FORECLOSING POSSIBILITY IN VIRTUAL WORLDS:

AN EXPLORATION OF LANGUAGE, SPACE, AND

BODIES IN THE SIMULATION OF GENDER

AND *MINECRAFT*

by

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THESIS ABSTRACT

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This thesis is a textual analysis and discourse analysis that examines the social and programmatic construction of the videogame *Minecraft* by interrogating how code, design, and fan modifications limit and facilitate play in and outside the game. This thesis will argue that the constitution of gender—and subjectivity, more broadly—is reflected in the language, space, and bodies that shape the boundaries of the virtual world. What makes a player "cyborgian" when they embody a virtual avatar may have less to do the abstraction of agency into a computerized self and more to do with the way in which humans create and maintain conduits to exist between worlds that are both digital and material.

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For David, who inspired this thesis. I will miss him.

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CHAPTER I

INTRODUCTION

Born into a lower middle-class, white family in 1989, I was one of the privileged children completely taken aback when my parents purchased a Nintendo 64 console in 1998 for my siblings and me to share. I remember that we had three games that we could play: *Jeopardy!* (GameTek, 1998), *Madden NFL 99* (EA Sports, 1998), and *Mario Kart 64* (Nintendo, 1997)—we played them constantly (despite never being able to end with a positive score in *Jeopardy!*), and I've been fascinated and engaged with videogames ever since. My first experience within a massively multiplayer online role-playing game (MMORPG) was sometime in the mid-2000s when a girl friend invited me over to play *EverQuest* (Sony Online Entertainment, 1999). In the late-2000s I played *World of Warcraft* (Blizzard Entertainment, 2004) for a short time. None of these game, though, really prepared me for the experience of playing *Minecraft* (Mojang, 2011). While other games had, perhaps, more aesthetically pleasing and realistic graphics, none paralleled the range and ease of motion I had in my first few moments of playing the game. If you don't play many games, or you have never played *Minecraft,* it is difficult to capture for you the phenomenological experience of virtual world play using the vocabulary of other media objects.

Virtual worlds promise to manifest a place. The nature, organization, aesthetic and design of that space will reflect a particular way of thinking unique to the designer; but, when a player enters the virtual world, they know very little about those qualities. A virtual world becomes familiar through a process of acculturation and movement. Moving, or trying to move, can teach a player a lot about what is valued, what is expected, and what is power. Perhaps any geographer or architect will affirm that the shape, material, and boundaries of a space are just a few of the elements that manipulate and encode human behavior with meaning—and the same can be said about algorithmic and programmatic structures that translate computer mouse movement into a walking avatar. Social behavior can also be shaped recursively in a space; players themselves can

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elaborate upon the structure in the production of culture. Anything is theoretically possible with a computer programming language, and so the design of a virtual world—unlike the design of other cultural forms related to art and entertainment—has the potential to offer players and designers unique dimensions of experience and expression that are multiplicitous and plural.

For a media user, the level and depth of engagement with and within a virtual world extends beyond what other media objects can afford. Where other communication mediums—television, film, radio, print—are typically designed as a unidirectional, consumptive experience for a perceived audience, videogames/virtual world simulations are more commonly mutable and recursively produced by/with a user/player.[1] As Humphreys points out, "[videogames are] a bodily performance of the game action, which creates a much more powerful connection between the narrative and player and perhaps reopens arguments concerning the function of narratives to shape reality" (2012, p. 202). For Bogost, computer hardware, software, and videogames engage uniquely with users, shaping experience within the purview of *procedural rhetoric*, a persuasive form of argumentation that en/codes human behavior and experience (2007, p. 27). Players necessarily "engage with technologies that enable and constrain certain forms of experience, and change not only what and how they play but also how they interact with others as they become more competent at a particular game or genre" (Jenson & de Castell, 2010, p. 61). Within media and game studies, videogames/virtual world simulations are typically understood as uniquely "interactive" with users in ways that other mediums cannot engage; "interactivity" is commonly used to frame why and how something is "fun" and/or "playful," and it always describes the medium as providing or permitting *agency* to users (cf. Squire, 2006). As a conceptual tool for understanding how experiences are produced with and within videogames, "interactivity" allows for a disambiguation of "play" into logical, rudimentary experiences, where "the virtual world must respond to the user's actions" (Ryan, 1999, p. 121). Other mediums are not similarly responsive, and so computers, software, and videogames provide media scholars with an opportunity to study the relationship between humans and responsive texts, simulations,

and systems. Theoretically, these responsive media are *new media* objects; Castronova argues that they are a technology in and of themselves, characteristically vehicular environments that transport people into a collective fantasy existence (2007, p. 5). As new media objects, virtual worlds are representatively numerical, modular, and variable; and, they do tend to reconstitute culture in the process of "computerizing" familiar aspects of the real world (cf. Manovich, 2002). As objects, virtual worlds are idealized as separate entities to the real one; and similarly, virtual identities are naturalized as fragmented and only loosely connected to the material body. Really—so the logic goes— these worlds are simply containers that shape and organize human experience; ultimately, they can be reduced to algorithms and mathematical abstractions that have been orchestrated for affect. Within this operational paradigm, the virtual world is rendered as a discrete object that borrows from the real world, but that does not reflect back into the cultural system from whence it came. Unfortunately, I have found these rational and logical articulations of what virtual worlds *are* to be insufficiently explanatory when I reflect on my own experiences and relationships to videogames.

For me, present theories within media and games studies insufficiently account for phenomenological experiences shaped by the ways in which virtual world software programs organize and represent language, space, and bodies for players, game designers, and *themselves*. There is not, presently, a method or methodology that both situates players and software programs in a productive relationship that is horizontal and symbiotic within the virtual world, and teases out how players and software programs co-arbitrate the play experiences of other players in multiplayer situations. This thesis serves to rethink the relationship between a player and a virtual world as co-productive and co-arbitrative in the facilitation and production of human experiences. This is a political intervention as much as it is a theoretical one. Videogames and virtual worlds offer communications scholars an opportunity to think about acts of communication as non-linear, not simply indirect. Rather than try to understand *what* a virtual world is, or necessarily *who* inhabits a virtual world, I want to turn attention to the boundaries of these spaces to understand *what cannot* or *who cannot* exist within a virtual world by

virtue of design. How might different aspects of human experience concurrently, simultaneously, and multi-dimensionally facilitate communication between culture, media objects, and people? My study of *Minecraft* interrogates this question by exploring the constitution, construction, and communication of gender in and around the videogame/virtual world.

I have always been a feminine or feminized player within the male-dominated domain of videogame study and play, and so I am always centrally concerned with the co-*arbitrated* constitution of gender within virtual worlds because gender is not always co-*produced* by players. Designers refract gender politics through their games, and players must then embrace or struggle with those values. I abandon the use of "interactive" within this thesis because the term does not account for the ways in which players who engage with *Minecraft* also play a role in designing the range of responses and possibilities within the virtual world. Recognizing the *labor* that players and fans volunteer in the production and facilitation of playing and inhabiting within and outside *Minecraft* allows for a different political articulation of how subjectivity becomes defined within a multidimensional, networked system. Borrowing from my own phenomenological experiences engaged in the *Minecraft* universe, this thesis will argue that the constitution of gender—and subjectivity, more broadly—is reflected in the language, space, and bodies that shape the boundaries of the virtual world of *Minecraft* (Mojang, 2011). Inspired by the work of T.L. Taylor, Lisa Nakamura, Carol Stabile, María Lugones, and Donna Haraway this thesis will trouble theoretical notions of *where* the boundaries of the virtual world lie, and *how* recursive activity in and around the game generates normative cultural praxis. Building parallel to the work of Fron, Fullerton, Morie, & Pearce (2007) and their conceptualization of hegemonic play, this thesis is a textual analysis and discourse analysis that examines the social and programmatic construction of the game by interrogating how code, design, and fan modifications limit and facilitate play in the videogame *Minecraft*.

The first chapter will explore the method and methodology of simulating the virtual world of *Minecraft* and argue for an understanding of this constitution as a form of

governance that serves to arbitrate and mediate human interaction within and outside the videogame. To do so I will interrogate the parallels between philosophical notions of *rationalism* and the logic that renders the *object-oriented programming paradigm*. In the second chapter I conduct a textual analysis of *Minecraft* as an aesthetic space reminiscent of the American frontier. Spaces and aesthetics are highly contingent on an epistemological position; so, while there are other possible understandings of the gamespace, my analysis explores how these aesthetics might render possibilities of gender for a player who embodies a colonial subjectivity. In the third chapter I explore how gender is a site of contested meaning for players. From one ontological perspective, gender is representational; within another, performative. For me, this disagreement arises from age-old debates around how knowledge is produced, and so the third chapter explores how empirically-generated knowledge shapes the constitution of fandom in and outside the game. What makes a player "cyborgian" when they embody a virtual avatar may have less to do the abstraction of agency into a computerized self, and more to do with the way in which humans create and maintains conduits to exist between worlds that are both digital and material. In my conclusion I explore how virtuality bleeds into the "real" world in significant ways.

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[1] I use "videogame" interchangeably with "virtual world simulation" throughout this piece. I do not distinguish differences between these two conceived media objects because the distinctions are often rationalized within ludological understandings of what a "game" "is"—this is not a discussion I take up in the thesis.

CHAPTER II

LANGUAGE

Programming the virtual world

> *"The brain uses vast amounts of memory to create a model of the world.
> Everything you know and have learned is stored in this model. The brain
> uses this memory-based model to make continuous predictions of future
> events. It is the ability to make predictions about the future that is the crux
> of intelligence."*
> - Hawkins & Blakeslee (2004, p. 7)

If I stripped away the graphics that render *Minecraft* a recognizable world

simulation, I would be left with an archive of code that expresses a range of mathematical

potentiality, determined, in part, by the object-oriented paradigm. Mathematical models

drive simulations, and they are shaped by theory (cf. Winsberg, 2003). In this way, the

programming paradigm and programming language used to simulate *Minecraft* are both

methodological frameworks and practices that support the expression and form of

Minecraft as a supposed "world." In "the real world," (as we like to refer to it) method

and methodology are closely related to ideology, and "ideology" is then interpolated into

politics and governance. When people resist ideology in the real world, these acts are

commonly in pursuit of some notion of "freedom" and "liberty." In the digital world the

equivalent is permission. Terms of the permissiveness of mathematical potentiality—

what is and is not possible—govern expression and form, as well (cf. Chun, 2011).

Expression and *form* relate to *being* and *calling into being*, *input* and *output*. Expression

is related to both material embodiment and algorithmic process; it is a term used to

describe both the way a dancer *expresses* a human emotion, and how the patterned

arrangement of flower petals *expresses* a mathematical property. Form is a kind of

predetermined and politicized container for expression that shapes expression into

recursive patterns of meaning. Form orders expression. Expression disrupts form. The

body—not usually rendered at all in these conversations—is a conduit for, and source of,

both. Bodies are coded for environments; only particular bodies can survive within

particular environments. When our material bodies interface with technology in order to enter a digital world, our bodies are transcoded. We are recoded, in some sense, and abstracted into a form that is *less* than the "bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement" (Hume, 1739, p. 439). More specifically, we are transcribed into a body that was made to function "organically" within the machine it exists in. For Golumbia, computationalism is a belief in the ability for machines to fully embody human being, society, and politics (2009, p. 2). *Minecraft* does not, nor is intended to, represent that level of complexity; however, the simulation of human being, society, and politics necessarily abstracts those ideas into something "true" that the machine uses to simulate a virtual world experience. Using a machine to simulate a world is a method, the programming paradigm and language used are representative of a methodology, and the simulation itself is a constitution that geographically renders bodies, space, language, and logic within the virtual world.

Fundamentally, world building on a computer is a *process* that involves *organizing* digitized information and *abstracting* relationships into a code that can be read by a hardware machine. Computer processors come packaged with an instruction set —basically, a code that programmers use to interface with the hardware. On a macro scale, the modeling of a virtual world requires a computer programmer to write code that provokes the computer processor to run/execute a simulation of the mathematical models detailed by the program. On a more micro scale, there are, potentially, several layers of abstraction between the computer hardware and the simulation. This is because machines only respond to numerical input, and most programmers require (or prefer) a form of expression that more closely matches a language they use to understand the world they live in. It is this preference/necessity that distinguishes low-level programming languages and high-level programming languages. Low-level programming languages abstract very little (or nothing at all) from an instruction set, while high-level programming languages are designed to simplify and automate computational processes for particular tasks. High-level programming languages are easier for humans to use, but the subjective quality of

their architectural design has led to a proliferation of different languages for different processes (cf. Sammet, 1972). For the computer PC release, *Minecraft* was written in Java, a high-level programming language. Other iterations of the software were adapted from the Java language to other high-level programming languages, but for the purposes of my analysis I will only expand on the way the language of Java articulates *Minecraft* and the simulation of *Minecraft* re-articulates the structure inherent in the Java programming language.

OOP + Java

Object-oriented programming (OOP) *represents* all data, and ways of manipulating data, as units called "objects" that define related state and behavior. Objects are discrete; they can be edited or manipulated without affecting other objects. OOP then *organizes* all data into classes; classes can specify the attributes of particular objects; the processes that create objects within an application; or, they can delineate variations of larger classes. These basic concepts unify all the object-oriented programming languages —it's a kind of ontological framework for computers that dictates an architectural pattern. Broadly speaking, the OOP paradigm is efficient in terms of cost and time. Code is easily reused and shared (when standardized), and it is designed for modeling mechanistic simulations quickly. Though there are other aspects and characteristics of the OOP paradigm—encapsulation, inheritance, polymorphism, message passing, and garbage collection—that differentiate it from other programming paradigms, these characteristics ultimately serve the paradigm in representing and organizing data to makes it easier for computer programmers to simulate models.

Sun Microsystems, a computer electronics company founded by Stanford University graduate students, developed Java as a simulation language using the OOP paradigm in the early 1990s. Prior to Java, traditional languages limited programmers to the "do," "if," "start," "read," and "write" behaviors. As Kilgore, Healy, & Kleindorfer (1998) explore in a review of Java-based simulation, the Java language initially added to a programmer's behavioral vocabulary: create, queue, seize, delay, release. This new language allowed for multithreaded programming, which meant that entities within a

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model simulation could behave independently of other entities. Single-threaded programs can only execute one task at a time; so a programmer could create an entity (any object), but the program wouldn't be able to model the behavior of other entities at the same time. Kilgore et al., liken this execution style to a piece of music that is being conducted and played, one note at a time, by one person (2008, p. 1708). Multithreaded programming made it possible to simulate the performance of music by a multi-bodied orchestra with different people playing different instruments. This advent in simulation technology allowed for a wide variety of new kinds of computer-based experimentation, not just in the domain of game making—practitioners of science greatly benefited from the newfound ability to execute complex, controlled simulations (cf. Winsberg, 2006).

Helpful as this paradigm has been for science, humanities scholars have tended to extend the conditional logic of the machine into posthumanism, transmedia studies, ludology, network analysis, and "big data" studies where computer code is representatively neutral, and the *mechanics, narratives, aesthetics*—information—can be understood as rational, formal, and discrete (cf. Jenkins 2004; Mateas & Stern, 2006). For the work that ludologists and narratologists have done to expose the "textuality" of videogames (for example, the extent to which the "nomenclature and the structure of object-oriented programming (OOP) and could tentatively be labeled 'object-oriented narrative' (OON) construction"), there seems to be a tendency to theorize cyborgian experiences as helplessly trapped within recursive, ontological architectures that formally code human experience as "interactive" (cf. Werning, 2007).

To this end, Bogost developed the concept of *procedural rhetoric* to explain how, through a practice of movement in/engagement with a game space, players recreate logic embodied in videogame software (2007, p. 2). Later elaborating on this ontological frame, Bogost developed *unit operations* to explain how, "any medium—poetic, literary, cinematic, computational—can be read as a configurative system, an arrangement of discrete, interlocking units of expressive meaning" (2008, p. ix). But *who* is moving? Why? To where? It would seem that the project of demarcating language, in order to represent and organize universal human experiences with regards to technology, relies on

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unspoken assumptions about subjectivity. As Mol explores in tracing the subjectivity of apples and apple-eaters, there is more to be observed in decentering subjectivity than trying to fix it; understanding the boundaries of a subject as always *semi-permeable* allows for a practice of theory that accounts for *meaning* as constituted by the physical, social, and historical (Mol, 2008).

Coded codes that code ontological being: Cultural and technical limitations of Java as a virtual world simulator

The performance of music as a metaphor for executing a program is a little reductive, but it also helps to think about the ways in which an orchestra and music are also laden with other codes and values not explicitly marked on a sheet of music. As products of human design, high-level programing languages are influenced by what Flanagin, Flanagin, & Flanagin call "technical code" (2010). Technical code describes the economic and social interests, values and assumptions inherent in designed technologies that may be obscured (cf. Flanagin et al., 2010). The "emergence" of technical code came about in a study of the internet's "openness" and laws written by the United States government; it limits how, where, and what social values are expressly permissible, which often creates tension with the technical limitations of what can be done (Flanagin et al., 2010). This kind of code is reminiscent of the "technology" that Lessig describes as constitutive of the environment in "cyberspace;" however, technical code is not representative of space (2006, p. 15). Technical code is a governing paradigm that determines which language a program is expressed in; which features are implemented; and, which bodies are assumed as users. Flanagin et al. and Lessig discuss code as a governing structure for the bodies that interface with the computer, but neither extend this analysis into understanding how the programming paradigm of code is an abstracted form of governance that mediates what the user and programmer can do with the computer processing hardware.

Excavating the software from the programming paradigm and programming language reveals ontological properties that would otherwise remain obscured by an analysis of aesthetics or materialism (e.g., textual analysis of videogame as exemplary of

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genre; philosophical examination of videogame controller as text). The process of understanding these aspects of software as governing is, in some sense, a sketching of the informational milieu that is always, necessarily, multidimensional. I want to adapt Terranova's understanding of information (characteristically as both the content of communication and "less than material") to a paradigm that understands "it" as characteristically either *expression* or *form* (2004, p. 6). This adaptation allows for the sketching of both a material and immaterial geography that accounts for the machine and the limitations of a machine; understanding information this way allows for an understanding of both expression and form that both shape and are shaped recursively, in multiple dimensions, in a computer software program. Simulating *Minecraft* without a player in it, for example, would produce a very different milieu of information. Changing that milieu by accounting for the body of a player (a) requires that the input of the player be abstracted into information that can be expressed within the simulation; (b) provokes different events and occurrences within the simulation that are triggered by a variable actant; and, (c) extends, as a consequence of abstracting human subjectivity, the simulation model to a virtual dimension that only the player has access to. While the first two points are rather self-explanatory, the third is worth interrogating further: what is going on when a person interfaces with a machine?[1]

To the machine, a player is only represented and organized within the formal perimeters of the avatar. The avatar is both a variable and a known; in *Minecraft*, for example, my avatar is bound to certain movements and expressions. The computer "knows" how to simulate my avatar moving through space. The computer also knows what to do to my avatar when I have no expectation of consequence. It is possible to "fall out" of the virtual world in *Minecraft*, and while *I* may not have any idea of what should happen when my avatar falls off of the plane of existence, the game knows to eventually kill my avatar when it falls outside specific perimeters.

What happens to me, though, on the other side of the interface, when my avatar dies? The computer may not maintain *memory* of the incident, but I sure will. I will both remember the fact that I died, and I'll remember that I *felt* something when my avatar

died—happiness, joy, amusement, angst, horror, etc. It would be reductive to suggest that this relationship between me and the simulated space is one that doesn't affect what is being simulated; it does. In constructing the computer simulation, the game designer depends on (usually) being able to predict my/my avatar's engagement with the environment. My memory serves as a kind of metadata that is always assumed, but never measured or tracked, by the computer simulation. This assumed, but seldom acknowledged, relationship between the game designer, the machine, the avatar, and the player recursively shapes the design and contents of the simulation (cf. Apperley, 2013 for an analysis of simulated bodies, glitch aesthetics, and videogame technologies). Swink (2009) circles around this concept by interrogating the phenomenological experience of "game feel." For Swink, "game feel" is abstractable into theoretical models that relate channels of feedback between a player's body and their interface; I don't want to, though, foreclose the possibility that the virtual world experience that only a player can experience in interfacing with the machine is one that cannot be described or fully communicated by that person. It may not matter *what* is happening when a player engages with an interface, but it is possible to extrapolate with some certainty what *cannot* happen in the transcription of human experience to computer simulation. For me, this is why articulating information as either expression or form is useful; it doesn't foreclose the possibility that there *are* experiences that computers *cannot* simulate. That the relationship between a human being and their avatar is not limited to what is represented in a computer simulation; that relationship extends into and affects the day-to-day experience a person embodies. Ontologically, this understanding of information as expression and form also complements the construction of the posthuman, wherein the body is computerizable and entirely informational (cf. Hayles, 1999). However; it stops at making the claim that all aspects of the human—social, cultural, biological—are computerizable (cf. Golumbia, 2009). In sketching the relationship between meaning and information, Terranova describes information as doubly articulated in a cultural milieu where, "information flows displace the question of linguistic representation and cultural identity from the centre of cultural struggle in favour of a problematic of mutations and

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movement within immersive and multidimensional informational topologies" (2004, p. 10). To the extent to which posthumanism collapses the informational and cultural milieus within the software program, posthumanist understandings of information help to sketch the geographical architecture that sutures the mathematical model simulation to the machine hardware.

As method/ology for world-building, OOP and Java borrow from the old philosophical paradigm of rationalism. Rationalism understands reason and truth to be evident within the construction of a reality that has a logical structure; OOP and Java simulate a virtual reality similarly (cf. Golumbia, 2009, p. 14). Consider, for example, that throughout the history of *Minecraft*'s development, the existence of "bugs" has always referred to "bugs in the system;" a way of understanding *glitches* as *antithetical* to the *intended* projection of reality in the game. As I explore in later chapters, the struggle over gender inclusivity was technically reconciled in the categorization of the player character as "genderless"—again, a form of truth predicated on the superior validity of the simulation logic over the empirical experiences of players who requested a formal "female" category for their player character (cf. Persson, 2012a). More than an ontology that dictates which categories that can and cannot exist, the OOP paradigm requires the naming of a category in order for it to be called into being. Programmers do have some control over the variability of a world at the moment of its conception, and players do have control over manipulating the environment; however, the program itself cannot create some new entity by mutating objects within the asset library. While programmers obviously do not foresee all possible phenomenological experiences within their programs, there are possibilities foreclosed when a player is characteristically designed as discretely separate from the virtual world in which they play. These possibilities are related to the way the computer processor "knows" bodies/objects within the simulation.

All dynamic and moving bodies/objects in the world of *Minecraft* exist as *entities*; entities are classed and propertied, and their relationship to other entities is defined within the simulation by the computer programmer/computer code. These relationships are possibly multiplicitous—one-to-one, one-to-many, many-to-one, and

many-to-many—however, entities themselves are not, in the same sense. For example, there is a character class in *Minecraft* called the Villager—it is a subclass of the Mob entity. "Mobs" (short, in part, for "mobile") are moving, non-player characters that look like monsters, farm animals, or humanoids in the simulated world. As a kind of sub-class, the Villager represents a state of being that is not itself a unique identity. Each variation on the Villager class is represented as differently themed villagers that sell different in-game objects to the player character. All Mobs, however, functionally serve as vending machines for the player character. They walk about aimlessly; they make unintelligible noises; they form no relationships with each other or other mobs in the game. While they may play as an instrument within the orchestra, so to speak, the Villager never behaves outside the "reasoned" parameter of its existence by design. The programming language can only regulate permissive behaviors within a boolean yes/no paradigm; and, working within this operative paradigm provides a level of control a game designer requires to reproduce affective experiences. When game designers don't have control over affect, the consequence can be unintentionally negative for the player.

When Endermen (classification: subclass of Mob entity) were first introduced as a non-playable character class, they had the ability to move all kinds of blocks that existed in the game. As a function of their character, they were also aesthetically designed to scare players (Persson, 2011a). More terrifying for players, though, was the fact that this new Mob could disturb the placement of their blocks—their homes. Less than two months passed before the lead game designer at the time, Markus Alexej "Notch" Persson, announced on Twitter that he would be "nerfing" (or dramatically "softening" the characteristic difficulty of an aspect of the game) the block-moving mechanic (2011b). Moving blocks, it turned out, was "a horrible idea" and "annoying"— presumably because Mobs within *Minecraft* disrupted what players perceived to be "reasonable" behavior (Persson, 2011b; Persson, 2011c). Within this informational milieu, so to speak, the unpredictable behavior was not harmonious with other tasks and behaviors players were familiar with; the simulation was, in some sense, out of control.

Wrangling the frontier and its subjects

Characteristically, model simulations are an expression of control over mathematical potentiality. As a method/ology, the OOP paradigm and Java language abstract control by modulating all levels of possibility. While information itself is multidimensional and inherently capable of dynamic transformation (cf. Terranova, 2004), expression within the simulation can only happen within a modulated form. All entities are rendered independently so that both the program and the programmer can control the simulation; together they empower and erase material bodies, simultaneously, in and around the simulation. The programming architecture and language—that which constitutes the code—stand in for the programmer; the programmer tries to account for the body of the player by generating an avatar body and control scheme—together, the hardware and software formalize parameters of the videogame interface. Formal design schemes seek to minimize variation within the simulation; in constituting an informational milieu that erases material bodies, the hardware/software, programmer/code produce a subjectivity that mimics what the computer hardware *is*. Without an interface that emulates the range of potential expression our bodies have, the posthuman is able to approach the material limits of a rational, logical, fully-computerized self.

If there are, necessarily, sites of contestation within a governing system, then the software situates the site of tension and contestation in subjectivity—not just in the movement of the player (i.e., the input fed into the program) but also in the constitution of the entity in the simulation. Form reconciles dimensions of disorder, variability, and mutation that are introduced into the simulation by organic bodies. Perhaps, then, it is only natural that one of the strongest sites of contestation within the game and larger community is in representations of the self—of gender, specifically. Where the programming language and the game designer, concurrently, collaborate in the territorialization of the bounded virtual self, alterity manifests itself in gendered bodies that players themselves modify within the program. Within the paradigm of rationalism, and within the program itself, gender can only exist referentially — as representative of another entity, another discrete form of the self. While this understanding of gender contradicts more recent scholarship on gender as performative, especially within virtual

worlds, it is the only way that a program interface can *organize* and *represent* gender (cf. Schilt & Westbrook, 2009; Stabile, 2013). Within this operative paradigm, empirical knowledge about the body is not constituted or recognized within the program as such; the phenomenological experience of playing is "simulated" elsewhere, in and through the player, and outside of the game.

People—real people—don't fit well within the formal framework of a virtual world simulation like *Minecraft*. In continuing to sketch the boundaries of the virtual world, I am necessarily moved to explore the empirical, embodied, phenomenological experiences that players *expressly* have, but that are not explicable within the software program itself. If the virtual world was contained within the boundaries of rational logic that shape the simulation, the ephemeral wants and desires of players would be—could be —discretely encoded within the program itself. In my study of social discourses within and around *Minecraft,* however, the range of possibility is magnitudes greater than that which is written by and within the code. Meaning, and how players map it onto and into the game, seems to take a kind of viral expression; meaning constantly mutates from site to site—yes, the number of possible sites that constitute the *Minecraft* universe are multiple. The game is not one world; it is many, and it exists on hundreds of thousands of computer hard drives and servers all over the world. Each world that a player can access is coded—not simply with technical code and executable code, but cultural codes.[2] Meaning is slippery; meaning is vague and unbounded. Meaning renders the game space —in its logical, rational form—porous. Meaning is a property of the activity that players engage in and engage with; meaning shapes the relationships between culture, power, and communication that open an informational milieu to the potential for political change (Terranova, 2004, p. 9). For Terranova, the meaning of information is recursively produced within "informational cultures;"

> "within informational cultures, communication is crucially concerned with the problem of noise and contact; that the cultural politics of information are not only about privacy, property and copyright, but also open up the question of the *virtual*, that is the relation between the given and the (allegedly) unlikely; that information flows displace the question of linguistic representation and cultural identity from the centre of cultural

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struggle in favour of a problematic of mutations and movement within immersive and multidimensional informational topologies" (2004, p. 9-10, original emphasis maintained).

These topologies are geographically dispersed on the internet, maintained personally in private worlds, and contested social sites. Informational cultures grow and manifest atop the formal structure, but not unpredictably; the design of the videogame—the informational milieu—is often meticulous. Game design is a science that seeks to order human behavior in and around a perceived space. Game designers can, and do, take great care in crafting an aesthetic environment that compliments the logistical one, and often to great affect. For Notch, at least, the shaping of informational cultures and informational milieus is not expressly understood in such political terms;

> "Back before anyone knew who I was, I used to wanted [sic] to make huge games. Games where you can do anything, and everything you see in the game is there for a reason in the game. No fake doors that don't lead anywhere, no trees you can't cut down, and no made up story being told to the player to motivate them. Instead, the player would make their own story, and interact with the game world, decide for themselves what they want to do" (Persson, 2013).

This bears keeping in mind as I conclude this chapter on simulating virtual worlds; as method/ology for expressing a game world, the programing paradigm and language used have as much control as the designer in deciding what a player can do (and be). Language (along with *space* and *bodies*) is one of the conceptual pillars that plays a significant role in constructing a virtual world. Understanding the ontological limitations of the language used to create that space is one way to examine the first level of abstraction that happens when a person moves to communicate the constitution of their world to another person. As I intend to demonstrate in the next chapter, space is similarly constitutive.

> *"I thought only of the Earth. It was the Earth that caused each of us to be that someone he was rather than someone else; up there, wrested from the Earth, it was as if I were no longer that I, nor she that She, for me. I was eager to return to the Earth, and I trembled at the fear of having lost it. The fulfillment of my dream of love had lasted only that instant when we had been united, spinning between Earth and Moon; torn from its earthly*

soil, my love now knew only the heart-rending nostalgia for what it
lacked: a where, a surrounding, a before, an after."
  - "The Distance of the Moon" (Calvino, 1968).

Notes

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[1] See Keogh (2014) for a detailed exploration of how game studies scholars have thus far situated the body of the player. The thrust of Keogh's argument is ultimately a call for incorporating phenomenological experiences as part of the study of videogames. What Keogh doesn't address in their article is how scholars should account for subjectivity; my argument bridges this call with Mol's understanding of subjectivity as something that requires carefully cultivated words.

[2] See Cohn (1987) for a beautiful exploration of the way language can shape situated knowledge. Where Cohn explores how the coded language within social and scientific circles working in and around nuclear warfare technologies, I think a similar study of virtual world simulation could be conducted to better understand how game designers frame the constitution of their game worlds using language provided to them by the programming language and programming paradigm.

CHAPTER III

SPACE

Shaping spaces, shaping bodies

In the previous chapter I explored how a programming language and a programming paradigm support *Minecraft* (Mojang, 2011) as a computer simulation; now, let's layer graphics back onto the logical (not logic) architecture of *Minecraft*. While visual representations are open to interpretation for players and non-players alike, there are theoretical standpoints from which epistemological/ontological meaning can orchestrate notions of "reasonable" subjectivity; certainly, the process of localizing videogames signals that at least some game designers are aware that meaning associated with visual graphics is socially and historically contingent (cf. Consalvo, 2006). Graphics by themselves don't dictate who does and doesn't get to be a person, but graphics are part of a larger system that constitutes who a "reasonable" person is and what that person can/ should do. In *Minecraft,* aesthetics can take on their own meanings in a wide variety of contexts, especially given the many dimensions of play that users have access to. In addition to simulating a fantasy survival game type, *Minecraft* is also an incredibly powerful platform for players to craft art, mini-games, models, experiments, societies, and other creative endeavors. Both a sandbox[1] and a sculpting instrument, *Minecraft* grants players an impressive amount of permission to do as they like with the program. There are, for example, no elaborate quests to complete or explicit instructions on how to play. In *Minecraft*, every player begins their adventure in the middle of a vast and unending wilderness.[2] The world exists as a crude, blocky caricature of Earth; everything from seas to deserts, plains to jungles, and more, are traversable, exploitable, harvestable, and habitable. In single-player mode, the worlds in *Minecraft* are empty frontiers on which players colonize and explore in solitude for sport. There are creatures and monsters to kill, landscapes to shape, and materials to craft—all in the name of survival, if survival is the game you want to play.

Interrogating how the Survival game mode requires a textual reading of the art and aesthetics that serve as geography for mutable play styles. Visual representations of

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the real world inform the design of coded barriers in the virtual world, and so an interrogation of space is necessarily one that incorporates textual analysis. Space allows for movement, and thinking through the relationship between aesthetics and behavior allows for a critical engagement with geography that accounts for embodied practices and attitudes—codes—that players bring with them into the virtual world (cf. Hayot & Wesp, 2009). In their overview of analytic methods for text, Van Zoonen emphasizes that, while a form of power both in product and process, dominant discourse "is not monolithic and impervious, but produces its own opposition and is open to negotiation" (1994, p. 39). Discourses always necessarily relate to language, and so dominant codes within a computer simulated virtual world can be constituted by (a) programming language, (b) aesthetic/visual language, (c) behavioral language. Wherein the last chapter I explored how rationalism can usefully map onto the structure and organization of a programming language, in this chapter I want to interrogate how an aesthetic code could be mapped onto the *Minecraft* landscape to better understand how social groups might organize and represent themselves in "survival" settings. In particular, I want to better understand how different geographies of/in *Minecraft* co-constitute the construction, maintenance, and contestation of gender.

I am certainly not the first to explore a videogame in this way; King and Leonard (2010) use geography as a means for exploring how virtual worlds borrow from and reinscribe boundaries policed by the military-entertainment-education complex. Bertozzi (2012) uses the metaphor of playground to map the various territorial/masculine aspects of masculinity/territory within *Grand Theft Auto IV* (Rockstar Games, 2008). Humphreys (2012) argues for a reading of *Red Dead Redemption* (Rockstar Games, 2010) wherein multiple aspects of the game are always articulating frontier ideologies. In studies like these, the subject is generally abstracted but always has a character profile that extends the landscape that the user/player interfaces with to a perceived self. There is no such character drawing for *Minecraft* players; players have a great deal more permission to tell their own stories, stylize their own avatars, and moderate their own independent or federated communities. Still, as Malaby's study of *Second Life* and Linden Labs

demonstrates, the structure of a videogame legitimates contingent ways of being and doing that is architected with particular values and assumptions in mind (2009, p. 13). Histories that shape a expectations for activity and space are inseparable from those people and those cultures that have gender. For example, in reflecting on observations of how children learn to use computers, McDermott and Varenne ask:

> When is gender anyway? On what grounds can any piece of behavior be called gendered, with those who help, by way of what interpretive categories, and in what contexts applied? The cultural question is not what do boys and girls do, but *when are the categories of male and female made relevant, in what circumstances, by virtue of what work?* (2006, p. 20; original emphasis maintained).

In virtual worlds, where contextual circumstances (i.e., narrative, setting, etc.) are frequently borrowed from mainstream cultures and sites, the virtue of *work* is an intensely value-laden, contingent category. Valued activities that are framed as leisure and relaxation contrast other activities or experiences as distinctly "not fun" or not "part of the game." As Squire points out: "games focus our attention and mold our experience of what is important in a world and what is to be ignored" (2006, p. 21-22). The patterned distinctions of "fun" as congruent with acting and "not fun" as congruent with being acted upon, "hardcore" games as masculine and "casual" games as feminine, highlight the ways in which "play" can engender gendered ideals of masculinity and femininity in particular cultural contexts (Anable, 2013; Vanderhoef, 2013). It is in this notion of *work* and how players *do work* where a player finds agency, purpose, motivation—it is necessarily through work that players develop a relationship with the world around them. For some—particularly those who are characteristically like me—the relationship between work and land is predetermined by other social codes before a player launches the game.

Minecraft as a Vehicle for the American Frontier Myth

Procedural generation may allow for more than 18 quintillion possible *Minecraft* worlds and provide players with a diverse matrix of blocks, textures, creatures, and environmental elements; but the basic actions that many players perform remain relatively limited.[3] Players punch, place, and destroy both blocks and mobs in the service

of dominating their environment without the aid of other players or non-player characters (NPCs). By hunting, mining, pioneering, railroading, crafting, and farming, players find individualized solutions for the problems all must inevitably solve—feeding, protecting, and arming oneself. A player may kill or ignore mob enemies, for example, but players cannot communicate meaningfully with them.[4] The player character is designed to always be capable of killing mob enemies, but it must scavenge for and harvest resources from the land and underground in order to protect itself—functionally, there are no other ways to survive in *Minecraft*. Cook argues that games are "simulations that facilitate and encourage a user to explore and learn the properties of their possibility space through the use of feedback mechanisms" (2006). Simulations do not exist in cultural vacuums, and their design—on mechanical and aesthetic levels—invites different interpretations from different cultural standpoints. From a Western perspective, the design of vanilla *Minecraft* distinctly privileges ways of doing and being that compliment the Western Frontier Myth.[5] This resonance is significant for its ubiquity in American culture: Americans, whether they are formally aware of the Myth are not, are conditioned by symbols that evoke it.

The Myth suggests and signifies a "formative experience" on an ever-fluid landscape that constitutes an imaginary "wilderness" (Stoeltje, 1987, p. 250; Slotkin, 1998, p. 11). It is a self-legitimizing logic that frames the wilderness as a frontier that the individual is charged with colonizing. In *Minecraft*, the player character literally spawns on the grounds of an imaginary and abstract wilderness that has been designed for colonization and exploration—there is no one else to care for and there is little else to do. The constantly evolving nature of the game design and development process privileges players who are comfortable with a nomadic play style or who have a detached relationship with their colonies and homesteads. Unconventional in respect to all other videogames, *Minecraft* has always been in some stage of development.[6] Even today, two years after the "official" release of the game, Mojang continues to publish updates that alter the mechanics and asset library in the game, which often necessitates that players abandon old world files and start completely over. The burden to modify and preserve

persistent civilizations falls on server administrators, though there is little that motivates this labor outside of nostalgia.

This system, this play space, doesn't explicitly reward players who form an emotional attachment with the landscape or the mobs on it. Mobs in *Minecraft* are not designed to be your friends; other players are supposed to offer friendship—they are the ones who are detached from the landscape and never in danger of being accidentally deleted. This isn't to say that players do not form unique relationships with mobs— certainly, some have pets and pen monsters—but there are no consequences for killing pets. Although players may constitute their own codes of conduct and forms of governance, these civil acts are tenuous. *Minecraft* doesn't evolve with players as they construct frameworks for civilization. Rather, it provides a limbic space where the individual can act and think in ways that would otherwise threaten the stability of a society (Slotkin, 1998, p. 12). Charged with actualizing or expanding the borders of civility and order, the individual is their own governing body: this person is a cowboy, a ranger, a lone gunman, a gold digger. As a consequence to the perpetual, physical struggle that maims the Cowboy or the Cowboy's enemies, an "infinite distance" exists between colonization and civilization (Césaire, 1972).

On the frontier, individualism abounds. The myth demands that the individual care for and prioritize their needs over the needs of others. In caring for oneself, the Myth suggests that—by design—killing and colonizing are mechanisms that regenerate the spirit of the individual (Slotkin, 1998, p. 12). This process of *regeneration through violence* necessitates the "othering" of subjects and the extermination of the unequal (Slotkin, 1998, p. 12). In *Minecraft,* the only one who can starve is the player character. Players can easily exploit the lives of other entities by farming them as resources (villagers, sheep, pigs, cows, chickens); killing or scaring enemies (dogs, cats); or, as a means of transportation (horses, mules, donkeys, and pigs).[7] Playing *Minecraft* as a pacifist vegetarian is technically possible, but the game design generally rewards those players who murder animals for meat (e.g., meat staves off starvation longer than vegetables and bread)—put another way, players are rewarded for treating the landscape

and everything on it as a resource ripe for harvesting by way of violent domination -- punching, stabbing, shooting, etc. Players are not encouraged to think negatively about their behavior; the animation for death is particularly benign—the virtual body simply vanishes. Nor are players conditioned to feel particularly threatened on the frontier that they spawn, the Overworld. In order to encounter entities that might overwhelm the player character in combat, that player needs to travel to the Nether—an alternate, fiery dimension made to resemble a hellish landscape.

Players construct portals to the Nether—doorways framed with hard, stone material that activate when struck with the fire made from flint and steel. An active portal is basically a frame with purple, transparent planes of vortex-animated, magical blocks. Portals emit purple particles and noise that resembles distorted harpsicord music mixed with bubbly sound effects. When a player walks into the frame, their interface screen dissolves—presumably to simulate the dissolution of their avatar in the Overworld—and they are transported to a parallel platform in the Nether. In all likelihood, players are surrounded by red-mottled Netherrack, a kind of stone block that is the second-most only to air blocks. Players are also surrounded by lava—a fluid in the game that is both deadly to players and destructive of their property—whether they can see it or not. The mobs that spawn in the Nether are also very antagonistic; if they are not outright hostile to a player, any act (no matter how accidental) of hostility on a mob will provoke them into a terrifyingly violent frenzy. Pigmen and Baby Pigmen, for example, otherwise peaceful creatures, become incredibly powerful and aggressive enemies when provoked by the player character. Like every other mob, they wander around aimlessly and without particular purpose. Pigmen and Baby Pigmen drop "loot" when they die, but nothing that the player character cannot find elsewhere and by other means. Perhaps unsurprisingly, players often travel through the Nether with some sense of trepidation because they are made to be and feel very vulnerable—death in the Nether is almost a certain forfeit of items in a player's inventory. Taken together, the Nether is reminiscent of the Hell used in stories that emulate the frontier myth. In earlier tellings of myth, authors formalized a captivity narrative to account for the colonial experience of Protestant-Christian settlers

(Slotkin, 1998, p. 14). In this iteration of the myth, white women or ministers—made to symbolize the values of Christianity and civilization—are captured by Indians, and Hell is a metaphorical device used to signal captivity and "a spiritual darkness;" put simply, the captivity narrative was a vehicle for American Christian mythology (Slotkin, 1973, p. 101; Slotkin, 1998, p. 14).

The Nether is not a place where players retell these types of stories, but the types of stories that can be told there can be understood (*organized* and *represented*) in these ways. There are rewards for players who travel to and return from the Nether; those might be aesthetically beautiful blocks that enable the player to represent different building materials, or they might constitute ingredients the player character needs in order to brew potions that allow for greater feats of strength, speed, health regeneration, and stealth. The Nether is also designed to facilitate travel between it and the Overworld; an odd property connects the two dimensions so that when a player travels one block in the Nether, they have traveled the equivalent of eight blocks in the Overworld. This design underscores the supposed utility of the Nether; not as a land to colonize in and of itself, but as a temporary space. Players must eventually return to the Overworld because is impossible for them to survive there without journeying back; nothing grows and players cannot transport water to Hell. As a mode for transportation, however the Nether provides players with a way of utilizing this space as a tool and controlling a landscape that might otherwise serve as a persistent, overwhelming threat.[8]

In the process of overcoming enemies and colonizing the land, the player character is elevated in their heroic status on the frontier. The land and trophy items that a player collects—diamond armor, Ghast tears, enchanted weapons, etc.—further serve to symbolize power, progress, and accomplishment. The relevance of these objects varies from server to server; on some servers players are encouraged to purchase equipment (e.g., armor, weapons, hats, capes) and special permissions (e.g., flying, community membership, property, improved text chat, etc.). On other servers, where players privilege a meritocracy, accomplishments may carry more social capital. Still, in both spaces and without regard for the value of the items in a purse, there exist in *Minecraft*

economies of power informed by game mechanics and assets that distinguish noobs from seasoned veterans. In Western culture, constitutions of subjectivity (i.e., who gets to be a citizen) are Eurocentric and privilege white, heterosexual, property-owning males (Escobar, 2008; Castro-Gòmez & Martin, 2002). In *Minecraft*, players can self-identify as part of the larger player collective by simply playing the game—subjectivity is predicated on *doing* more than anything else.[9]

In this way, the design of *Minecraft* does not draw relationships between gender and power; the game is not designed to privilege or restrict the bodily freedom of players based on a gendered class they may wear or adopt. However, the limitations of what all players can do in *Minecraft—*what designers choose to code—does reflect a bias that privileges a masculine constitution of subjectivity. For some time, feminists have drawn similarities between the symbolic characteristics of the "genderless" legal person —"rationality, autonomy, self-interest, objectivity, assertiveness, self-sufficiency, self-possession"—and masculinity (Hunter, 2013). It is no coincidence, they argue, that representations of the "reasonable" liberal citizen are men, and not wives or pregnant women (Hunter, 2013). The conflation of "reasonable" with "masculine" in the constitution of a legal person elides any consideration that social differences constitute different manifestations of rational thought and behavior. Similarly, the design of the game assumes that all *Minecraft* players want to engage actively and assume a dominant role at all times on the frontier—this does not include play that might require the player to assume a passive or subjugated role, and it creates an environment where only the "right" kinds of labor and work have value. In creating *Minecraft* subjects positioned within a homogenous constitution of the player character—as weapon-wielding, diamond-mining, meat-eating machines—game designers at Mojang marginalize players who want to find other ways of surviving, community building, and playing with mobs that don't align with the dominant paradigm. This value-laden framework of labor mirrors constitutions of the hero on the Western frontier.

Stories about the Western frontier seldom highlight the labor and lived experiences of women of color, white women, and men of color. Homogeneous

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constitutions of heroism timelessly measure protagonists against traditionally defined and arbitrary measures of masculinity. In *West of Everything: The Inner Life of Westerns*, Tompkins writes that most western tales define their actors on a sliding scale of masculinity:

> [Westerns] create a model for men who came of age in the twentieth century. The model was not for women but for men: Westerns insist on this point by emphasizing the importance of manhood as an ideal. It is not one ideal among many, it is the ideal, certainly the only one worth dying for. It doesn't matter whether a man is a sheriff or an outlaw, a rustler or a rancher, a cattleman or a sheepherder, a miner or a gambler. What matters is that he be a man (1992, p. 17–18).

In Westerns, masculinity serves as a literary device to constitute cultural attitudes toward socio-political ideas and ideals. Sexist attitudes are used to represent cultural discourses —presumably for audiences that would not be offended by the overt characterizations (Folsom, 1966, p. 88-90). In most westerns, idealized men are contrasted with materialistic women for rhetorical effect:

> Indeed, women are not absolutely necessary to the presentation of these two differing points of view, but the attitude which they are conventionally made to represent is required. The values represented by a stable society must in some way be introduced into any fictional exploration of the significance of the frontier, if only to throw into greater relief the contrasting values which the frontier represents (Folsom, 1966, p. 88-90).

In the saloons where women work they are seldom named or heard; their livelihoods and their stories are not represented nor reflected in western mythos (cf. Butler, 1985; Riley, 1988; Namias, 1993; Lewis, 2011). Instead, their bodies function as a reminder of what civilization has to offer cowboys after a period of wrangling on the frontier (Folsum, 1966). As much as men in Westerns are defined by what is in their pants, their performance of masculinity must align with socially constructed values and ideas of what a man *does*. Men are active, aggressive, calculating, dominant, unyielding; in contrast, the unmanly are passive, weak, submissive, careless—unsuited for, and vulnerable on, the frontier. As literary devices, the social relationship between men and women stratifies, and both identities are denied "true equality... regardless of sex or gender" (Murray, 1995). *Minecraft* may not come packaged with an explicit narrative, but

the game design sets a stage in a Western context for performances of gender that essentialize masculinity with activity and femininity with passivity; it is a virtual world where the nomination of princesses only comes when a women walks on stage, and men are not encouraged to volunteer (cf. Confortini, 2006). In *Minecraft*, players can empower themselves, but at the expense of degrading some other *doing*; some other way of playing or being that falls outside of what Notch's Steve would do.

In an analysis of Abigail Scott Dunaway's suffrage speeches between 1834–1915, Lewis discovered that Dunaway's empowerment of women on the Western frontier invariably came at the degradation of femininity and other marginalized identities (i.e. Native Americans and people of East-Asian lineage):

> As Duniway implied that only the women who could 'prove their manhood' had the right to political equality, she encouraged women desiring suffrage to become more like men and less like traditionally weak women (Lewis, 2011, p. 144).

Dressing women with masculinity as a means to escape a subordinate position may constitute the possibility of a "active" femininity, but this gendering—too—reifies the subordination of femininity to masculinity (Halberstam, 1998). Playing *Minecraft* does not empower femininity, it empowers women who reject traditional roles they might otherwise be assigned. This understanding of gender, performance, and difference does little to diffuse the danger of "coming out" as differently-gendered people IRL (cf. Sundén and Sveningsson, 2012; Stabile, 2013). In *Minecraft,* the genderless default serves as a mask to hide a person's "real world" self, and it offers players an opportunity to first prove their proficiency in privileged ways of playing the game. Eventually, though, many players must reveal various aspects of their identity to other players— through textual communication, voice-chat, or visual representation (cf. Chow, 1995).

Different codes for different people

In my time playing *Minecraft*, which began in January 2012, I have been privileged to see the game develop from its later stages of Beta to the game that it is today. I have been able to observe and experience first-hand what kinds of activities are valued in and around the game. Hunting, mining, railroading, and farming, for example,

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have been part of the architecture of the game since Alpha. The ability to name creatures and monsters, to write books, to wield magic—these activities came much later on in the development process. Although many players have enjoyed building houses and inventing various abstractions of home decor, the extent to which players can play house has been limited in the stock version of the game. In the unmodified version of Survival *Minecraft*, players aren't explicitly allowed to perform subservient or passive roles, if they are to role-play at all. Players cannot sit down (although players have revealed code in past iterations of the game that permit users to do so). Players cannot form or express formal, recognizable relationships with each other. Players do not raise mobs or otherwise form explicitly interpersonal relationships with in-game AI. The game interface does allow for players to communicate via text, but the stock version of the game is limited in comparison to other virtual world videogames. The ways in which players can perform and tell stories in the game is limited along these lines, lines that have traditionally distinguished the frontier from civilization.

Yet, at the same time, suggesting that there is even a single, resonate quality , theme, or myth that is communicated by a videogame ignores the ways in which our own lived, cultured minds filter our experiences in a virtual world. In terms of gender, even in a virtual world that doesn't acknowledge the concept, players cannot help but experience the virtual world through the eyes and mind of a gendered person—if that is the perspective they have as a human being in the real world. Moreover, Consalvo notes that "it is foolish if not dangerous to attempt to determine with any authority the 'essential' or 'fundamental' national qualities that may be found in individual games, and how these qualities are understood by players" (2006, p. 127). At best, this analysis of how expressive a player can be through a virtual world interface is limited to its own analytic framework that foregrounds and forecloses all possible subjective experiences. Whether or not players choose or happen to reconstitute social codes that reify principles of the myth is a different claim to be made all together.

Popular constructions of gender and sexuality in games certainly rely on aesthetic representations and virtual performances (i.e., looks and acts), but this contrasts with

lived experiences of gender and sexuality that demand a framing of these terms outside of an object-oriented, categorical model. In thinking about the range of possible experiences Western audiences have with virtual worlds like *Minecraft*, Bordo's exploration of the dualism between gender/sexuality and the body suggests that divorcing gender from the body is a fantasy seldom realized in Western culture (1993). Bordo argues that this is because, in the process of acculturating to Western philosophies and behaviors, people are exposed to powerful lessons that teach us to monitor both our own behaviors and the behaviors of others along the lines of gender, race, and social class (1993, p. 16). For the posthuman, it is unclear how this process would be differentiated; virtual world simulations are reducible as another conceptual structure where people are trained to think about what is and isn't "acceptable." Just as simulations organize and represent information, players experience the same process of organizing and representing their experience within ontological frameworks that map meaning onto/with language, spaces, and bodies. The ways in which "active" and "acting," "masculine" and "men" are commonly privileged in videogame design over "passive" and "being acted upon," and "feminine" and "woman," is, then, one way this analysis can be extended to understand the ways in which gender and labor—or "doing," more simply—in *Minecraft* reconstitutes a masculinist fantasy from a Western cultural perspective.

Notes

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[1] Sandbox games are characterized by open-ended, non-linear design that allow players to generate unique play styles, objectives, and narratives.

[2] When players assume the role of a player character in *Minecraft*, they are thrust into an implicitly whitewashed system. It is a limitation of this chapter that I do not analyze the relationships players with indigenous cultural backgrounds may have with this game.

[3] This figure borrows from the estimate number of possible seeds a user can spawn from procedural generation—it takes into account possible placements that the game will spawn "organically" (i.e., there are some blocks that will not spawn in certain areas of the game unless the code is modified to do so). Of course, there are other possible estimations. My favorite extrapolation on this thought exercise is detailed in a YouTube episode titled "How Many Minecraft Worlds Are There?" published on March 2, 2013 by Matt and Jord, users who publish content for the *Podcrash* YouTube channel. Their explanation figures that each possible permutation is dependent on the number of possible blocks placed in all possible spaces. Their first assumption is that blocks are independent of each other, meaning that a block with a door on it is not also a possible block with an open door on it—open doors are not a separate class of blocks to count. Assumption 2: Blocks do not affect other blocks. Assumption 3: the limit of space in all possible *Minecraft* worlds is $(59,999,999^2)*256$ blocks (which is then converted to $9.21*10^{17}$). Assumption 4: the total number of possible block configurations includes different orientations of blocks, which inflates the baseline 142 possible blocks to 653. They raise the number of possible blocks to the power of the number of total possible worlds (i.e., $653^{9.21*10^{17}}$), which totals a number greater than all particles in the observable universe.

[4] Players can technically "communicate" with Villagers in the game much in the same way that people "communicate" with ATM machines when they need money from a bank. This is a particularly disappointing element of Minecraft because the Enderman mobs repetitively recite distorted voice recordings of phrases such as "hi-ya," "hellow," and "what's up." Representing the Other on the frontier as a resource compliments the frontier myth framework. This is an extremely common convention of most other videogames that demands further analysis and research.

[5] To be absolutely clear, I realize that, as an open-ended platform, *Minecraft* can be redesigned to be many other kinds of games. I am very cognizant of the mini-games and adaptations that players have established on public servers; however, this analysis is intentionally limited to "vanilla" *Minecraft* because it is the most basic design that all adaptations ultimately spawn from. Players may modify the code in ways that convolute a simulation of the frontier myth, but these modifications do not significantly deviate or undermine philosophical and algorithmic superstructures that uphold the original design.

[6] Between the public release for PC and January 2014, Minecraft players have been offered 23 downloadable update packages, many of which required players to re-seed new maps. Players can copy certain configurations using specialized software, and sometimes merge old maps with new updates, but the game's interface does not allow for this level of manipulation with the game space. Many of these updates have added new content and architecture to the game, in addition to fixing bugs and enhancing already existing content. I wish I could append this paper with a second that explores this aspect of game play by itself.

[7] Villagers are a humanoid-like mob that players can encounter (they spawn randomly and can be difficult to find at times). Players can trade goods for other goods with them. However, in my experience of playing with other people, Villagers are similarly exploited so that players can acquire better trades. The algorithm that accounts for their number in the game is predicated on a number of doors in a given location and a number of already spawned Villagers (i.e., there can only be so many Villagers given a certain number of doors in a particular square area). In order for players to filter out "bad Villager trades," a player must set up a killing mechanism that systematically murders the Villager without taking direct damage from the player character. Commonly it means that Villagers are moved into minecarts and transported to a station that exposes them to lava. Like any other kind of coveted objects, some players make a game of amassing a population of Villagers that make good trades with the player character, but this process takes a fair amount of time, death, and luck to achieve. Along these same lines, some players collect name mobs and refer to them as "pets." However, no pet exists without some utility; even tamed cats serve to scare away Creepers, mobs that are known for sneaking up on the player character and exploding.

[8] There is, obviously, an analysis to be done on the religious symbology that skirts player activities in the Nether and Overworld, and how this symbolism may further compliment or play with Christian sensibilities.

[9] This isn't to say that Minecraft players celebrate each other for simply playing the game—what you do in the game does generate social capital, and capital is valuable. There's a whole separate chapter to follow up on this single branching idea; who is the community that influences *Minecraft* development? How is this community commodified on YouTube? How do economic realities in the real world privilege the Let's Play community—a group of people that require very expensive bundles of computer hardware and software, in addition to time with which to record, edit, and upload content?

CHAPTER IV

BODIES

In the previous two chapters I outlined ways of thinking about language and space that codify different ways of thinking about information as both expressive and formulaic. I have argued for an ontological framework for thinking about gender that situates a player's understanding and relationship to gender within a contested site of meaning. In this chapter I want to delve more deeply into the confluence of factors that play a role in troubling the representations of gender within *Minecraft* (Mojang, 2011). From my perspective, as both a player and a researcher, it is in the territorial arguing over what gender is/is not where the constitutive powers of the programming language/ paradigm and aesthetic geography become more readily transparent on a case by case basis. In a game that tries so explicitly to extend the subjective experience of players, *Minecraft* is a unique site for studying the different ontological frameworks that constitute gender because of its development history.

In the early stages of development Markus Alexej "Notch" Persson designed the game by himself, and he drew the default player avatar as a male with a goatee and jokingly referred to him as "Steve."[1] While the game was still in Alpha, Notch hired an independent artist, Hayden "Dock" Scott-Baron, to help him develop character models for the game. Older players might remember leaked art and fan videos depicting four possible character additions to the game: "Rana," "Black Steve," "Steve," and "Beast Boy." The initial design of these characters suggested that they would serve as "ragdoll" non-playable mob entities (i.e., friends, allies, or enemies), while simultaneously acknowledging the existence of femininity and blackness (e.g., Rana and Black Steve, respectively) in the *Minecraft* universe. Although the art assets were dropped after Dock's three-month stay with the project, their brief inclusion in the *Minecraft* source code inspired questions early on about the role of gender and character modeling in the *Minecraft* universe.[2] Namely, what role does "gender" serve on the game's frontier, if any?

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Sexing without sexuality

        Opting for a "genderless" design, *Minecraft* does not include feminized or feminine stock models for either playable or non-playable characters.[3] While the design of playable and non-playable characters in videogames has historically privileged white, heterosexual, masculine bodies, *Minecraft* provided players with the freedom to aesthetically design their own player characters within the confines of a pixelated schema (cf. Jansz & Martis, 2007; Miller & Summers, 2007; Williams, Martins, Consalvo, & Ivory, 2009). Consequently, sexuality and gender were rendered as inert characteristics in the design of a human figure. Notch received many requests to modify the aesthetic to include feminized player character models to the game but ultimately refused. Instead, he offered these sentiments about gender on his development blog for the game:

> The human model is intended to represent a Human Being. Not a male
> Human Being or a female Human Being, but simply a Human Being. The
> blocky shape gives it a bit of a traditional masculine look, but adding a
> separate female mesh would just make it worse by having one specific
> model for female Human Beings and male ones. That would force players
> to make a decisions [*sic*] about gender in a game where gender doesn't
> even exist. (Persson, 2012a).

In accordance with his vision, Notch designed character models and game mechanics in *Minecraft* that confound heteronormative notions of sexuality and gender. By obfuscating gender as an object within the code of *Minecraft,* these decisions reflect an egalitarian approach to addressing gender inequality (cf. Wright, 2011).

        Referring to it as merely a "gameplay element" on his blog, Notch frames gender as both aesthetically optional, and separate from other game elements that influence player behavior, and the code underneath the game reflects this philosophy (Persson, 2012a). In *Minecraft,* there are three classes of artificially intelligent entities (also known as Mobs) that simulate the mechanics of biological reproduction (via spawning and having babies): animals, villagers, and monsters. Players don't need to discriminate between distinct reproductive organs because mobs that the player can breed are unisexual. Players can coerce adult villagers, pigs, chickens/ducks, wolves, sheep, cats, horses, cows and mooshrooms into reproducing by feeding and pairing them together.[4]

Penning mobs is one way players can farm them either for resources or as art installations. After being fed, a red heart animation appears above a mob's head to signal wanting affection. Lonesome mobs gravitate towards other love-struck mobs, and a miniaturized, "baby" mob spawns between them. Put simply, this system decouples the process of reproduction from biological limitations of a material body, and elides the process altogether by choosing not to animate sex acts.

The unisexual default makes it more difficult for players to negotiate heteronormativity as the dominant, cultural orientation between players. It also suggests that power relations predicated on gender and sexuality are not constituted as playable in the game space (for more on "doing" heteronormativity, cf. Schilt and Westbrook, 2009). Whatever players may think of gender and sexuality, they are encouraged to assume that those aesthetics play no role in determining *what* they can do on the virtual frontier.

Constructing and locating gender

Liberating the player character in *Minecraft* from the false biological dichotomy of two sexes is laudable, but locating gender within the player character alone obfuscates the ways in which social and material structures construct gender in virtual game spaces (cf. Fausto-Sterling, 1993). From a cultural studies perspective, gender is a social construction, "conceived of differently in different cultures, historical periods, and contexts" (Cassell & Jenkins, 1998, p. 4). This definition best informs the player behavior of "gender-swapping," a well-documented phenomenon wherein players adopt gendered characters that do not correspond to their cis-gender (cf. Turkle, 1995; Cherney & Wise, 1996; Kolo & Baur, 2004; DiGiuseppe & Nardi, 2007). The cultural studies approach also allows for articulations of gender that are divorced from the material body, and it allows for broader understandings of how people might experience and practice gender in game spaces where these cultural concepts are not defined. This basic framework is supported by research conducted on gender in other virtual world environments.

In an ethnographic study of *wang ba*—Internet cafés—in China, Lindtner, Nardi, Wang, Mainwaring, Jing, & Liang (2008) demonstrate how social contexts in real life (IRL) shape experiences of computer-mediated sociality and collaboration. Jin & Chee

(2007) report similar findings in their study of PC bangs in Korea, where respondents frame virtual world play as equivalent to other kinds of social play offline (like playing cards or purchasing a ball to play soccer). These findings compliment an understanding of identity as both performative and structurally contingent. Building on the theoretical work of Hollander (2013) and West & Fenstermaker (2002) who develop a sociological understanding of performing—"doing"—gender, Stabile's research on *World of Warcraft* (2004) players also articulates how gender is shaped by cooperative interaction with other players (2013, p. 5-6). Stabile's work shows how dominant ideologies of gender become transparent and reproduced through socialized accountability and self-referential identification (ibid). In *Minecraft,* players may routinely ask each other about personal aspects of their lives IRL, or make assumptions about gender and sexuality based on a username, the appearance of the player character skin, or the sound of a person's voice.[5] Evidence of this phenomenon on *Minecraft* servers is scattered online across community forums, personal blogs and Tumblrs. One such example can be found on PlanetMinecraft.com, where users DerpyKat and Daisy Rose co-authored a community blog post to share their experiences as perceived "guys" and "girls." As though talking to each other, they note the different ways others police their gender within a masculine/ feminine binary. Here is a choice excerpt:

> I'm pretty good with a bow, so when I when I joined a RP server, I joined a town that needed a bowman. I joined as Ethan (I didn't have my account yet.) I started out a newbie of the Bow squad, and pretty soon I bumped the General out of his place and became General of Bows. I [*sic*] when I got my own account, I was so excited because I could finally play as a girl. I joined the town, and said I'm pretty good with a bow like I did last time. Then, he put me as town princess. I wanted to say that I was Ethan, but I didn't because they have a no multi-accounting rule...so I couldn't say "I'm Ethan." or I was banned (Derpycat & Daisy Rose, 2013).

Moments when players discriminate along the lines of assumed identities are highly contingent on how players communicate with each other and what they can sense in their interactions—not all presenting women, girls, or otherwise feminized bodies experience gendered discrimination, but some do and in different ways depending on the social makeup and historical background of the space in question (cf. Mohanty, 1988). Without

a cultural context, the role of the genderless human being, then, is one of a blank canvas.

Many *Minecraft* players, however, do not live within a cultural vacuum; theoretically,

because many live within the United States and Europe, a significant population of

players lives within a culture, 'where all power is structured in relations of domination,

exploitation and conflict as social actors fight over control of 'the four basic areas of

human existence: sex, labor, collective authority and subjectivity/intersubjectivity, their

resources and products'" (Lugones, 2008, p. 2). Many of these players live within

societies where the *Minecraft* avatar is always male by default (cf. Lugones, 2008;

Hunter, 2013; for an interrogation of white supremacy in the production and design of

videogames, cf. Daniels and LaLone, 2012; Dietrich, 2012).[6] As if to contrast the default,

a customized avatar invites interpretation of marked denotations—customizations intend

to communicate difference. What others interpret depends on the literacy of the reader

and their conditioned, judgmental response; how players communicate a response

depends on the tools of communication afforded to them. In *Minecraft,* outside of

miming with one's avatar, players can communicate through a text channel; although

unsupported by Mojang, players also use voice chat services to create private sound

environments outside the game.[7] Mojang does not provide players with any means for

policing player behavior, so players and server administrators are burdened with

facilitating their own codes of conduct.[8] As Daisy Rose's account above illustrates, these

codes can extend beyond protecting players from harassment and more formally establish

expectations between players of different cultural backgrounds. Whether codes are

implicit or explicit, there are consequences to playing or acting in ways that disorient or

disrupt the expectations of other players (cf. Sundén & Sveningsson, 2012). Expectations

are shaped in many cultural, historical, practical, and rhetorical ways of being; they

refract the practice of everyday configurations that constitute social behavior and

stabilize multiplicitous expressions of femininity and masculinity (cf. Butler, 1988;

Haraway, 1991; Connell, 1997; Ahmed, 2006). If players want to reproduce those ways

of being in *Minecraft*, it may be because they don't know how to feel and behave like a

genderless human being. Nor are *Minecraft* players assumed to be genderless people at

fan conventions and other in-person social interactions. Neither are players assumed genderless in other social milieus outside of the game.

The search for the other gender

The ubiquitous evidence of old boys' clubs (or, as it may be the case, young boys' clubs) in public *Minecraft* communities is not particularly surprising given that videogames writ large have disproportionately accommodated the fantasies and desires of white, heterosexual men for decades (cf. Williams et al, 2009; Daniels & LaLone, 2012). By "old boy's club" I mean to refer to institutions within and outside of the game of *Minecraft* that operate at the forefront of community discourses. A cursory glance at the staff who work for Mojang, for example, shows that of the 22 listed employees, only 2 are represented as women. Women also play a very ephemeral role in the *Minecraft: The Story of Mojang* (Levering & Owens, 2012) documentary. Who could ignore the "Justin Biebers of Minecraft?" A pithy reference coined by journalist Seth Porges to refer to the prolific YouTube group of streamers who operate under the collective name "TeamCrafted;" this group of 8 young men from all over North America joined forces after amassing millions of YouTube subscribers individually (2014). Their videos run the gambit of recoded play-sessions, mod tutorials, fictional and animated short stories, music videos, and more. Rooster Teeth is another prolific gaming production company that commonly publishes edited videos of *Minecraft* play sessions for the company's Achievement Hunter YouTube series. Two separate, anonymous fans of the series/ production company have Tumblr blogs dedicated to documenting and cataloguing trigger warnings as they occur in the watching of each video. Here are two choice excerpts, one from each blog, for some idea of what the documentation looks like:

> "Let's Play Minecraft - Episode 106 - Bodyguards
> This video (x) contains references to suicide. Gendered, ableist, and racist
> slurs are scattered throughout, and ableist and sexist language is used.
> Overlapping conversations occur frequently and loudly. ...
> Slurs:
> B*tch
> R*tard (0:51 - 0:53)
> G*psy
>
> Ableist Language:

Dumb
Idiot
Stupid" (AH Trigger Warning Archive, 2014).

"Let's Play Minecraft Episode 85 - Triggers
[The clouds are talked about in a manner of female breasts and the word
'tits' is used. Possibly triggering]...Misogynistic Language: The word
"bitch" is used constantly which is offensive to all women. ...[Gavin is still
playing as a creeper. The word "creeper" implies scary stalker, most
associated with creepy men who look at girls. This obviously brings back
memories of the "Connect the Hots" incident, which we all know was
horrible and offended literally every person on the planet]" (Feminist
Cockbite, 2014).

These excerpts help to demonstrate the kinds of language that some men/boys use to
police the borders of their fraternities, but not all male-dominated communities are so
explicitly sexist and misogynistic.

One of the more well-known *Minecraft* servers and communities is called
Mindcrack; it's maintained by user/player and YouTube streamer Guude, a white man
from North Carolina.[9] The server currently has 26 active users that play individually and
collaboratively. They occasionally publish videos or provide access to live video streams
of their play, to which un-told thousands of people watch and comments. Many of the
videos also improvise a storyline (not unlike reality television in the United States),
which adds to the community aesthetic. The Mindcrack server is both a hub and
community, a franchise, and a namesake. Each active member hosts their own YouTube
channel, and some of them appear at *Minecraft*-themed conventions. The community has
an officiated sub-Reddit on Reddit.com that boasts over 43,000 readers, a wiki, and a
confessions blog on Tumblr (managed by fans and not active members of the server).
Fans also have access to a mirrored Mindcrack server that is separate from but
representative of the server space that active members play on. This mirrored server is
designed and maintained by active members. Anyone can log on and play on the fan-
specific server for free, but donations to the server are encouraged for supporting the
space. The mini-games that have been designed for this server are open-ended—some are
familiar (like basketball), while others are more distinctly unique—again, there is no one
way to play.

Guude has been largely responsible for bringing select members into the active member community on the server. Earlier members were friends from high school or *World of Warcraft* (Blizzard Entertainment, 2004), but later additions to the community were cultivated by hosting contests advertised on MindcraftForums.net and shoulder-tapping individuals with substantive follower communities on YouTube. The first contest was held in December of 2010, and until recently only young and older men held profiles as active, former, or guest members. The first representative woman joined the server in May 2014; Aureylian (her username) streams and comments on live play streams. Outside of the game, Erin (her personal name) works for Twitch.TV and manages the Minecraft Partnership Program. Aureylian, like many other players who play with gendered representations of themselves, represents her femininity aesthetically with differently shaped eyes and long-looking hair. Reactions to her inclusion to the server community have been mixed and edited by community moderators, so the extent to which her character has been positively or negatively received is difficult to judge. One moderator for the Mindcrack Confessions Tumblr offered this insight after an anonymous community member asked why the Confessions moderator team had been censoring submissions recently shared by the community:

> "...We have stated numerous times that we don't tolerate confessions that are racist, sexist, misogynistic, homophobic, transphobic, ableist, or really just outright destructive hate of a Mindcracker. There is a difference between saying something like "It's just my opinion, but I don't care for Aureylian's editing skills" and something like "Aureylian sucks and shouldn't be on the server".

> In addition, most of the confessions that we have deleted as of late have been misogynistic ones about Aureylian. She's there, she's going to be there. She earned a place on the Mindcrack server. She didn't get special treatment because she's a girl, and if you're really going to mourn the loss of the 'dudebro' feeling of Mindcrack just because ONE girl joined, then you really need to re-evaluate your priorities in life" (Mod A, Mindcrack Confessions Tumblr, 2014).[10]

For me, Aureylian's introduction to the server as a gendered character exemplifies some of the experiences shared by *Minecraft* players who navigate public spaces as a feminized or feminine gender. It is clear by all accounts that a genderless avatar does not acculturate

players practicing gender inclusivity; rather, it provides an opportunity for players who would normally experience subjugation for their gender to hide behind an assembled and assumed male character model.

In a public sphere that is overwhelmingly dominated by openly-masculine influence, players who come out as not-a-man in *Minecraft* must also contend with what it means, at present, to assume a feminized gender.[11] In exploring the minefield women and girls navigate in the arena of e-sports, T. L. Taylor notes that the role of femininity is a markedly subjugated one because of the overt domination of men and male bodies in the competitive scene (2012).[12] Taylor relates the patterned treatment of feminine bodies to the longer history of women's bodies in athletic arenas, and observes that acculturating to the performance of being an e-sport athlete is complex; "It is never just an issue of individual skill but the ways an entire system of practices, institutions, values, and forms of identity work on, and through, that player" (2012, p. 132). Male dominance is never a representative form that feminine bodies struggle single-handedly against; rather, this domination conditions feminine bodies in multiple and different ways that relate to their survival within the community.

Being a public figure in the *Minecraft* community usually requires that a player performs for YouTube/Twitch TV audiences, participates in the/a *Minecraft*-themed subReddit on Reddit.com, and otherwise demonstrates to hundreds of thousands of people that not only are they knowledgable about the game, but that they are fun or entertaining to watch and listen to. It also requires that a player has a relatively sophisticated computer setup, some knowledge in regards to editing video, and—of course—time. Time to record, time to respond to one's audience, and time to invest in learning about different ways to play the game. So time-consuming is this work that a few *Minecraft* players have made a career out of monetizing their video productions using YouTube, and they quit their professional jobs (if they had one to begin with) in order to pursue this entertainment complex. Some of the most popular and prolific YouTube *Minecraft* players are young men barely the age of twenty; others are not, and the contingent situations that prohibit or compliment a player's ability to stream are

worthy of further ethnographic study. For those who are dependent on the community for subscriptions and view counts, these players must also familiarize themselves with different analytic systems that hierarchically organize their content. YouTube/Google occasionally change the algorithms that organize and prioritize videos for differently perceived audiences. These algorithms, perhaps more significantly than anything else, foreclose access to possible audiences. This incentivizes different publication practices on the part of producers/streamers, and places a greater emphasis on audience reception. In this way, structures outside of the game can significantly influence the makeup of celebrities in the *Minecraft* community.

Similarly, femininely-gendered characters or otherwise vulnerable players may put themselves "out there" by streaming videos of their play in *Minecraft*; they may appear at local conventions; they may attend to the maintenance of a public server community. Their ability to *do* these things is not a valid means for assessing the inclusive nature of a gaming community; rather, the reception for doing these things is a better metric for judging a player's position and subjectivity within a male-dominated community. Consequently, being part of a community that supports and celebrates bastions of white, male supremacy means that a person is held to dominant codes of conduct—ways of playing and speaking—that fit within those dominant paradigms. What is *likable*, what is *popular*, what is *fun*–these are contingent categories always informed by the same players who play a role in constituting dominant discourses. These codes are nowhere more explicit than in game mods (and the videos that review them) that work to represent femininity within the game's character scheme.

The relatively few mods that work to assemble gender in *Minecraft* do so by reproducing heteronormative, misogynistic, and/or essentialist notions of what gender is or can be. Some mods allow users to modify the appearance of the player character's age and body type, enter marital relationships with non-playable characters, and "tame" "girlfriends." Some YouTubers have published videos of mods in development that allow the player to spawn fair-skinned, feminized character mobs that either role-play sex acts or submit to being killed with weaponized pink dildos. Others have published videos of

themselves role-playing sex acts with improvised assets provided by vanilla *Minecraft*; they improvise feminine character models with long, colorful hair styles and elongated eyes (where "men" have two horizontal pixels, "women" have two vertical pixels). Videos on YouTube that review these mods are overwhelmingly done so by users that sound like men; they often ridicule the feminized versions of their own avatar bodies, and mockingly assume the biggest breast size possible. Commenting on the "Not Just Boobs" mod, YouTuber CavemanFilms remarked, "I look like Rosie O'Donnell threw-up on me" (2012).

In many instances the pejorative framing of curvy avatar bodies is when a reviewer is in dialogue with himself; it is always very clear by the end of the video that this user has no intention of using the mod seriously outside the making of the review (which is its own reward, in terms of page views and potential ad revenues). The patterned assumption that their viewing audience is always male, perhaps, underscores the extent to which players locate gender within bodies *other* than their own. Instances, for example, of when players record video of role-playing sex acts present the perspective of the assumed male, who performs "thrusting" (moving forward and backward) behind a crouched, stationary female. These YouTube videos filter to the top when searching for reviews; it takes very little effort to find them when your search terms are "gender" and "minecraft." While it would be reductive to qualify *all* reviewers as men, and those who filter to the top as constitutive of a dominant discourse around gender in the *Minecraft* community, these reviewers do demonstrate who feels empowered to speak, and what an empowered person feels comfortable saying.

When gender is necessarily located in a represented form of identity—an avatar with boobs, for example—it's very difficult to think about ways in which gender can be reclaimed by players who value the representation of their perceived self. In the case of *Minecraft*, the body is not multiple; finding the feminine form—and claiming it—is provocative to the established male-dominated community, the formal constitution of a player character in the game, and (potentially) cultural knowledges that codify bodies within a particular geographical context. Necessarily, territorializing the body in a

computer simulation reifies the rhetorical, algorithmic, and structural ways that foreclose all possible articulations of the body to the domain of representation—a domain that has long privileged white, heterosexual men.

Notes

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[1] This artifact of early design was astutely preserved in the design of another independently developed game, *Super Meat Boy* (2010). The goatee was commonly mistaken to be a goofy, hair-colored smile, but Notch confirmed the intent of the art over Twitter (Persson, 2012b Jul 28).

[2] While these characters were removed from officiated versions of the game (content published by Mojang), fans have developed and maintained mods that make these assets available.

[3] Notch himself refers to the character design as "genderless," although—as I will show later own—I believe that labeling is debatable. Associating gender with aesthetic design distracts from other performative aspects of gender that this chapter tries to address. The term "vanilla" is a colloquialism that many players use to distinguish between unmodified and modified versions of the game—vanilla *Minecraft* is, essentially, an unmodified version of the game. I try to limit my analysis to vanilla *Minecraft* because of its relative ubiquity.

[4] Mooshrooms are red cows with mushrooms that appear to grow on their backs; they can be harvested for mushrooms, leather, and beef.

[5] Some public servers support voice-chat capabilities using mods. Others host their own private chat channels using services like Ventrilo, TeamSpeak, or Mumble. A voice may also be heard when players record themselves playing *Minecraft* using either a live streaming service like Twitch.TV, or a public distribution channel like YouTube.

[6] I don't spend near enough time talking about race in this article, but make a specific reference to the notion of a "white doll" here for a few reasons. First, though the default player character avatar has a noticeably darker or tanned complexion, the overwhelming majority of advertisements that promote the game white-wash "Steve's" complexion so that he presents as a bearded, white male—evidence that white supremacy still affects promotion and marketing of the game and related paraphernalia. Second, the reference is inspired by research conducted by Kenneth and Mamie Clark on the relationship between American children, racial attitudes, and their overwhelming preference for fair-skinned dolls—how these attitudes and preferences have evolved since the 1940s is unclear but worthy of consideration.

[7] Players can also crouch their character into a bent-over position in a way that might connote sneakiness, fear, or submissiveness. Minecraft mods or video animations that toy with abstract performances of sex (usually heterosexual) almost always feature the feminized player character in the crouching position. Jumping in the crouched position in such a way that obscures another player character is sometimes interpreted as harassment, but it is as commonly seen as a playful performances that intends to grab a player's attention by annoying them.

[8] See Tucker (2011) and Kou & Nardi (2013) for more on griefing and manipulating player behaviors. Griefing and other forms of targeted harassment do occur on *Minecraft* servers, but such a survey is outside the purview of this article (for more on griefing, see also Phillips, 2011).

[9] Guude/Jason has posted several videos on his YouTube channel that feature his daughter, who appears to be a toddler, and his wife. His 2000th video also featured his cousin; the two of them recounted memories of his uncle before firing his uncle's gun at jugs of water to commemorate the milestone video. It is unclear to what extent Guude's family image plays into his constitution as a public figure and small-time celebrity, but it is an unusual feature of his character that other YouTubers seldom share.

[10] "Mindcracker" is common vernacular for an active member on the Mindcrack server (e.g., Guude, Aureylian).

[11] In talking about femininity/women/girl, I do not mean to exclude the experiences of transgender/transsexual/genderqueer/crossdressers players. The thrust of my argument recognizes masculinity as an oppressive complex that feminizes, necessarily, all other expressions of gender identity.

[12] Taylor makes mention of women without distinguishing between race, which is why I similarly choose the homogeneous term "women." Mohanty (1988) emphasizes in their work the importance of distinguishing between the experiences of white women and women of color; it is not my intention to assume all women experience public spaces similarly, and there is a significant opportunity for more research in this area.

CHAPTER V

CONCLUSION

In this thesis I have argued for an understanding of the virtual world and virtual world experiences as multidimensional in three ways: language, space, and bodies. It also argues for a way of thinking about information as *expression* or *form*; an ontological shift that I believe helps shape a way of thinking about the multiple constitutive layers that compliment my phenomenological experience of playing in the virtual world of *Minecraft*. For me, tracing the boundaries of these dimensions helps to provide language for describing different phenomenological experiences related to playing in and outside of the game.

I grounded my analysis of the virtual world in representations of gender because these representations are sites of contestation within the *Minecraft* community. As a game with distinctly international origins—as a project started by a Swedish man, and one developed by programmers all over the world—the limitations of virtual world simulation are inextricably tied to cultural and social values that globalized communities must reconcile in the construction of multidimensional identities, informed by the diversity of experiences already felt and recorded in the "real world."

For me, virtual worlds are not "synthetic worlds" (cf. Castronova, 2007). Humans are intimately familiar with many worlds that are entirely constructed and bounded by their perceived relationship to the natural world. "Virtuality"—of having characteristics related to something without sharing its physical form—conceptually renders the existence of many worlds that situate a body in different places at different times. When a person code-switches, for example, they are switching between perceived worlds that are constituted by different subjects outside the self.[1] We are constantly embedded in different social milieus—different worlds—at all times. When we are play *Minecraft*, when we are at work, and when we sit down with our families to eat dinner.

This framework for thinking about virtual worlds allows for an activity that is usually couched in leisurely pursuit—playing videogames—to be more fairly compared

to the work people are expected to do in their daily lives. Creating virtual space is something that a computer can help facilitate, but it is something that humans, perhaps, have always done to solve problems, maintain social networks, and communicate across borders. A virtual world like *World of Warcraft*, *Everquest*, or *Minecraft* necessarily lives on hundreds of thousands of computers/servers, and those worlds simultaneously demand access to the memory banks of people's minds. If a virtual world does not also live on in a player's imagination, there is no way that player feedback can recursively construct and reshape the world for other players. Before Alan Turing was able to conceive of an all-purpose computer, he first needed to interface and construct that machine within his head; it was after he materialized the concept in our world that other people were able to interface with his machine, re-design it, and then recapitulate it.

These clarifying points are important because they shape the political backdrop of my study of virtual worlds. Whereas virtual worlds are more commonly objectified as new media objects and abstracted as characteristically discrete, my experience of playing within virtual worlds suggests that the embodied experience is actually quite messy. More recently I was reminded of this while browsing the *Minecraft* subReddit on Reddit.com; there, I found a community post authored by a user who had shared an image of their son's gravestone (cf. iheartjj, 2014a). The gravestone was decorated with token statues of *Minecraft* art assets, as the child had been an avid player of the game. Some Redditors expressed their condolences in the comments section of the post, and others reflected on the loss as one shared by the community. One commenter responded,

> "As a server owner, thank you for proving this is more than simply 'a
> game'. It's about community, passion, creativity ... and even loss. I am
> overwhelmed with emotion right now and that is all I can say, but I hope
> you find some solace" (therealduckie, 2014).

For the author of the post, sharing and participating in the community took on its own expressive quality;

"Grieving is crazy and you never know what the day will bring from one
to the next. As silly as it sounds to some to receive support from an online
community it means alot [sic] to me" (iheartjj, 2014b).

For me, this moment highlights one of the ways in which experiences and relationships
made in and with the virtual world have the capacity to bleed together, across the
boundaries of time and space. The production of this moment began with the boy and his
relationship to the virtual world of *Minecraft*; the relationship he and his parents had with
the game changed with his death, and then that circumstance was reflected back into the
virtual world by way of the Reddit post. What matters here is not *what* is being
communicated, but that channels of information readily link together what we perceive to
be the "real" world (i.e., the gravesite) and what we perceive to be the virtual world (i.e.,
a *Minecraft* world file). Players are not discretely embodied within their interface
technologies—their computers—but artifacts of their existence within the networked
virtual world do exist as transmutable and circulating, often in ways outside of their
subjective control.

Theoretically, almost any virtual world could serve as a site to explore how
actionability limits subjectivity. Few, however, are as uniquely suited for such a study as
the videogame *Minecraft* (Mojang, 2011). I first started playing the *Minecraft* after a
classmate encouraged my partner and I to try it out while it was still in development. I
stuck with it because I thought for a while that *Minecraft* had the potential to model a
kind of egalitarian utopia. In earlier iterations of the game, when players literally had no
explicit direction on how to play or what to do after they spawned, the experience felt
very existential. Isolating sources of motivation to keep playing became the game in and
of itself, and whole societies propped up on the Internet predicated on experimental social
designs—what if the world was very small? If resources were very limited? If players
adhered to certain rules?

Minecraft, as it exists now, is as structured and textured with culture as the "real"
world. My study explores both how representations within a computer simulation can be
multidimensional, but it also explores the language of simulation, as well. As I continue

to play and enjoy *Minecraft* as a personal and scholarly pursuit, I hope to author more work on the many ways in which players bend the simulation to their will. Certainly, the faux appearance of limitless opportunity is not enough to deter many from seeing exactly where the boundaries of possibility lie.

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[1] As a term, "code-switching" originates from scholarly discourses in linguistics, but scholars have also conceptually broadened it to understand different (sometimes competing) cultural codes that shape appropriate subjectivities at different times and in different places.

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