to, interact with, integrate with, and rely on intersecting systems that form an ecology.

If video games assemblages are systems, then the multiplicities of outside components and connections that both contribute to and intersect with video games are also systems. Ecology, the study of how systems interact, is a useful approach to understanding the complexities of the various technological, social, and industrial systems that video games’ systems interact with as well. It would not be incorrect to see a particularly complicated game as its own ecology, before even moving outside of its code, because it already has multiple systems that interact to create potentially infinitely varied experiences. However, video games’ fragmented structures have ultimately facilitated other, outside

media objects to exist in tandem with the video game, itself. This perspective shows the process of video game play is always potentially modulating with many outside resources.¹⁸

Unlike a film, which (however problematic this is) is ideally watched in a dark room with few interruptions, video games *build in* interruptions and often require the player to use them. When watching a movie or television show, it is admittedly possible and not uncommon to pause it to ask your friend a question about a plot point or look up an answer online, but these mediums are normally constructed with the presumption that their media objects can exist as self-contained media experiences with no interruptions. Video games presume the opposite. As modular, fragmented media objects, they also invite the player to create a bricolage, or an assemblage, of other media objects. Adding to the originary media object is its own form of play, and the results also alter the *playing* of the game through a process of modulation. In so doing, the video game and the player engage with many other intersecting media systems to form a *media ecology*, or a series of media ecologies.

It is not a lack of precision that I sometimes use “ecology” in the singular and other instances in the plural. This is because in one line of thought, it may be more useful to think of a video game as a single ecology, which contains wikis, streaming videos, and forums. However, each of these media forms can also constitute their own ecologies. As I will elaborate on later, wikis are a great example of user-generated content created through collective intelligence, but they are also often owned by corporations, who generate revenue from ads, and thus exploit collective intelligence for free labor—this process being connected with ecologies of the economics of Internet business. In another direction, one can conceive the video game industry, and the paratexts that surround it, broadly as one

video game media ecology. But with each video game as its own media ecology, they could be labelled collectively as many video game ecologies.

Video Game Media Ecologies Done Live

Here is a typical playing session for a complex role-playing game like *Skyrim*.¹⁹ The game opens with a series of menus and a title screen. I choose the Load Game option. A series of save files shows up in a list. Without manually clearing them out, I have over thirty saves to choose from, sorted by most recent to least recent. (Each represents a different save state, some with more or less potential for creating alternative choices in the game. Instead of killing a king like in my most current save, I could go back to before that point and choose to join him, but retain both saves and thus have the same character exist within multiple possibilities.) I choose the most recent save. I open up my main in-game menu and see a list of possible quests. One is already selected. It states to clear out a cave. I click a button on my controller, causing the menu to change to the map, with a marker that shows the location of the cave. (Already in this process I have engaged with several different ways of displaying the same information—different systems of interaction constituting a whole of the gameplay experience.) Still, I cannot remember the significance of this cave or why I'm clearing it out. I take out and unlock my iPhone. (Unknowingly, I had turned off my wifi on my phone earlier, so it automatically uses my cellular data; it interacts with a system of towers and satellites to search my query on Google—arguably its own media ecology.) A wiki appears that shows me the details of the quest. It reminds me of a particular item I hope to acquire from the cave, but the boss is a powerful magician. Concerned that my magic defense is too low, I use my phone to search for armor that is particularly effective against spells. Finding it too difficult to navigate the forums and wikis

that show up in my search results, I move to my laptop. (My laptop automatically connects to my wifi, connecting to my service provider, to allow me to navigate to Google.com and continue my search.) While a wiki lists the specific stats of various equipment, it does not provide suggestions. It is difficult to know which armor is best for a mid-level character at my progress point in the game, with my character's particular stats. Forums allow players to provide more nuanced opinions on the matter, but are often unreliable. After reading both wikis and forums, and cross-referencing both, I make a decision and continue playing my game.

This is the process of a typical play-session for many games, especially role-playing games. It shows that unlike, for example, watching a movie on Netflix, which requires going to one website, making a selection, and watching it, playing a video game often invites a more active process of stopping, researching, reading, experimentation, etc., that involves many forms of media outside the explicit code of the game, itself. This back-and-forth—bouncing between various menus, sites, and outside media objects—is the process of modulation within a media ecology. In the above description, I relied on wikis, forums, multiple systems within the game, and both wifi and cellular Internet access. This only begins to touch on the possible systems of interaction. For example, with *Skyrim*, the game exists on three different platforms (Microsoft Windows, Xbox 360, and PlayStation 3), each with their own particularities, which are often addressed on websites. As the developers become aware of bugs on all or some platforms by culling data from forums and wikis, they push out updates to these platforms.²⁰ In the case of Xbox 360 and PlayStation 3, the system will not allow the player to launch the game unless it is up-to-date. On Windows, there is also an active modding community. Mods can make the game look better, fix known bugs, unlock cheats, or even add completely original content,

missions, and storylines to the game. The modding community relies on streaming sites like YouTube to showcase mods, forums to help people learn how to install and share mods, and modding websites to act as a central place for the community to upload and download mods. These are all ways that a player engages in multiple systems of media, as they intersect or diverge from one another, just in order to play a specific quest.^{21 22} As one begins to think ecologically of the multitude of interacting systems, the possibility of always moving from one mode to another can be extended continuously. The rhizomatic extension of video game assemblages includes not only the many communities of players, but also the websites for facilitating communication, the infrastructures that support them, and the various semiotic, economic, and social flows within them.

PARATEXTS

One useful node for approaching the complexity of video game media ecologies is to focus on their paratexts, because video game paratexts involve many other ecological factors, such as other mediums, technologies, forms of distribution and producers. Paratexts generally surround a specific text and are not meant to be seen outside of that relationship. Gérard Genette's *Paratexts: Thresholds of Interpretation* provides a thorough investigation of the various functions of paratexts in relation to published texts (in the classical sense of "text"—poetry, prose, etc).^{23 24} More specifically, he focuses on paratexts for novels, collections of poetry, and book-length academic works (as opposed to magazines, newspapers, or other non-book forms of published works). Genette begins his introduction by observing that:

the text is rarely presented in an unadorned state, unreinforced and unaccompanied by a certain number of verbal or other productions, such as an author's name, a title, a preface, illustrations. And although we do not always know whether these

productions are to be regarded as belonging to the text, in any case they surround it and extend it, precisely in order to *present* it...to *make present*, to ensure the text's presence in the world, its "reception" and consumption in the form (nowadays, at least) of a book. These accompanying productions, which vary in extent and appearance, constitute what I have called elsewhere the work's *paratext*...²⁵

Video games' relationship to their paratexts differ from printed texts, but to compare and contrast their functions is useful.

Paratexts are fundamental to the formation of and engagement with video game media ecologies. Video game paratexts, particularly in the form of wikis, streaming video, and online forums (or message boards), often provide players with necessary help to play a game. In analyzing more traditional forms of media, Genette outlines many of these functions. As I will show in this section, video game paratexts have come to perform *new* functions which have altered the relationship between the originary text and its paratexts, blurring their boundaries. By becoming increasingly reliant on player-encoded paratextual content to assist players in navigating games' complex systems, video games' relationship with paratexts are unique. This is largely because video games are the only medium that actively work against the player's ability to experience its content. Indeed, other forms of moving images are overly-deterministic in playing out their content, while video games present obstacles that must be overcome to progress.

Genette takes a very strong position when he argues that paratexts are a fundamental influence on how one *interprets* a text. His most telling example is how the title of Joyce's *Ulysses* inspires the reader to make parallels between Joyce's novel and Homer's *Odyssey*. Whether one chooses to accept or ignore this invitation for comparison, the reader's knowledge of the title—and the influence it has on the reader—cannot be removed from its reading. While one might imagine a hypothetical reader who is unaware of the title of the book, this reader does not realistically exist, and therefore conceivably anyone who reads *Ulysses* is aware of this invitation for comparison. However, Genette

reserves this status for paratextual elements of a book that are *peritextual*. Peritexts are paratexts that are actually part of the printed book, itself (title, design of the cover, blurbs, preface, appendix, etc.) Epitexts are paratexts that are not part of the physical book. Genette sees *epitexts* as potentially influential but not to the same degree as peritextual paratexts. This is because the title and cover of a book are unavoidable influences on the reader, while epitexts are encountered either by chance or by seeking it out. Epitexts, which might include interviews, book reviews, and posthumously published drafts and letters, are precariously encountered by the reader, but not necessarily so.

As this thesis will make evident, video games' relationship with what Genette calls epitextual paratexts are as strong as a book's relationship with peritextual paratexts. Video games do not have an equally strong relationship to any particular epitext, but rather epitexts in general. Players' dependence on *epitextual* paratexts to complete a game has profound political and social significance, because the producers of these epitextual paratexts are increasingly player-encoders. It is these paratexts that will be the primary focus of this chapter and chapter 3. And it is these paratexts that have ultimately facilitated a complex network of social relations and media production, which contribute to video game media ecologies. While there are certainly other forms of video game paratexts, the three I will focus on are wikis, streaming video, and online forums (aka message boards). Each can serve multiple functions, but broadly speaking, these are the three formats most utilized by players when playing video games.

Jonathan Gray's chapter "Spoiled and Mashed Up: Viewer-Created Paratexts," from his book *Show Sold Separately: Promos, Spoilers, and Other Media Paratexts*, addresses epitextual paratexts' ability to facilitate interpretations.²⁶ Gray's analysis of vidding is useful in understanding the practices of player-encoded paratexts. Gray defines

vids as “music videos, usually made with a selection of clips from a given film or program that the vidder painstakingly juxtaposes with the lyrics of a background song in order to offer an interpretation of and/or argument regarding that show.”²⁷ Gray compares these fan-made music videos to H. J. Jackson’s reading of marginalia in books.²⁸ They are side notes, points of interpretation, or moments of fixation that do not necessarily align with the original text’s focus. In discussing an email interview with the vidder, here’s luck [sic], Gray states that “here’s luck’s declaration of a vid being ‘the ultimate close reading’ is highly apt, given a good vid’s ability to unlock and make sense of parts of a text while being considerably more entertaining and affectively gripping than are most close readings.”²⁹ Vidding’s ability to recontextualize a character’s story or emotional motivations, or create alternative readings (such as with slash vidding) is a form of close reading, that—in alignment with Genette’s understanding of paratexts—assists others in interpreting the originary text.³⁰ Similar to vidding, video game paratexts sometimes focus on an interpretation of a specific character’s story or explain a backstory that is otherwise told only in bits.³¹

Gray’s analysis of vidding and other viewer-created paratexts is useful in that he acknowledges the labor practices of fan culture, and their ability to create whole ecosystems (which, again, is different than an ecology) of knowledge and production/consumption. The practices he describes are very similar to the practices of player-encoders creating epitextual paratexts for video games. There is one key distinction between Gray’s work and video game paratexts, which is that Gray tends to focus on very niche fan communities that do not necessarily represent the presumed consumptive practices. So while television series may inspire fans to create vids, they are not normally produced in a such a way that viewers are expected to *need* paratexts in order to make sense

of the show. This is not to say that those who engage with its paratexts, such as vids, do not find it to be an enriching experience. But video game developers often (though not necessarily always) rely on players to create paratexts that make sense of a video game's complex systems. In these cases, players often *need* epitextual paratexts just to successfully complete the game. Jonathan Gray's work on viewer-created paratexts is useful in understanding the practices of creating player-encoded paratexts, but Genette's emphasis on paratexts being a primary—not secondary—function for interpreting any text speaks to the necessity of paratexts within video game media ecologies.

A second characteristic of paratexts that Genette emphasizes is that paratexts are always caught up in a presumption that “author knows best.”³² He summarizes this position when stating “the correctness of the authorial (and secondarily, of the publisher's) point of view is the implicit creed and spontaneous ideology of the paratext...[V]alid or not, the author's viewpoint is part of the paratextual performance, sustains it, inspires it, anchors it.”³³ Here, too, Genette takes a strong stance on how the paratext functions. Authorial intent may hold together the performative function of paratexts in books, but video games' paratexts rely on a different presumption: a relatively unquestioned belief in the autonomous functionality of a video game's code. The previous chapter discussed video games as software. Drawing from Wendy Chun's *Programmed Visions*³⁴ and Alexander Galloway's *Gaming*³⁵ and *The Interface Effect*,³⁶ I showed how our investment (however false) in software's performativity creates presumptions in a video game's ability to perform. This aspect of video games—this belief in coded software's ability to perform as quasi-autonomous algorithms that produce interactive systems—produces a particular function of paratexts that is unique to video games: paratexts decode software into something more “knowable” to other players.³⁷

Genette argues that “the most essential of the paratext’s properties...is *functionality*. Whatever aesthetic intention may come into play as well, the main issue for the paratext is not to ‘look nice’ around the text but rather to ensure for the text a destiny consistent with the *author’s purpose*.”³⁸ The function of the paratext is to provide additional materials to more or less attempt to impose a particular interpretation of a text. This intended interpretation is normally presumed to be one by the author.³⁹ The important difference with video games is that by replacing the author with code, an intention of interpretation is replaced by an unalterable reality of how the code executes. Therefore, the paratext’s function is to ensure that the player can understand the software’s systems enough to successfully play the game.⁴⁰ In this context, a previously understood separation between the text and its peritextual paratexts is barely useful. Menus and item descriptions are just as much part of the game as the active gameplay. When the “text” of a medium is a set of encoded systems, it is difficult (and not really worthwhile) to determine which parts of the code, or which systems, are the text and which are the paratexts. But epitextual paratexts, which is what this thesis emphasizes, take on a newly central role, because they can decode the game’s code, and re-encode their decoding into a new media object that others find more “knowable.”

Another aspect of Genette’s *Paratexts* that I will discuss is their function as a *threshold*. As Richard Macksey notes in his foreword for *Paratexts*, “[w]hile he charts a topology that abounds in precisions (and neologisms), repeatedly drawing distinctions reminiscent of High Structuralism, Genette is never satisfied with purely taxonomic mappings.”⁴¹ Genette’s insistence on seeing paratexts as thresholds—the word is even in the book’s full title—points to a less-than-rigid categorization of paratexts. The topology is not as important as how paratexts *function*. While the issue of their functionality was

discussed previously, to think of paratexts as thresholds raises serious ontological concerns that Genette does not fully address in his book, but which are of central concern to video games.⁴² On the question of what constitutes an epitextual paratext, Genette states simply that “inasmuch as the paratext is a transitional zone between text and beyond-text, one must resist the temptation to enlarge this zone by whittling away in both directions...[W]e will be wary of rashly proclaiming that ‘all is paratext.’”⁴³ For him, this is rather clear-cut because, as he sees it, “the paratext retains at its center a distinctive and undisputed territory where its ‘properties’ are clearly manifest.”⁴⁴ A book is a particular thing, with a particular physical form, with the body of the book maintaining the status of the “text,” and the intended practice of use is normally very clear-cut (to read it from start to finish).

Video games do not retain such a distinct boundary, which is partially due to their existence as software. Software, itself, does not have clear boundaries, and as Alexander Galloway argues, is best understood as always a threshold.⁴⁵ There is certainly a discernable difference between the executable code that makes up a video game and the wiki one might use as a reference, but the relative primacy of their functionality is blurred. While one might conceive of a hypothetical reader who reads *Ulysses* without knowing the title, it is difficult to imagine a player playing a massive multiplayer online role-playing game (MMORPG), like *World of Warcraft*, without using any reference materials.⁴⁶ This is because the world is so vast and complex, that referring to online paratexts, in whatever form, is a central part of navigating the game’s systems. Paratext as threshold “constitutes a zone between text and off-text, a zone not only of transition but also of transaction: a privileged place of a pragmatics and a strategy, of an influence on the public.”⁴⁷ But does this not also describe other aspects of video games, themselves? A controller acts as a threshold to control the character. The HUD acts to ensure “a better reception” for the video

game.^{48 49} The menus serve to both directly effect the gameplay and explain it. The screen can also be read as a threshold, which (with the help of the graphics card) translates the code into simulated shapes, colors, and movements that our brains can interpret as meaningful. The process of moving back and forth between all of the various components that constitute a video game, in a manner that could only be perceived as frenetic in more traditional mediums, is one of constantly navigating “between the inside and outside, a zone without any hard and fast boundary.”⁵⁰ Already engaged in this space of thresholds and interfaces, it is barely (if at all) a leap to move into the threshold of an outside paratext.

Paratextual authorship is one last topic I will discuss. Paratextual authorship, or what Genette calls “senders,” functions differently in the Internet-driven media ecologies of video games. Most obviously, the “senders” are no longer solely dominated by the author, the publisher, or “some authorized third party,” as it was prior to the Internet.⁵¹ Certainly these groups remain, but they serve very similar functions already laid out in Genette’s discussion of epitextual paratexts. Video game magazines and publishers still release reviews, interviews, press releases, open letters, and other forms of “authorized” commentary. These entities and their forms of addressing the public still retain privileged positions of power, but they also compete with a horde of others who consistently generate more content on YouTube, Twitch, GameFaqs, and specialized wiki pages than traditional media producers could hope to create.

When it comes to “senders,” Gray’s understanding of viewer-created paratexts is more useful than Genette. As mentioned above, Gray shows that vidding is one way in which viewers create paratextual media objects that provide alternative thresholds of interpretation. In another section, Gray discusses the motivations for fans of *Lost* to actively post and read spoilers.⁵² While Gray admits that he initially does not understand the appeal

of “spoiling” the show’s unreleased plot points, his qualitative research reveals that fans who like spoilers do not feel that spoilers actual spoil the show. This is because the spoiler may reveal a plot point (the “what”), but it does not explain the “why” or the “how.” Rather than spoiling anticipation, spoilers incite it by increasing fans’ curiosity of how or why the plot point occurs. This is similar to players’ consumption of video game paratexts. It may seem that watching a YouTube video that explains how to beat a boss in a video game could “spoil” the fun of beating it, yourself. Knowing a plot point is very different than watching the artistry of a television show’s formal elements and the emotions that it can evoke. Similarly, watching a video of someone else’s playthrough is a very different experience than playing a game. Consuming epitextual paratexts about a video game does not replace the act of playing it. Instead, player-encoded paratexts provide additionally resources for understanding and utilizing video games’ systems. Because the “senders” of video game epitextual paratexts are overwhelming the players, the modes of play and interpretation become increasingly fragmented. Once one takes note of this side of the Internet, a rhizomatic shape of paratextual content emerges. The next section will outline a few of these.

Video Game Paratexts

“Getting Stuck”

Video games have structural properties, specific to the medium, that create a high demand for paratextual media objects. This is because the interactive nature of video games creates unique problems for decoders. The decoding process in video games has varying degrees of success depending on the game and the player. A relatively common experience

for a video game player is to “get stuck.” For example, you might run around an area, confused about what you are supposed to do to move the game forward. Only after hours of frustration, do you find a switch in plain sight, which triggers the next event. It is also common to discover that a friend had no trouble finding the switch, but got similarly stuck in a completely different part of the game. “Getting stuck” in a game is more common than other forms of entertainment media because it requires action from the player. Game structures often center on executing acts of skill, such as fighting off hordes of enemies or jumping across a tricky series of platforms. Games also often contain puzzles of various kinds (word riddles, mazes, logic puzzles, etc). Most video games require some of both.

Video games have a long history of walkthroughs and strategy guides that address the tendency of players to “get stuck.” Some video game developers license official strategy guides, which are normally distributed in print form. The guides often include the game developers’ official names of enemies and characters, as well as screen shots of area maps taken directly from the developers’ resources. An early form of this is *Nintendo Power* (1988-2012), a monthly magazine that, along with other sections, provided “tips and tricks” for Nintendo games. Fans and online communities also produce an abundance of helpful materials. GameFAQs.com has long been a resource for video games. Players can upload strategy guides or walkthroughs for games, and the site has an active message board where players can post questions. More recently, “wikis” have become a popular way for players to collectively create encyclopedias of game information.⁵³ All of these player-generated forms of content that help other players overcome obstacles exist because of player-encoders.

In other types of media, the decoding process can more easily occur without epitextual resources. In fact, this property of more traditional media is one way to

differentiate between a “normal” media consumer and a fan. The fan becomes engrossed not only in the media object, but also its epitextual paratexts. However, I would argue that the *dominant* structures of media consumption surrounding video games is inherently linked to online resources. This is not a form of excess. T.L. Taylor’s “Beyond Fun: Instrumental Play and Power Gamers” focuses on how power gamers often utilize epitextual paratexts to exceed normal modes of play.⁵⁴ However, as her later article, “The Assemblages of Play,” discusses, many clans in *World of Warcraft* require members to use certain mods.⁵⁵ The active use of epitextual paratexts that assist gameplay is not something specific to the fan, the power gamer, or the hardcore gamer. It is an intrinsic part of playing many video games. Paratexts come in many forms, but I will focus on three: wikis, online streaming video, and forums. Other paratexts, such as mods, blogs, and online magazines, are certainly important to video game media ecologies, but wikis, streaming videos, and forums are the platforms that most easily facilitate collective contributions and have diverse functions.

Wikis

Mostly frequently encountered on the website *Wikipedia*, a wiki “is a website which allows collaborative modification of its content and structure directly from the web browser.”⁵⁶ Broadly speaking, video game wikis create encyclopedic databases of knowledge about video games. While Wikipedia, for example, might have one entry on the *Assassin’s Creed* series,⁵⁷ ⁵⁸ which branches off into separate pages (one for each game in the series), online video game communities form whole wikis just for one game or one series, with hundreds or thousands of separate articles. At the moment, *Wikia’s Assassin’s Creed* wiki boasts 7,586 articles and 25,071 images.⁵⁹ The content of these articles is

normally created collectively by many users, none of which receive any monetary compensation.

Wikis can perform many different functions. Wikis normally start by simply creating articles for different elements of the game as users encounter them. In an RPG like *Skyrim*, separate sections exist for each city or area of the game; weapons, armor, and their subtypes; a database of all enemies and enemy types; a database of all non-playable characters; and all quests in the game, to name just a few of the possible sections.⁶⁰ Within the sections, there are normally separate articles for each individual object that fits into that category. An article about a weapon might include its strengths and weaknesses, requirements for wielding it, where it can be acquired, and pictures of it. Sometimes wiki pages also contain links to external video streaming sites (normally YouTube) to videos that showcase specific elements of a game and ways to use them. The goal is to create a complete database of every element of the game, which can then be parsed and recalled at any time.

A second common function of wikis are walkthroughs. Walkthroughs are paratextual media objects that literally walk a reader through either a portion or the whole of the game. Before the rise in popularity of wikis, walkthroughs were posted to message boards. However, message boards do not have built-in tools for collaborating on a walkthrough. For this reason, early walkthroughs were often completed by just one user (a very ambitious and time-consuming task), and then they were modified by that user as people pointed out mistakes or suggested additions. Walkthroughs on wikis have the advantage of being constructed through a collective effort, but because wikis normally focus on shorter entries about specific elements in a game, a wiki's walkthrough tends to be less cohesive, sometimes leaving out key details between required tasks. However, in a

game like *Skyrim*, which is nonlinear and divided into distinct “quests,” having a database for each individual quest is a useful resource.

Online Streaming Videos

Online streaming videos have become an integral part of Internet activity due to two shifts in technology. First, broadband internet has become more affordable and accessible, which is needed to have bandwidth fast enough to stream video. Second, the processing power of consumer-grade computers (including mobile devices) has increased to the point of easily capturing, editing, and playing back high-definition video. Today, YouTube and Twitch are the two most popular streaming video websites for gamers. Initially, they performed two different functions. YouTube allowed players to upload pre-recorded videos, and Twitch allowed players to broadcast livestreams of video games while playing. This has changed in the past year. In June of 2015, YouTube announced that it would create a new service called “YouTube Gaming,” which would allow users to livestream games.⁶¹ Several months later, Twitch announced that sometime in 2016, it would implement direct uploads of pre-recorded video content in order to compete with YouTube.⁶² It remains to be seen how successfully these two services will compete with each other’s role, but a distinction still remains between the two ways of creating video content.

Pre-recorded videos allow for more post-production and are therefore often more polished. There are a wide range of ways this can be employed. For example, PewDiePie (currently the most financially successful YouTube video uploader) has innovated the “Let’s Play” genre of video uploads.⁶³ “Let’s Play” videos are video recordings of a person playing through a video game, normally with the player commenting on the gameplay as

they play. PewDiePie is known for his particularly zany reactions, often for comedic effect. Although his gameplay antics are normally improvised, his videos are still heavily edited, presumably to remove boring or less-funny parts of his playthrough. The user EpicNameBro has supported himself making a starkly different type of “Let’s Play.”⁶⁴ EpicNameBro (ENB) creates long, detailed playthroughs of games, focusing on FromSoftware’s *Souls* series. Currently he has created entire walkthroughs of *Dark Souls*, *Dark Souls II*, and *Bloodborne*.^{65 66 67} Each episode lasts between 30 minutes to an hour, and each series contains between 27 (for *Bloodborne*) and 59 (for *Dark Souls*) episodes. PewDiePie’s videos are disjointed and short, which provide humor and a general sense of the gameplay. ENB’s videos are longer, with very few cuts (normally just to cut out load times), and are watched for their thoroughness and continuity.

A third type of pre-recorded videos are those reduced to function almost purely as information. In fact, these videos serve a similar function to individual wiki articles and are often linked in those articles, as well. For example, a trope of Nintendo’s *Zelda* series is that there are quarter heart pieces hidden throughout the game. When a player collects four heart pieces, they receive an additional heart of life, allowing the player to receive more damage before dying. If one does a search for “Zelda heart piece locations,” the results yield many videos that very quickly show where all the pieces are and how to access them. Sometimes, if it takes a long time to reach certain items, the uploader might increase the playback speed in postproduction, only slowing it down just before they reach the item. Videos that provide a visual for data are useful for item locations, paths through in-game mazes, farming routes, and to showcase various armor, weapons, and combat strategies.⁶⁸

Video game livestreams tend to perform slightly different, but overlapping, functions. The most common form of livestream is very simply to watch someone else play

the game live. Watching a game “live” reinforces the authenticity of the player, by showcasing their skill-level or their ability to improvise entertaining commentary. Often, livestreams showcase professional gamers as they take part in competitions. This activity is similar to watching live athletic sports. The viewers often feel invested in certain teams/players, and they revel in watching top players perform feats that require an unusually high skill-level. Watching competitive gaming or even individual feeds can also be a useful way to increase one’s skill level by observing their strategies and implementing them to one’s own gameplay.

Forums and Message Boards

There is little consensus concerning the distinction between a forum and a message board, as they are normally used interchangeably. On really large websites, which cover hundreds or thousands of topics, the website as a whole is sometimes referred to as the “message board” while a particular section of the site might be called the “forum.” For example, GameFAQs.com, a very active video game message board, might refer to its Final Fantasy area as the “Final Fantasy forum,” while GameFAQs is the message board. Having acknowledged that, I will use the terms interchangeably.

Forums actually serve such a wide spectrum of functions that I do not have the space to cover them all here. I will focus on a few ways that they serve as paratexts that aid players in playing games. The most common form of this is by simply posting a question to a forum. At first, this is as simple as it sounds. A player is confused or stuck in a game, and they post a question to the forum community to see if someone has the answer. Those who wish to help either respond with an answer, or ask a follow-up question to clarify the original poster’s (OP’s) concern or question. Others might reply to a thread with a related

question or affirm that they have the same issue. There is a back-and-forth between several or hundreds of people. Threads can remain active for a few hours or years, depending on the topic.

As mentioned before, there was a period when forums were also a place to post text-based walkthroughs of video games. This is less common now with the rise of wikis and streaming videos, but it was an important paratextual tool for many gamers at the time. Forums are also useful as a place to discuss matters of opinion or style. Whereas wikis tend to only accept confirmable facts about a game, forum threads often discuss or debate interpretations of a game's narrative or share various gameplay strategies. In RPGs, character builds are important to the process of leveling up.⁶⁹ Leveling up in a way that maximizes damage by exploiting the mechanics of a game is often necessary in order for the player-character to be powerful enough to complete the more challenging quests in a game. This means that a player must plan ahead for the type of build they will use. Forums allow players to discuss different approaches to building a good character that aligns with their play style. Some users take pleasure in leveling up many different characters to experiment with this, but often the more casual player intends to only play through the game once or twice. For the casual gamer, posts about what character builds work better (which is often both a matter of opinion and specific to how the game's mechanics work) can be important for a less-frustrating playthrough.

Speedrunning is Paratextual

Chapter 1 used speedrunning as a way to examine the spatialization of temporality within video games' code. By discovering forms of sequence breaking, speedrunners can bypass large portions of the game by tapping into the code's spatialization of temporality.

But understanding the potential for sequence breaking or other glitches as a property of its code does not address how players *learn* to perform tricks and share them with others. Speedrunning, as it is performed today, is a phenomenon that occurs through an ecology of interacting systems. Speedrunning can be simply defined as using various methods to complete a video game as quickly as possible, but an ecology of players, games, and paratexts intertwine to form the conditions for current speedrunning practices.

Paratexts are crucial for speedrunners, because they provide information on how to speedrun. The three categories discussed above all contributed to speedrunners' ecology. Players use forums to discuss various methods of speedrunning in a more casual way. Wikis for speedrunning are where methods become more formalized and thus canonical. Online streaming videos are perhaps the most important paratextual element to speedrunning, because streaming videos are how speedrunners show their runs. By using streaming sites like Twitch and YouTube, speedrunners can perform live runs or upload recordings of runs already made. For many speedrunners, a live run, which is simultaneously saved and recorded, is the best method for showcasing their skills. To make impressive runs, speedrunners must not only become knowledgeable of the game, but also knowledgeable of the paratexts that surround a particular game's speedrunning. Then the speedrunner must learn to implement this knowledge into the physical, material process of actually playing the game. By completing an impressive run, their video stream of the run then also becomes a new paratext for the video game and its speedrunning community. Chapter 3 will extend speedrunning practices in the context of player-encoders, but for now it is important to note how speedrunning is a phenomenon that is largely dependent on the intersection of many different systems (games, streaming videos, forums, wikis, etc.) that work together. Additionally, many of the crucial systems within speedrunning ecologies

are ones that allow the encoding/decoding of paratexts, which directly feed into speedrunning player practices.

RECONFIGURING HALL

The next chapter will begin a discussion on player-encoders, but before that I wish to take a step back and revisit Stuart Hall's encoding/decoding model of communication. Stuart Hall's seminal essay "Encoding/Decoding" outlines a theoretical model for media reception that complicates the positivist, linear model of sender/messenger/receiver.⁷⁰ Hall was specifically theorizing the discursive flows of television production and consumption, but the process of encoding and decoding is potentially useful as an entry point to understanding the underlying structure of video games. Applications of this essay have normally focused on the decoding aspect of this process, as it provided a theory to think about active audiences in meaning-making processes.⁷¹ Media consumers, seen here as decoders, could decode the encoded discursive messages into various interpretations. Hall outlines three possible forms of decoding: the dominant-hegemonic, negotiated, and oppositional positions. Hall places these categories in relation to very broad ideological structures. The dominant-hegemonic position is when the decoder interprets the text as the encoders intended. A negotiated position occurs when the decoder largely understands and adopts the dominant-hegemonic codes, but still maintains certain "particular or situated"⁷² logics that contradict the dominant codes. Oppositional positions are decoders who understand the encoders' intended meaning, but ultimately completely reject this interpretation.

Bringing Hall into this discussion may initially seem to be a contradictory approach, especially considering that Fuller's theorization of media ecologies was (amongst many

other things) a complication of Hall's encoding/decoding model. In Fuller's *Media Ecologies*, he refers to Hall directly in the first chapter and focuses on the transmitting part of Hall's model (in between the encoding/decoding). Fuller focuses on transmission because he is discussing pirate radio, which subversively inverts the intended functions of this encoding/decoding binary relationship; pirate radio broadcasters turn radio technologies intended for reception into radio transmitters. In the context of video games, I think it is important to see how one can "save" some of Hall's model. In *Media Ecologies*, Fuller draws on Guattari, who says we must look at the miniscule level to understand the larger media landscape.⁷³ Fuller takes this on by defamiliarizing (he says to "recognize what we have forgotten we have learned") the way T9 texting works on an old Nokia phone.⁷⁴ Fuller can begin to fracture a more simplistic view of radio or telephony because there is already a body of work aimed at understanding its basic industrial structures, and the (at least intended) relationship that users have with it. This is what makes pirate radio a useful entry-point into a more nuanced reevaluation of how one can use a radio or telephone within their larger media ecologies. But with video games, we must pull back; it is important to first locate the various nodes in video game production, consumption and subcultures. In other words, a certain amount of more basic, stripped-down examinations of television and broadcasting had to exist before Hall could complicate this pervading model. And built upon Hall's work, others—like Fuller—could then fracture his already somewhat nuanced communications theory. Perhaps Hall is useful as a good middle ground that recognizes the multiplicities of modes of production/reception while still naming and locating the largest actors involved.

Turning Toward the Encoder

Hall's encoding/decoding model of communication has already inspired a large body of academic work that focuses on the decoding process, but this scholarship mostly ignores the encoding and distribution phases. By turning back to the encoders, and seeing all of these moments as interrelated, Hall's model provides an entry-point into the underlying structures of video game production and consumption practices. I turn to Hall, as opposed to other models, for several reasons. First, as with television, video games tend to follow regular production cycles that give developers opportunities to tweak upcoming games based on players' responses to previous titles. For example, if a company is interested in developing a new first-person shooter (FPS) game, they will most likely look to other popular FPS games on the market and then make decisions about how to draw inspiration from them based on what players like, or to make calculated decisions on how to deviate, sometimes influence by what players complain about on message boards.

In video game series, such as the *Call of Duty* or *Assassin's Creed* series (both of which put out at least one major title per year), each new game in the series is tweaked based on responses from players on the previous game. While audience research in marketing is an old practice, this is different in that players are already creating data through their online interactions (either metadata from online gameplay or data from online paratexts), which then become a source of information for game developers. In addition to developers implementing player feedback in new releases, video games can be modified continuously after release. Video games are played with devices literally called "systems" (whether a console, PC, or mobile device) that are normally connected to the Internet. This allows video game developers to constantly release patches, updates, and even new content for already-released games (known as downloadable content or DLC). Patches, updates, and DLC create a unique position for video game developers, requiring them to pay close

attention to issues with a video game, and acting quickly to address them with one of these methods. T. L. Taylor and René Glas have both written about this aspect of updating games in their work on *World of Warcraft*, which tends to rely more on big data sets than qualitative feedback.^{75 76} Melinda Jacobs and Tanja Sihvonen—in their analysis of social games on Facebook—call this ongoing process of updating and patching games as being “in perpetual beta.”⁷⁷ Jacobs and Sihvonen describe what they saw as a new type of engagement with players that the video game developer Zynga, in particular, had innovated. This included both direct engagement with players as well as making updates based on patterns seen in big data sets. Since then, these practices have become more ubiquitous for game developers, even in single-player games.

Hall’s terminology is still useful, even in the new context of video games being in “perpetual beta.” The terms encoding and decoding place production and consumption practices within a post-humanist structure. The very words encoding/decoding or encoder/decoder also imply that this structure is more about an ongoing *process*, rather than any specific meanings. In other words, it emphasizes the form over the content, the process over the product. This is why, despite many applications of Hall’s model to specific subcultures and toward issues of identity and representation (such as in the work of Paul du Gay, Janice Radway, and Dick Hebdige),⁷⁸ Hall’s essay can still also speak to a post-structuralist approach to media ecologies.⁷⁹

With Hall’s encoding/decoding model of communication, there is much to be explored in the encoding phase of this process. Indeed, it is crucial to place encoders as both the first and last node in a feedback loop. Hall’s encoding/decoding model understands information flows as circulatory. By calling discourse production circulatory,

I am referring to the cybernetic concept of a closed-circuit, which Hall draws on for his analysis of media production systems. Hall suggests to:

think of this process in terms of a structure produced and sustained through the articulation of linked but distinctive moments—production, circulation, distribution/consumption, reproduction. This would be to think of the process as a ‘complex structure in dominance’, sustained through the articulation of connected practices, each of which, however, *retains its distinctiveness and has its own specific modality*, its own forms and conditions of existence.⁸⁰

Hall fleshes out the terms used above in “Encoding/Decoding,” but allow me to unpack this passage, as it has increasingly visible importance on current trends in new media, and particular weight for video game production cycles. First, Hall outlines a list of several “moments” in the encoding/decoding process that complicates the positivist, hypodermic needle, one-directional model that has been so heavily criticized.⁸¹ Then Hall places these moments within a “complex structure in *dominance*.” This is the structure of mass media that has come to dominate media production/consumption practices.

Hall directly states that although his model allows for negotiated and oppositional positions, these positions are still subject to, and largely in reaction to, a top-heavy power structure that perpetuates cultural hegemony. Video game production, as a form of encoding messages, must also participate in dominant structures of discourse. Because encoders aim for their messages to be decoded in a particular way, industrial and medium-specific practices develop to reinforce the articulation of dominant forms of discourse.⁸² In order for the encoding moment and the decoding moment to align in their meanings, encoders must “pass under the discursive rules of language,” which thus reinforces “the formal rules of discourse and language in dominance.”⁸³

A key element of Hall's model here is that it describes a *process of discourse*. It is a process in that the dominant forms of discourse must continually reify themselves in order

to maintain the dominant structure. By using the term discourse, Hall draws from a semiotic understanding of the relationship between signifier and signified. That is, the relationship is ultimately arbitrary but has become naturalized. The examination of media as these symbolic vehicles, as thus a form of language or discourse, means that these are not completely benign structural elements of language. They have their own particularities; their own embedded structures of power. Or, as Hall puts it:

events can only be *signified* within the aural-visual forms of the televisual *discourse*...The ‘message form’ is a determinate moment; though, at another level, it comprises the surface movements of the communications system only and requires, at another stage, to be integrated into the social relations of the communications process as a whole, of which it forms only a part.⁸⁴

By placing television media production within the realm of language, Hall sees the production (or encoding) process as one node within a loop of discourse, although the one with the most potential cultural power. However, because it is only *one* “determinant moment,” it would have no meaning, and thus cut off the loop, if others are unable to decode it. Similarly, if a game is literally encoded badly (its software is not well-designed) bugs and broken code can actually render the game unplayable. But on another level, if a game’s design sits too far outside of known video game conventions or genres, then some players might not understand how to play the game and refuse to take the time to learn. Therefore, media consumption practices are a self-reinforcing structure that is dependent on the encoders, the form of distribution (related to the medium and industrial practices surrounding that medium), *and* the decoders (the consumers). The dominant structure is therefore related to both technology *and* culture at large. Hall’s model can speak to both of these, which allows it to inform video games as assemblages without being too reductive.

Since the Internet has become central to the ways media is produced and consumed, structuralist descriptions of media are increasingly inadequate in understanding these

practices. However, as a mentor often said to me when discussing critiques of theoretical models, does one throw the baby out with the bathwater? I am hesitant to completely dismiss older theories for new ones. As stated previously, the concept of the player-encoder is a nod to Hall's encoding/decoding model. And, in fact, one could argue that his model (and subsequent essays in his later work), by outlining several determinant moments (not just production and consumption), began a trend toward post-structuralist accounts of media. Digital media (and more specifically video games), and the participatory culture that it has allowed for, has surely complicated and decentralized more traditional post-war media industries; but Hall's encoding/decoding model is still relevant for three reasons.

First, its description of the media industry as creating determinate moments, each of which contribute to the effectiveness of a particular cultural artifact, is still largely true in the video game industry—especially with big, AAA games.⁸⁵ Second, Hall retains a very explicit concern with media as a form of *circulation* (thus engaging with Marxist critiques of capitalism) and therefore as a material trace of particular forms of power, or hegemony. These issues are hugely important to media industries today, even as the flows of information have become more fragmented via digital technologies. Third, player-encoders' *processual role* can still be understood as a combination of determinant moments into *new* moments. And these new moments can be seen as affecting the flows of information in a feedback loop of discourse. Having said that, the encoding/decoding model cannot completely address the particular ways that power manifests in the increasingly decentralized landscape of digital media, which video games are very invested within. Additionally, the fragmented forms of media circulation which video games so rely on must also include *new* determinant moments that do not exist within the tidy concept of a singular closed loop that the encoding/decoding model evokes. For this reason, a

discussion of the complicated, fragmented, decentralized cultural practices surrounding video games must also be understood through the concept of ecology. In short, the *role or function of player-encoders* within a circulatory process of media production and meaning-making can be understood *within Hall's determinate moments*, but the *formations or shapes* of how these paratexts are constructed and used must be understood with an *ecological approach*. The following chapter will focus on the player-encoder as a site of new determinant moments and a site of intersecting ecologies.

CHAPTER 2 NOTES

1. Gilles Deleuze and Felix Guattari, "Introduction: Rhizome," in *A Thousand Plateaus: Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press), 3-25.

2. Matthew Fuller, *Media Ecologies: Materialist Energies in Art and Technoculture* (Cambridge: MIT Press, 2005).

3. Stuart Hall, "Encoding/Decoding," in *Media Studies: A Reader*, eds. Paul Marris and Sue Thornham (Edinburgh: Edinburgh University Press, 1996), 41-49.

4. Deleuze and Guattari, *A Thousand Plateaus*.

5. Mini-games—short for "miniature games"—are games within games. For example, the *Mario* games are primarily in the video game genre of "platformers." Whether in a 2D or 3D space, Mario must traverse a series of obstacles—often by jumping between platforms—along a relatively linear path while avoiding being killed by enemies. In *Super Mario Bros. 3* (Nintendo 1990), there are optional mini-games in-between levels that a player can play to gain extra items. For example, one mini-game shows three rows of cards facedown. The player must choose cards to turn over to find a match, and each match yields a power-up item. This is called a "mini-game" because it is a small, simple game that is not part of the main game.

6. Deleuze and Guattari, *A Thousand Plateaus*, 22, 23.

7. T. L. Taylor, "The Assemblage of Play," *Games and Culture* 4, no. 4 (2009): 332.

8. Deleuze and Guattari, *A Thousand Plateaus*, 7.

9. Fuller, "Introduction: Media Ecologies," in *Media Ecologies*, 1-12.

10. For Deleuze's use of crystals as a metaphor for filmic time, see Gilles Deleuze, *Cinema 2: The Time-Image* (Minneapolis: University of Minnesota Press, 1989).

11. Fuller, *Media Ecologies*, 4.

12. Ibid.

13. Ibid., 1 (emphasis added).

14. Ibid., 5.

15. Ibid.

16. Fuller's nuanced perspective of ecology is crucial to this thesis's theoretical intervention in how we understand video games. *The Ecology of Games: Connecting Youth, Games, and Learning* (MIT Press, 2008) is a collection of essays edited by Katie Salen. While I appreciate the book's investment in understanding how youth use and interact with games in novel ways, its use of the term "ecology" is closer to what Fuller understands as an ecosystem. Put simply, *The Ecology of Games* uses "ecology" to mean an ecosystem or several ecosystems that allow people to play and engage in novel ways. It aims to understand video games on its own terms, to take them seriously, and see it as a potentially positive source of empowerment that facilitates problem-solving. This is a humanist concern with video game as an "ecosystem" of play. Fuller's ecology, inspired by the work of Kittler, Deleuze, and Guattari, is something else altogether. It is a post-humanist, post-structuralist framework that focuses on interacting systems.

17. For a more in-depth discussion of the slipperiness of defining the video game medium, see Brian Schrank, *Avant-Garde Videogames* (Cambridge: MIT Press, 2014).

18. I use the term "modulate" in reference to Deleuze's theorization of systems of control as a form of flexible modulation between the system and its objects. In Taylor's discussion of assemblages, she states that the concept of assemblage is useful because it orients the focus to interrelations. When describing these interrelations, she states that "thinking about games as assemblage, wherein many varying actors and unfolding processes make up the site and action, allows us to get into the nooks where fascinating work occurs; the flows between system and player, between emergent play and developer revisions, between practices and player produced software modifications, between local (guild) communities and broader (server) cultures, between legal codes, designer intentions, and everyday use practices, between contested forms of play, between expectation and contextualization" (Taylor 2009, 332). Taylor does not use the word "modulate" here, but her description of the back and forth between actors in these interrelations strikes me as describing modulation.

19. *The Elder Scrolls V: Skyrim*, Bethesda Game Studios (Bethesda Softworks, 2011).

20. The practice of developers continuously updating and patching video games will be discussed in greater length in a later section.

21. To complicate things even further, *Skyrim* has *many* different systems of gameplay; to list several, it has systems of combat (including different abilities for weapons that are one-handed, two-handed, or bows), alchemy, enchanting, smithing, marriage, persuasion, sneaking, and magic.

22. For more on the way online resources are utilized in normal modes of play for *World of Warcraft* players, see T.L. Taylor, “Beyond Fun: Instrumental Play and Power Gamers,” in *Play Between Worlds: Exploring Online Gaming Culture* (Cambridge: MIT Press, 2006), 67-92; T. L. Taylor, “The Assemblage of Play”; and Rene Glas, *Battlefields of Negotiation: Control, Agency, and Ownership in World of Warcraft* (Amsterdam: Amsterdam University Press, 2012).

23. Gérard Genette, *Paratexts: Thresholds of Interpretation*, trans. Jane E. Lewin, (Cambridge: Cambridge University Press, 1997).

24. While there is other literature about paratexts, *Paratexts* is a useful point of departure because it, aside from being foundational, almost solely focuses on book-length literary publications, where the distinction between the text and the paratext was relatively clear. By examining *Paratexts*, I hope to show both how paratexts have sustained certain functions and how they have changed in the context of video games and media ecologies.

25. Genette, *Paratexts*, 1 (emphasis in original).

26. Jonathan Gray, “Spoiled and Mashed Up: Viewer-Created Paratexts,” in *Show Sold Separately: Promos, Spoilers, and Other Media Paratexts* (New York: NYU Press, 2010), 143-175.

27. Gray, “Spoiled and Mashed Up,” 154.

28. H. J. Jackson, *Marginalia: Readers Writing in Books* (New Haven, CT: Yale University Press, 2002).

29. Gray, “Spoiled and Mashed Up,” 159.

30. “Slash” refers to fan fiction (sometimes in the form of prose or through creative editing in vids) that depicts fictional characters in a same-sex relationship.

31. One example of this practice in video games is VaatiVidya’s YouTube channel, which often features retellings of non-playable characters’ (NPCs) side-stories from the *Souls* series (FromSoftware, 2009-2016). In the *Souls* series, many NPCs’ stories are only told in very fragmented ways, sometimes in chance encounters, so it is easy for a player to miss key plot-points on their first playthrough. VaatiVidya edits videos of these in-game

encounters coupled with scripted narration to retell NPCs' fragmented stories in a coherent, linear form.

See <https://www.youtube.com/user/VaatiVidya>.

32. Genette, *Paratexts*, 408.

33. Ibid.

34. Wendy Chun, *Programmed Visions: Software and Memory* (Cambridge: MIT Press, 2006).

35. Alexander Galloway, "Allegories of Control," in *Gaming: Essays on Algorithmic Culture* (Minneapolis: University of Minnesota Press, 2006), 85-106.

36. Alexander Galloway, *The Interface Effect* (Malden, MA: Polity Press, 2012).

37. This unique function of paratexts could also apply to other forms of media that are not normally considered entertainment, such as technical manuals or various forms of help for software.

38. Genette, *Paratexts*, 407 (emphasis added).

39. For a more rigorous examination of code's sanctity in contemporary culture, please see Chun's *Programmed Visions*.

40. I use "successfully" here deliberately because it is a vague and subjective word. Different players and player styles have varying ideas of what they want out of a game. For some, they merely want to be able to complete it. Others want to challenge themselves. "Completionists" want to achieve every possible goal in the game. Video game paratexts aid in all of these.

41. Richard Macksey, forward to *Paratexts*, xix, xx.

42. For a book-length project that takes on ontological questions raised by seeing software as a threshold, see Galloway, *The Interface Effect*.

43. Genette, *Paratexts*, 407.

44. Ibid.

45. I am referring to Galloway's broad thesis in *The Interface Effect*, which dispels some previous ways of understanding software in favor of seeing software as an interface and threshold. See Galloway, *The Interface Effect*.

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46. *World of Warcraft*, Blizzard Entertainment (Blizzard Entertainment, 2004).
47. Genette, *Paratexts*, 2.
48. HUD (head-up display) are graphical components of a video game that are overlaid on the gameplay's main view. It normally provides useful information (such as the character's health, equipped items, a map, etc.) without the player having to open up a separate menu.
49. Genette, *Paratexts*, 2.
50. Ibid.
51. Ibid., 345.
52. Gray, *Show Sold Separately*, 147-153.
53. For more extensive work about fan production of walkthroughs and strategy guides, see T. L. Taylor, "Beyond Fun: Instrumental Play and Power Gamers"; and see Hanna Wirman, "On Productivity and Game Fandom," *Transformative Works and Cultures* 3 (2009), <http://journal.transformativeworks.org/index.php/twc/article/view/145>.
54. T. L. Taylor, "Beyond Fun: Instrumental Play and Power Gamers," in *Play Between Worlds: Exploring Online Gaming Culture* (Cambridge: MIT Press, 2006), 67-92.
55. T. L. Taylor, "The Assemblage of Play," *Games and Culture* 4, no. 4 (2009), 331-339.
56. "Wiki," *Wikipedia*, accessed on February 29, 2016, <https://en.wikipedia.org/wiki/Wiki#History>
57. *Assassin's Creed*, Ubisoft Montreal (Ubisoft, 2007).
58. "Assassin's Creed," *Wikipedia*, accessed on March 24, 2016, https://en.wikipedia.org/wiki/Assassin%27s_Creed.
59. Wikia, Inc. is a free wiki hosting service, which hosts over 300 thousand wiki communities on games, movies, and television. It is privately owned and receives revenue through advertising. See "Home Page," *Assassin's Creed Wiki*, Wikia, Inc., accessed on February, 29, 2016, http://assassinscreed.wikia.com/wiki/Assassin%27s_Creed_Wiki.

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60. See <http://elderscrolls.wikia.com/wiki/Skyrim>.
61. Ross Miller, "Google is launching a 'YouTube built for gamers' to take on Twitch," *The Verge*, June 12, 2015, <http://www.theverge.com/2015/6/12/8772097/youtube-gaming-twitch>.
62. Ross Miller, "Twitch is adding direct video uploads next year to compete with YouTube," *The Verge*, September 25, 2015, <http://www.theverge.com/2015/9/25/9398519/twitch-direct-video-uploads-youtube-gaming>.
63. See <https://www.youtube.com/user/PewDiePie>.
64. See <https://www.youtube.com/user/EpicNameBro>.
65. *Dark Souls*, FromSoftware (Bandai Namco, 2011).
66. *Dark Souls II*, FromSoftware (Bandai Namco, 2014).
67. *Bloodborne*, FromSoftware (Sony Computer Entertainment, 2015).
68. Farming refers to the process of repeatedly fighting the same enemies over and over again, hoping that they will drop a particular item. In RPGs, certain enemies will have a small chance of dropping valuable items. If a player wants that item, they can simply fight that enemy repeatedly until it drops it. Farming routes are routes through a game's virtual spaces that players have determined are particularly efficient at encountering and killing the largest number of a particular enemy in the least amount of time.
69. "Leveling up" is a term that refers to increasing the level of the *character*, not to be confused with progressing to the next "level" in the game. The system was originally developed in *Dungeons & Dragons*, but it has been applied to many other types of games (mostly other role-playing games). In this system, a character has certain stats (short for statistics) that determine their abilities. For example, a character may have a strength stat of 20. A particularly powerful sword in the game may require a strength stat of 25. In order for the character to use the sword, they must "level up" until their strength stat meets the requirement. Different systems have different forms of scaling. Some systems, such as in the *Souls* games, have a 1 to 1 level system. So in a *Souls* game, the character must level up five times to increase their strength stat from 20 to 25.
70. Stuart Hall, "Encoding/Decoding," in *Media Studies: A Reader*, eds. Paul Marris and Sue Thornham (Edinburgh: Edinburgh University Press, 1996), 41-49.

71. Examples of applications on this model that focus on decoding include Dick Hebdige's *Subculture: The Meaning of Style* (New York: Routledge, 1979), John Fiske's discussion of ideology and television in *Television Culture* (London: Methuen, 1987), Janice Radway's study of women's negotiated readings of romance novels in *Reading the Romance* (Chapel Hill, NC: UNC Press, [1984] 1991). Ien Ang's feminist study of Dutch viewers of the television show *Dallas*, in *Watching Dallas* (New York: Routledge, 1985), as well as Tamar Liebes and Elihu Katz's more international study of *Dallas* in *The Export of Meaning* (New York: Wiley, 1994), are key texts that strongly draw from Hall's model.

72. Hall, "Encoding/Decoding," 102.

73. "The reconquest of a degree of creative autonomy in one particular domain encourages conquests in other domains—the catalyst for a gradual re forging and renewal of humanity's confidence in itself starting at the most miniscule level" (Guattari 2000, 84). Quoted by Fuller, *Media Ecologies*, 46.

74. Fuller, *Media Ecologies*, 49.

75. T.L. Taylor, "Beyond Management: Considering Participatory Design and Governance in Player Culture," *First Monday*, Special issue no. 7 (October 2006). <http://firstmonday.org/ojs/index.php/fm/article/view/1611/1526#author>.

76. René Glas, *Battlefields of Negotiation: Control, Agency, and Ownership in World of Warcraft* (Amsterdam: Amsterdam University Press, 2012), <http://www.oapen.org/download?type=document&docid=437366>.

77. Melinda Jacobs and Tanja Sihvonen, "In Perpetual Beta?: On the Participatory Design of Facebook Games," *DIGRA '11* (proceedings of the 2011 DIGRA International Conference: Think Design Play, January, 2011), <http://www.digra.org/wp-content/uploads/digital-library/11312.19220.pdf>.

78. See note 71.

79. As others have discussed, particularly Alex Galloway in *The Interface Effect* and Matthew Fuller, one approach to software (which is the underlying nature of a video game) is to see it as a process instead of a static cultural artifact. Media objects as processual was a point previously made when introducing Fuller's concept of media ecologies. Fuller argues that to think ecologically, we must conceive of all objects as processes that appear stable. Galloway's *The Interface Effect* argues that software, and the screens we use to interact with it, is an interface or a threshold. Galloway states in the preface that "interfaces are not things, but rather processes that effect a result of whatever kind" (vii). So to think of software as an interface is also always to think of it as an

“autonomous [zone] of activity” that “exists that way for specific social and historical reasons” (vii).

Similarly, people’s interactions with software are also processual. This is most visible in developers’ continual tweaking of games through updates, patches and DLC, but it also describes how players interact with video games. Therefore, on both ends of encoding/decoding, there is a constant participation within a structured process. Both Galloway and Fuller are critical of the binary approach that Hall offers of encoder/decoder, and each aim to present a more Deleuzian-inspired rhizomatic approach to media structures. But by focusing in on very specific types of players, subcultures, or gaming communities, there is often little to no attempt to place the various components that collectively constitute the video game industry within a larger media ecology. While I am aware of the current tendency in media studies to want to fracture any binary like “encoder/decoder,” I find it useful to reconfigure this model as an entry-point into understanding the processual nature of video game production and consumption practices.

80. Hall, “Encoding/Decoding,” 91.

81. The one-directional model of media reception is most closely associated with the Frankfurt School. Max Horkheimer and Theodor W. Adorno’s chapter “The Culture Industry: Enlightenment as Mass Deception” in their book *Dialectic of Enlightenment* (1972) is a particularly important work that compares the production of mass media to factories producing standardized goods that pacify the masses from erupting into a communist uprising.

82. This relates back to the previous section on paratexts. Encoders encode media objects with the goal of the decoder to decode a particular interpretation. Paratexts aid in this process of interpretation, but a paratext produced by a player-encoder could be part of the dominant forms of discourse, in opposition, or in-between.

83. Hall, “Encoding/Decoding,” 93.

84. Hall, “Encoding/Decoding,” 92 (emphasis added).

85. Although the modes of production for smaller, independent video game developers does not necessarily follow the production cycles of television that Hall is theorizing, “AAA” games do. AAA (pronounced “triple A”) is a marketing term used by the video game industry to denote big-budget games that supposedly demonstrate a large developer or publisher’s best game or franchise. The games are very similar to the movie industry’s production of blockbuster or “tent-pole” movies. A common practice of some of the video game industry’s biggest franchises, such as *Call of Duty* (Activision), *Assassin’s Creed* (Ubisoft), or *Madden NFL* (EA) releases at least one title in the franchise per year. Additionally, for each game, developers will periodically release patches, updates, and DLC. Some video games, such as *Hitman* (IO Interactive 2016), *Destiny*

(Bungie 2014), or *The Walking Dead* (Telltale Games 2012) actually release the game in installments called “episodes.” Because of these very regular production cycles, AAA games and franchises have similar industrial practices as television, which is partially why Hall’s encoding/decoding model can speak to video games as the circulation of discourse that must continually reify its structures of dominance.

3.

Player-Encoders: Encoding Media by Decoding Games

Player-encoders are players who encode new media objects through their playing of video games. This chapter cannot address the full range of player-encoded paratexts. It will focus on the production of the paratexts discussed in chapter 2: wikis, streaming videos, and forums. Player-encoders, like the paratexts they create, exist on the threshold of video game production and consumption. Their material traces are a point of intersection between the properties of video games discussed in chapters 1 and 2. Player-encoders make new media objects out of their process of decoding existing ones. The result is not a new game, but a text that can act as component part of the video game assemblage. By both decoding the game and encoding new objects that are distributed online, player-encoders are deeply engrossed with the paradoxes of code from chapter 1 and are integrated in the media ecologies discussed in chapter 2.

Player-encoders and the paratexts they produce challenge the boundaries of video games. By creating paratexts that become integral to players' process of play, they extend the game outward. In order to create useful paratexts, player-encoders must learn the game beyond normal means—sometimes even analyzing its code. Therefore, player-encoders extend the boundaries of playing a game beyond its code by creating paratextual materials that exist largely online, but they do so by delving deeper into the game, itself, and translating that knowledge outside of the game. Additionally, as this chapter will show, a close look at how player-encoders participate within the industrial formations of late capitalism also presents a uniquely problematic relationship between producers and consumers. Player-encoders have the potential to possess more power than normal players by influencing others' play—or sometimes (if popular enough) by capitalizing on paratexts

through online advertising—but they do so only by re-encoding an already existing media object (the video game), which retains its hegemony. While player-encoded paratexts are distributed online and created through forms of collaboration specific to the Internet, their distribution and creation are closely intertwined with large media corporations who make profits through ad revenues from player-encoders’ mostly-free labor.

PLAYER TYPES

In order to understand player-encoders better, it is helpful to see them in relation to other types of players. Other categorizations of player types exist elsewhere,¹ but for the purpose of this thesis’s focus on the interconnectedness of video games and players within media ecologies, the most important differentiation between player types relates to how they engage with online resources and communities. There are three categories of player types from this perspective: *purist*, *average player* and *player-encoder*.² First are players who *actively avoid* online resources while playing a video game. I will call this player-type the *purist*. In contrast to other media, using online resources to play a video game is a normal form of engagement, not an extra level. Players who choose *not* to “look it up” are seen as *more intense* than other players. By refusing to go online when stuck, purists gain bragging rights for beating a video game without assistance. These gamers often see the first playthrough of a game as a pure experience. They want no spoilers, and they sometimes even believe that consulting online resources is a form of cheating.

A second player type is the *average player*. This player is somewhere in between the purist and player-encoder. Average players use online resources for help when they are stuck in a game. They may casually participate in online communities, either by occasionally posting a question or answering someone else's question, but they are not

nearly as active as the player-encoder. Although even a casual participation in an online community may be construed as a form of “encoding,” the average player is often no more productive than your friend who describes a key plot-point to a movie, because you missed an important piece of dialogue.

The third player type is the *player-encoder*. Player-encoders are very active in online communities and produce *new content* surrounding existing video games. They contribute to wikis, answer others’ questions on forums, and post questions and opinions of their own. In more extreme cases, they produce complete walkthroughs, either with text or video, and can sometimes even become quasi-celebrities within a gaming community.³

It is important to note that these are not strict categories. It is not uncommon for a purist gamer to initially play through a game without any help, and then as a testament to their gaming ability, produce a walkthrough based on their experiences. Also, most players who fall into the purist or player-encoder types do not stay within them for *all* games. Maybe a *Zelda* fan loves the act of writing walkthroughs for each *Zelda* game, but when they play other games, they simply engage with them as an average player.

Before further discussion of the player-encoder, I must briefly digress to address a line of argument familiar to game studies. The interactive nature of video games could lead one to perceive *all* players as encoders, each forming their own version of the game’s narrative due to its interactive nature.⁴ The more open the game, the more varied a playthrough can be, and therefore the more one can view the player as an active creator of his or her own story within the game’s structures. While this perspective certainly points to something unique to video games, I do not find it helpful to expand the concept of “encoding” to all players. There is a fundamental difference between designing a game and playing that game. There is also a fundamental difference between playing a game and

turning gameplay into a paratextual media object through mods, videos, walkthroughs, and wikis. But there is also a key distinction in designing a game and using the game as a way to produce media objects (as the player-encoder does), which points to unequal structural properties in the relationship between video game encoders and player-encoders. This disparity of hegemonic power within cultural discourse is partially why I have chosen to describe these players as player-encoders.⁵ Although they encode new media objects, they do so by decoding other objects. They transform their decoding into a form of encoding. They are never fully producers from this perspective.

PLAYER-ENCODING: A DETERMINANT MOMENT

Because player-encoders re-encode their play, their paratexts re-encode the original media object (the video game).⁶ If players consume these paratexts in conjunction with their own play, then the paratext undoubtedly affects the way those players play the game. For example, if a player is struggling to beat a boss and finds a video that explains a combat strategy to beat that boss, then this changes the players' perception of playing that boss. It does not matter whether the player actually uses that strategy; like the reader who must decide if they will look for references to *The Odyssey* in *Ulysses*, the player will forever be aware of the *possibility* of using the player-encoder's strategy, which has been re-encoded as a paratext. This is why I view the player-encoder as a new "moment" in Hall's encoding/decoding model. As discussed in the previous chapter, Hall's theoretical concept of encoding/decoding is useful because it acknowledges the act of decoding as a separate moment, when the viewer/player can intervene and "read" the media object in their own way. Importantly, Hall does not ignore that the decoder cannot re-encode the original media object entirely; both encoders and decoders exist within technologically and culturally

defined structures of dominance. The player-encoder complicates this dichotomy because unlike the decoder, they are generating *new content*.

Player-encoders encode new objects, which are then *decoded by other players*. When a player-encoder's video shows how to beat a boss, it is not guaranteed that the player who watches it will decode the player-encoder's strategy as intended. In fact, user comments on YouTube videos often express frustration, because despite their attempt to use the player-encoder's strategy, viewers are *still* struggling to beat the boss. Player-encoders produce new content, but both player-encoders and the players who consume their paratexts are still responding to the original media object: the game itself. This means that player-encoders—despite being productive—are ultimately assisting in players' process of decoding the video game. Decoding—or interpretation—relates this process back to Genette and Gray, who see paratexts as a threshold for textual interpretation.⁷ The key point here is that player-encoders are in a unique position to gain a certain degree of power, in that they can affect other players' process of play. But they always do so in the shadow of the video game, whose developer and distributor holds an unbalanced position of power.

Player-encoder's participation in media ecologies creates new determinant moments between the player-encoders and average players. Just as there is a discursive, structural relationship between the game developers, the media object, and the players, there is a similar relationship between the player-encoder and the average player. Hall suggests four stages (production, circulation, distribution/consumption, and reproduction), but the player-encoder complicates this model. The media objects created by player-encoders have these same four stages, which work in tandem with the decoding process for average players. While fan practices have always complicated Hall's model, the important

distinction to make is that within video game consumption practices, this *is* the norm. This relationship is inherent to the dominant structures of discourse within video games. Within this configuration, the player-encoder is inserted sometimes parallel, or sometimes in-between, the developer-encoders and average players. Thus, several concentric feedback loops of media reception form. I suggest this not as a model to understand fan communities or fan production, but as a model to describe the “complex structure in *dominance*” for video games.⁸

The complex structure in dominance, and the formations of player-encoded paratexts within that structure, have a paradoxical relationship. They are part of a hierarchy of industry and globalization, but they participate in that hierarchy through rhizomatic interactions online. Allow me to expand on this dichotomy. Player-encoded (PE) paratexts participate in this dominant structure. They act as another determinant moment within the discursive flows of information. As Genette shows, paratexts form a threshold for interpreting and enframing the video game. In doing so, they help perpetuate the circulation of video games as meaning-making media objects with culturally defined rules of discourse. However, PE paratexts are *not* usually produced within the normal industrial structures of production. Instead, they are normally encoded in a do-it-yourself (DIY) fashion with relatively little money. They also tend to emerge from online communities in large numbers. Statistically, a single player-encoder’s media object is not likely to become a relevant text for all players. Rather, all the player-encoded paratexts that surround a video game (and the fact that they can always be potentially accessed by players) will *collectively* influence how other players play the game. It is the collective body of paratexts, rather than specific paratexts, that play a large role within structures of dominance. Particularly popular player-encoders are a major exception to this. I will address them in a later section,

but quasi-celebrity player-encoders, who are able to sustain a livable income from their work, do not represent the vast majority of player-encoders. Most player-encoders anonymously contribute to encoding paratexts while receiving little to no money. When looking inside the structural formations of player-encoder paratexts at large, its ecology possesses a rhizomatic shape. It is one of dispersed, emergent connections and productions. Especially in wikis and forums, these collective efforts create material traces of knowledge about video games and play, which are rarely dominated by one player-encoder. PE paratexts can be placed as a particular determinant moment (and one that is subdominant to video game developers) within the industrial circulation of video games, but the media objects that comprise of that determinant moment must be understood as a rhizomatic collective of player-encoder paratexts.

PLAYER-ENCODERS AND COLLECTIVE INTELLIGENCE

The behavior of player-encoders as a collective effort to create video game paratexts is certainly related to the phenomenon of collective intelligence. Pierre Lévy first developed the term in his book *Collective Intelligence: Mankind's Emerging World in Cyberspace*, which described what Lévy saw as a new type of social formation made possible through online spaces.⁹ In “Interactive Audiences?,” Henry Jenkins observes that “online fan communities are the most fully realized versions” of collective intelligence, because “they are expansive, self-organising groups focused around the collective production, debate, and circulation of meanings, interpretations and fantasies in response to various artifacts of contemporary popular culture.”¹⁰ Even the player-encoders that become particularly popular, such as EpicNameBro,¹¹ AGermanSpy,¹² or PewDiePie,¹³ still often rely on information from the video game community at large in order to make their

“Let’s Play” videos. Collective intelligence is not a phenomenon specific to video games or fan communities. Alex Bruns’ book *Blogs, Wikipedia, Second Life, and Beyond: From Production to Prodsusage* explores many facets of collective intelligence, from open-source software to Wikipedia.¹⁴ *Collaborative Futures* is a book that attempts to “articulate what constitutes a collaboration,” by explanation and example,¹⁵ and it was written using new forms of collaboration specific to digital technologies.

More specific to game studies is Jane McGonigal’s account of designing and deploying an alternate reality game (ARG) in “Why *I Love Bees*.”¹⁶ In her essay, McGonigal draws on Pierre Lévy’s term to analyze the collective behavior of the many participants in the ARG *I Love Bees*.¹⁷ *I Love Bees* was developed by 42 Entertainment and launched in 2004. It was a promotional game (and therefore a paratext) for the upcoming Xbox game, *Halo 2*, a series created by Bungie and produced by Microsoft.¹⁸ In *I Love Bees*, thousands of players banded together to solve very complicated puzzles with minimal clues. This phenomenon is important to understanding the collective work of player-encoders. By becoming a collective that shares and discusses information, it is fairly reasonable to assume that any and all “secrets” in a video game will become widespread knowledge as long as enough people are contributing to their discovery. With enough people playing a game, there is a high statistical probability that, either through meticulous play or by accident, at least one person will discover secrets or figure out puzzles. Through wikis, forums, and online videos, secrets discovered by a few can quickly spread to the entire community.

For example, in FromSoftware’s game *Dark Souls* (2011), there are “illusory walls” hidden throughout the game. If a player hits the wall, it will disappear to reveal a hidden area—normally a small room with a treasure chest containing a valuable item. Although

not impossible, it is unlikely that one player would discover all illusory walls in the game on their own. An extreme example was the discovery of the “Great Hollow” area in *Dark Souls*. After fighting through what many players consider the most frustrating area of *Dark Souls*, Blighttown, the player reaches a large poisonous swamp. In middle of the swamp is a giant tree. A specific part of the tree is an illusory wall that reveals a chest. But there is actually a second illusory wall behind the chest, which reveals a passageway to two entirely new areas, the Great Hollow and Ash Lake. In a message board thread asking how people found the Great Hollow, most people report finding it through online guides.¹⁹ However, a few people discovered it by sheer accident, because they accidentally attacked the walls. Presumably, some players who accidentally found it just went on their way in the game to explore the new area. But by the properties of collective intelligence, it only takes one player, who is more prone to take on the player-encoder role, to post about it online or contributed to the wiki, thus revealing the secret area to others. Without very visible wiki pages or YouTube channels, the majority of players would not even know about the location. The areas are quite large, with unique enemies and items, and Ash Lake even has its own mini-boss.

It seems unlikely that FromSoftware spent the time and creative effort to design these two secret areas with the intent that only a few players would accidentally stumble upon it. They created a very well hidden secret knowing that its discovery would eventually spread through online communities due to collective intelligence. What is specific to video games, as opposed to the collaborative efforts of Wikipedia or ARGs, is that collective intelligence in video games functions to produce paratexts for the originally encoded game, which then becomes an important tool for playing the game—for decoding the game. Wikipedia is a repository of knowledge that does not necessarily function as a paratext.

Wikipedia collects knowledge for its own (and others') sake. ARGs are games where the coalescence of an organized collective *is* the gameplay. Video games can exist on their own, but their play is often enhanced through the collective effort of player-encoders. Once these PE paratexts exist, they become vital tools for playing the game.

SPEEDRUNNING

Speedrunning has now been discussed in two contexts. Chapter 1 showed how speedrunning—in particular sequence breaking—exploits code's property of spatializing temporality. In Chapter 2, speedrunning was placed within ecologies of paratexts. In the current discussion of player-encoders, we can see how speedrunning is a practice that directly relies on video game media ecologies, collective intelligence, and the production of PE paratexts to decode video games. While I'm sure there are some speedrunners who speedrun for their own satisfaction without ever sharing their accomplishments, speedrunning is mostly visible as a type of performance. Speedrunners practice tricks, exploits, and glitches until they are confident in their abilities, and then they record or broadcast a "run" for public consumption. Speedrunning is therefore inherently linked to player-encoders and paratexts because the end-goal is to encode a new media object that showcases their skills. While acknowledging there may be exceptions to this rule, the remainder of this section will discuss speedrunners as player-encoders.

Speedrunning would not be nearly as impressive or interesting if it merely described players who beat video games quickly. What distinguishes a true speedrun from normal video game playing is the amount of skill and extratextual knowledge that goes into a speedrun. By extratextual, I mean knowledge about the game and its systems that exists outside normal means of "knowing" (outside the tutorials or manuals provided by the

game). Of course, extratextual knowledge is largely circulated through PE paratexts. Speedrunners, by means of collective intelligence, discover glitches or exploits in the game and use them in ways unintended by developers to decrease the time it takes to complete a game. Returning to chapter 1's example of speedrunning *The Legend of Zelda: Ocarina of Time*, there are methods of movement that are much faster than the player-character, Link's, intended default movement of simply running forward.²⁰ One method is back walking, which requires Link to walk backwards, towards the camera. Back walking is faster, but because the player will not be able to see where they are going, it can only be used if the intended path is memorized. Another method of movement is to continuously "roll" forward: Link lunges forward, rolls on the ground, and stands up. But this technique is not faster if one simply mashes on the roll button; the player must learn to time the roll so that Link rolls immediately after he stands back up. If the player hits the roll button before the rolling animation ends, or too long after Link stands back up, then they will not actually move faster. Players who speedrun *Ocarina of Time* travel everywhere with these tricks. Using tricks like these, in conjunction with other glitches that are often much more difficult than the two I just described, speedrunning requires players to decode the game's mechanics and systems in order to move beyond normal means of beating the game.

Super Mario Bros. is an old but popular game to speedrun.²¹ Released in 1985, *Super Mario Bros.* was the first Mario game developed by Nintendo for the Nintendo Entertainment System (NES) console. It established most of the gameplay mechanics that have characterized the *Super Mario* series, such as item power-ups, mostly linear paths through levels, and jumping as the primary form of attack. Despite its simplicity, *Super Mario Bros.*' mechanics have been deconstructed to allow for faster and faster runs. Guides, like the one found on SpeedDemosArchive.com,²² provide detailed explanations

for how the game's mechanics work, and how to exploit them for faster runs. For example, if Mario completes a level with the timer ending in numbers 1, 3, or 6, an animation of fireworks will play, which adds extra time. By waiting one second to finish the level, thereby changing the timer's number, a player can actually save time by avoiding the animation. Another counterintuitive example is how quickly Mario slides down the flagpole at the end of the level. Each level is completed by jumping onto the flagpole, which Mario then slides down. The pole is almost the height of the screen, so one might assume that it would be faster to jump toward the bottom of the pole. However, the lower Mario makes contact with the flagpole, the slower he slides down. So contrary to what one might assume, it is about 11 frames faster to slide from the very top than from any other point on the pole.

These two tricks are only a fraction of the possible ways to exploit *Super Mario Bros.*' mechanics. They have been collected over time by player-encoders who have discovered new tricks and either directly explained them or uploaded videos of their speedruns so people can figure out tricks by example. Speedrunning is a process of modulation between speedrunners, their paratexts, and the game. The end goal is to upload an impressive speedrun as an admirable performance of speedrunning. But players learn how to perform speedrunning tricks through the collective process of creating PE paratexts (either through videos, wikis, or text guides), which explain or showcase them. This is a feedback loop of information and gameplay. The speedrunner speedruns so as to make a video of the speedrun. The video then acts as a paratextual element for others to use when they speedrun; or the player and others might re-encode the knowledge showcased in the video into a wiki or guide that explains how to perform speedrunning tricks.

Speedrunning—as a process of collective intelligence to discover new glitches and exploits—is also a site where the paradoxical tensions inherent to software are brought to extremes. If games like the *Mario* and *Zelda* series inspire players to obtain mastery over their mechanics, speedrunners push this even further. Even though speedrunning often involves glitches, this does not break with my previous assertion that paratexts hold up the performativity of software’s code. The one general rule for speedrunners is to *not alter the code*. In speedrunning, using a glitch does not break down code’s performativity but instead upholds it by exposing unexpected uses of its structure. Using a glitch in this context is analogous to a close reading of a text.²³ In *Super Mario Bros.*, glitching through a wall or despawning an enemy (causing an enemy to disappear) is allowed because these tricks can be achieved by exploiting the game’s gaps of control within its programming. The speedrunner aims to understand the mechanics beyond what can be learned from the direct phenomenological experience of playing the game. They hope to understand it on a deeper level that provides them access to tricks otherwise unknown.

Speedrunning, despite its name, is not just about completing a game as fast as possible. The recorded time to beat the game is an indirect way of measuring a player’s knowledge of the game’s software and their skill at using that knowledge to manipulate the game’s systems. Unlike a fictional book, where interpretation is presumed, code is presumed to do only what it is told to do, with glitches being the byproduct of human error. Chun argues that it is this belief in code’s performativity that makes it so powerfully compelling. But as already noted in chapter 1, for Chun, an uncritical belief in software’s performativity also creates a paradoxical desire to know what is not knowable. Software’s unknowability is why the project of speedrunning is never quite complete. By being unknowable, there is no definitive “end” to understanding a game’s mechanics. There is

always the possibility of discovering a new glitch or exploit, or utilizing an old exploit in a new way, which will allow for faster times.

***P.T.* INSPIRES PLAYER-ENCODERS AND PARATEXTS**

It is not necessary to look at massive cultural phenomenon (like ARGs and MMOs) or niche communities (like speedrunning), in order to see the interaction of video game assemblages and player-encoders. A small, minimalist game like *P.T.* exemplifies these traits as well.²⁴ Standing for "playable teaser," *P.T.* was originally announced at Gamescom on August 12, 2014, by Sony under the developer 7780s Studio. Later that day it was made available as a free download for the PlayStation 4. Players quickly realized that 7780s Studio was a fake name (no one could find evidence of it being a registered company), but only by playing through the game, which took over a month of collective efforts, did it revealed itself to be a playable teaser for the next *Silent Hills* game, developed by Kojima Productions.²⁵

From a first-person perspective, *P.T.* takes place in two perpendicular hallways. If the player-character walks to the end of the second hallway, it loops so that they end up back at the beginning of the first hallway. Each puzzle, when solved, triggers a change in the hallways the next time the player goes through the loop. Most changes are small, such as a change in lighting. Other changes are more drastic; in one puzzle, a refrigerator is hanging from the foyer's ceiling, with something inside writhing and moaning, causing the refrigerator to shake back and forth. The last puzzle, in particular, is so convoluted and complicated, that aside from a few people who accidentally triggered its solution, it took months of collective efforts to find a solution that worked consistently. This game is unusual in the degree to which it greatly restricts freedom.²⁶ There are virtually no

mechanics, other than moving and looking around. There is no jump, no weapon, no menu. The player can turn on a flashlight, after finding one, and they can slightly zoom in to get a closer look at something. In contrast to its minimalist mechanics, the aesthetics and puzzles are highly dense and complicated. There is a tension between its lack of controls and its complicated puzzles. The lack of controls does not fully suppress the player's desire to project power in the game; on the contrary, it pushes this desire to leak into other spaces: by participating in collective intelligence to solve the final puzzle and to make sense of its enigmatic narrative.

P.T.'s minimalist approach to mechanics with its complex final puzzle requires players to collaborate online to solve the single-player game. As with any emergent, collective intelligence phenomenon, it is difficult to pinpoint definitive points of origin for pieces of information.²⁷ However, it seems that the first video of someone beating the game was on Twitch by the user Soapywarpig.²⁸ The video revealed the game's secret (that this was a playable teaser for the upcoming *Silent Hills* game), but neither the uploader nor viewers could pinpoint how she triggered the ending. In other words, the puzzle was not really "solved." Kojima, the director of the game, stated in an interview that "the last puzzle is ridiculously difficult. This is completely intentional...I wanted people to get together and cooperate. There are cryptic messages in different languages. I wanted people to come together over the Internet to cooperate and solve it."²⁹ Various videos of people who had accidentally solved the puzzle showed that in order to trigger the ending, the player must somehow trigger the phone to ring. To trigger the phone to ring, a baby's laughter must be heard three times. Waiting for the clock to strike midnight, and then taking exactly ten steps triggers the *first* laugh. The *third* laugh is triggered by simply not moving for several

seconds after the second laugh. But there is/was much confusion and debate about what triggers the *second* laugh.

TheGreatDebate, a YouTube channel specifically dedicated to the Silent Hill franchise, posted a video (also titled “The Great Debate”) with a method that has consistently worked for thousands of players.³⁰ “The Great Debate” (TGD) video starts with the “cryptic messages in different languages” that Kojima referred to in the interview. These messages are found by discovering pieces of a photograph hidden throughout the game. When the player finds a piece, a message briefly appears on the screen, each one in a different language. A group of users on GameFAQs.com translated all of the messages under a thread called “Picture Translations.”³¹ The video believes that the correct order of the messages reads as “1. During the inert waiting, I stopped moving. 2. I whispered his name. 3. Then he slid his index finger over my hand. 4. It was a cold hand. 5. My body was shivering. 6. I waited for it to pass. Never moving a step, his hand in mine and fading through a fog of consciousness. 7. I believe I heard a phone.”

Many players speculated that talking into a microphone connected to their PlayStation 4 was necessary to trigger the second laugh, but no one had triggered it consistently by speaking into it. TGD believes that one must deduce what “his” name is (from the picture translations) and say it into the microphone. A reoccurring number spoken and seen throughout the game is 204863. TGD presumes it is a code for “his” name and that it must be deciphered. After solving one of the puzzles in the game, there is a scripted crash,³² during which for a few frames a screen shows a message in multiple languages, all saying the same thing: “Knowing you. I was sure you'd notice this game and play it. I will never—can never—forget that day 20 years ago. I have something to tell you. Contact me. —J.” Presuming that 204863 denotes a six letter name starting with J (from

the crash screen), TGD uses a series of convoluted leaps of logic to decrypt 204863 as the biblical name, Jarith.

This video was the first widely circulated description of how to solve the last puzzle consistently. If the player whispers “Jarith” into a microphone connected to their PS4, it always works: the second laugh is heard, several seconds later the phone rings, a voice says “you’ve been chosen” and the final puzzle is complete. But TGD’s logic for decoding the name and the number has been repeatedly questioned. In fact, many users claim that as long as they say any word starting with “J”—or even the letter “J”—the second laugh is triggered. But because this video was the first way most users encountered a definite solution, the “Jarith theory” (as it is often referred) has now become canonical within discussions about *P.T.* At the time this thesis is being written, there is still no consensus in the community as to why, exactly, this solution works; they just know it does.

This whole process is representative of a complex rhizome of information networks, colliding and colluding—systems of data that intertwine. This video, despite carrying with it a certain amount of weight within discussions of *P.T.*, is, itself, a product of various other nodes. The first known video that shows a player solving the puzzle (Soapywarpig’s) was recorded on Twitch.³³ The player is speaking through her playthrough, as is common to Twitch streams, so she presumably accidentally triggered the second laugh when she was talking to the channel through her microphone.³⁴ However, she doesn’t say “Jarith” or anything like it. Twitch, as a streaming service, allowed Soapywarpig to play the game live, and save the video of it. Others’ videos, when they accidentally completed the final puzzle, became pieces of the puzzle, too. One way to approach the solution was to ask “what do they all have in common? What accidental step is in all the videos?” Additionally, SoapyWarpig and others’ (including TGD’s solution

video) became widely circulated through YouTube (even though SoapyWarpig's video was originally on Twitch) and linked through sites like Reddit and GameFAQs. The solution video relied on research done by others on Reddit and GameFAQs (specifically the translations and a screenshot of the error screen). TGD also relied on online resources to look up names starting with "J," and part of the reason they felt strongly that Jarith was the correct name has to do with its biblical connotations (parts of *P.T.* also have biblical references).

In the months following *P.T.*'s release, as a community formed around the game to solve the final puzzle, gaming journalists often reported updates on websites like *IGN*, *Polygon*, or *Kotaku*.^{35 36 37} Their articles provided a journalistic narrative that condensed disjunctive exchanges of information over many websites and many threads on each website, which would have taken hours and hours to cull through. While these websites function as an "authorized third party" consistent with older forms of epitextual paratexts,³⁸ their articles inspired others to participate. New player-encoders could join in on the process without having to read hundreds of forum posts and YouTube comments just to understand the current status of the debates around the puzzle. Finally, despite the TGD's video providing a solution that seems to always work, a debate still continues as to the "true" solution; that is, a solution that explains how those who did not do those exact steps are able to solve the puzzle. Involved in all of these epitextual paratexts, however, is an attempt to "know what is unknowable" by decoding the game. Indeed, TGD presumes that the number 204863 is a coded message that must be decoded. Solving *P.T.*'s final puzzle is a collective effort, taking place over a fragmented community, to decode the game—one that continues today after being available for over two years.

This complicated process of discovery, testing, research, and discussion is a heightened example of a cultural phenomenon that is *always* taking place in relation to video games. *P.T.* is interesting because it is a single-player game that facilitates communication around it. It draws in many existing systems or ecologies—online video game news sites (*Kotaku*, *IGN*, *Polygon*), live video streams (Twitch, YouTube Red), user-uploaded videos (YouTube), and online forums (Reddit, GameFAQs), which have created simultaneous and disjointed information flows. In some ways they reinforce one another, and in some ways they have created contradictory accounts of not only what the final solution is, but also how it was collectively discovered. Although video game news sites did contribute to reporting and summarizing this process, it was largely the work of player-encoders that contributed to solving puzzles. Like the collective intelligence of ARGs, players of *P.T.* used online resources to collectively solve the final puzzle. But unlike an ARG, where the game *is* a manipulated form of collective intelligence, *P.T.* is actually an algorithmically driven piece of software that in all formal respects is a single-person video game. It took the actions of player-encoders to stream their playthroughs, translate and decode messages, and encode walkthroughs, so that other average players (like myself) could solve the final puzzle. While Kojima has directly expressed his intention to facilitate this type of behavior in the game, we can think of all games as on a continuum between a solely individual experience and one completely reliant on communication networks. This is often a personal choice (purist vs. average vs. player-encoder), but the reality is that more and more games deliberately facilitate collective action amongst players and that this process becomes part of the game as well.

***P.T.*'s Demise: Who Has Power?**

P.T. succeeded in creating an active community of players who exchanged information to solve the very complicated final puzzle. As at “teaser” and a paratext, it achieved its goal of generating anticipation for the upcoming *Silent Hills* game, and it garnered widespread critical praise by all major video game magazines and blogs. Its success is perhaps poetically countered by a set of internal decisions made by *P.T.*'s publisher, Konami. These decisions (which I will describe here shortly) have spurred controversy and criticism from the very fans that helped build the company by purchasing their games and establishing strong online communities around these games.

A brief description of the industrial factors in this controversy is important. The structure of the video game industry, much like major movie studios, consists of developers and publishers (similar to movie production companies and distributors). The developer of a game is often an independent company that forms a contract with the publisher for a single game. For example, in the *Souls* series, FromSoftware developed all five games, but Sony published *Demon Souls* and *Bloodborne*, and Namco Bandai published *Dark Souls*, *Dark Souls II*, and *Dark Souls III*. Publishers also often develop games internally, but normally a quasi-autonomous subsidiary of the publishing corporation is responsible for development. *P.T.* was developed by Kojima Productions, which is a subsidiary of Konami. Konami is a multi-million dollar international corporation that has, until recently, focused on publishing and developing console video games.³⁹ Hideo Kojima has maintained something of an “auteur” status, becoming a selling point for games he produces or directs. Konami formed Kojima Productions in 2005 as a subsidiary headed by Kojima. While there is a more complicated backstory to the formation of Kojima Productions, it is telling that they named it after their star director who also headed the company. The majority of titles developed by Kojima Productions were part of the *Metal Gear Solid* franchise.

In 2014, when *P.T.* was released, it marked a new direction for the company and one of the few games Kojima has directed that was not part of the *Metal Gear Solid* franchise. Despite *P.T.*'s success, and despite being very close to Kojima's release of the highly anticipated *Metal Gear Solid V*, Konami announced the dismantling of Kojima Productions in March of 2015.^{40 41} After months of rumored trouble between Hideo Kojima and Konami's board of directors, Konami announced that it would restructure its gaming department, and it removed all mentions of Kojima Productions from its websites and products.⁴² In April, Konami confirmed the cancellation of *Silent Hills*, and the removal of *P.T.* from the PlayStation Network.^{43 44} In an almost mocking display of power, Konami distributed a game that produced a strong online community that used collective intelligence to solve difficult puzzles, and then removed their ability to even download the game.⁴⁵ This shift in the structure of Konami, and the outing of its most successful game designer, Kojima, is an important reminder that online video game communities are often limited in their empowerment by the video game industry.

PARATEXTS, PLAYER-ENCODERS, AND CAPITALISM

I do not mean to discount the personal satisfaction one might feel when participating in online communities, but these practices often confuse *interactivity* with *empowerment*. The relationship between the two is not so simple. As addressed in chapter 1, controllers with many buttons may increase interactivity, but the analogue between a button and character movement can become obfuscated to the point of decreasing a player's control. The often-collaborative process of creating paratexts can potentially create a similarly duplicitous feeling of empowerment. Wikis in particular create a false sense of socialistic collective ownership. The content created by player-encoders is rarely owned

by them or the community at large. Because the content is normally created for free, and there are free outlets for the distribution of paratexts, it “feels” as if “no one” owns the paratexts. In truth, the content produced by player-encoders are owned by the websites that host the media. Most video game paratexts are distributed on websites owned by large media corporations. Alexa ranks *IGN*, GameFAQs, and *Gamespot* as the three most trafficked video games news and help websites, in that order.⁴⁶ GameFAQs is one of the oldest and most active websites for video game walkthroughs, cheats, and discussions. At this point in time, CBS Interactive (a subsidiary of CBS Corporation) owns both GameFAQs and *Gamespot*. *IGN* is owned by j2 Global, a media corporation that also owns AskMen.com, PCMag.com and other sites and services. These corporations have a vested interest in websites like GameFAQs because they are relatively cheap to maintain and almost all of the content is made for free by users in the form of video game paratexts.

YouTube and PewDiePie

YouTube is a huge resource for video game players and a major outlet for player-encoders. It is true, as I have already stated, that statistically most player-encoders receive little to no compensation for their work. Most people who post video game playthroughs either do not draw enough hits to receive compensation from YouTube, or even if they have a few videos that become popular, they are unable to sustain that popularity. There are some player-encoders who defy these odds and are very financially successful in their player-encoded paratexts. The most prominent of these player-encoders is PewDiePie, who self-produces daily “Let’s Play” videos on his YouTube channel.⁴⁷ PewDiePie has produced over one thousand videos since he started his channel in 2010. In August of 2013, PewDiePie’s channel reached the highest number of subscribers on YouTube, a position it

has held since. *Destructoid* and *Gamespot* reported that PewDiePie earned a total of over \$7 million in 2014 from his YouTube earnings.^{48 49} PewDiePie more or less corroborates that number in a video responding to their reports.⁵⁰ In his response, he emphasizes that at the time he started making videos, he worked a part-time job at a hotdog stand, and no one was making a career out of “Let's Play” videos. PewDiePie says he “just wants to make entertaining videos,” and he “thinks that’s what’s cool about YouTube, that anyone can technically do it.”⁵¹ His rhetoric is rooted in sustaining an ethos of authenticity, hard work, and in the belief that YouTube opens up opportunities for “anyone.” Scholarship on the digital divide, and on issues of latent racism and sexism in online communities, show otherwise.⁵²

PewDiePie’s relationship to money is not without complications. In an opinion piece published in *Forbes* titled “PewDiePie Doesn’t Make Anywhere Close to What He Should Be Making,” Michael Thomsen argues that considering the size of PewDiePie’s audience and the amount of power he has to make a video game a hit, he makes relatively little money compared to other, more traditional, means of production and distribution.⁵³ Even if Thomsen’s comparison between network television and PewDiePie overlooks the drastic differences in their business models (something Thomsen acknowledges), he rightly notes that PewDiePie is “in business with a conglomerate [Google] that takes 45% of the ad revenue earned from videos and just a few layers below superstars like Kjellberg [PewDiePie’s legal last name], one finds a host of people struggling to make money from huge viewerships in significant part because of YouTube’s policies.”⁵⁴ PewDiePie’s financial success was so newsworthy partially because YouTube and those who post on it have been very tight-lipped about their profits. Indeed, PewDiePie and others’ reluctance to discuss money is “reflecting a suspicion that acknowledging politics or labor issues

would ruin the fantasy of being free of work that makes the videos so watchable.”⁵⁵ For some viewers, PewDiePie’s DIY series is tarnished with the knowledge that he is a multi-millionaire.

Thomsen’s arguments only add to the intrigue of PewDiePie, whose mere existence presents an interesting case where a complicated intersection of ecological systems overlay, causing new mediated cultural formations. It should be noted that YouTube, owned by Google, is also part of a major corporation, but its structure is vastly different from mainstream media outlets, with ad revenue measured by clicks, hits, and views. PewDiePie, as a player-encoder, is located in a strange position of power. He creates original content with little overhead costs, but he does so through the act of playing, showcasing, and commenting on media he does not own. PewDiePie often showcases independent games, which for very small developers can quickly give them exposure to millions of followers, sometimes causing overnight success. But player-encoders have a more tenuous relationship with major video game developers and publishers.

While PewDiePie and other player-encoders can contribute to the success of independent games, they are still susceptible to a gross imbalance of power. With current U.S. copyright laws, player-encoders technically have no legal right to make “Let’s Play” videos. In 2013, Nintendo notoriously began demanding 100% of ad revenue from videos about their games, often forcing player-encoders to remove content or allow Nintendo to take any revenue from a video with their content. Zack Scott, a self-described LPer (“Let’s Play”-er), made video game news by posting a critical response to Nintendo’s policy.⁵⁶ Nintendo has since updated this policy, but as Recode.com’s report acknowledges, “with lots of strings attached.”⁵⁷ The “strings” being that Nintendo will “share” 60% of the ad revenue, but only if creators of video content apply for approval to join their Nintendo

Creators Program. On January 30th of 2015, PewDiePie posted a Tumblr response to their policy calling it a “slap in the face to YouTube channels that does focus [sic] on Nintendo games exclusively,” while simultaneously acknowledging that “they have every right to do this and any other developer / publisher have as well.”⁵⁸ PewDiePie understands developers’ legal rights, while simultaneously expressing frustration with their exercise of those rights.

PewDiePie’s contradictory sentiments expose a huge disparity in power structures and latent contradictions in neoliberal policies of free trade. This disparity exists in the economic and cultural hegemony of major developers like Nintendo *and* in a legal system that values corporate ownership of intellectual property over the legal right to reuse their content. This is certainly of greater concern than just video game YouTube videos. For example, Henry Jenkins’ essay “Quentin Terantino’s *Star Wars*?” discusses the issues of regulation on *Star Wars* fan production.⁵⁹ Another prominent writer and activist, Lawrence Lessig, has fought against the overreach of copyright laws in several books, and he founded Creative Commons, an alternative to copyright that allows creators to retain some ownership of their content while still allowing others to reuse it for creative purposes.⁶⁰

Video games intersect with this issue in different ways for reasons already alluded to. First and foremost, the interactivity of video games and the tendency of players to “get stuck” creates a unique demand from players to have access to helpful paratexts. At least within current video game media ecologies, this role is largely fulfilled by player-encoders rather than developers. If players often rely on player-encoders to understand or complete games, and video game developers cannot (or do not) offer a true alternative, then developers *also* rely on player-encoders for their products to be usable to a wide audience. Another important distinction is that unlike a “pirated” film or album, player-encoded

paratexts are not actually a copy or remediation of the game. They are re-encoded versions of the video game. They re-encode either an abstraction of the game in the form of data (such as information posted on forums or wikis), *or* a playthrough of the game through a text or video record. In whatever form, player-encoded paratexts are not the game. They are, in Genette's terms, a threshold for interpretation. But Nintendo's policy shows that they are not legally seen as such. Nintendo is the only major developer that has chosen to literally capitalize on player-encoders' video content, but its actions point to the complicated position of player-encoders within the video game industry's structures of dominance.

***Is Super Mario Maker* a “Game”?**

In a continuation of its explicit goal to exploit user-generated content, Nintendo released *Super Mario Maker* in September of 2015.⁶¹ *Super Mario Maker* utilizes the rise of player-encoder production practices in a more distilled, explicit way. With the tagline “Anyone can make it. Everyone can play it,” *Super Mario Maker* is a “game/game creation tool.”⁶² By purchasing *Super Mario Maker*—a piece of software that runs exclusively on Nintendo's Wii U console—players can create their own Mario levels and upload them online. Then other players who have also purchased *Super Mario Maker* can play those levels and rate them. In Polygon's review, Griffin McElroy describes it as a “hands-on history lesson” that “teaches you what goes into making a Mario game, and just how demanding that design process has always been.”⁶³ I hesitate to call it a game because it's really a toolkit that allows people to create Mario levels. The game element lies only in that by owning the software, one gains access to the online uploads of levels created by

others users. The software was revealed at an official Nintendo event on June 14, 2015.

The voiceover for the reveal video states the following:

As the latest entry in this quintessential Nintendo franchise, the game encompasses everything it means to be a hardcore Nintendo fan: passion, determination, skill, heart, and creativity. *Super Mario Maker* allows you to craft the Super Mario levels of your dreams, be they merry or merciless.⁶⁴

The voiceover's rhetoric taps into video game players' fantasies to create their own video games, as well as building on a continuously cultivated mythos of nostalgia that permeates throughout Nintendo's marketing strategies. People grow up playing Nintendo, and now Nintendo bequeaths its fans with the opportunity to participate in Nintendo game creation.

While *Super Mario Maker* received positive reception from most of their audiences, the software and its larger "ecosystem" of sharing level designs is alarmingly related to Tiziana Terranova's analysis of free labor and Internet culture.⁶⁵ As Terranova points out, instances of exploiting users to generate revenue (such as in *Super Mario Maker* or the free production of paratexts discussed earlier) are not isolated incidents; "they also embody a complex relation to labor that is widespread in late capitalist societies."⁶⁶ In an article published on *Kill Screen* (an online video game magazine) Erik Predner describes *Super Mario Maker* as a "platformer platform"—a platform to create a platformer video game.⁶⁷ He aptly states that "professional level designers and playtesters would be rightly insulted" if we didn't see level design as labor. Moreover, unlike the *LittleBigPlanet* video game series (a Mario-inspired video game that has a similar platform for creating and sharing levels), *Super Mario Maker* does not come with a set of professionally designed levels.⁶⁸ Aside from the fun of creating Mario levels, the user will only have access to levels created by other users. This makes the playability of *Super Mario Maker* only as good as the community that participates in it. And while some may feel that Facebook or Google's exploitation of user-generated data is an acceptable trade-off for access to well-designed

services for free, *Super Mario Maker* costs about \$60; the user must also own the Wii U console to play it; and it is only one of many iterations of the *Super Mario* series.

Nintendo developing and releasing this software is not so surprising; what is interesting is its widespread praise and success, with relatively little critical backlash. It exemplifies players' willingness to participate in free labor activities. Terranova addresses this willingness well when she states that "free labor is the moment where this knowledgeable consumption of cultures is translated into productive activities that are pleurably embraced and at the same time often shamelessly exploited."⁶⁹ As I've argued above, video games exist within a media ecology that actively cultivates the production of paratexts via player-encoders. This culture of free productive practices has, with the success of *Super Mario Maker*, shown itself to be an activity that players are willing to *pay* to participate in. It should be noted that there are unofficial tools, made for free by online communities, that allow people to create custom Mario levels. But these tools were clunky and unintuitive, and there was no centralized system for sharing levels. Players purchase *Super Mario Maker* to participate in the meta-play of level design, as it is officially endorsed by Nintendo.

PARATEXTS WITHIN SOCIETIES OF CONTROL

Paratexts in some respects open new channels for alternative distribution models, and thus new forms of video production. However, because major media corporations host most of the content created by player-encoders, they inherently place both player-encoders and the paratexts they produce within what Manuel Castells calls the "new economy."⁷⁰ A slightly more cynical description is that YouTube is always-already within Deleuzian

“societies of control.”⁷¹ In Deleuze’s “Postscript on Societies of Control,” he states in a hauntingly manner-of-fact way that:

...the different control mechanisms are inseparable variations, forming a system of variable geometry the language of which is *numerical* (which doesn’t necessarily mean binary). Enclosures are *molds*, distinct casting, but controls are *modulation*, like a self-deforming cast that will continuously change from one moment to the other, or like a sieve whose mesh will transmute from point to point.⁷²

The modular nature of software allows for flexibility. Deleuze does not see flexibility as positive; it allows for a move from Foucaultian disciplinary societies to more fluid, modulating systems of control. As Castells has also elaborated on, this is not only a result of widespread globalization; globalization is also conditioned by technological “innovations” that allow for such flexibility. More importantly, the “new economy” not only *allows* for flexibility, it thrives on it. Castells argues:

This new economy emerged in the last quarter of the twentieth century because information technology revolution provided the indispensable, material basis for its creation. It is the historical linkage between the knowledge-information base of the economy, its global reach, its network-based organization form, and the information technology revolution that has given birth to a new, distinctive economic system.⁷³

YouTube on the surface relies on the Internet (and its infrastructures) as a form of on-demand digital distribution. However, YouTube as a revenue source for the “new corporation” *par excellence* (Google) is fundamentally reliant on a complex set of automated, algorithmically-driven systems in which clicks, views, and subscriptions can be *numerically* processed and prescribed monetary value.

These systems obviously exist outside of video games, but I do not think it is a coincidence that the first publicly known millionaire YouTube celebrity is a video game player-encoder. What *is* specific to video games is how its affordances and limitations cultivate paratexts as a necessary node within its media ecologies. In other words, the video

game's ecology *relies* on player-encoders to produce paratexts. These paratexts, the player-encoders who make them, and the companies hosting the content collectively contribute to the assemblage that is video game. By *conceiving* a video game with these systems in mind, video game developers tap into flexible systems of control, inspiring prolific productions of paratexts, which are then reabsorbed into further video game production and ad revenue. What is at stake here is the need to *perceive* video games as such: assemblages participating in topological, cybernetic feedback loops.

CHAPTER 3 NOTES

1. There are many other ways to categorize players. For example, Jesper Juul dispels the myth of the dichotomy of casual versus hardcore players while still acknowledging different types of players in *A Casual Revolution: Reinventing Video Games and Their Players* (Cambridge: MIT Press, 2010). T. L. Taylor discusses types of “power gamers” and contrasts them with other players in her chapter “Beyond Fun: Instrumental Play and Power Gamers,” in *Play Between Worlds*.

2. The three types listed—purist, average player, and player-encoder—are not meant to be a definitive list. They categorize and articulate different modes of engagement with video game paratexts, which allow for a vocabulary with which to quickly denote these differences.

3. A later section in this chapter will address these quasi-famous player-encoders.

4. See endnote 5.

5. I am hesitant to invent new neologisms, but when beginning this project, I felt that other terms used to describe consumers who also create new media objects were inadequate to address the particularities of player-encoders’ practices in video game ecologies. For example, Alex Bruns’ term “produsage” (*Blogs, Wikipedia, Second Life, and Beyond: From Production to Produsage*, 2008) implies a flattening of production and usage. This may be appropriate within the context of something like Wikipedia, where the collective production of the online encyclopedia does not really function as a paratext. But with video games, these media objects *are* paratexts and therefore exist to assist in navigating and interpreting the original media object. They also come into existence only after a player *plays* the game. “Player-encoder” emphasizes first that they are players, and second that they encode through their play.

6. “Re-encode” could be replaced by “remediate,” but I do not mean it in the same sense as Jay David Bolter and Richard Grusin in *Remediation*. See Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge: MIT Press, 2010). Bolter and Grusin are mostly concerned with digital media’s ability to “remediate” older forms of media. One can read text on a screen, thereby remediating published texts; one can watch a digital video, thereby remediating film and analogue video. In the case of the player-encoder, they are not mimicking the video game. They are transcoding, or re-encoding, their game play *experience* into a completely new form of media, whether it be a text-based wiki or a video walkthrough.

7. Gérard Genette, *Paratexts: Thresholds of Interpretation*, trans. Jane E. Lewin, (Cambridge: Cambridge University Press, 1997).

8. Hall, “Encoding/Decoding,” 91.; The section of Hall’s “Encoding/Decoding” that develops the idea of a “complex structure in dominance” was previously quoted and discussed in chapter 2. See page 85.

9. Pierre Lévy, *Collective Intelligence: Mankind’s Emerging World in Cyberspace*, trans. Robert Bononno (New York: Basic Books, 1999).

10. Henry Jenkins, “Interactive Audiences?: The ‘Collective Intelligence’ of Media Fans,” in *The New Media Book*, ed. Dan Harries (London: British Film Institute, 2002), 158.

11. See <https://www.youtube.com/user/EpicNameBro/>.

12. See <https://www.youtube.com/user/AGermanSpy>.

13. See <https://www.youtube.com/user/PewDiePie>.

14. Alex Bruns, *Blogs, Wikipedia, Second Life, and Beyond: From Production to Producership* (New York: Peter Lang Publishing, 2008).

15. Mushon Zer-Aviv et al., *Collaborative Futures: A Book About the Future of Collaboration, Written Collaboratively*, 4, accessed online, last modified September 6, 2010, <http://collaborative-futures.org/material/collaborativefutures-en-2010.09.06-5.5x8.5.pdf>.

16. Jane McGonigal, “Why I Love Bees,” in *The Ecology of Games*, ed. Katie Salen (Cambridge: MIT Press, 2008), 199-227.

17. *I Love Bees* (42 Entertainment, 2004), alternative reality game.

18. *Halo 2*, Bungie (Microsoft Game Studios, 2004).

19. See <http://www.fextralife.com/forums/t16404/how-did-yall-find-the-great-hollow/>.

20. *Castlevania: Symphony of the Night*, Konami Computer and Entertainment Tokyo (Konami, 1997).

21. *Super Mario Bros.*, Nintendo R&D4 (Nintendo, 1985).

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22. See https://kb.speeddemosarchive.com/Super_Mario_Bros.
23. This also relates back to Jonathan Gray's analysis of viewer-created paratexts and vidding as a type of close reading, as I discussed in chapter 2.
24. *P.T.*, Kojima Productions (Konami, 2014).
25. *Silent Hills*, Kojima Productions (Konami, unreleased).
26. Note that *P.T.*'s gameplay is not typical of games in the *Silent Hill* series, nor is it typical of other games developed by Kojima (such as the *Metal Gear* series). However, Kojima is noted for being open to experimental gameplay mechanics and very difficult puzzles.
27. Even on wikis, where edits are tracked so that users can see who made edits and when they were made, the original source of information is not necessarily provided. Someone may find a piece of information elsewhere (such as a forum) and then post that information on the wiki without citing the source.
28. Twitch is a website that allows users to stream live feeds of themselves playing video games. This is in contrast to YouTube, which until recently only allowed users to upload a video file (as opposed to a live stream). On Twitch, once a play session is completed, the user has the option to save that session as a video that can be played back later, but a user cannot upload a video, like they can on YouTube.
29. Nathan Grayson, "Nobody Actually Knows How They Solved the *Silent Hill* Teaser," *Kotaku*, August 15, 2014, <http://kotaku.com/nobody-actually-knows-how-they-solved-the-silent-hill-t-1621044581>.
30. TheGreatDebate, "The Great Debate: The Solution to P.T.'s Final Puzzle," *YouTube*, August, 21, 2014. <https://www.youtube.com/watch?v=nUTTCfZe8Yc>.
31. "Picture Translations," *GameFAQs*, last updated August, 14, 2014. <http://www.gamefaqs.com/boards/827527-pt/69846571>.
32. By "scripted crash," I mean that the game appears to crash (like when a computer crashes) but it's actually a scripted event in the game. In video games, when someone states "a scripted —," this refers to a scripted event in the game. The phrase is normally in reference to an event that makes it feel like something bad happened, but it is actually required for the game to continue. For example, *Dark Souls* has a scripted death when fighting a specific boss. The first time this is encountered, it makes the player feel as if they miserably failed at fighting the boss, but the aftermath of the death makes it apparent

that it was a *scripted* death—a death that is written into the game as a required event to move forward.

33. SoapyWarpig's Twitch account is no longer available, but she has uploaded the video under the same username on YouTube. The second laugh is heard at about 2:05:25. <https://www.youtube.com/watch?v=YkKp4PVm7EU>.

34. It seems that despite the controversy about the name “Jarith,” the player must speak into a microphone connected to their PlayStation 4 in order to trigger the second laugh. *P.T.* is a single-player game, so most players would not have a microphone connected while playing it unless they were streaming it on Twitch or another website. In an interview with Hideo Kojima, he encourages people to use streaming services to collaborate on how to solve the final puzzle. Some have speculated that Kojima gave this hint to facilitate what happened with Soapywarpig and others—accidentally solving the puzzle precisely because they were streaming the video and talking into their microphone.

35. “P.T. Demo Walkthrough,” *IGN*, last updated April 25, 2015. http://www.ign.com/wikis/silent-hills/P.T._Demo_Walkthrough.

36. Danielle Riendeau, “Solving Silent Hills’ Playable Trailer,” *Polygon*, August 22, 2014, <http://www.polygon.com/2014/8/22/6055977/silent-hills-trailer-solution-solved>.

37. See endnote 29.

38. Genette, *Paratexts*, 345.

39. I say “until recently” because Konami has announced that they will no longer focus on console games, and that they will primarily develop mobile games.

40. *Metal Gear Solid V: The Phantom Pain*, Kojima Productions (Konami, 2015).

41. Konami Digital Entertainment Co., Ltd, “Announcing Official Organizational Restructuring And Personnel Changes,” March 3, 2015, http://www.konami-digital-entertainment.co.jp/en/news/release/2015/0303/?cm_sp=01-_-release-_-20150303-e.

42. Luke Karmali, “Hideo Kojima’s Name Removed from Metal Gear Solid 5 Box Art,” *IGN*, July 14, 2015, <http://www.ign.com/articles/2015/07/14/hideo-kojimas-name-removed-from-metal-gear-solid-5-box-art>.

This article reports on the newly discovered removal of Kojima’s name from *Metal Gear Solid V*’s box art, but it also provides a good summary of the “deteriorating relationship between Konami and Hideo Kojima.”

43. Eddie Makuch, "PS4's P.T., a Teaser for the Next Silent Hill, Being Removed Soon," *Gamespot*, April 26, 2015, <http://www.gamespot.com/articles/ps4-s-p-t-a-teaser-for-the-next-silent-hill-being-/1100-6426898/>.

44. Rob Crossley, "Silent Hills Cancelled, Konami Confirms," *Gamespot*, April 27, 2015. <http://www.gamespot.com/articles/silent-hills-cancelled-konami-confirms/1100-6426919/>.

45. Those who already have it downloaded on their PlayStation 4 can still play it, but they are not able to re-download it. Since it was technically a demo or teaser for *Silent Hills*, no physical copies were manufactured.

46. "Top Sites in Video Games," *Alexa*. Accessed on December 8, 2015. http://www.alexa.com/topsites/category/Top/Games/Video_Games.

Alexa is a company that provides web traffic data and analytics. It is owned by Amazon.

47. "Let's Play" videos are videos of people playing a game. There are various formats. Some are complete walkthroughs, and some showcase unique features of a game. Others, such as PewDiePie, use playing games as a platform to make humorous commentary.

48. Jed Whitaker, "PewDiePie reportedly made \$7.45 million in 2014," *Destructoid*, July 4, 2015. <http://www.destructoid.com/pewdiepie-reportedly-made-7-45-million-in-2014-295352.phtml>.

49. Tamoor Hussain, "How Much Money did PewDiePie Earn in 2014?," *Gamespot*, July 6, 2015. <http://www.gamespot.com/articles/how-much-money-did-pewdiepie-earn-in-2014/1100-6428640/>.

50. PewDiePie, "Let's Talk About Money.," *YouTube*, July 7, 2015. <https://www.youtube.com/watch?v=zn0y3Opb8Wk>.

51. Ibid.

52. This thesis focuses on structural issues of power and empowerment, and it cannot fully address issues of race, gender, sexuality and economic inequality. However, there is a considerable amount of work being done on these issues elsewhere. Some examples of scholarship that exposes unequal access to virtual spaces includes Julian Dibbell's early account of sexual harassment toward women in "A Rape in Cyberspace." See Julian Dibbell, "A Rape in Cyberspace" in *Reading Digital Culture*, ed. Daniel Trend (New York: Wiley, 2001), 199-213.

For issues of digital cultures, transnationalism, and diaspora, see Ien Ang, “Indonesia on my Mind,” in *On Not Speaking Chinese: Living Between Asia and the West* (New York: Routledge, 2001), 57-75; Madhavi Mallapragada, *Virtual Homelands* (Champaign, Illinois: University of Illinois Press, 2014); and Lisa Nakamura, “Race In/For Cyberspace: Identity Tourism and Racial Passing on the Internet” in *Reading Digital Culture*, ed. Daniel Trend (New York: Wiley, 2001), 226-235.

53. Michael Thomsen, “PewDiePie Doesn't Make Anywhere Close To What He Should Be Making,” *Forbes*, July 11, 2015. Accessed on March 14, 2016. <http://www.forbes.com/sites/michaelthomsen/2015/07/11/pewdiepie-doesnt-make-anywhere-close-to-what-he-should-be-making/#58c15ccf4a26>.

54. Ibid.

55. Ibid.

56. Eddie Makuch, “Nintendo claiming ad revenue for user-created YouTube videos,” *GameSpot*, May 16, 2013. Accessed on March 14, 2016. <http://www.gamespot.com/articles/nintendo-claiming-ad-revenue-for-user-created-youtube-videos/1100-6408458/>.

57. Eric Johnson, “Nintendo’s YouTube Revenue-Sharing Policy Is Here—With Lots of Strings Attached,” *Recode*, January 29, 2015. <http://recode.net/2015/01/29/nintendos-youtube-revenue-sharing-policy-is-here-with-lots-of-strings-attached/>.

58. PewDiePie, “Nintendo ‘sharing’ YouTube Ad Revenue.”, *Tumblr*, January 30, 2015. Accessed on March 14, 2016. <http://pewdie.tumblr.com/post/109571543425/nintendo-sharing-youtube-ad-revenue>.

59. Henry Jenkins, “Quentin Tarantino’s *Star Wars*?: Grassroots Creativity Meets the Media Industry,” in *Social Media Reader* (New York: NYU Press, 2012), 203-235.

60. Lawrence Lessig, *Remix: Making Art and Commerce Thrive in the Hybrid Economy* (New York: Penguin Press, 2008).

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73. Castells, "The New Economy," 77.

Conclusion: Modulating Power

This thesis has traced the paradoxes or contradictions within video games that give rise to tensions within their structures. To expose these tensions, I felt it necessary to understand them as coded pieces of software, and as unstable assemblages within media ecologies. Player-encoders, who encode new media objects by decoding existing ones, create paratexts that are visible sites where these two ways of understanding video games intersect. While there is much more work to be done on all three topics, this thesis puts them in conversation with one another to show that within these different levels, similar threads of power and control can be traced. But these threads are not simply a top-down process of being controlled by video games. Nor are they bottom-up, liberating expressions of empowering oneself by taking control of video games' systems. They are complex structures wherein a constant push and pull of power and control modulate between many nodes.

SOCIETIES OF CONTROL

Gilles Deleuze's "Postscript on Societies of Control" is a useful way to link these threads.¹ As was mentioned previously, Deleuze's essay offers an alternative conceptualization of power that *extends* Foucault's understanding of power. Deleuze does not disagree with Foucault's theorization of disciplinary societies. As Deleuze notes, Foucault analyzed power diachronically, with much of his work looking at the shift from societies of sovereignty to disciplinary societies. Societies of sovereignty were "something quite different" than disciplinary societies; for example they were structured "to tax rather than to organize production, to rule on death rather than to administer life."² Deleuze's

essay argues that “the disciplines underwent a crisis to the benefit of new forces that were gradually instituted and which accelerated after World War II: a disciplinary society was what we already no longer were, what we had ceased to be.”³ One way Deleuze illustrates this is by reflecting on how the institutions so closely related to Foucault’s disciplinary societies—prison, hospital, factory, school, family, academia, nation state—are in a constant state of crisis, and “the administrations in charge never cease announcing supposedly necessary reforms” in all of these institutions.⁴

The “institutions” discussed throughout this thesis, whether it is the governmentality of software, the various corporations that participate in producing video games, or the many websites that facilitate player-encoded paratexts, reflect this new logic of modulating systems. Rather than static, hierarchical sites of enclosure, they are instead fragmented, modular systems that are always shifting. Societies of control have replaced disciplinary societies. Self-contained, hierarchical structures have become increasingly rare. Instead of the factory, there is the corporation; where there was once an assembly line product, now there is quantifiable information (whether this is in the form of filling out spread sheets or tracking clicks on news articles). In games, the discipline of chess is replaced with the modulating logic of video games. Chess provides a clear site of enclosure with well-defined rules. Video games have the potential for infinite variability, albeit within limiting systems of control.

Shoshana Zuboff’s *In the Age of the Smart Machine* develops several concepts that complement Deleuze’s model of societies of control, such as showing that information technologies allow for more fluid and less hierarchical structures of labor in the chapter “The Limits of Hierarchy in an Informed Organization.”⁵ However, her use of the Foucault’s reading of the Panopticon, which structurally expresses a previous era’s desire

of discipline within sites of enclosure, is only useful because she analyzes how a *factory* implements information technologies in a Panopticon-like way.⁶ Zuboff shows how information technologies allowed for managers to constantly track their workers in new ways, providing managers tools to find inconsistencies in their work. In 1988, when Zuboff's book was first published, the factory still had salience as the quintessential workplace in the United States, or at least the memory of such a time was still strong. But in the U.S. and other post-industrial societies, the conceptual usefulness of the Panopticon in our present time has faded. Edward Snowden's leaks only evoke the Panopticon's power of changing people's behavior in the most guilty or paranoid of people.⁷ As a repository of information, the NSA is not watching so much as collecting. They do not demand discipline, but control.

Directly related to NSA's collection of metadata is the practice of media corporations' use of metadata to inform their understanding of players' behaviors and potential issues with the game. While many mediums and media corporations use big data sets to study their customers and improve their algorithms (such as Netflix's user-specific suggestions), video games inherently lend themselves to this type of data collection. Although Netflix may analyze who watches what, or even at what point in a show a user stops watching, these variables are small in comparison to the choices players make in video games. Video games are not only flexible and interactive. This could be said of a self-paced audio tour at a museum. They are flexible and interactive within a *specific software construct that always has the potential to translate the countless decisions made by a player into quantifiable data sets.*

The ability to create large data sets that signify something about players' gameplay is not only true of the game itself, but also of the many paratextual resources with which

players engage. These data sets (taken from in the game and outside of it) become the basis for developers' continuous process of modifying the game after its release. This is why Melinda Jacobs and Tanja Sihvonen can argue that video games are in "perpetual beta," as was discussed in chapter 2.⁸ Google (through YouTube), Twitch, or the various media companies that host video game-specific wiki sites, do not rely on predetermined structures. Instead they allow for flexibility. Companies acquire information about strengths and weaknesses in game design, and acquire information used for user-specific advertising, *precisely through* the flexibility of these systems. The video game, due to their modularity as software and their predisposition to rely on paratextual resources, is the medium most apt at supporting modulating systems of control. The threat of metadata collection is *not* one that prevents deviant behaviors (ideally the Panopticon would have this effect), but instead creates the tools with which corporations can exert control while simultaneously encouraging a more flexible, "open" society. The next section will revisit Alexander Galloway and his argument that video games, as a medium, in many ways reflect this contradictory position of flexibility within increased control.

VIDEO GAMES: TRANSPARENT AND NOT SO TRANSPARENT

As mentioned in chapter 1, Alexander Galloway also draws on Deleuze's essay in his book *Gaming*.⁹ In the chapter "Allegories of Control," Galloway uses the *Civilization* video games series to show how video games are, "at their structural core, in direct synchronization with the political realities of the informatic age."^{10 11} Galloway states that "Deleuze points out how the principal of organization in computer networks has shifted away from confinement and enclosure toward a seemingly infinite extension of controlled mobility."¹² For Galloway, the *Civilization* series places the player in the position of both

managing informatics of control, but also becoming an active node within it. *Civilization* is “learning, internalizing, and becoming intimate with a massive, multipart global algorithm. To play the game means to play the code of the game. To win means to know the system. And thus to *interpret* a game means to interpret its algorithm.”¹³ Here, interpreting the game is very similar to what I have called players’ process of decoding video games.

Thinking of video game players as “decoders” is particularly useful because it suggests the necessary decoding of the game in order to play. I use Stuart Hall’s terms (encoding/decoding), which he drew from cybernetics, because they point toward several different simultaneous ways that players decode games (the narrative, mechanics, and sometimes literally the software’s code), and it orients these forms of interpretation in relation to societies of control (encoding, decoding, and re-encoding all imply an interaction with a predetermined system of code).¹⁴ Galloway argues that video games “solve the problem of political control, not by sublimating it as does the cinema, but by *making it coterminous with the entire game*, and in this way video games achieve a unique type of political transparency.”¹⁵ A real-time strategy (RTS) game like *Civilization* makes the game, itself, explicitly about learning to manipulate the structures in the game. Galloway argues that because this is its main appeal, *Civilization* is transparent in being a game about working within algorithmic systems of control.

While I agree with Galloway in his reading of *Civilization* as having an unprecedented political transparency, I believe that this transparency is complicated once one begins to look at the contradictory positions of power within video games. RTS games, such as *Civilization*, are a very particular genre of games, where the player sees the virtual world from a top-down perspective. The representation of the world is normally very flat,

even if there are some variations in the terrain's elevation. The world is depicted as flat because the player controls legions of units that fight other units on the map, each side battling for control. *Civilization*'s flatness is directly linked to what Galloway understands as "horizontal allegories" that "scan the surfaces of texts looking for new interpretative patterns," which are "in essence, allegorical."¹⁶ More importantly for Galloway is that "scanning is wholly different from demystifying."¹⁷ Horizontal allegories are created by scanning and linking a disjunctive media object: an assemblage. Horizontal allegories do not go "deep" to find latent ideological readings (like Freud or Marx might do), but instead allow for a more freeform or mobile understanding of a video game assemblage. The player becomes *closer* to the game's logic of informatics, rather than creating a critical distance. Horizontal allegorical interpretation, by being based on scanning and mobility, is a property of playing the game itself. It is also what motivates players to engage with the many paratexts that create video game media ecologies, because paratexts provide more data that allow players to heighten their understanding of the game's logic of informatics, and thus allow for more ways of scanning the game—of forming horizontal allegorical interpretations.

Video games are not always so explicit about their algorithmic logic of informatics—even other games with a similarly flat, top-down viewpoint. In *The Legend of Zelda: A Link to the Past*, the player is presented with an open world map with flattened space that is traversed by controlling the player-character, Link.¹⁸ *A Link to the Past* (a 2D precursor to *Ocarina of Time*) is an early action-adventure RPG, released by Nintendo for their Super Nintendo console in 1991. Some areas are inaccessible to the player, because they can only be reached after obtaining certain items. This contrasts with RTS maps, where the player is free to send units to any part of the map as long as they can reach it

without being killed by enemy units. Several design choices encourage exploration, rather than an explicit “decoding” of the game’s algorithms. These design choices include the many side quests that increase Link’s power and abilities (such as more health and new items), areas that are not immediately accessible (as already mentioned), and multiple paths to areas instead of one path. This is not to say that *A Link to the Past* (*ALTP*) is outside of Galloway’s argument. In fact, after having played *A Link to the Past* many times, I approach the game algorithmically instead of as an exploration. I already know where all the items are, and I have an idea of the more efficient routes to them. But I shifted from focusing on a more playful exploration to an algorithmic execution of tasks only after repeated playthroughs. A game like *A Link to the Past* deliberately obfuscates its algorithmic structure in order to present an illusion of an open, expansive world. This obfuscation makes its algorithmic structures less apparent and relates the modes of play closer to Chun’s discussion of software’s ability to create feelings of empowerment through obfuscations (as discussed in chapter 1).

The example of *A Link to the Past* both extends and complicates Galloway’s reading of video games (through *Civilization*) as a horizontal allegory for a logic of informatics that reflects societies of control. *ALTP* initially obfuscates its algorithmically constructed gameplay. It deliberately encourages exploration from the player, thus creating a feeling of empowerment through this obfuscation. Unlike *Civilization*, *ALTP* does *not* produce an explicit reflection of its political control. The game is framed, both narratively and within its mechanics, as the player/Link going *out into* the world (as opposed to learning to control it), becoming more powerful, and saving both a princess and the world. However, its flatness, modularity, and “openness” does still evoke a horizontal allegorical interpretation of the game: one in which multiplicities of playstyles and a varying order of

events are likely. Despite its less explicit, obfuscated presentation of systems of control, someone who has played *A Link to the Past* several times will likely uncover its informatics and incorporate them into their play. The change in gameplay over time thus shows how the internal logic of informatics, and the systems of control they produce, are still visible even in games that attempt to obfuscate them.

MEDIA ECOLOGIES ARE DISJUNCTIVE

The paradoxical relationship of powerful systems of control and individualistic empowerment are neither technologically determined nor constructed by society, but co-constituted by both. Chapter 2 illustrates that even when moving outside video games' code, similar tensions are pervasive. Gerard Genette and Jonathan Gray's works on paratexts show how paratextual media objects have profound influence on the viewer/player's "reading" of the main text. Drawing on Gilles Deleuze and Félix Guattari's *A Thousand Plateaus*, chapter 2 argues that video games should be conceptualized as assemblages with component parts that extend outside itself to player-encoded paratexts. While this can be said of other mediums, video games' core structures as software (modular with obfuscated layers) create greater potentiality or readiness to interact with other media objects. Matthew Fuller's theorization of media ecologies provides a framework for thinking of video games as always-already interacting with many media systems (and all of their sociopolitical baggage) in a vastly complex network of multiple media ecologies. The level of complexity and disjuncture within these rhizomatic cultural formations of interacting systems is related to Arjun Appadurai's theorization of late capitalism's complex, global flows of information, technologies, and capital. In his essay "Disjunctive and Difference in Global Cultural Economy,"¹⁹ Appadurai importantly illustrates that

globalization creates a highly disjunctive process that can be complicated at the global level, national level, regional level, all the way down to individuals.

One effect of the disjunctive nature of late capitalism is yet another expression of the tension between power and empowerment. Drawing from Marx's view of the fetishism of the commodity, Appadurai argues for "two mutually supportive descendants, the first of which [he] call[s] production fetishism, and the second of which [he] call[s] the fetishism of the consumer."²⁰ The production fetishism "disguises the globally dispersed forces that actually drive the production process."²¹ Production fetishism's process of disguising is related to the relationship player-encoders have with the websites that host their content. If online communities can be conceptualized as a new form of "localization" or "grassroots," whereby video game communities see themselves as self-governing entities that support each other in playing a video game or series of video games, then the corporations that own the wikis, forums, and streaming video sites act as transnational outsiders (outside of the community's identity) that disguise (obfuscate) their ownership of player-encoded paratexts. The production of player-encoded paratexts and the formation of online communities is largely predicated on corporations' ability to disguise their means of capitalization on users' participation in order to uphold a façade of communal ownership amongst a community's members.

Equally important is Appadurai's description of consumer fetishism. In consumer fetishism, "the consumer has been transformed, through commodity flows[...], into a sign."²² The consumer's transformation into a sign is "a mask for the real seat of agency, which is not the consumer but the producer and the many forces that constitute production."²³ To participate within cultural production is to feed into consumer fetishism. Appadurai argues that this "mask" is constructed by "a plethora of creative, and culturally

well-chosen, ideas of consumer agency,” which “are increasingly distortions of a world of merchandising so subtle that the consumer is consistently helped to believe that he or she is an actor, where in fact he or she is at best a chooser.”²⁴ His argument that consumer fetishism is a constructed mask relates to Terranova’s concern with free labor, as was discussed in chapter 3.²⁵ By constructing consumer fetishism, players willingly participate in free labor activities. Video games’ formal structures create unique demands for paratexts that make games playable. Video games’ interactivity, which as I’ve already shown creates illusions of empowerment through powerful systems of control, thus creates a heightened form of consumer fetishism. Heightened in that there is an unusual willingness to participate in free labor because of the paradoxes of empowerment/power. But it is also heightened due to the unique demand for the paratexts that free labor practices create. Appadurai is not completely cynical about this, and even points to globalization’s role in “the expansion of many individual horizons of hope and fantasy,”²⁶ in particular with global humanitarian efforts. But in truth there is a mutually reinforcing modulation between these forces that are “characterized by radical disjunctures between different sorts of global flows and the uncertain landscapes created in and through these disjunctures.”²⁷

Video games, as fractured, are in many ways a reflection of late capitalism’s disjunctive flows, but they reflect them by creating flexible systems of control that the player must become both complicit with and integrated within, in order to succeed at playing the game. Chapter 3’s development of the “player-encoder” concept uses player-encoders as one way to expose how these tensions are at play. Player-encoders, through various methods, extend their desire for empowerment within video games by decoding their powerful systems of control. They then re-encode their knowledge of the game’s powerful systems into new media objects, thereby altering other players’ modulations

within video game assemblages. If video games provide a new type of mobility within their interactive spaces and menus, player-encoders seek to extend this mobility to a new level of consumer fetishism. In so doing, they simultaneously push against systems of control (by decoding them and altering their flows with their paratexts) *and* are complicit within them. Thus we can imagine player-encoders as embodying a complex flow of information, modulating between player-encoders and their paratexts, player-encoders and other players, players and the paratexts, paratexts and the developers, and on and on.

TACTICS OF RESISTANCE

To conclude, I will briefly offer two strategies that may act as alternatives to a simple reaffirming of these contradictions of empowerment through powerful systems of control. The first is a return to form, both literally and figuratively. While the flexibility of late capitalism is apt at appropriating experimental forms of media, thereby gutting them of their self-reflexive political charge, this tactic can still be useful, even if only temporarily so. Games have the potential to not only be transparent about their control allegories, but to also construct such allegories in a way that the viewer's complicit position within them is challenged. Certain political games can achieve this, such as Gonzola Frasca's *September 12* (Newgaming.com, 2003), in which the player must use a bird's eye view (similar to an RTS) to attack terrorists, but each time a terrorist is killed, several nearby witnesses also turn into terrorists. Eventually, if the game is played long enough, all people on the map become terrorists. The political message is clear, that by continuing to bomb terrorists, U.S. foreign policy is creating a new generation of terrorists. By placing the player in a position where they will always lose (one loses if they do not attack terrorists or if they do attack terrorists), *September 12* uses a video game's ability to put the player

at the helm of informatics of control to illustrate the absurd and contradictory positions of U.S. foreign policy.

Bioshock (2007), a video game developed by 2K Games and directed by auteur game designer Kevin Levine, is another example of a self-reflexive game that subverts players' feelings of empowerment.²⁸ A first-person shooter, *Bioshock's* design causes the player-character, Jack, to carry out a series of tasks to liberate an underwater city called Rapture. Based on the information given, the player/Jack believes they are helping stop the "bad guy" Ryan, who is tyrannically ruling Rapture and has kidnapped the NPC Atlas's family. In truth, Jack is being manipulated by both Ryan and Atlas, and Jack's actions accidentally make Rapture's situation much worse. By the time the player/Jack realizes their mistake, the damage is done. *Bioshock* plays on FPS tropes to draw the player into a familiar position of the powerful hero. Most FPS games are about running through virtual spaces, killing hordes of enemies with beefy guns, and heroically saving the day. *Bioshock* plays into these tropes, but then subverts them. The game initially sets the player up to feel empowered by playing out a power fantasy, but then inverts this power, thus revealing that any feelings of empowerment were merely a manipulation of the game. Narratively, the moment of realization takes place when Jack learns that he has been psychologically conditioned to perform certain actions when trigger phrases are spoken (such as "will you kindly do —"). *Bioshock* takes the subtext of a video game's ability to control behavior through code, and turns that subtext into an aspect of Jack's character, in that he can be manipulated by "coded" verbal phrases. Importantly, this is the only way that the game's narrative can play out. Even if one knows *Bioshock's* twist upon replaying the game, one cannot escape this outcome because the player is always subjected to the way the game is encoded.

A second tactic is one outlined by Wendy Chun in her conclusion to *Programmed Visions*. Chun argues for embracing a position of being “in medias res” or “in the middle of things.”²⁹ Becoming comfortable with being in medias res provides an alternative to fetishizing power and control. Chun proposes that this could also be an alternative form of freedom. Rather than a freedom that escapes others, which is only achieved by also rising above them (a position only held through hierarchical power), freedom in the middle of things is one that “stems from a collective patience and giving way—a collective flow in which one is immersed and imperiled.”³⁰ Chun goes on to say that “‘having to act without knowing’ does not simply inspire terror—or if it does, it does not only do so; rather, such unknowing action makes possible collective human freedom.”

Video games’ formal properties that encourage player-encoded paratexts could inspire an anonymous collective human freedom that is the flipside to the Internet’s presupposed anonymity as the condition for vitriolic interactions. However, such a collective would need to also learn tactics to resist the manipulations of late capitalism. Wikis, for example, could easily be owned collectively instead of being owned by for-profit corporations. Some video game communities have opted to create fan-owned wikis that are independent of corporate ownership, but this is all too uncommon.

Video games also have the potential to evoke a position of in medias res through their encoded forms of play. For example, the video game *Flower* (2009) creates a feeling of in medias res by allowing the player to take on the disembodied form of the wind.³¹ Thatgamecompany developed *Flower* with an unusual control scheme in which the player must tilt their controller to change the direction of the floating camera and the wind. The control’s lagged reactions and imprecision reflects the wind’s amorphous being. It also removes the ability of the player to become *skillful* at the game. The goal is to pollinate a

mostly barren landscape, transforming it into a colorful space filled with flowers. To achieve this goal, the player/wind must move past/through various targets, but *Flower* does not construct these goals as acts of skill. They are instead points of movement—paths of flight—that inspire a feeling of *in medias res* through the wind’s anonymity. By playing as the wind (an invisible avatar) that can only be controlled with the imprecise tilting of one’s controller, the player never has any clear sense of the boundaries between the “player-character” (the wind) and the world it inhabits. The only visible mark of the player/wind’s presence are the flower petals that increasingly become caught in the wind’s flow, and the effects the wind has on its environment (flowers bloom, grass changes from brown to green, windmills begin to rotate). *Flower*’s minimalism radically resists the conventional formal logics of video games by creating a “player-character” that is invisible and amorphous (the wind), by implementing imprecise controls that do not allow for skillful movement, and through an experiential narrative of pollination that interconnects the player and the game’s virtual environment—creating a constant flow of being “in the middle of things.”

There is much left to be done to investigate video games’ formal properties, and to imagine forms that are not caught in a never-ending modulation between individualistic empowerment and powerful systems of control. These are just two possible ways of approaching the problem, but by shedding light on the tensions at play in video games’ code, ecologies, and player-encoders, this thesis has outlined some of the conceptual properties at stake within this curious new medium.

CONCLUSION NOTES

1. Gilles Deleuze, "Postscript on Societies of Control," *October* 59 (Winter, 1992): 3-7.

2. Gilles Deleuze, "Postscript on Societies of Control," 3.

3. Ibid.

4. Ibid., 4.

5. Shoshana Zuboff, "The Limits of Hierachy in an Informed Organization," in *In the Age of the Smart Machine* (New York: Basic Books, 1988), 285-310.

6. A Panopticon is a structure most famously theorized by Foucault in *Discipline and Punishment* (New York: Pantheon Books, 1977). Jeremy Bentham originally designed it as a type of prison, but hoped it would have applications in all institutions (schools, factories, etc.) The Panopticon is a circular structure where the inmates can be observed from a tower in the middle. By design, inmates are unable to know what direction a watchman in the center tower is facing. Bentham believed that because they never know when they are being watched, inmates must always act as if they were being watched. Foucault used the structure as a metaphor for the concerns of disciplinary societies to enclose and normalize.

7. I am referring to Edward Snowden, a former CIA employee, who leaked thousands of documents in 2013 that exposed how the National Security Agency (NSA) was collecting massive amounts of metadata into digital repositories of information. Laura Poitras's documentary, *Citizenfour* (HBO Films, 2014) is a good introduction to the events surrounding Snowden's leak.

8. Melinda Jacobs and Tanja Sihvonen, "In Perpetual Beta? On the Participatory Design of Facebook Games," *DIGRA '11* (proceedings of the 2011 DIGRA International Conference: Think Design Play, January, 2011).

9. Alexander Galloway, "Allegories of Control" in *Gaming: Essays on Algorithmic Culture* (Minneapolis: University of Minnesota Press, 2006), 85-106.

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10. The *Civilization* series is a long running series of real-time strategy games. For the first game, see *Sid Meier's Civilization*, MPS Labs (MicroProse 1991). For the most recent major release, see *Civilization V*, Firaxis Games (2K Games, 2010).
11. Alexander Galloway, "Allegories of Control" in *Gaming*, 91.
12. Ibid., 87.
13. Ibid., 91 (emphasis in original).
14. See Stuart Hall, "Encoding/Decoding" in *Media Studies: A Reader*, eds. Paul Marris and Sue Thornham (Edinburgh: Edinburgh University Press, 1996), 41-49.
15. Alexander Galloway, "Allegories of Control" in *Gaming*, 92 (emphasis in original).
16. Ibid., 87.
17. Ibid.
18. *The Legend of Zelda: A Link to the Past*, Nintendo EAD (Nintendo, 1991).
19. Arjun Appadurai, "Disjuncture and Difference in Global Cultural Economy," *Theory, Culture & Society* 7, no. 2 (June 1990): 295-310.
20. Ibid., 306.
21. Ibid., 307.
22. Ibid., 307.
23. Ibid.
24. Ibid.
25. Tiziana Terranova, "Free Labor: Producing Culture for the Digital Economy," in *Social Text* 63, vol. 18, no. 2 (2000): 33-58.
26. Appadurai, "Disjuncture and Difference in Global Cultural Economy," 308.
27. Ibid.
28. *BioShock*, dir. Ken Levine, 2K Boston and 2K Australia (2K Games, 2007).

29. Wendy Chun, "Conclusion: In Medias Res" in *Programmed Visions*, 175-178.

30. *Ibid.*, 178.

31. *Flower*, Thatgamecompany (Sony Computer Entertainment 2009).

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