DISSERTATION

HUMAN-TECHNOLOGY RELATIONALITY

AND SELF-NETWORK ORGANIZATION:

PLAYERS AND AVATARS IN WORLD OF WARCRAFT

Submitted by

Jaime Banks

Department of Journalism and Technical Communication

In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Fall 2013

Doctoral Committee:

    Advisor: Rosa Mikeal Martey

    Donna Rouner
    Joseph Champ
    Eric Aoki
    James Folkestad

ABSTRACT

HUMAN-TECHNOLOGY RELATIONALITY

AND SELF-NETWORK ORGANIZATION:

PLAYERS AND AVATARS IN WORLD OF WARCRAFT

Massively multiplayer online roleplaying games, or MMOs, present an increasingly popular digital media experience whereby identity emerges as players contribute materially to play but contributions are governed by affordances and constraints of the game. Unique to this medium is the player's ability to create and control a digital body – an avatar – to represent the Self in the immersive gameworld. Although notions of identity and the Self in digital games have been examined through a number of approaches, it is still unclear how the way one sees the avatar in the uncanny situation of having two bodies – one digital, one physical – contributes to a sense of Self in and around these games. Further, it is unclear how non-human objects contribute to human senses of Self.

In that vein, this study examines two research questions: How do players have relationships with their avatars in a digital game? And how does the Self emerge in relation to those relationships? Toward understanding how nonhumans play a role in the emergence of the Self, this study approaches these questions from an actor-network perspective, examining how human, nonhuman, material, and semiotic objects exist in complex webs of relations and how those relations give rise to particular senses of Self in relation to particular gameplay situations.

Tracing the history of the construct of "Self" from romantic and singular to postmodern and pluralistic, I argue for an approach to Self that accommodates postmodern perspectives that

embodiment is only *one* way that the Self is signified across spaces. Actor-Network Theory principles are integrated with postmodern notions of identity to propose a Network Model of Self. In this model, the Self is a network of personas that are, themselves, complex networks of objects. Following, I present a research approach called "object-relation mapping" that integrates phenomenology, Actor-Network Theory, social network analysis, and Grounded Theory to accommodate network structures and multiplicities of the Self as it is signified across spaces.

To address the questions of how the Self emerges in relation to different player-avatar relationships, I conducted in-depth interviews with 29 players of the online digital game World of Warcraft. Transcripts of those interviews were analyzed via thematic analysis for patterns in player-avatar relationships and via object-relation mapping for semantic and structural patterns in how object-relations give rise to persona- and Self-networks.

Through this analysis, a four-point typology of player-avatar relationships emerged, characterized by variations in emotional intimacy, self-differentiation, perceived agency, and primary gameplay focus. It is interpreted that the different relationships are the result of sense-making processes in response to the uncanny situation of having two bodies – one digital and one physical. Analysis revealed that players of different relationship types "activated" different types of personas, resulting in a Self that was more or less complex and consistent across game and non-game spaces. Further, players of each relationship type differently approached particular objects in crafting those personas. Ultimately a model of active Self-organization is presented, where players work with the affordances and against the constraints of objects in sense-making practices in order to maintain and protect preferred senses of agency and to achieve personal gameplay goals.

These findings suggest that players see avatars as objects that are, to different degrees, both human and technological, and as resources in the purposeful organization of a Self that serves individual psychological, social, and functional purposes. Different phenomenal accounts of the player-avatar relationship emerge as players work to make sense of human-technology interactions and to maintain agency and Selfhood in the face of technological constraints. Implications for human-technology relationships, more broadly, are discussed.

ACKNOWLEDGEMENTS

About three months into beginning this project I tried (to no avail) to change my Facebook relationship status to "Married to my dissertation." I very much was: I woke up to it, I fell asleep to it, I ate dinner with it, walked the dog with its ideas in my head, fought with it, was romanced by it. In truth, *many* different people were in a relationship with this dissertation over the past three, even if they were not entirely aware of it, and it is that cadre of supporters that made it possible for me to complete this project.

At the front of this group is my adviser, Rosa Mikeal Martey, who spent countless hours with me, from inception to defense, brainstorming and hashing through the theory, design, data, analysis, and writing. She offered unwavering encouragement balanced against the painful but prudent critiques, and she was throughout a friend to be counted on for Drambuie toast (in the proper snifter, of course) after every success. This dissertation would not be what it is without her guidance and support. My committee members – Donna Rouner, Joseph Champ, James Folkestad, and Eric Aoki – through this project and through my entire graduate school experience have contributed to my growth as an academic. Along with Rosa, Jennifer Stromer-Galley and Mia Consalvo were mentors in the grant project that showed me the depth of game studies as a discipline, and they introduced me to that academic community that has since become my professional home.

There were also many friends who kept me afloat through the emotional and intellectual rollercoaster that was this project. My guild in World of Warcraft taught me the nuances of the game, its culture, and helped me understand how play is not constrained to the interface. In particular, Steve Lovaas helped "raise" my first avatar from a wee Level 1 hunter to level cap – a member of my doctoral cohort, he and I shared many adventures in Azeroth and on barstools that

DEDICATION

To Lan, Ombra, Lloyd, Isca, Azsher, and Kika –
and their players –
who showed me what it is to live
in a very real digital world.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

I have fashioned a charm that will allow you to infiltrate [them],
giving you the appearance of one of their own.

With this disguise, you will be able to speak and understand their
language. They will be unable to discern your true identity.

> Cenarion Researcher Korrah,
> from the quest "Going Deep"
> in World of Warcraft

On a frigid afternoon in an area known as Grizzly Hills, a Hunter called Shauxna hovered in wait. The scenery was fair: tall pines dusted with snow, fat bears sauntering around a nearby stream and lazily batting at salmon, teasing sun glinting through the ever-winter sky. Faint notes of fiddle wafted through the air, the refrains marking minutes past. For three days, Shauxna camped in that spot in the hopes of spotting the elusive astral bear, Arcturis. In a moment where one eye was on the ground and one eye was counting the gold in her purse, the bear appeared without much fanfare. It materialized, but only partly so – its hulking body seemed to barely take up space as it glowed transparent blue and its starry heart pulsed softly from a smoky core. Shauxna deftly alit from her flying mount, landed softly on the ground, affixed her attentions to the bear, and through powers of beast mastery tamed the rare creature. In equally swift motions she mounted and flew to a nearby snow bank, then called her new pet. After becoming familiar with its movements, potentials, and pulsing features, she named the bear "Talitha" and their bond was forged.

I recount this event because it was the impetus for this investigation of player-avatar relationships. Shauxna is my main avatar in World of Warcraft (WoW), and up to that moment I had understood the many ways I acted upon her: I created her body, typed in commands that made her perform gestures, navigated her through landscapes, spoke through her to other players

1

by typing in words that were portrayed as her words, and selected the gear and weapons that made her look a certain way. However it was through that event that I began to understand the ways Shauxna acted upon *me*. Shauxna did not camp for days and train Talitha alone. I accompanied her, and I celebrated with tears and relief after the taming was complete, I documented the occasion with a screen capture (Figure 1), and in those moments I felt like Shauxna *was me* and that Talitha *was mine.* For me, Shauxna was not simply a tool I used to kill monsters and jump over boulders. She was an extension of my thoughts and desires, and she was my presence in a complex, alien world.

Figure 1. My main avatar "Shauxna" immediately after taming a rare combat pet.

I began to reflect on other ways Shauxna spoke to me. Although I saw her *as me* when taming this rare beast, there were also times I saw her as a separate entity with her own personality, style, and habits. She laughed and flirted in pre-programmed ways I could not control, she had a particular status in the culture of the Horde faction, and she embodied a specific set of abilities and possibilities that governed how I could interact with the digital world

through her. From these events, I began to wonder about the nature of my relationship with Shauxna. What was it about this collection of pixels that could bring me to tears? How was it that sometimes she was "me" and other times not? Why did I sometimes forget myself and instead seem to become a Blood Elf Hunter? Was I the only one who felt this connection and this shift in my sense of Self?

Questioning the Multiphrenic Self

Scholars of the development and manifestation of the Self frequently argue that the postmodern condition is destabilizing, fragmenting, and distributing a singular, essential Self (Carr, 2010; Gubrium & Holstein, 1994; Lyotard, 1984) and that this fragmentation is detrimental to the human condition (Adler & Adler, 1999; Denzin, 1993; Erickson, 1995; Hoffman, Stewart, Warren, & Meek, 2009). For many, the technologies that populate our daily lives – such as email, social media, online chat, and virtual worlds – exacerbate this problem (Gergen, 1991). Emblematic of this perceived crisis is sociologist Kenneth Gergen's notion of the "saturated self" (1991). Gergen contends that social technologies – those that remove constraints of time and space from human relatedness – create a situation where we are bombarded with *too many* relationships and, so, too many obligations and senses of who we ought to be. In this state, which he calls "multiphrenia," the Self is pulled in multiple and contradictory directions. In trying to fulfill all obligations, the Self is relativized so that we all become imitations of one another and swim "in ever-shifting, concatenating, and contentious currents of being" (p. 80). This multiphrenic Self, he says, is catastrophic. Was the uncanny situation of my avatar's being both me and not-me symptomatic of multiphrenia? Were those strange feelings related to the game itself somehow compelling a tension between how I ought to feel in myself and how I ought to feel with my avatar? I did not think so, but with a range of

scholars concerned about this potential, I sought to examine in this dissertation the ways that people connect with their avatars and how those connections contribute to how they see themselves. Fundamentally, this dissertation seeks to examine relationships between humans and technology through a study of the particular – and sometimes peculiar – relationships players of World of Warcraft have with their avatars.

"Relations" and "Relationships"

To understand the different ways that the Self emerges in relation to play and player-avatar relationships, I use the term "relationship." This term, however, can be understood in many ways, and to frame my analysis I discuss here how it is conceptualized in this study.

Common approaches to player-avatar interactions, and to human-technology interactions more broadly, focus on how human factors exist, are enacted, or are augmented with respect to technological factors (e.g., Dunn & Guadagno, 2012; Feldon & Kafai, 2007; Kafai, Fields, & Cook, 2010; Linderoth, 2005; Miller & Crowcroft, 2009; Neustaedter & Fedorovskaya, 2009; Williams, Kennedy, & Moore, 2011; Yee, Bailenson, Urbanek, Change, & Merget, 2007). That is, such studies largely acknowledge what humans *do with* technologies and dismiss how technologies themselves actively participate. As was evident in my interactions with Shauxna, however, technologies can, indeed, act upon us. As cyborg theories posit (e.g., Haraway, 1991a, 1991b; Wiener, 1948), we engage in recursive, mutual information exchanges with our digital technologies, and demarcations between humans and technology are increasingly blurred. From very literal integrations of the biological and technical – pacemakers, implants, artificial limbs – to the ways that we extend our human abilities through technologies – voices through telephones, eyes through cameras, memories through computer chips – humans are becoming more technicized and technologies more humanized (Bowker & Star, 2000; Clark, 2004; Haraway,

4

1991a). In these ways, the Self – identity, presence, agency, sociality – are manifest both in our bodies and in tools we make for ourselves (Cerulo, 1997; Clark, 2004; Konijn & Bijvank, 2009; Zhao, Grasmuck, & Martin, 2008). We are cyborgs: meat and metal, emotions and processes, sentient and inert (Haraway, 1991a).

A "relationship" is defined in existing literature as a valenced connection between two people where each party influences the other (Burscheid & Peplau, 1983; Harvey & Pauwels, 2009). Because this study draws heavily from Actor-Network Theory frameworks in that the human is de-privileged so that the ways objects matter in the world can be more rigorously examined (Latour, 2005; see Chapter 5), I replace in that definition the exclusive "people" with the more inclusive "objects." Here, then, a relationship is defined as the connection between a human (one type of object) and some other object where a) information or influence is exchanged between the two, and b) affect, attachment, or other meaning emerges in the human's subjective experience of the object. In contrast, the term "relation" or "relationality" is used here to refer to the more universal, generic tie between two objects where such exchanges and/or subjective meaning is absent or cannot be discerned.

This study began with the assumption that players and avatars have relationships in some way. That is, at minimum, three events occur when a player creates and engages an avatar. First, the player influences the avatar in some way: designing it, naming it, moving it around the gamespace, typing in commands that cause it to fight or talk, or even deleting it. Second, the avatar influences the player in some way: being visibly and audibly accessible, responding to commands, validating the players' intention, and behaving autonomously in its gait, voice, and postures. Finally, that mutual influence means something to the player. This study did not begin with a particular idea of what that exchange or meaning should look like, only that it exists. The

purpose of this study, therefore, was to explore the nature of the relationship and the nature of and mechanisms by which that relational meaning is produced.

De-privileging the Human

The notion of de-privileging the human (Bogost, 2012; Harman, 2009; Latour, 2005) may, at first blush, seem contradictory for a study in which data are collected from humans and is about human experiences from human perspectives. This is a false tension. This de-privileging is not a practice of saying that humans do not matter, rather than they are no more or less important than any other object that contributes to a system, structure, movement, discourse, process, or other phenomenon (Latour, 2005). In an empirical examination conducted through this lens, data could be collected from and focus on any object in a situation, regardless of whether it is human or non-human, material or immaterial, digital or physical. In this way, the unit of observation may be any type of object, and the unit of analysis is the phenomenon or situation more broadly (Clarke, 2005). An inquiry from this position is not about humans, per se, rather it is about how various types of objects relate to one another and give rise to broader phenomena. In the present study, this approach is taken up in two ways: first to examine how a human object and a non-human object exist in a particular relationship, and second to examine how various types of objects play a role in a phenomenon – the Self – traditionally viewed exclusively human.

Study Approach

This dissertation focuses on how 29 World of Warcraft players describe experiencing their avatars in an effort to address 1) how players have relationships with their avatars and 2) how players' sense of Self emerges in relation to those relationships. To that end, I first analyze existing approaches to the Self and their accommodations for how multiple spaces, materialities,

6

and meanings can matter in its emergence. I then reframe the Self as a network of personas that are, themselves, material-semiotic networks in order to better accommodate the potential for multiplicities of the Self. In the chapters that follow, I present this theoretical framework and the methods for and results of this inquiry. I begin with an overview of what World of Warcraft is like from my own experiences in the game, with particular attention to creating, learning, and advancing an avatar in the game. Then, I review existing literature on the Self and on human-technology relationships, and argue that the two fields have disparate views on how the human and the technological intersect. Following, I argue for a reframing of the Self as a material-semiotic network, and propose a methodology to accommodate that reframing. I then analyze themes in player-avatar relationships and patterns in how players' unique sense of Self emerges in relation to those relationships, ultimately arguing for a shift in how we view human-technology relationships and in how we understand human and non-human objects' active roles in the emergence of the Self.

CHAPTER 2: THE DIGITAL WORLD OF WARCRAFT

The key to my shackles is hanging around the neck of Instructor Hroegar outside.

Perhaps you could retrieve it by separating his head from his shoulders?

> Vaelen the Flayed,
> from the quest "Get the Key"
> in World of Warcraft

In the wake of great tragedy – interracial war, floods and volcanic eruptions, invasion by a seemingly unstoppable army – millions find themselves fighting to survive. They scavenge for food, barter for clothes, and find shelter in large cities alongside their war-torn brothers and sisters. Most ban together in tribes in order to stay alive, protecting one another and drawing on the best skills of each member – skinning, tailoring, cooking, leatherworking, fighting, stealing, hunting, healing. These tribes come together in motley cultures forged by unlikely alliances – industrious engineers commiserate with quiet stewards of the land, and the handsomest nobles shake hands with the strange and twisted mitts of alien races.

Despite this seeming chaos there is a great system of commerce: currencies of gold and silver flow through auction houses where those with means bid on armor, weapons, and food. Power-hungry aristocrats often pay young allies to perform tiresome labors that generate vital resources, and pay great warriors to ensure that enemies do not see the next day's sun. Novices and veterans alike are willing to die for gold and for the glory of victory. Tribes, skills, alliances, race, weapons, gold – along with the beast you ride, the armor you wear, your body, your name, your title, and your reputation– all contribute to your place in this world and to your ability to survive.

Although that scenario parallels popular post-apocalyptic fictions, the war-torn world is not so far away – it exists now and it is, in a sense, home to about 10 million people. This world

is Azeroth and it is the persistent digital world of World of Warcraft (WoW), a massively multiplayer online game (MMO) created by Blizzard Entertainment. The war and strife are narrative frameworks, the aristocrats and cities are made of pixels and code, and the struggling millions are avatars controlled by players in the physical, material world. In games like WoW, players create these avatars – digital bodies that players can design and control – to represent themselves in the digital gameworld. In joining together to fight great monsters and commit dastardly deeds, players and avatars may connect in various ways. This study examines that potential for player-avatar connections and how such relationships may give rise to players' sense of Self in and around the game. This research contributes to broader studies of human-technology relationality by shedding light on how we connect with digital objects that are in many ways like us, as WoW avatars move, gesture, speak, have personalities, and appear humanoid. In this chapter, I provide a brief history of digital games and related scholarship. I then relate, through my own experiences, what it is like to play World of Warcraft and how game design offers a balance of control and constraint to players as they explore, fight, and socialize in the digital world.

As described in the introduction to this dissertation, scholars argue that the lines between humans and technology are increasingly blurred, as humans are becoming more technicized and technologies more humanized (Bowker & Star, 2000; Clark, 2004; Haraway, 1991a). One technology where these exchanges play out is digital games, especially those where the tool we create to engage the space is a digital body – an avatar. The avatar is a visual embodiment we create to represent us in a game's digital world. Unlike the seemingly inert boxes of cell phones or microwaves, the avatar can have a humanoid body and be *like us*: walking, talking, using tools, interacting, conveying personality. While sometimes taken up merely as cursors or

vehicles, avatars' human qualities mean that they can be complex constructions through which identity can be written, performed, and consumed (Bessière, Seay, & Kiesler, 2007; Nakamura, 2002; Vasalou & Joinson, 2009). This potential for the avatar to contribute to players' sense of Self is the focus of this study.

World of Warcraft is an ideal digital game in which to examine player-avatar relationships for three primary reasons. First, WoW engages players according to what Mateas & Stern (2006) call *constrained freedom*. In interactive games, they note, players contribute materially to the plot and to characters, but these contributions are governed by the affordances and constraints of the game. In other words, players have the freedom to create, evolve, and connect with avatars in many different ways for many different purposes, but relationships are constrained by the way the game is designed, programmed, and used (Steinkuehler & Williams, 2006). Second, the longevity of WoW's persistent digital world allows players the opportunity to connect with their avatars over time, with some players now having been involved with their WoW avatars for more than eight years. Because the world is stable and persistent, players may develop strong ties to, deep attachment to, or identification with their avatars as stable personalities (Goldberg & Allen, 2008; King, Delfabbro, & Griffiths, 2010; Lee, 2007). Finally, WoW is an ideal digital space to study the emergent Self because forging a connection with the avatar is not a necessary condition for play – players may see the digital bodies merely as gamepieces. The ways players do or do not take up the *option* to connect with avatars may itself be important to a sense of Self. This is another form of constrained freedom: players must create avatars to access and play the game, but they are free to view those avatars as they wish.

Throughout this chapter, I will discuss the different ways that play happens within these constrained freedoms at the intersections of opportunities and options to connect with the avatar

in different ways: from designing avatars and playing the game, to feeling immersed in the world and being part of communities of players and avatars across spaces and over time. These tensions between affordances and constraints highlight the different ways that both technologies and human players have control over moments of play. After describing the evolution of digital worlds and games, broadly, I will describe what the world of WoW is like. Specifically, I will describe how it is structured, how players progress in the game, what types of activities players and avatars participate in, and how the game and gameworld's persistence, longevity, customization, various playstyles, and rich culture present players with freedom to craft their own play experiences while the game systems are designed to constrain and formalize play.

Most of this chapter draws from my own play experience. I have logged more than 2,200 hours of play across 17 avatars, approximately 950 of which were spent with one character as I advanced her to Level 90 – the highest level currently allowed by the game. In order to understand how WoW functions as a digital world and how players participate in it, this *ethnographic play* is a key activity, necessary to fully appreciate the depth and breadth of how communication, behavior, and culture work within the game and across other spaces of play (Martey & Shiflett, 2010; Pearce, 2009; Turkle, 1995). Ethnographic play is a combination of participating in the game structures and spaces and observing them for analysis. The description of the world of WoW through my personal experience is central in considering the proposed research because it is from my local and particular vantage point that the research was conducted and results were interpreted.

Digital Worlds

A digital world – sometimes referred to as a virtual world – is a persistent, immersive, computer-generated environment wherein users create on-screen digital embodiments that

represent themselves and facilitate real-time interactions with the world, other users, and other digital bodies (Schroeder, 2008). This is distinct from other digital game spaces that only exist when then player is running their software, such as in single-player console games. These worlds may exist in exclusively textual format as are MUDs (multi-user dungeons) such as LambdaMOO. There, users type out the scenarios in which they are engaged, personalities they are performing, conversations they are having. Digital worlds also exist in graphic forms, including two-dimensional graphic worlds such as Whyville and the console-based Super Mario Brothers. Currently, however, the term *digital worlds* most often elicits notions of three-dimensional graphic environments, including non-game spaces such as Second Life and ActiveWorlds, semi-structured spaces such as The Sims Online or Minecraft, and games such as EverQuest and World of Warcraft.

This project focuses on the immersive digital world of World of Warcraft (WoW). Such worlds have been characterized as "third spaces" for socialization (Axelsson & Regan, 2006; Steinkuehler & Williams, 2006): environments of community-building that are exclusive of home and work spaces. Each world has a distinct culture, graphic environment, operating mechanics, social norms, and technological affordances and constraints. These structures help shape the ways players can interact with one another and with the world. The notion of an immersive virtual environment predates the modern computer, drawing in early days from American inventory Morton Heilig's "Sensorama" machine, a patented design that used motion pictures, smell, sound, vibrations, and wind to give users the experience of riding a motorcycle without subjecting them to the risks of such an activity (Heilig, 1962). From this early idea, the development of digital worlds was fueled largely by the gaming industry (Castronova, 2005).

The first networked, three-dimensional first-person shooting game was first played in 1973 as "Maze War" (Hitchens, 2009) where players used avatars that look like eyeballs to make their way through a maze (Figure 2). In 1978, the first text-based, online digital world, known as MUD1 (short for multi-user dungeon), was created at Essex University. MUD1 enabled users to read descriptions of the world and other players, and type dialogue, behavior descriptions, and elementary commands as a means of interaction (Kelly & Rheingold, 1993) (Figure 3). In 1987, Lucasfilm released the first online graphic digital world, a two-dimensional environment known as *Habitat* (Figure 4) in which users engaged in complex social interactions, even developing laws, norms, punishments, and even bartering practices (Morningstar & Farmer, 1991).
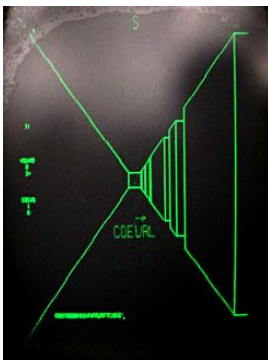
Figure 2. Screenshot from Maze Wars (Old-computers, n.d.)

Figure 3. Screenshot from MUD1 (University of Southern California, n.d.)

Figure 4. Screenshot from Lucasfilm's Habitat (Morningstar & Farmer, 1991)

These digital worlds – along with Dungeons & Dragons, the first roleplaying game to assign an individual body instead of a military formation (Williams, Hendricks, & Winkler, 2006) – were progenitors of Blizzard Entertainment's massively multiplayer online roleplaying game, World of Warcraft. Through this evolution, digital worlds and games have been studied from a range of perspectives: as tools for learning (Gee, 2003; Keramidas, 2010; Prensky, 2006) and physical and mental therapy (Griffiths, 2005; Wilkinson, Ang., & Goh, 2008), as

entertainment media (Tamborini et al., 2011; Sherry, Lucas, Greenberg, & Lachlan, 2006), as cultural productions (Johns, 2006; Shaw, 2009), as relating to violence and aggression (Ferguson, 2007; Ivory & Kalyanaraman, 2007; Sherry, 2009), and more. Of particular importance to the present study are investigations of identity and embodiment in digital spaces, which are described in detail in the next chapter. This work, collectively, describes how digital games matter in the same way other media matter. Specifically, games are integrated with a range of cultural phenomena, from politics and advertising to exercise and health (Bogost, 2007), and on a daily basis players form a deep culture that creates new social orders through rules, practices, symbols, roles, technologies, techniques, politics (Fluegelman, 1976). Games and gamers produce and consume strong communities and personal expressions that are not apart from life but *part of* life (Fluegelman, 1976; Turner, 2006).

Building on a decade's worth of online strategy games, WoW in its present "digital world" form was released in 2004. It has since gone through four expansions (each requiring new software purchases to add extensive content) and more than 25 updates. These additions have introduced new geographies, characters, storylines, quests, avatar races and classes, game mechanics, and modes of play. WoW has been studied for many of its characteristics. Existing scholarship addresses its economy (Castronova, 2005), spatiality (Aarseth, 2008), genderedness (DiGiuseppe & Nardi, 2006), the sociality of digital artifacts (Taylor, 2009), performativity (Hagstrom, 2008; MacCallum-Steward & Parsler, 2008), play motivations (Bessière, Seay, & Kiesler, 2007; Yee, 2006), identity (Bates, 2009; Corneliussen & Rettberg, 2008), and is heavily examined for its interpersonal socialness (e.g., Ducheneaut, Yee, Nickell, & Moore, 2007; McArthur, 2008; Williams, Ducheneaut, Xion, Yee, & Nickell, 2006).

Altogether, this research can be understood as the study of how WoW's players, rules and norms, mechanics, and narratives coalesce to produce constrained freedom as a condition of gameplay. WoW is understood as a postmodern technology full of blurred boundaries and differently experienced realities, "a virtual microcosm for cultural, economic and identity recombination" (Hillis, 1999, p. 165). It is a space where constraints of biological sex are removed but are reinterpreted and inscribed onto the avatar as constraining binary genders. Users are free to play with the gendered avatar options (Corneliussen, 2008; Yee, 2005): men play female avatars, women play female avatars, men pretend to be women playing female avatars, and so on. Constrained freedom in avatar design also extends to race, where cultures and subcultures are reinterpreted in the game. For example, ethnic stereotypes from the physical world are applied by game designers to races in the digital world, such in the Tauren race that draws heavily on Native American imagery and culture (Langer, 2008), and in the Trolls race that draws on stereotypes of Jamaicans complete with accent in voiceover effects. Players are constrained in the races they may choose for their avatars, but the game offers a range of races with different inscribed values, aesthetics, and backstories. Meaning from the game also carries over into non-game spaces, as when a player refers to a physical-world problem or challenge as a "quest" or to something of value as "loot." It is a space where the ways that people understand what "I" and "me" mean shift moment by moment according to the geography, the activities, and the sociality of interaction.

These gameworld dimensions, along with online and offline non-game artifacts, contribute to how players experiences and the game and how the Self emerges in relation to the game. The following pages focus on the specific design and structure of WoW in order to contextualize the present study. The descriptions offered here are oriented around my own

WoW-playing experiences, from preparing to play and entering the world as a nascent digital body to achieving a top-level character and a more full understanding of the culture of WoW and its players.

Building a Body

Before being able to actually jump into playing World of Warcraft, I had to pay my dues to Blizzard Entertainment – the company that builds and maintains WoW. I set up an account on battle.net, the web portal for all things Blizzard. While many other MMOs have converted to free-to-play business models that rely on income from players purchasing gear, weapons, or privileges, WoW maintains a healthy player base willing to pay for both software costing about $80 and subscriptions at $15 per month. The business model used aims to immerse players who are likely to have time to commit to the game and to keep them invested in a single game for as long as possible (Rettberg, 2008). Once my dues were paid, I started up the software, and began my journey.

After logging into WoW for the first time, I was faced with a series of decisions that would influence the way I played the game. First, I had to select the type of "realm," or server, in which I would play. There are three main types of servers: PvP, PvE, and RP. PvP stands for player-versus-player where players may kill the avatars of enemy players. This type of combat is part of the culture of PvP servers and can add a sense of excitement and risk to sometimes-mundane gameplay, but may be very upsetting to some players because they feel personally attacked (Klastrup, 2008). PvE stands for player-versus environment, where player combat is still possible but players must intentionally flag themselves as wanting to engage in inter-player combat (Nardi & Harris, 2006). Roleplay (RP) servers are home to players who like to play WoW as a character, often drawing on complex game narratives to create deep histories and

personalities for the character (MacCallum-Stewart & Parsler, 2008) – they speak in language

that matches that history and often engage in roleplay discourse (e.g., for a character named

"Shadowind," the player may type *Shadowind bows with deep respect.* or *Shadowind laughs*

heartily.). Overall, being forced to choose a realm associated with a particular type of gameplay

keeps together players who are interested in playing the game in a similar way. Although that

limited my exposure to different parts of WoW culture in the beginning, it did give me the choice

to play in an environment most likely to be enjoyable for me.

After selecting a PvE server, I needed to build my avatar. In creating an avatar character,

or a "toon" in WoW player vernacular, there were some important choices to be made and

enacted through the character-creation screen (Figure 5). The character-creation screen provides

a preview of the avatar as the player selects race, gender, class, and aesthetic options on the left.

It also provides information about the race and class on the right.

Figure 5. The World of Warcraft character-creation screen.

First, I had to choose the faction for which I would play. There are two factions – the Horde and the Alliance – and each has its own complex history and unique avatar races. A player may choose one faction over the other for many reasons, including the faction membership of friends since you can only communicate with players of the same faction, and the two factions frequently fight one another. Selections may be additionally based on attractiveness of the races (Rosier, 2011) or the respective values inscribed in the lore and in-game texts (Landwehr, Diesner, & Carley, 2009). There is a tension between Horde and Alliance in WoW culture that is reinforced through the game narrative, geographies, and visual presentation of the factions' races (Langer, 2008; McCallum-Steward, 2008). Although I later converted to an ardent "Hordie," I began my WoW adventure as an "Ally" since that was the faction of a friend who coached me through this process. Toons must also be on the same server in order to play together in the world. A "server" is technically a piece of computing hardware that helps hosts the digital world, but is more broadly used in the game to reference the particular instantiation of the gameworld. The game's underlying technology cannot accommodate all 10 million players in a single instance of the world, so the game's developers publish multiple versions of the world that are identical in geography, quests, and NPCs, but that host different players. It's helpful to think of servers as parallel universes with different inhabitants.

Next, I chose a gender, race, and class for my avatar. My coach advised me to start with "whatever looks most fun" until I had gotten a better understanding of the game and what my play preferences would be. At that point, I did not feel especially comfortable having a male avatar, so I clicked the button for female and cycled through the race options for the Alliance:

Human? *Too boring.*
Dwarf? *Too ugly.*
Night Elf? *Sexy, bouncy, wicked face markings.*
Gnome? *Too short.*
Draenei? *Ummmmm. Cute, but not sure how I feel about that tail.*

Night Elf it was. I then selected from a limited number of customization options, including skin color, face features, face markings, hair style, and hair color. Although I was limited to a predefined set of races and features, they were varied enough that I could create a body that was appealing and comfortable to use.

Next, I chose a class. A class is equivalent to one's role in the world. At the time I created my avatar, there were 10 classes (Warrior, Death Knight, Paladin, Druid, Hunter, Rogue, Shaman, Mage, Warlock, Priest) that fit into three main role types: tank roles wear heavy armor to endure hard hits from bad guys (called "mobs"), damage-dealing roles inflict injury on mobs in an effort to bring them down, and healing roles keep their fellow toons alive as they fight mobs. Since I started the game, a new Monk class was added. Monks are similar to Paladins and Druids in that they can play any of the three combat roles.

Women tend to spend more time playing ranged damage classes and healing classes, and men spend more time playing melee damage classes and tank classes (Yee, 2010a). Even with these patterns, both male and female players tend to give the same reasons for choosing their class. These reasons are most often based on the role that was missing from the team (e.g., the guild did not have a healer) and personal preference for fighting up close (as a warrior or rogue) or for fighting at a distance (as a hunter or a mage) (DiGiuseppe & Nardi, 2006). Although the game must limit the number of avatar classes in order to manage combat power balance and keep the game fair, the variability of roles and the way those roles are played gives players a degree of freedom to choose a class and role combination that suits their playstyle preferences.

I flipped through the class options for the Night Elf (as some races are limited in what classes they can be combined with):

>Warrior? *Usually the leader of the group. Maybe I'm not ready for that yet.*
>Hunter? *I can stand far away and have cool pets.*
>Rogue? *I* am *kinda sneaky.*
>Priest? *Never been much for wearing a dress.*
>Mage? *Well, she* does *shoot sparkly stuff out of her hands.*

With the promise of a pet to help me fight, I opted for a Hunter. (I have a soft spot for critters.)

Finally, I chose a name. Names serve many functions in WoW, including practical functions like identifying individual avatars among thousands and conveying to the user and to others the function and attributes of an avatar, and expressive functions like adding to the world culture and conveying a sense of identity (Hagstrom, 2008). It is common to see avatar names that draw from fantasy phonetics such as "Gildorean," as well as names that are plays on words such as "Gankzilla" (a combination of "ganking," a term for killing another player, and "Godzilla" of Japanese film), and even gendered puns like "Stabitha" for a female Rogue or "Frostitute" for a female Frost Mage. Names may also be chosen for the avatar's utility, for example a player may call an avatar "Petshop" if the function of that avatar is to stay in the commerce areas and sell rare pets to other players. Names may also be completely randomly chosen, as the character-creation screen has a "Randomize" button that can be clicked for a completely random name generated by the game system itself.

Although players have relatively great freedom in choosing a name, each name must adhere to particular rules set by Blizzard. According to their built-in rules, for example, a name cannot be racially offensive, suggest sexual orientation, harassing or defamatory, or include trademarks or advertisements. Users who violate these restrictions are subject to punishments from Blizzard, including warnings, being assigned a random name, temporary suspension from

the game, or a permanent suspension from the game. Further, a name must be unique on the character's server – no two avatars may have the same name on the same server. Players sometimes work around this restriction by creating variations on a name, often by using special characters like "ü" in place of "u" or "Ø" in place of "O."

I typed out a name that sounded and looked pretty to me: *Shaux*. (I pronounced it "show.") With a tentative click of the *Enter* key, a sharp drum sounded and I saw the load screen – a fantastic image and a progress bar that crept up to 100% and brought me into the world known as Azeroth.

Just a Noob

A brief cinematic, or "cut scene," followed the load screen and set the scene for my character, Shaux, as living in the Night Elf start area called "Shadowglen" and having important duties to help protect the race (see GamingLives, 2010). As the cinematic ended, I found Shaux standing in front of a beefy Night Elf NPC named Ilthalaine. "NPC" stands for non-player character, a digital body in the game that is driven by coded logic rather than by a person, that limits the ways players can interact with them. These characters often serve narrative functions (such as being a story character) or a gameplay functions (such as assigning tasks, repairing damaged gear, or selling valuable equipment).

Ilthalaine had a yellow exclamation point hovering over his head (Figure 6). NPCs with these markers are known as "quest givers." They are important because accepting and completing these quests are a primary way of advancing your character in the game, and are the most efficient mechanism for advancing through level 10. I took my mouse and right-clicked on Ilthalaine, and a window popped up that looked like a scroll (Figure 7). The scroll displayed some narrative text that told me why I should complete this quest, instructions on how to

complete the quest, and what reward I would earn for completing the task. In addition to this full

description, the scroll gives a short task-list so that it is possible to complete the quest without

actually reading the full rationale. Many players, especially those who have played the game for

a long time, merely glance at the briefly stated objective rather than reading the text carefully

(Rettberg, 2008). Quests may be put aside for later completion or abandoned altogether, and

some quests may be repeated daily for additional rewards.

Figure 6. The yellow exclamation point hovering over an NPC indicates it has a quest to offer.
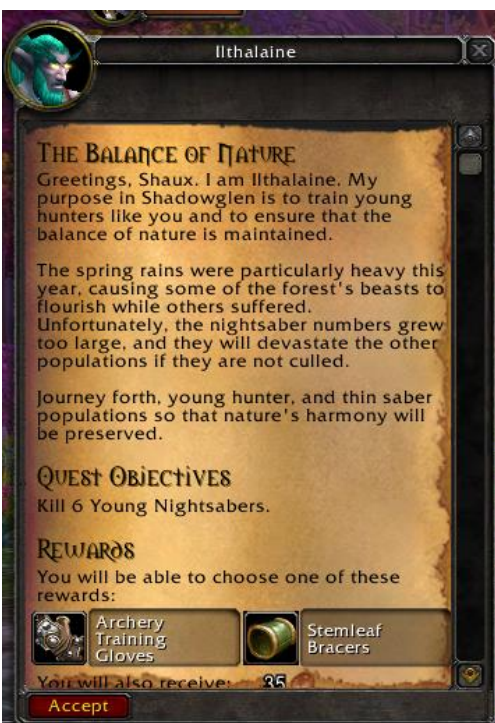
Figure 7. Upon clicking a quest-giver, a scroll pops up to describe the quest.

Shaux's first quest was to kill six young nightsabres. I paused for a moment, noticing the

game interface (Figure 6). There was a portrait of my avatar in the top-left corner (to access

certain character features), the mini-map in the top-right corner (to assist with navigating in the

world), the chat window in the bottom-left (to communicate with other players and display NPC

dialogue), and the main action bar that runs across the bottom of the screen. The action bar is the

row of square icons that ran along the bottom of the screen. Each square slot represents an

opportunity to bind a keyboard button to a particular skill. In Figure 6, I had just started this

character so she only had one attack skill. That skill was bound to the "1" key so whenever I

pressed "1" the avatar released magical arrows. The game allows these default interface elements

to be changed using software applications called "add-ons" or "mods" (short for modifications).

There is an extensive community of player-developers who write these add-ons to improve the

functionality of the interface and make the game easier to play. Although the interface is standardized by default, players have the freedom to select add-ons that provide discrete, customizable functionalities such as moving the position and appearance of the action bars, or providing an additional window that displays damage done to a target (Targett, Verlysdonk, Hamilton, & Hepting, 2012).

Returning to the quest, I hesitated. *I'm a noob. A newbie. A rookie. And I'm nervous as hell.* I ventured into the surrounding forest to kill the cats. *One down. Two. … Six. That wasn't so bad.* Each class battles differently, with a different play style (e.g., standing far away or fighting up close, healing or dealing damage). For my Hunter, killing the cats meant I had to press the button that set my target on the particular cat I was aiming for, and then I had to press the button that made my avatar shoot arrows, which automatically triggered my combat pet to attack the same target. For magical damage dealers like Mages it is roughly the same process except they attack with casted spells instead of arrows and a pet. Melee damage dealers like Warriors run up to the target and attack with swords and axes. Healing classes like Priests also have offensive abilities that allow them to stand back and shoot spells from a distance, along with healing powers to keep teammates alive rather than attacking enemies. Players often choose their avatars based on a preference for one of these playstyles, and although each class has a limited number of abilities, players can combine them in unique ways based on how they prefer to play.

While feeling proud of completing the quest, I also felt guilty. The nightsabres were pretty cats and they died so dramatically, with a roar and a flop to the forest floor. After each kill, the corpse sparkled to indicate that it could be "looted" to receive objects such as gold, armor, food, or weapons and transfer them into the avatar's inventory. Although many are useless, some such objects are valuable for gameplay and avatar advancement, such as a powerful sword, a

piece of armor, or even materials such as cloth and ore that are used for in-game professions (e.g., tailoring, blacksmithing, or cooking). As avatars advance in level, the types of treasures they receive increase in power, as well, allowing them to "gear up," or improve their equipment. When playing in groups, it is often important for players to agree on looting rules about who has the right to receive these treasures when the group kills a monster. Constructing these rules are important practices in collaborative work in WoW (Bardzell, Bardzell, Pace, & Reed, 2008).

The task completed, I went back to the hunky quest giver to see that his exclamation mark had changed into a question mark, indicating my task was successfully completed. I clicked the NPC to "turn in" the quest and receive my reward from him: a small bit of money that then appeared in my avatar's bag. I also received experience points or "XP." When an avatar gains enough XP, it increases in level, up to Level 90, although it is a long process, requiring hundreds of quests to be completed. This process is called "leveling" and is the key mechanism for advancing in the game. As soon as I had completed my first quest, another window popped up offering another quest. My progression continued in this pattern – pick up quests, complete them, turn them in, reach the next level. In the process of advancing my avatar I found a particular affinity for the aesthetic play. *Oh dang, those shoulderpieces don't match my chest armor. Wow, what a sweet-lookin' helmet! I haven't gotten a new pair of boots in a while … I wonder when a pair will come up as a reward.* I found particular pleasure when my toon had particularly impressive or attractive gear, and I was often irritated when the gear looked silly or didn't match. I was often compelled, however, to use this less appealing gear because of the magic, powers, or other benefits it offered. The game offers many gear options as players advance in levels, and pieces were quickly replaced as I leveled.

Players pay attention to their avatar's gear for a number of different reasons, including how the avatar fits into a narrative or group aesthetic or how the gear can help them function in the game (Fron, Fullerton, Morie, & Pearce, 2007). Although I paid attention to the aesthetics, I found myself more concerned with a particular type of function – what Fron and colleagues call "dressing up by numbers" (p. 6). This is an instrumental approach to avatar costuming – dressing for abilities over aesthetics – and is common in many MMOs. Such functional approaches lead players to select pieces of armor and weapons according to how they improve gameplay. For other players, dressing an avatar is a complex and personal process. Especially among roleplayers who engage their avatars as complex characters, careful selection of outfits and accessories is a significant part of their WoW experience and a specific form of performative play (Fron et al., 2007), as well as a mode of personal storytelling and an attempt at individualization in the face of highly constrained avatar-body design (Klastrup & Tosca, 2009). Some players pay special attention to their avatar's appearance as a way of feeling different in a world where avatars can look very similar (Fron et al., 2007).

I progressively geared up, leveled up, and gained confidence as a player. Nothing particularly novel happened until Level 20. Up until this point I had been running around on Shaux's two little legs … very slowly. Once I reached Level 20, a notice popped up on the screen that I was eligible to train for a riding skill. That meant I could get a mount! A mount is a beast, machine, or other vehicle that can be ridden, enabling the toon to travel much faster. A toon's first mount is usually purchased with gold earned and looted along the way, and the type of mount depends on your race. At the game's top level, some mounts can also be created or purchased by the player.

Shaux's first mount was the one assigned to her Night Elf race: a beautiful nightsabre (Figure 8). As I advanced in the game, I could complete quests in order to earn the right to buy faster mounts, including one capable of flight allowed at Level 60. When I eventually achieved that level, flying changed how I played the game. It enabled my avatar to easily and more quickly travel from place to place with no worry about being blocked by walls or mountains. I was able to see the gameworld from very different vantage points. Some mounts require considerable game time and money investment, signaling to other players the completion of a difficult achievement or membership in a specific group. As such, mounts often serve as status symbols (Rettberg, 2008). Often, players enjoy collecting mounts and pets as a particular type of play afforded in the game. The mounts I collected, in some ways, became an extension of my avatar, and I developed affections for some mounts over others. There was a distinct satisfaction that came with this new achievement … I was no longer *total* noob. But I still had much to learn.

Figure 8. My avatar atop its first riding mount.

For the Horde!

With some sadness, Shaux and I parted ways soon after I reached level 20. In order to play with my friends, I created a character that belonged to their faction, the Horde, and that

27

"lived" on their server. Although it was possible to pay Blizzard Entertainment for the service of changing Shaux's faction and changing her server, I decided the cost wasn't worth the small amount of time I had put into her progress up to that point. Instead, I created a new avatar. Players may have up to 11 avatars on any given server, and up to 50 avatars overall. It is not unusual for players to have many characters spread across different servers, although they often have a "main" avatar in which they invest the most time and effort. The time required to advance avatars to the highest levels in the game is substantial – around 150 hours – and then even more time is required to complete the highest level of game content. This time investment in some ways constrains the ways players can approach the game, requiring them to either focus efforts on one avatar to become more powerful, or divide gameplay among multiple avatars and, often, be less powerful. Most players choose to invest their time in making their "main" as powerful as possible, and then secondarily play "alternate" or "alt" toons more casually. Players who have a large number of toons are referred to in player culture as "altaholics" or as having "alt-itis" (Nardi & Harris, 2006). When players choose to focus on a single, main avatar, the time investment and attention present the opportunity for players to become attached to that avatar. In this way, the game design implements a constrained freedom of "investment" that may facilitate a connection between player and avatar. Although I decided to focus on my new Horde toon, Shaux still exists as I left her – at Level 21 – but I do not actively play her. Instead, I keep her as a reminder of my beginnings in the game.

My friends would become my new toon's combat group. They are a combination of people I know from outside the game and players who were previously strangers to me. This band of cooperating players can be formalized in a "guild." A guild is a key way that players and avatars are organized into groups. Members often help each other through gameplay and their

relationships may even extend offline, resulting in friendships in- and outside the game, or even in marriages. Guilds are sometimes formed for competitive purposes and can be highly structured, although most are formed for social purposes (Nardi & Harris, 2006). They range from loose and informal to tightly knit and highly social depending on the personalities involved and players' motivations for being in the game (Williams, et al., 2006).

In order to join my friends' guild, I returned to the character creation screen to start a new Level 1 avatar, this time a Blood Elf hunter named Shauxna. On this new server, I found some differences in the player culture I observed in public chat channels. There are many different chat channels through which players can communicate, from one-on-one private channels to public channels accessible to all players in a specific region. One heavily used public channel is known as "trade chat" is intended to provide a channel for selling goods and services. In practice, players use trade chat for considerable banter, to find guilds, and even for serious political discussions. On this server and for this faction, trade chat was far more crude, aggressive, and active. Popular memes include making jokes about the awesomeness of Chuck Norris and using the names of in-game items to make sexual jokes. Public chat is highly social and takes up a large portion of collaborative play time (Suznjevic, Dobrijevic, & Matijasevic, 2009), but this interaction can also be an important way of learning how to play the game and navigate complex spatial and social landscapes (Nardi, Ly, & Harris, 2007). Players will sometimes choose to turn off trade chat because they find the communications offensive, distracting, or disruptive to feelings of being in a fantasy world.

Play Beyond Questing

Once I had played for several weeks, I reached the important benchmark of Level 60. At that level I also started to find different ways to play WoW in addition to regular questing. WoW

fosters different types of engagement (Newman, 2002), from individualized to highly cooperative, and from casual questing and collecting to intense "hardcore" raiding. Because of the wide range of ways that WoW can be played and the variety of activities built into the game, it attracts many different types of players that contribute to a rich, diverse player culture. This culture and flexibility makes WoW a particularly ideal environment for understanding the different ways that players connect to their avatars through different types of play.

One type of play happens in "instances" or "dungeons." Dungeons are smaller sections of the world that are partitioned off so that only a single group of players interacts with each other, in contrast to the game, more generally, that allows all players on the server to play alongside one another. Dungeons usually have a unique aesthetic, a unique storyline, unique monsters and "bosses" (difficult, high-level monsters) that often drop valuable, high-level loot. Often, players complete these dungeons with guild members by talking over voice-over-IP programs such as Skype or Ventrilo (Suznjevic et al, 2009). Sometimes strangers group together by joining a pick-up group or "PUG" that can be found through a player-matching system programmed into the game.

Another type of play is a battleground (BG). BGs are short (15-minute) mini-games in which Horde and Alliance players battle one another (usually without game monsters) to achieve a particular objective (e.g., capture the other team's flag and return it to your base). Often, players have specialized gear for this type of PvP ("player-versus-player") play, and a large portion of their overall gameplay is spent engaged in inter-player combat.

WoW also has an achievement system. Although players can earn XP for completing achievements, they are usually considered a fun and optional part of the game. Players can earn achievements by exploring new areas, killing rare monsters, participating in holiday events (such

as the Midsummer Festival or Brewfest), or performing silly acts such as falling a certain distance without dying or eating a certain number of cookies in two minutes. Completing these activities and garnering achievements generally only rewards players with a special message on the screen along with a satisfying gong sound, although some earn the player pets, mounts, gold, a title, or novelty gear (Figure 9).

Figure 9. Left: Shauxna accompanied by the "Sinister Squashling," a pet earned from the Hallow's End holiday quests. Center: Shauxna sits atop a dragonhawk flying mount, earned from an achievement requiring many days of jousting quests. Right: Shauxna wears a novelty "bunny ears" headpiece looted during a spring holiday event.

Success in collecting achievements has been linked to personality attributes (Yee, Ducheneaut, Nelson, & Likarish, 2011). Specifically, players rated highly for conscientiousness tend to have more profession-based and holiday-based achievements that require discipline and diligence in collecting items from around the world. Extroverts tend to have more dungeon and raid achievements that require collaboration. Players with low emotional stability scores tend to have more PVP achievements and players with high emotional stability scores are more likely to have players of the opposite gender (Yee et al., 2011). These connections between in-game behaviors and player attributes reveal potential connections between preferred playstyle and avatar relationships since the achievement-earning is one way that the Self can manifest in game-play and in-world communication. In other words, given the wide range of ways players can

participate in the game, they may draw on a sense of Self to determine how they participate and how they use their avatar.

In addition to these game-designed types of play, people often find new ways to play that are not necessarily intended by WoW's designers, largely involving a sort of appropriation of game mechanisms to challenge themselves or other players. For example, I created a "pacifist" Priest toon that I played up to Level 9 with the rule of inflicting absolutely no damage on other players or NPCs. The game is built around advancing through the game by fighting monsters, so this play style made leveling fairly challenging. Other challenges include a "naked dungeon run" in which high-level players fight through low-level dungeons together without the benefits of protective gear and weapons. Kirman, Linehan, and Lawson (2009) characterize this type of resistance to game-designed structures as "playful misconduct" because it is an expression of individuality that runs against the patterns reinforced by social norms and game design. As part of my own play I documented naked dungeon runs and each of the pacifist toon's death with a screenshot (see Figures 10, 11) as way to remember fun, interesting, or memorable moments. Such digital scrapbooking is common among players, and WoW provides an easy mechanism to create and save screenshots during gameplay.

Figure 10. The pacifist priest corpse in front of the spider-like monster that killed her.

Figure 11. Avatars in their *WoW*-default underwear, just before a "naked dungeon run."

Play in WoW can also extend beyond the gameworld boundaries, as when players film and edit video footage of the game to create game movies, or "machinima." The practice has been framed by scholars as a sort of digital performance that is heavily encoded with meaning and values (Cameron & Carroll, 2011), and enjoys a significant following as the productions are shared within player communities as a kind of "fan labor" (MIT Comparative Media Studies, 2007; see also Croftzi, 2011; lagspikefilms, 2011; theimpalers, 2006, for popular examples). This extension of game culture beyond the boundaries of the narrative world is another reason that WoW is a particularly good place to examine how play contributes to identity. Because players can take game experiences and translate them to other spaces – videos, music, stories, blogs, social network profiles – and because these spaces often have different affordances and constraints, a wide range of identity performance is possible.

Shauxna quested, ran dungeons, played battlegrounds, and dabbled in achievements, and eventually reached the current level cap of 90. The game content at the level cap is sometimes referred to as "end-game" or "elder game." At this stage, the game experience can change considerably for players. Rather than oriented around questing and increasing character level, goals shift to increasing gear level through conquering dungeons, accumulating points in BGs, or other activities. For example, there are many dungeons designed for top-level players, but some are considerably more difficult than others, and can only be accessed when the gear collected is particularly powerful. End-game activities include raiding (battling through high-level dungeons in teams of 10 to 25 players), building reputation (completing tasks on behalf of a race or faction to earn special privileges), and earning honor points through PvP (killing players of the opposing faction to earn honor points that may be used to purchase gear).

It is worthwhile here to note the interface differences between Shaux at early levels (Figure 6) and Shauxna at end-game (Figure 12). Compared to Shaux's one button on one action

Figure 12. An end-game action bar with multiple action bars and spell keys.

34

bar, Shauxna at end-game had four primary action bars, a special hunter action bar, and a special pet action bar. Playing this many options requires greater skill, coordination, and strategic decision-making.

Adding to the Family

Today, Shauxna has been at Level 90 for many months – she has collected a number of rare pets and mounts, run many dungeons, battlegrounds, and raids, and earned an array of achievements and titles. As I am not a member of a raiding guild that competes with other highly skilled guilds, I found end-game to be relatively boring. I itched for the satisfaction that came with seeing the blue XP bar move toward the next level and to hear the cymbal-like "ding" when my toon leveled up. So I began playing around with other characters: Blood Elf Death Knight and Paladin; Tauren Druid; Undead Mage, Warrior, and Rogue. I also created a single Alliance character – a Dwarf Hunter – so that I could be a member of a popular guild, the Warcraft Hunter's Union. Eventually, I created a toon that would become very dear to me – a Goblin warlock, "Amper" (Figure 13). Amper is short and green, she runs awkwardly, and her blue Mohawk bouncing sassily; she has a massive demon minion "Vinni" that assists her in battling enemies.

Shauxna, to an extent, has my physique so I identify very much with her in that respect. Amper, however, reflects a side of my personality rather than my appearance: the side of me that wants to dye my hair purple and get bright tattoos. Being able to explore these various characters and their personalities – both dimensions created by the game like their laughs, gestures, and postures, as well as the attributes and attitudes that I assign to them – is an important part of the play experience for me. For some players, such exploration is irrelevant, but for many, the opportunity to try out new classes, races, and regions add interest and fun to the game.

Figure 13. My secondary toon, Amper, is a Goblin warlock. This toon has a very different aesthetic and set of skills from other races and classes.

In summary, Azeroth is a rich and complex digital world where people pay to play. This play is governed by both the socially constructed norms and by technical rules instituted by game designers. WoW players conform to, bend, and break these rules in interesting ways that may tell us something about how humans relate to technology. They may appropriate game mechanisms to play on their own terms. They may break through traditional identity boundaries through roleplay and character creation. They may create and use unique systems of signification that can mark a new player compared to a veteran player, show social status and game skill, and even suggest a persona's physical characteristics. They may also combine everyday social interactions with game narratives to develop an affinity for certain social groups and a hatred for others. Players engage the world according to these affordances and constraints that in various ways enable and inhibit the creation and expression of identity and the potential for interaction in the space, but they have certain amounts of freedom within these frameworks.

Through these potentially complex relationships, players navigate the world, the game, and social interactions with an avatar. Given the amount of time and intensity of the situations in which avatar and player are connected, there is the potential for the two entities to develop a

strong connection where the player influences the avatar and the avatar influences the player. Because the world is complex – social groups, economies, geographies, allegiances, and a range of discourses – there are vast potentials for objects inside and outside the game to influence the connection between player and the sense of Self that emerges from play.

In this dissertation, through a series of interviews with current WoW players I examine how such relationships serve as particular situations from which the Self emerges. I contextualize this analysis within theories of the Self, of games, and of human-technology relationships. Using WoW avatars as an entry point, I examine when, how, and why this game provides rich fodder for understanding how we do and do not connect with digital objects.

CHAPTER 3: THE SELF AND EMBODIMENT

Every year we, the denizens of Suncrown Village, would take part
in a ritual to keep the different aspects of nature under our control.
Dominion over the element of water was symbolized by the
summoning and enslavement of an elemental named Aquantion.
Through a wicked perversion of our magic, the scoundrel broke his
bonds and enslaved us instead!

Geranis Whitemorn,
from the quest "Forgotten Rituals"
in World of Warcraft

The purpose of this study is to understand how relationships between players and avatars contribute to the emergent Self. In this chapter, I draw on existing approaches to the Self to argue that examinations of the Self must be conducted from theoretical frames that accommodate the potential for non-humans – such as avatars, games, and various mundane objects of life – to matter in human affairs. This chapter and the next draw on modernist and postmodernist views of identity and embodiment to identify problematic tensions in conceptualizations of the Self. These tensions set the stage for a reframing of the Self, in Chapter 5, that accommodates the complexities of the Self as it emerges across spaces, materialities, and other multiple contexts characteristic of postmodernity.

History of the Self Construct

In order to broach questions of how relationships between humans and technologies contribute to an emergent sense of Self, it is important to first understand past and current ways of understanding the Self. The "Self" has traditionally been defined as the sum total of all a person can claim to possess – body parts, psychology, processes, characteristics, possessions, and productions (Leary & Tangney, 2003) – and as singular, essential, enduring, and grounded in a physical body (Mead, 1934; Robinson, 2007). Also referred to, in various permutations, as self-concept (Markus & Wurf, 1987), self-construction (e.g., Bruner, 1997; Gergen & Gergen, 1983;

Miller, 1994), and self-perspective (Decety, 2005), it is broadly understood as referring to a person's understanding and awareness of individual existence, often according to specific characteristics such as gender, age, race, or sexuality. Such body-bound notions of Self are increasingly critiqued and considered outmoded (Haraway, 1991b; Little, 1999; Ribeiro, 2009). As communication technologies remove constraints of time and space, so the Self is disembedded from the body and rearticulated across contexts (Gergen, 1991).

Gergen (1991) argues that this evolution of Self from singular and enduring to disembedded and distributed occurred principally over three historical eras: romanticism, modernism, and postmodernism. While the origins of the individualized Self are debated (Gergen, 1991), it is argued that the notion emerged to fill the vacuum of doubting the existence of a soul, giving rise to the romantic and modern ages as we know them (Lyons, 1978). Prior to this "invention of Self," Lyons argues, humans thought of themselves as exemplars of social groups (e.g., professions, classes, religions), and the "soul" was not owned, *per se*, but placed by God into flesh for a fleeting period.

The romantic era, from roughly 1780 to 1850 (Christiansen, 1989) was characterized by a focus on aesthetic experience and the rejection of artificiality and production. Romanticist views of the Self rely on the notion of a mysterious, unknowable "deep interior" (Gergen, 1991, p. 20) that houses and gives rise to a range of human experiences: love, friendship, realization, imagination, spirituality, genius, morality, religion, passion, purpose. These important dimensions of the Self were understood to be beyond observation and reason, so the mysterious, romanticist Self was the realm of philosophers and poets. This sentiment is evident in Wordsworth's poem, "Lines Composed a Few Miles Above Tintern Abbey" (1798) in which he waxes nostalgic, overlooking a town he had visited in the past:

> Until, the breath of this corporeal frame
> And even the motion of our human blood
> Almost suspended, we are laid asleep
> In body, and become a living soul;
> While with an eye made quiet by the power
> Of harmony, and the deep power of joy,
> We see into the life of things.

Through imagination and appreciation for the genius of nature, the author is able to look past the poverty and dreariness of life in that town and to see the sublime in it (Harvey, 2010).

The modern perspective is characterized by science – an anti-romantic movement – and a focus on observation, reason, technology, efficiencies, and progress. This perspective drives a view of Self as having an essential, accessible truth. That is, the Self can be observed, measured, and understood, and the measure of a healthy Self is reliable, reasonable, and principled (Gergen, 1991). To not have an essence is to in some way be ill (Erikson, 1956; Kohut & Wolf, 1978; Levin, 1987). At its most extreme, the modernist view holds that the Self is the product of predictable mechanisms, as humans live their lives as scientists: observing, considering, deciding, evaluating (Kelly, 1955). As such, the essential, modern Self is the realm of psychologists.

The notion of identity was narrowly understood as singular, unified, and enduring, largely under the auspice of Christian conceptions of the centralizing soul (Gleason, 1983) or as the singular object of Self-reflection and awareness (Lyons, 1978), until empiricist philosophers began to question the unity-imperative. John Locke (1690) and David Hume (1739) problematized essential sameness by characterizing human life as participatory and fleeting. This problematization led to two evolutionary paths for the construct: a "primordialist" characterization where identity is permanent, deep, and located in the body, and an "optionalist"

characterization where identity is fleeting, shallow, and external to the body (Gleason, 1983, p. 920).

The term "identity" came into popular usage when Erikson (1956, 1959/1980) coined the phrase "identity crisis," and the term acquired a sort of vagueness that accounts for the full semiotic range, from singular and stable to varied and morphing (Gleason, 1983). Identity, as Erikson (1959) saw it, is a process "'located' in the core of the individual and yet also in the core of his communal culture, a process that establishes, in fact, the identity of those two identities" (p. 22). In other words, the individual self-identity and the contextualizing cultural-identity are mutually constitutive, making this assertion one of the first attempts at articulating how entities outside the individual human being could contribute to that being's understanding of his own existence.

Around the same time, symbolic interactionists Charles Horton Cooley and George Herbert Mead were attempting to resolve the question of how society and the individual influence each other. They spoke largely of "the self" over "identity" (Gleason, 1983). Mead (1934) argued that the self-concept is the view a person has of himself, a view that is constantly modified through interpersonal interactions – a person understands who he is, but in social interaction temporarily takes on the perspective of the other, sees himself as others see him, makes a judgment about the desirability of that perception, and adjusts his behavior and self-concept according to that judgment.

Mead differentiated between "me" as the Self when it is the object of reflexive perception, and the "I" as the experienced stream of consciousness and the experienced sense of existence. A permutation of that position was taken by Jung (1964), where the Self is an autonomous, coherent entity that unifies the conscious and unconscious minds. From there,

theorists began to focus on how a person may understand herself based on a perception of how she does or does not align with (that is, how she identifies with) social groups and how those groups dictate what languages, behaviors, and beliefs are appropriate (Gleason, 1983). For example, Linton's (1936) role theory gained popularity, grounded in the idea that social role and social status are linked together in how people view themselves. Other scholars argued that role theory lacked an explanation for why people might be motivated to identify with social groups (Gleason, 1983), and outlined identification as the claiming of and commitment to one or more identities where one accepts the "name" assigned according to social categories such as race, gender, and income (Foote, 1951). Acceptance of these named identities was not assumed to be absolute – as a person grew older, gained experience, and experienced a broader set of situations and categories, he could consciously accept, reject, combine, and modify these identities (Foote, 1951).

The postmodern era is characterized by technologies and skeptical attention to difference, deconstruction, complexity, flux, and transformation (Glass, 1993). While romanticist and modernist views of the Self regard humans as autonomous and as having an internal essence, postmodern perspectives see the essential Self as, effectively, disbanded. It is liquid and unsubstantial, produced through consumption (Gubrium & Holstein, 1994) and signification (Derrida, 1978), so that in each space, for each situation, for each audience and each motivation we perform a particular version of Self (Goffman, 1959). It loses its status as a meta- or master-narrative and is reduced to one of many ways of knowing the world (Lyotard, 1984). The notion of Self in this era is discussed in two primary ways: as a *loss* of the essential Self where the line between "me" and "not-me" is blurred or disrupted, and as a *liberation* of the Self, where what counts as "me" is independent of a physical body.

Kenneth Gergen's notion of "multiphrenia" (1991) illustrates the "loss" position. He argues that technologies of transportation, entertainment, and communication have driven a rampant relatedness. By removing impediments to enduring interpersonal relationships (e.g., distance, time, cost) we are "saturated" with possible, alternate selves that give rise to internal dialogues of contradiction. When the Self is "populated" with multiple and disparate potentials, he argues, we become pastiches, or imitations of one another and we swim "in ever-shifting, concatenating, and contentious currents of being" (p. 80). From this position, humans are in a state of crisis. We are under attack (Hoffman, Stewart, Warren, & Meek, 2009), transient (Adler & Adler, 1999), lost from our bodies (Glassner, 1989; Robinson, 2007), unable to find meaning (Denzin, 1993; Polivka, 2000), inauthentic and value-impoverished (Erikson, 1995). This apocalypse of the Self leads to a terrifying game of "playing with the pieces" (Baudrillard, 1987, p. 24), or the remnants of a coherent existence. The unified Self, then, is something to be reclaimed (Bernard, 2002).

The "liberation" position can be found in Sherry Turkle's early discussions of how people spoke of being unchained from their bodies so they could present various identities across various spaces (1995). She argued that we do not live in a single physical space, but instead across spaces and realities (Turkle, 1997). We find it in Boler's discussion of "digital Cartesianism" that draws from Descarte where the knowing subject "being without a body, not only has 'no need of any place' ... but actually is 'no place'" (Descarte in Boler, 2007, p. 332), yet this virtuality is still contradictorily tied in some way to the body as signification (Boler, 2007). That is, virtuality is transitional, always in service of the embodied self (Turkle, 1995). In this position, the human body is "meat" (Gibson, 1984), a "system" (Haraway, 1999, p. 211), or a social construction (Synnott, 1992) through which the Self is signified.

These two positions need not be mutually exclusive, as people may have the capacity to realize and embody these positions to different degrees. Schneider's "paradoxical self" (1999) describes the ways that some people are more able to understand themselves than others. He argues that people live on a continuum of constricted consciousness (narrow in the expression and experience) to expansive (ever-enlarging in expression and experience), and the extremes of these capacities are destructive – constricting to absence or expanding into chaos (Hoffman et al., 2008). For some, the ability to understand the inevitable transience of identity is to be wise (Eckel, 2002). For others, the debate is not a new or particularly critical one since virtuality has always been part of humanness (Levy, 1997).

The present study emerged from the postmodern liberation perspective, and particularly from the notions that although the body is relevant it does not alone define or signify the Self, and that the Self can be signified across multiple contexts in multiple ways. In the next section, I will review how these different approaches to the Self and identity have been applied in the study of digital worlds and digital bodies, and discuss the importance of Self-signification.

Postmodernity and the Multiplicity of Self

As perspectives on the Self progressed from romanticist singularity to postmodernist complexity, an important theme emerged: multiplicity. Multiplicity, generally, can be understood as simultaneous or successive differences in the nature or degree, quantity or quality, organization or order, durations or space, and fusion or juxtaposition of "the immediate data of consciousness" (Bergson, 1913). In other words, multiplicity is the experience of tensions among the various stuffs of subjective life.

The postmodern Self – liquid, mutable, fragmented, distributed – emerges as a multiplicity. The Self is seen by some scholars as the product of bricolage – a tinkering with

objects in order to develop ideas (Lévi-Strauss, 1966) – or an artifact of combined objects

encoded with deep meaning (Turkle, 2007). Toward the gloomy end of modernist stance on the

Self is Gergen (1991) who outlines a woeful progression from strategic manipulator (roleplaying

identities to achieve certain goals) to pastiche personality (borrowing bits of identity from

available cues and creating a mosaic Self) to the relational self (the total breakdown of

distinctions between authenticity and simulation, where "you" and "I" are reduced to "us"). The

spaces of public discourse are traded out for private spaces of bricolage, so that "we no longer

exist as playwrights or actors but as terminals of multiple networks" (Baudrillard, 1987, p.16). In

this view, the body is no longer the center of meaning-making but instead a node in countless

relationships with technologies and other actors.

Other theorists present more optimistic views of distribution and multiplicity. For

example, Louis Zurcherer's (1977) "mutable self" is a response to cultural demands to shift from

goals of stability to goals of process and being open to experience. Gee (2005) characterizes the

experience of Self as a "projective stance," where the Self and the world in which it is situated

are mutually constituted. Billig and colleagues (1988) posit that humans have found comfort in

the default of internal conflict, and that our capacity to deal with contradiction is a key

mechanism for dealing with demands of contemporary life. Emancipatory feminist scholar

Donna Haraway (1991a) celebrates partiality and situated subjectivity, contending that "the split

and contradictory self is the one who can interrogate positioning and be accountable, one who

can construct and join rational conversations and imaginings that change history" (p. 1).

In order to approach questions of how the postmodern Self emerges through relationships

between humans and technologies, this dissertation approaches the Self as having three distinct

features of multiplicity: multimodality, multiplexity, and multispatiality. I draw here on existing literature to discuss them.

The first feature of multiplicity is multimodality. Examining the Self from a postmodernist stance requires a definition of Self that moves beyond the canonized requirement of being grounded in a physical body. Viewing the Self as multimodal accounts for a wide range of entities that contribute to its emergence. That is, the Self is made of and arises out of many different types of entities that may or may not be associated with a physical human body and its direct experience. These entities are human and non-human, material and immaterial (Dolwick, 2009; Haraway, 1991a; Latour, 2005). If the Self and life experiences are play (Gergen, 1991), we may draw from parallel characterizations of play as an "assemblage" (Taylor, 2009) or a "mangle" (Steinkuehler, 2008). From these perspectives, experiences of play are constituted by interrelations of many actors that immediately and contextually impact play acts – rules, mechanics, narrative structures, community, body, technology, law, etc. (Taylor, 2007) The Self emerges not *only* from connections among attributes or behaviors or beliefs or body parts – although those are certainly important components (Haraway, 1991a; Boler, 2007) – but also from connections among discourses, structures, systems, objects, movements, geographies, economies, and potentially infinite numbers of other actors. Put simply, the postmodern Self emerges from *many different kinds of things*.

A second feature of multiplicity is multiplexity. As multimodal objects exist in the world, the key mechanism by which they give rise to the Self is in how they exist in complex relationships with one another. Sometimes one object relates to another object in many different ways – the relationship between them is multiplex. Multiplexity is an overlap of meaning or affiliation in the relationship between two entities (Verbrugge, 1979), so the relationship serves

46

more than one purpose. With respect to the Self, consider the example of two elements of everyday life: a pair of denim jeans (an inanimate object) and a person's derrière (part of an animate object). In one sense the relationship between jeans and posterior is a function of social norms: one must cover up one's rear-end in public. In other sense, the jeans may have particular meaning to the person for a number of reasons: they are extremely comfortable, they are of a designer brand and are seen as a status symbol, they make the derrière look particularly attractive. As such, the relationship between jeans and bottom is multiplex: it has physical, functional, social, and affective properties. These two objects, together, contribute to a sense of Self, as their multiplex relationship gives rise to a range of experiences, from awareness of the body and costuming practices, and from conformation to social norms to one's position among people of particular social status.

The third feature of the multiplicity of Self is its multispatiality. While digital technologies have changed the way humans store information and solve problems (Sparrow, Liu, & Wegner, 2011), digital spaces have also changed how we view and perform the Self. People live not only in physical space but as much so also in digital spaces, where each type of space is equally complex, layered, and socially constructed. As such, the Self is no longer defined by continuity of presence across time, geography, materiality, or audience (Butler, 1990; Giddens, 1991). Personhood and agency are no longer defined exclusively by the agency and features of a biological body, but also by objects, interactions, thought, emotion, intention and other phenomena interacting across multiple physical and digital spaces. For example, if wearing jeans is an important part of that person's Self, then perhaps that person uses a digital-world avatar that also wears jeans and has a Facebook profile picture that features jeans. In these ways, the state of wearing jeans can be articulated across the spaces of Facebook and digital world, as well as in

physical environments. This articulation of a particular dimension of Self across many spaces is possible because the everyday stuff of life – here, jeans and hindquarters – and the relationships among them are disembedded from their traditional contexts (Giddens, 1991). They are held as concepts that can be signified differently according to the affordances and constraints of various spaces. Thus we can see that, "reality isn't left behind … it's reformatted" (Murphy, 2004, p. 230).

The question of how the Self emerges with respect to digital technologies requires an understanding the ways that "the digital" is understood as a reformatting of reality and how scholars see the digital as distinct from the physical world or as just another part of it. In the next sections, I review current literature on these perspectives and how they are applied to studies of the Self.

The Self, the Digital, and Embodiment

Sociologist Nathan Jurgenson (2011) argues that the expansion and pervasiveness of digital media drove us to make distinctions between the digital and the physical and the online and the offline. He and other scholars (e.g., Davis, 2013; Wellman, 2013) see these distinctions as fallacious. Anti-dualists to some degree follow Latour's (2005) contention that humans and tangible objects are but one type of agent. Situating the Self firmly in physical or digital bodies leads to embodiments of contradicting identities (Murphy, 2004) and a concern for threats to whole identities (Merchant, 2006). In this section, I argue that in order to understand how the Self is signified through bodies and other objects, we must first evaluate how it exists independently of those bodies and instead across materialities and spaces. In problematizing this "digital dualism," Jurgenson outlined a typology of dualist perspectives that is useful in

understanding how the Self is researched according to different perspectives of what counts as "real" Self and experience.

Jurgenson's typology of digital dualism perspectives includes four types ranging from strong digital dualism to strong augmented reality, based on distinctness, shared properties, and interactions (Jurgenson, 2012a; 2012b) "Strong digital dualism" takes the position that the digital and the physical are different realities, have different properties, and do not interact. From this position the physical is "real" while the digital is not. Conversely, "strong augmented reality" takes the stance that the digital and the physical are part of one reality and have the same properties. From this position, there is a direct equivalence between humans and technologies. Both of these positions are considered fairly radical and so are only rarely found in scholarly literature (Jurgenson, 2012a).

At the center of the continuum, two "mild" positions both account for how both the digital and the physical matter and can interact, and have particular implications for considerations of the Self. Specifically, scholarship on the Self and the digital most often focus on two perspectives: how the Self is enacted in a single digital space and how the Self in digital space is different from the Self in physical space. Because of these dualist approaches, two primary discourses of Self and embodiment have emerged – disembodiment and hyper-embodiment – that correspond with different positions on the relationship between the digital and the physical (Davis, 2013).

"Mild digital dualism" takes the position that the digital and the physical are different realities, have different properties, but *can* interact. For example, a mild dualist perspective would consider texting and face-to-face communication as completely separate phenomena with different characteristics (e.g., acts of typing versus speaking), but as connected in some way,

such as the typed and spoken words having the same meaning. This perspective – along with strong dualism – maintains the displacement hypothesis (Valkenburg & Peter, 2007), that if you are participating in the digital, you cannot be participating in the physical. In other words, virtuality and physicality are opponents in the zero-sum competition for immersion and participation. In this way, mild dualist perspectives often assume that using digital technologies reduce sociability because physical interactions are taken as "real" interactions and digital ones are not (Nie & Hillygus, 2002; Nie, Hillygus, & Erbring, 2002). This position can be found in a range of scholarly work, including research on social ties (Matei & Ball-Rokeach, 2001), collaboration (Churchill, Snowdon, & Munro, 2001), tourism (Guttentag, 2010), education (Billinghurst & Dünser, 2012).

Discourses of disembodiment most often represent this mild dualist position: the body is left behind, along with any constraints of otherness or disability, and people may interact via non-physical embodiments that may represent their "true identities" (Foresight Future Identities, 2013). Being disembedded from the physical body, that body is no longer the only tool to signify the Self (Haraway, 1991a), and we use digital space as a "significant social laboratory" to "self-fashion and self-create" (Turkle, 1995, p. 180) and to "tour" other identities by appropriating alternative characteristics (e.g., race, gender) and, often, played out according to stereotypes (Nakamura, Kolko, & Rodman, 2000; Flew & Humphreys, 2005).

"Mild augmented reality" holds that the digital and the physical are part of one reality, have different properties, and necessarily interact. The digital, from this stance, is merely *one way* of knowing, representing, or being in a world where different ways of being have different characteristics. The zero-sum assumption of the displacement hypothesis is invalid in this view, since "reality is always some simultaneous combination of materiality and the many different

types of information, digital included" (Jurgenson, 2012a). There is an interplay and meshing among physical and digital activities, so that life and Self, broadly, are "re-enchanted" and often more meaningful and social (Chee, Vieta, & Smith, 2006). Therefore, for example, both face-to-face conversations and text messaging are part of a single reality and, while featuring different properties, the exchanges can and do inform each other. For example, while talking face-to-face a friend could ask for a text message to remind her of a party location. This position can be found in a number of domains, including research on storytelling (Bimber, Encarnação, & Schmalstieg, 2003), virtual world design (Jang, Kim, Li, & Joo, 2011; Roberts, et al., 2013), communication and collaboration (Faas, 2010), and therapy (Alamri, Cha, & El Saddik, 2010; Bretón-López et al., 2010).

Discourses of hyper-embodiment represent this mild augmented reality position and modernist positions on Self, where "technologies are employed as the authoritative means of knowing, constructing, and articulating the body" (Davis, 2013). These approaches are often aligned with the notion that subjectivity is medium-specific (Hayles, 1999; Farman, 2009), that "how we experience ourselves and how we come to know the world is shaped in meaningful ways by the materials that embody us. Materiality – whether physical or digital – shapes subjectivity" (Reys, 2013, para. 9). In some ways this position interprets that we can make sense of the body, and so the Self, through technologies that quantify our biological inputs and environments, states and moods, outputs and performance (e.g., Swan, 2012a). In other words, by using technologies to measure and evaluate a body, we can understand the Self as it emerges in relation to that body and technologies (Swan, 2012a, 2012b, 2012c).

In other ways, hyper-embodiment means that we can construct the Self through and with technology. For example, Robinson (2007) argues that digital performances of Self emerge in the

same ways as non-digital performances: the performative "I" and the reflexive "me" still inform each other but using different modes of "given" and "given off" (Mead, 1934). Further, the affordances of computing technologies, generally, allow for the creation of multiple digital or physical "back stages" (Robinson, 2007, drawing on Goffman, 1959). In this way, the Self is seen as digitally augmented – it manifests in different interface windows or in no windows at all, and properties of the digital and physical spaces permit Self-performances to be managed in different ways. This can also be understood in terms of Gee's "projective" identity (2003), where the player projects values and preferences onto the avatar, and also sees the avatar as a creative project to be manipulated. As such, physical and digital realities are seen simply as different spaces where the Self manifests according to the affordances and constraints of the environment.

The present study integrates the notions of disembodiment and hyper-embodiment to examine how the physical body is not the only means by which we may signify the Self as well as how we may craft such significations using the tools available in physical and digital spaces. This integrated perspective requires, however, an appropriate theoretical framework that accommodates the multiplicity of Self: 1) multimodality as the various tools for signification, 2) multiplexity as the ways those tools are tied materially and/or immaterially to each other, and 3) multispatiality as the condition for "unshackling," so that Self may be understood independent of the spaces in which it is signified. Such a framework must also present an opportunity for the consumption of Self-significations in order to accomplish the reflexive "me." In satisfying these criteria, such a theoretical framework (that I propose in Chapter 5) will consider the digital and physical stuff of everyday life as similar in its capacity to signify the Self, but different in how each qualitatively commits such signification.

In the next section, I discuss how the Self in digital games can be interactively embodied through an avatar and how digital and physical significations of Self may or may not interact.

Embodiment and Avatars

In many digital environments, people create avatars: textual or graphical representations of themselves to indicate their presence and activities in the space. In digital games, avatars are most often two- or three-dimensional bodies that players move around the gameworld and use to interact with objects and with other avatars. Most scholarship on avatars is an extension of the dualist perspective whereby avatars are digital bodies that are separate from physical bodies, so they are studied as opposing embodiments. Research on avatars often focuses on similarities and differences between pairs of physical and digital bodies: how can we look at physical body with a particular feature and predict a digital body with another feature, and vice-versa?

At its simplest, an avatar is "an interactive, social representation of a user" (Meadows, 2008, p. 23). At perhaps its most complex, it is an entity that haunts cyberspace as "the face of it-ness, who-ness, and what-ness, mediating community and unseating the subject's *Eigentlichkeit* (self-possession, and 'having' of what is my own)" (Apter, 2008). The term "avatar" comes from the Sanskrit word *avatara*, referring generally to a passing down into and beyond, drawing from the Bhagavad Gita scripture's teaching that Krishna would make a body when evil grew too strong (Little, 1999). Little translates this characterization of the avatar as a "mythic figure with its origin in one world and projected or passing through a form of representation appropriate to a parallel world. The avatar is a delegate, a tool or instrument allowing an agency to transmit signification to a parallel world" (p. 3).

The term "avatar" was first used in reference to computer-mediated experience in the novel *Songs from the Stars* (Spinrad, 1980), and first used in reference to on-screen characters in

the 1985 LucasFilm online roleplaying game *Habitat* (Little, 1999). The term was later

popularized in the cyberpunk novel *Snow Crash* (Stephenson, 1992). Today, "avatar" is used

quite broadly to refer to any representation of the user in a digital space – from a screen name or

Twitter profile image, to complex, animated graphic bodies such as those found in World of

Warcraft. The present research uses the term avatar to refer to a digital body: a three-dimensional

graphic form controlled at least in part by the human user, including the body itself and all

possible appearances, sounds, gestures, and movements.

      Much of the research addressing avatars and the Self frames the avatar as an embodiment

of the player's essential Self. That is, some dimension of the player's body-bound existence –

appearance, behavior, personality, intention – is translated, reinterpreted, or transferred to the

digital body. This approach often examines *identification*, or the ways the player sees the avatar

as himself (Giddings & Kennedy, 2008; Powers, 2003). Another variation in this perspective is

research that takes the features or behaviors of the avatar as signifying some dimension of the

player's Self. Games in general, and avatars in particular, are seen as sites for identity

construction (Taylor, 2002, 2009; Turkle, 1995). This approach often examines *representation*,

or the ways the avatar symbolizes the player's features, intention, or participation in a space

(Burn, 2003; Schroeder, 2002; Kolko, 1999). Sometimes the avatar is interpreted to represent

only one dimension of Self. Alternately, the avatar is seen as a proxy for the player, an "entire

self-representation" of the whole player, so to observe an avatar is to observe how a player

performs a digital embodied concept of Self (Yee & Bailenson, 2007).

      In this section, I review this literature and highlight the ways that avatars are understood

as embodying the player Self through appearance, personality, behavior. Throughout, I describe

the ways these approaches take a perceived dimension of Self (e.g., personality trait or discrete

behavior) and ascribe it to either the physical or digital body. Ultimately I draw from this literature to propose an approach that moves away from such ascription toward seeing the Self as emerging from the ways that digital and physical bodies interact with other entities.

Embodiment through Appearance

Much of the work on Self and avatars addresses how the avatar body aligns with or deviates in appearance from the user's physical body, often according to normative identity categories like race, gender, and age. The player Self can be understood as being signified through avatar appearance, as the digital body is constructed as a rhetorical device that directly affects social interactions in digital spaces (Kolko, 1999). Players often select avatars that reflect idealizations of their gender (Dunn & Guadagno, 2012; Yee, 2001), and craft them according to ethnic cultural norms of attractiveness (Sedikides, Gaertner, & Toguchi, 2003). Alternately, some users select avatars that do *not* align with their physical attributes as a means of rejecting avatar agency and influence (Conrad, Neale, & Charles, 2010) or to experiment with alternate identities without having to deal with daily consequences of being attached to those identities through physical bodies (Nakamura, 2002).

The exact shape an avatar may take is dependent on the affordances and constraints of the digital world platform (Dickey, 2005; Feldon & Kafai, 2007). Second Life avatars, for example, may be built through "extreme customization" with more than 150 sliders (Baig, 2003) to adjust everything from foot or nose size to eyebrow separation. There, to leave an avatar as a default body assigned to you upon entrance is a mark of a "noob" or "newbie" and may subject the user to criticism (Merola & Peña, 2010; Neustaedter & Fedorovskaya, 2009). The avatar need not even be humanoid, as in the famous case of the CTO of Linden Labs (the company that owns and operates Second Life) whose avatar took the form of a "flying spaghetti monster" (Au,

2007). In contrast, World of Warcraft players are limited in their ability to author their avatar. Players may choose from two genders, 12 races, 10 classes, and a handful of choices for hair, skin color, and features such as piercings or horns.

Avatar design may also depend on norms and cultures that govern social dimensions of the virtual world (Blascovich, 2002; Martey & Stromer-Galley, 2007; Yee et al., 2007). These norms could come from within the digital space and may be enforced by punishments imposed on the player through the avatar (Castronova, 2003), but may also come from outside of the digital space as players draw on everyday understandings of proper behavior and boundaries (e.g., politeness, ownership) to frame how they should behave through their avatars (Martey & Stromer-Galley, 2007). For example, avatars in Second Life tend to have gender-idealized and often highly sexualized avatars as a function of group and subculture identities and social norms for appearance in that space (Martey & Consalvo, 2011). These norms operate within the aforementioned affordances and constraints. For example, given the great freedoms for designing avatars in Second Life, having a fairly complex and unique avatar constitutes a social norm. Conversely, World of Warcraft, with its constraining avatar design system, does not promote a unique avatar body as normative (because any given avatar necessarily looks like many others) and instead the norm for a "good" or "elite" avatar is often the attractiveness of its costume or the rareness of its weapons. The reinforcement of visual norms may lead to less diverse avatar populations and stereotyped versions of what a body "should" be (Ducheneaut, Wen, Yee, & Wadley, 2009) based on stereotypes and prejudices (Kolko, 1999).

The shape and behavior of avatars in digital worlds also depends on the preferences and motivations of the person who creates it (Kafai, Fields, & Cook, 2007; Kolko, 1999). It is sometimes the case that players assign features to avatars that are most visible and most easily

replicable in their physical bodies, such as hair or clothing (Ducheneaut, Wen, Yee, & Wadley, 2009). Design preferences may emerge through creative urges, interest in fashion, or a need to look professional for digital world business interactions (Bardzell, 2009), or may emerge as simple aesthetic affinities or out of a sense of exploration for features seen as unattainable in their physical bodies (Kafai et al., 2007). In terms of motivation, players who roleplay – who play the game as a character rather than as themselves – are likely to create and dress the avatar as a particular character (e.g., a Warrior with a speech impediment, an Elf princess keeping her royalty a secret) in order to play an enduring role in often-complex storylines (Neustaedter & Fedorovskaya, 2009). Those seeking to extend their human characteristics in the world may craft a version of their bodies and tastes insofar as the avatar design system permits and framed by how that version fits into social norms (Kafai et al., 2007).

Avatar design systems often draw appearance, vocalics, postures, and language from stereotypic presentations of both Western and non-Western peoples. World of Warcraft, specifically, draws on stereotypical representations of "othered" races to design avatar races, with the Darkspear Trolls reflecting Carribean traits and the Tauren culture including dress, language, and architecture reflecting American Indian culture (Langer, 2008). Within and across game environments, avatar images draw heavily from cultural conventions of appearance (Merola & Peña, 2010; Apter, 2008), catering to what Webb calls a dependence on an "economy of visual pleasure" (2001, p. 586) where value and privilege of the digitally beautiful (Gonzalez, 2000) is derived from augmentation (Wark, 2007) and submission to the "post-human meat market" (Apter, 2008). That users tend to adopt avatars that are portraits of normative beauty or of fantasy (Jones, 2006) may explain why Humans, Night Elves, and Blood Elves are the most

popular races in WoW (Yee, 2010b), and why there is a visible gendering across all races (Corneliussen, 2008).

Through this body of scholarship, we understand that avatar appearance matters to players and that it is associated to varying degrees with users' perceptions of their own physical bodies and with sociocultural norms and ideals. What remains to be fleshed out, however, are the specific mechanisms by which the players' creation and engagement of an avatar are influenced by such bodies and social groups. To that end, I explore in Chapter 10 how social groups and identities contribute to how the Self emerges in relation to the avatar.

Embodiment through Behavior and Personality

This domain of avatar research addresses questions of how people behave similarly or differently in digital spaces through their avatars than they do in other contexts. Similar to avatar appearance, these studies often focus on how players use their avatar bodies and situate them in digital spaces compared to standard patterns of behavior for physical bodies. For example, when an unfamiliar avatar comes very close to a given player's avatar, that player will often mirror physical-world proxemics, becoming physiologically aroused (Llobera, Spanlang, Ruffini, & Slater, 2001) and moving their avatar away from the unfamiliar entity (Friedman, Steed, & Slater, 2007). These behavior patterns appear to mirror cultural conventions in physically embodied behavior, as when Asian players keep their avatars further apart than do European players (Hasler & Friedman, 2012) and gender differences, as female players may be more sensitive to other avatars' non-verbal cues (Blascovich & Bailenson, 2011). This research suggests that some dimensions of the avatar's social and environmental conditions may be experienced vicariously by the player, and players draw on non-game conventions to decide how

their avatars should behave in the game. In other words, specific dimensions of Self related to how a body should be situated in space are re-enacted through avatar behavior.

In addition to relative positioning, avatars are also understood as embodying the Self in the ways that players move the digital bodies across gameworld environments and how avatars are used to perform animated gestures in those spaces. These modes of communication are part of a multimodal game literacy that players must learn to communicate effectively in the game (Gee, 2004). In joining a game, avatar movements (e.g., walking or jumping) and gestures (e.g., waving or dancing) may help new players acculturate into the gameworld community and evolve an identity they can perform in that world (Ward, 2010), as do "sojourners" in and "immigrants" to unfamiliar physical world cultures (Kim, 2005; Nishida, 2005). Although avatar gestures or "emotes" are understood as important to player experience and addressed as a key design task by game designers (e.g., Skorupski, McCoy, Zanbaka, Ryall, & Mateas, 2012), the nuances of player expression and communication through gestures are not deeply understood. Players' abilities to use emotes or gestures are moderated by the game design and controls, and as a result game design may constrain the ways players can express the Self through avatars (Pita & Pedro, 2012; Valkyrie, 2012). The ability or inability to gesture through intuitive controls may impact how players bond with the avatar and feel a sense of presence in the gameworld (Williams, 2013).

Through this body of work, we understand that people often draw from physical world norms and behaviors to decide how to act in virtual worlds, however the game design and supporting technologies can constraint how players are able to represent themselves in relation to their avatars. What is not yet understood, however, are the specific ways that players experience affordances and constraints of play technologies and social groups as supporting or constraining

their goals in the game. To that end, I also explore in Chapter 10 how technologies contribute to how the Self emerges in relation to the avatar.

Player, Avatar, and Contextual Cues

Although research on avatars and player embodiment sometimes draws on assumptions that people shift in their Self-presentations from one context to the next (see Markus & Wurf, 1987; Markus & Kunda, 1986), often researchers take a dualist approach. In this work, patterns in avatar behavior are compared to patterns in player behavior, and how one embodiment drives behavior for the other. In some cases, the player personality has been shown to prompt the creation or performance of the avatar personality, especially when considered with respect to other player characteristics like gender. For example, Dunn and Guadagno (2012) found that men who are more open to new experiences were more likely to select darker avatar skin tones, and people of either gender who had low self-esteem tended to pick lighter skin tones, suggesting a personality-driven disposition toward what could be considered a "safer" feature.

Another approach examines a causal reversal: whether avatar features are seen as driving the expression of discrete personality traits. In other words, as players' digital embodiments change, so do players' behaviors. The potential for behavior transformations according to avatar traits is known as the "Proteus Effect" (Yee, 2007; Yee & Bailenson, 2007), and has been tested for a range of avatar attributes and behavioral patterns. Research shows that people assigned to more attractive avatars tended to be more intimate in communicating with and standing near other avatars than those with unattractive avatars, and those with taller avatars tended to negotiate more confidently and aggressively than those with shorter avatars (Yee & Bailenson, 2007); both height and attractiveness have been linked to high performance in online games (Yee, Bailenson, & Ducheneaut, 2009). Avatar-priming through colors (black versus white) and

character archetypes (Ku Klux Klan members versus doctors) has also been linked to differences in aggression, negative thoughts, and lack of group cohesion (Peña, Hancock, & Merola, 2009). Further, these priming effects have been shown to transfer to face-to-face interactions after leaving the digital space and the avatar (Yee, Bailenson, & Ducheneaut, 2009), suggesting that the benefits or detriments garnered from changed embodiments can carry over into native embodiments in scenarios ranging from exercise and weight loss (Fox & Bailenson, 2009; Jin, 2010) to body image and attitudes toward rape (Fox, Bailenson, & Tricase, 2013).

It is possible that social contexts and norms may prime players to create and use avatars seen as having personalities very different from their own and to heighten the tendency to idealize the avatar's positive personality, especially in anonymous or pseudonymous environments like digital games (Sung, Moon, Kang, & Lin, 2011). Tendencies to imbue the avatar with ideal personality traits (Bessière et al., 2007) may be associated with the player feeling strong identification with the avatar and with social play groups (Van Looy, Courtois, & De Vocht, 2010), and overall life satisfaction and perceived competitiveness of the game (Trepte & Reinecke, 2010). Players also tend to draw on non-game norms and practices to decide how avatars should behave in digital spaces, even though the digital environment removes many of the constraints of physical space. For example, in open worlds like Second Life, players often create houses with chairs and tables even though an avatar has no physicality that requires sitting or eating. These practices draw from both game designers' and game users' expectations of human embodiment, of "matched affordances" between physical and digital bodies, and of congruent perspectives among users and avatars that humanness and congruence is how it *should* be (Yee, Ellis, & Ducheneaut, 2009).

Avatars may also embody whole personalities that are seen as very different or completely separate from the player's personality, so that the avatar is a character in the game or individual narratives. This "roleplaying" is a popular way to approach fantasy-based digital games like World of Warcraft, EverQuest, and DC Universe Online, distinguishing these games as "MMORPGs," or massively multiplayer online roleplaying games. Rather than playing the avatar as a gamepiece or as themselves, roleplayers will often craft complex characters and play the game *as* that character. Such an approach allows players to "act within a representation" (Hillis, 1999; Jones, 2006; Tofts, 2003) as a stage actor would play a role (Laurel, 1993; Linderoth, 2005). This type of play is seen as being achieved when players imbue avatars with personalities (Guitton, 2010) and permit themselves to suspend a) disbelief that the character is not real (Coleridge, 1817) and b) consciousness of their own identity so they may see the gameworld through the character's perspective (Cohen, 2001). Often, this type of play is viewed as creative or performance play (Apter, 2008; Messinger, et al., 2008; Schroeder, 2008; Webb, 2001; Vasalou & Joinson, 2009) where the avatar embodies a crafted personality. Such roleplaying has been identified as driving functional and social motivations (Burn & Carr, 2013; Bowman, Schultheiss, & Schumann, 2012) and deepening game immersion and enjoyment (Bartle, 2001; Bowman, Rogers, & Sherrick, 2013), however it also increases the gap between researchers' perceptions of a "true" Self and the identity performed through the avatar (Dunn & Guadagno, 2012). Through this research, the game interface is seen as a window to a fantasy gameworld and players experience the world vicariously through the avatar (Marsh, 2005).

From Embodiment to Signification

In the previous section, I described the ways that current approaches to avatars and the Self focus on notions of embodiment, where ways of being – from race and gender to personality

and behavior – are viewed as firmly rooted in a physical body and sometimes transferred or represented in particular ways to the digital body. The majority of this scholarship rests on a limited collection of approaches that reinforce modes of observable embodiment: ethnographic and autoethnographic exploration (e.g., McKenna, Gardner, & Myers, 2010; Nardi, 2010), pseudo-experimental testing (e.g., Hancock, Merola, & Peña, 2006; Yee & Bailenson, 2007), in-world interception and surveying (e.g., Dean, Keating, & Murphy, 2009; Messinger, et al., 2008). Although certainly making contributions to our understanding of in-world experiences, these approaches – with few exceptions (e.g., Taylor, 2009) – take up the Self as singular, enduring, and rooted in the physical body. This work also carries very specific assumptions about what attributes qualify as important dimensions of identity, often relying on typologies (e.g., the "Big Five" traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism (Digman, 1990)) rather than participants' situated, subjective understanding of who they are and how they fit into the world.

These approaches collectively produce scholarship that examines how avatars are used as ways to consciously or unconsciously project the Self. In this work, avatars are understood as masks (Galanxhi & Nah, 2007), surrogates (Gee, 2006), vehicles (Carr, 2002), costumes (Merola & Peña, 2010), symbolic objects (Giddings & Kennedy, 2008), totems (Apter, 2008), narratives (Webb, 2001), bundles of resources (Castronova, 2005), and as tools, roles, and props (Linderoth, 2005). Although these characterizations tell us what players *do* with avatars, such approaches do not advance our understanding of the subjectively experienced relationship between players and avatars – how the two agents connect with one another. In fact, this literature *cannot* address the question of the connection between a player and an avatar as a relationship because the approaches taken in that work do not leave room for the sociality of

non-humans. That is, these characteristics do not account for avatars' potential agency – that potential to matter – in the relationship. Further, much of this research does not leave room for a single characterization to combine with another, making for a disjointed collection of metaphors rather than an integrated view of how the player-avatar relationship may vary from case to case.

In other words, existing scholarship most often describes the avatar as a tool – a container or a canvas – for the carriage of Self into a digital space. These approaches do not accommodate the complexities of postmodern views of Self as a multiplicity, as emergent, and as reflexively consumed. I argue that in order to understand the postmodern Self, we must move away from the comfort and intuitiveness of embodiment perspectives to approaches that consider how the Self emerges from the relations among everyday objects and how the Self may be signified through them. Digital and physical bodies are among these things, but they are not the *only* things that may produce this relational signification of the Self.

In Chapter 5, I present an approach that accommodates mulitiplicity by reframing the Self as a network in which physical and digital bodies are but two objects among many. In order to address the ways that the Self may emerge with respect to relations between these two objects, it is first important to understand what is currently known about the nature of that relationship. In the next chapter, I compare common approaches to technologies as "tools for humans" to alternative approaches that de-privilege the human to highlight the ways that complex relations among objects can matter for the emergent Self.

CHAPTER 4: HUMANS AND TECHNOLOGY

...what we need is a priest!

Fortunately I have a small budget set aside for the blessing of machinery. Take this flare gun and head over to Margene, my poor sweet busted bulldozer. Fire off the signal and one of our finest airborne priests should airdrop in to get a handle on the situation. Come back when my bulldozer is taken care of!

> Custer Clubnik,
> from the quest "Dozercism"
> in World of Warcraft

As humans walk about the world in our daily lives, we encounter people, objects, ideas, and events that in small ways change who we are: turn left at an intersection, play a video game, contemplate a star, chime "Good morning!" Because we engage the mundane stuff of everyday life, we never have the exact same sense of who we are from moment to moment. We can understand this everyday stuff as contributing to the emergence of Self. Media technologies can be particularly powerful contributors to a sense of Self, as they are part of daily rituals, as they seem responsive or event sentient, and as we bring them into our homes and even attach them to our bodies. The potential for this technological intimacy is particularly strong when the technologies are interactive, as with digital games. In these games, players often create avatars – digital bodies to represent themselves in the game. In this creation, players choose features and qualities for their digital surrogates and with the click of a button – the "virtual orgasm" (Reid, 1996, p. 341) – an avatar enters a digital world inside our physical world. With that same click, the player enters into the uncanny situation of having two bodies – one of meat and one of pixels. Often, players interact with these avatars regularly and see them as part of their everyday lives.

The purpose of this study is to understand how relationships between players and avatars contribute to the emergent Self. This endeavor requires a particular theoretical frame that can

accommodate the potential for non-humans – such as avatars, games, and other mundane stuff –

to matter in human affairs. In the preceding chapter, I argued that material and immaterial

objects – from shoes and cigars to pixels and cultures – matter and contribute to a sense of Self.

This study's purpose is to understand the Self with respect to how two particular objects – player

and avatar – matter to each other as they are situated among other objects. Current perspectives

on connections between humans and technologies highlight the ways that humans are framed as

users, technologies as tools, and how technologies matter depending on whether or not that use is

successful within particular sets of values. In this chapter, I review existing perspectives on

humans' connections with technologies and critique current perspectives on the relationality

between players and avatars. I draw on cyborg theory and object-oriented perspectives to argue

for a shift from focusing on "relationality" to "relationships" in studies of technologies and

humans and, specifically, of avatars and the Self.

Human-Technology Relationality

Inquiries into humans' connections with their technologies draw from a range of

perspectives. Technologies have been characterized as artifacts or tools (Postman, 1993) and as

social constructions or actors in systems (Latour, 1991, 1992; Law & Callon, 1992). They are

also seen as continuously constituted realities that frame the world for us (Introna and Ilharco,

2003), especially in ways that cause us to be more dependent on them (Heidegger, 1927) so that

we must adapt to them as necessary conditions of human existence (Ellul, 1964).

Poststructuralists understand technologies as negotiations of reality (Baudrillard, 1983; Virilio,

1994, Lyotard, 1994). Skeptics, luddites, and primitivists similarly view technology as

tyrannical, dystopic, and dehumanizing (Carr, 2010; Dreyfus & Dreyfus, 1986; Dreyfus &

Spinosa, 2003; Vicente, 2006; Zimmerman, 2000).

Much of our understanding of the connection between humans and technology focuses on the ways we tend to take them up as tools and the various factors that contribute to whether and how we embrace them. Drawing from research on how farmers' behaviors in purchasing innovative hybrid seeds (Gross, 1942; Ryan & Gross, 1943), Rogers (1962) argued that the acceptance of technologies spreads through communities differently depending in part on which people adopt it first and whether or not those adopters can influence others in the community. Individual adoption of technologies is often understood as a function of beliefs people hold about technology, how those beliefs influence attitudes, and how attitudes drive technology adoption and continued use (Azjen, 1991; Davis, 1989; Fishbein & Azjen, 1975). These beliefs include perceptions of usefulness, ease-of-use, compatibility with lifestyle and values, self-efficacy, control, security, comfort, enjoyableness, quality, and social value and support (Ha & Stoel, 2009; Karahanna, Agarwal, & Angst, 2006; Lewis, Agarwal, & Sambamurthy, 2003; Parasuraman, 2000; Vekiri & Chronaki, 2008). Such beliefs are formed through exposure to many individual, institutional, and social influences when learning about technologies, and are heavily shaped by how social influencers are thought to perceive them (Lewis et al., 2003). Often, users will weigh the perceived costs and benefits before engaging a technology (Mitzner, et al., 2010), and the realization of benefits drives continued acceptance and use (Thong, Hong, & Tam, 2010; Turel, Serenko, & Bontis, 2010).

While adoption and acceptance models focus on how humans act *toward* technologies, other perspectives highlight how technology makes us feel and how we relate to them. For example, Idhe's (1990) typology of human-technology relationality in terms of how objects that shape our experiences of the world. The typology rests on an "I-technology-world" formula where the ways technology emerges from or fades into the background are depicted with

brackets. For example, a humans' connection with a window would be an [I-window]-world relation, where the technology that is the window is a medium for the experience of the outside – it transforms our perception of it, but also becomes part of the perception of the outside. The window – and other objects – matter in how we see the world and ourselves in it.

Other approaches move even more toward acknowledging the ways that technologies play a role in the human experience, and vary in how humans and technologies are more or less integrated, more or less equal, and more or less social. Object-oriented ontology (OOO), for example, takes that humans and objects are separate, equal, and, as equals, relate to each other the same way. Specifically, OOO de-privileges human existence (Harman, 2005) and holds that non-humans exist outside of human perception (Harman, 2002), and that objects cannot be completely "known" because when any entity relates to another entity, that relationality distorts its nature (Harman, 2011). Technologies, cultures, ideas, people, institutions are all objects on equal footing. The perspective has been expanded by other theorists and applied to technologies as particular types of objects. For example, Ian Bogost's "alien phenomenology" (2012) argues that objects exist and relate to one another, and all objects have "inner lives" and those ways of being frame how objects experience the world. We cannot, however, comprehend these "alien" ways of being because we understand them through our own sense of Self, as selfhood is the human-object's "inner life." For example, he argues, we can understand the parts of a camera and how an aperture works, but we cannot understand what it is to sense light and adjust focus and establish a connection between the light and the film as those events unfold for the camera. Similarly, we can know a video game character's script and movements and understand that it is programmed, but we cannot know what it is to respond to those scripts or respond to a mouse-click. We do not know what it *is to be* anything other than our existing Self.

It is possible that, because we cannot understand what it is to *be* a technology and only know what it is to be a particular human, we treat technologies as we treat humans. The Media Equation postulates that we do just that (Reeves & Nass, 1996). Specifically, Reeves and Nass argue that we apply social rules and expectations to computers, including gender and race stereotypes, politeness and reciprocity, and other human qualities and personality traits (Nass & Moon, 2000). We have preferences for personalities conveyed by technologies' audiovisual cues (Isbister & Nass, 2000; Johnson, Gardner, & Wiles, 2004), we help computers that we see as helping us (Fogg & Nass, 1997), and our perceptions of them draw on social cues in the same way as our perceptions of humans (Nass & Moon, 2000). The more that technologies are similar to us, the more we like them (Blascovich et al., 2002; Hoffman, Kramer, Lam-chi, & Kopp, 2009; Lee & Nass, 2003; von der Putten, Kramer, Gratch, & Kang, 2010).

While OOO holds that non-humans matter in the world as objects separate from but equal to humans, cyborg theories consider how technologies and humans become enmeshed and often attend to power differentials in this integration. From this perspective, technologies and humans integrate as "cyborgs" or cybernetic organisms. A cyborg is an entity with both organic and cybernetic parts, where "cybernetic" refers to the quality of an animal, machine, or other system having internal control and communication mechanisms, requiring the ability to receive, store, and process information (Wiener, 1948). It is "a hybrid of machine and organism, a creature of social reality as well as a creature of fiction" (Haraway, 1991a, p. 149).

The term "cyborg" originated with notions of how humans enhanced by technologies (devices or drugs) might be able to survive in extra-terrestrial environments (Clynes & Kline, 1960). Today, the idea manifests in a range of domains. In medicine, technologies join with humans to restore or enhance bodily functions through implants, prosthetics, and monitors – the

integration can even be so intimate as to enmesh technologies into specific types of tissue or individual blood cells (e.g., Fakhrullin, Zamaleeva, Minullina, Konnova, & Paunov, 2012; Ferguson, 2012). In computing, "dynamic epithelial artifacts" or digital tattoos are emerging as a way to interface with information (Bitarello, Fuks, & Queiroz, 2011). Increasingly, the systems of everyday life are framed as cyborgic systems, from social networks (e.g., Chu, Gianvecchio, Wang, & Jajodia, 2010) and governments (Clifford, 2012) to human-controlled insect flight (Ananthaswamy, 2012; Sato, et al., 2010) and theatre productions (Morrison, 2012). Despite speculations of impending apocalypse from these integrations, as early as 1818 with the appearance of Frankenstein's monster (Shelley) these notions have been accepted as themes in popular culture: The Borg in *Star Trek*, cyberpunk fiction classics *Snow Crash* and *Neuromancer*, and the 2009 blockbuster *Avatar*.

These trends in "cyborgization" – an acknowledgement or process of biological/technological integration – have been described as an acknowledgement of a necessary transhumanism (Giordano, 2012). That is, these trends reveal the image of a "human-in-transition" through dependence on technology and a world-view driven by that dependence (Giordano, 2012, p. 10). We can understand humans as being in an "intermediate" state of cyborgization, as we start to see technologies as social. This perspective changes how we interact with them, and we become more comfortable with notions of machines autonomously performing traditional human functions such as learning and creating (p. 197). As we begin to accept technologies as social, we may also expect them to be more like humans, as we find greater comfort with human-like computer agents (such as avatars or virtual assistants) when their behaviors and speech have believable, naturalistic human qualities (Andre, Klesen,

Gebhard, Allen, & Rist, 2000). This nascent acceptance of technologies as social agents prompts questions about the nature of the mind and the Self (Giordano, 2012; Turkle, 2003).

These notions of the cyborg Self return us to the postmodern "loss" and "liberation" positions regarding the Self. In loss positions, the Self as an essence or an enduring core is compromised, interrupted, or broken by integrations of the human organism and technology. In liberation positions, technicization of the organism invalidates the ties between the organic body and Self and so we are freed from normative identities and restricted ways of being (Haraway, 1991a). These perspectives are often distinctly in opposition with respect to cyborg issues. For example, some cyborg theorists argue that the interfaces between technology and gendered bodies can interrupt traditional notions of masculinity and femininity (Masters, 2005), and others maintain that these interfaces instead reinscribe and revalue gender norms (Gray, 2003). For example, a "cyborg soldier" might be a human body augmented with hormones, information, and weapons and be gender-neutral, but it may also be viewed as a reinterpretation of the masculine as it is a biomachine, a tool of violence (Masters, 2005). Likewise, some argue that as we perform our lives through social networks, those cyborgic memory machines allow us write real-time, hyperlinked, autobiographical narratives in such a way that we can always vividly remember our favorite days and the images of our loved ones never fade. Others argue that the past is collapsed into the present – always available, always lucid – so that we lose our ability to forget, heal, and evolve (Boesel, 2012) by interrupting the meta-narrative of our essential, enduring, and idealized Self (Wanenchak, 2012). Others still argue that these distinctions are moot, as we are always in the process of becoming integrated with our tools, and yesterday's cyborg will be the norm (Ploeger, 2010), and we will only become cyborgic post-humans when

we forget what it was like to be human (Doyle & Taey, 2007) and otherness is not an issue of the body, rather a "code problem" (Masters, 2005, p. 124).

In tandem with the emancipatory disembodiment view of the postmodern Self, cyborg perspectives are helpful ways to understand human-technology relations in ways that put humans and non-humans on equal planes of mattering. In other words, approaching human-technology relations from an object-object relations standpoint accounts for the sociality of objects and how non-humans can matter to the human experience. In particular, it is helpful to understand player-avatar connections as cyborg relations. In the next sections, I review current perspectives on players and avatars and argue that, because of the particular sociality of these objects we should consider player-avatar relationality as a *relationship.*

Player-Avatar Relationality

The present study focuses on a particular type of human-technology relationality – that between a World of Warcraft player and an avatar – and how the Self emerges from and is signified through relations among those two entities and the myriad of other human, non-human, and intangible actors that contribute to acts of play. It is helpful to think of the relations between the player and the avatar as being cyborgic in nature. That is, the player (an organic component) and avatar (a digital component) are connected in a system, as each exists in relation to the other and to other objects. This system is cybernetic, according to Wiener's (1948) requisite conditions of having internal controls and communications, as the player and avatar are engaged in feedback loops – the player sends messages to the avatar by pushing keyboard and mouse buttons, the avatar sends messages to the player through the game interface by responding to those commands, and the player sends additional messages based on those responses.

The discrete relation between the two bodies in the player-avatar amalgam is often understood as liminal – existing on the threshold between the two. Often, this threshold is understood as the game interface (Boudreau, 2012; Gee, 2005), however it can also be understood as the line between "the world we think of as external and real and the thoughts in our mind that we take for fantasies. When we are in a threshold state [we are] filled with the real sensations and emotions for imaginary objects" (Murray, 1997, p. 292). These liminal perspectives, however, draw on dualist assumptions, as they privilege the difference between digital and physical bodies, and try to understand how those bodies connect through hardware. More integrative approaches work to understand how player and avatar are fused through and as part of a more complex system of other objects: the game software, the hardware, the game designers, the branding, other players, other avatars, and more. Such fusion occurs at the moment the character is first created, as that is when "the line between player and character is the most clouded and the most transparent" (Reid, 1996, p. 341), and the perception of this joint identity may fade over time (Martinez, 2011). Acts of play emerge in this feedback loop – interaction is not random, instead emerging from the ways that information flows across the interface, a flow that may be influenced by these other objects (Burn, 2003; Gee, 2005; Heaton, 2006; Manovich, 2001, Perron, 2006).

There is both pleasure and confusion in this body-body relationality and in the ways that notions of human and non-human, physical and immaterial are broken down and rebuilt (Haraway, 1991a) in spirits of experimentation and transcendence (Apter, 2008; Butler, 2004; Stone, 1995; Turkle, 1995; Boler, 2007) and goal efficiencies (Barr, Noble, & Biddle, 2007; Yee, 2006). For example, film has been described a mirror that reflects many dimensions of Self, but never reflects the spectator's body (Metz, 1982). In contrast, digital games provide avatars as

surrogate bodies so that the players can, to varying degrees, consider reflections of themselves in the space (Rehak, 2003). In this way, the ego is seen as re-constituted in the gameworld and positioned against social others in that world. Avatars permit players "a cycle of symbolic rebirth: a staging, within technology, of the player's own 'vicious circle of ego-confirmation'" (Rehak, 2003, p. 107) as avatars render players' intention visible. In this way, avatars present players with opportunities for "playing-at-being" (Rehak, 2003, p. 103) – for examining the intentional Self in recursive, experimental permutations.

While such theorists attend to the messiness and complexity of relational potentials, empirical investigations of player-avatar relations focus primarily on the way the player acts on, thinks about, and feels toward the avatar as an object. In other words, although the field feeds on theories about how the player and avatar intersect as cyborgs and how a new kind of Self emerges, the phenomenon is *empirically* investigated as a one-way phenomenon of the player thinking, feeling, or acting *toward* the avatar. As a result, much of our understanding of player-avatar relations rests on three intertwined phenomena: identification, attachment, and instrumentality.

Identification is the degree to which players see avatar *as themselves* or not. That is, whether or not the player identifies with the avatar as being similar to and representative of the player in the gamespace. Through this sameness, avatars become "conduits of the meanings and illocutionary force of the controller's acts" (Wolfendale, 2007, p.196) and serve as conscious (Wolfendale, 2007) or unconscious (Merchant, 2006) communications of the user's sense of Self. The ways a player identifies with an avatar may include dimensions of emotions during play, absorption in play, senses of presence and embodiment, positive affect toward the game, wishful thinking, and a general perception of sameness (Li, Liau, & Khoo, 2013; Van Looy,

Courtois, De Vocht, 2010). These perceptions and experiences are thought to emerge from player interactions with two distinct grammars of play: the narrative structure (e.g., character stories and aesthetics) is offered to the player and may or may not be taken up, and the rule structure (e.g., mechanics and goals) is demanded by the game as a condition for play (Burn & Schott, 2004). Avatar identification has implications for how people respond to the game in general, including having aggressive feelings (Eastin, 2006), enjoying play overall (Trepte & Reinecke, 2010), and perpetuating positive behaviors learned in games (Fox & Bailenson, 2009).

Attachment, broadly, is the degree to which or the particular ways a player cares about an avatar, and may incorporate dimensions of avatar-identification described above. Sometimes this attachment results from a "psychological merging" of the player and avatar, resulting from a sense of identification, physical control, responsibility, and suspension of disbelief (Lewis, Weber, & Bowman, 2008). Heightened attachment to an avatar has implications for enacting prosocial behaviors over antisocial behaviors (Bowman et al., 2012; Wolfendale, 2006), and appreciating the gameplay as having strong meaning (Bowman et al., 2013).

The player-avatar connection is also instrumental. That is, players take avatars as tools – as means to play the game in different ways. For some, the avatar is an "access point," a necessary condition for being in the game and performing an identity (Taylor, 2002). In addition to instrumentality of the avatar, the connection or relation itself may be instrumental – players may have multiple connections with a single avatar that they cycle through quickly and successively in order to achieve specific goals (Schultze & Leahy, 2009). These goals vary by player, and stem from achievement motivations (advancing in the game, mastering mechanics, competing), social motivations (socializing, building relationships, enjoying teamwork), and

immersion motivations (discovering the gameworld, roleplaying characters, customizing the game experience, and escaping and relaxing) (Yee, 2006).

Many of the instruments measuring these dimensions make assumptions about what is perceived as belonging to the avatar and what belongs to the player, including personality traits, abilities, and authority. For example, one identification-scale item presents the prompt: "I feel the same joy my character experiences when a task is accomplished" (Li et al., 2013) – it presumes that a particular type of empathy exists in the relationship. This rests on an assumption that the player perceives the avatar as experiencing "joy" in the first place. Such approaches highlight the need for a better understanding of the ways that phenomena are experienced as "belonging to" various agents. Further, as discussed earlier, these approaches generally take player-avatar relations as being one-way. That is, the issue of concern is that the player takes a particular stance toward the avatar. In the next section, I draw from the literature presented in this chapter to argue for a shift from looking at player-avatar connections as relations between embodiments to *relationships* between *social agents*.

From Relationality to Relationships

In the previous section, I described how approaches to human-technology relations and to player-avatar relations, specifically, are unidirectional – they tend to focus on how the human element exists or behaves with respect to the technological element. As a result, we have a good understanding of what humans do with technology – whether it is used, how it is used, what comes out of its use. Although these understandings are important, we do not have a clear picture of how relational meaning emerges through the cyborgic feedback loops – those recursive, bi-directional flows of information between the human and the non-human. Throughout this chapter, I have drawn on literature that highlights the importance of how objects relate to each

other and how that relationality contributes to the human experience. There are many kinds of objects, and humans are but one particular kind. Although, in social science, we are studying human phenomena, we need not privilege the human in the study of human affairs. In fact, de-privileging the human helps scholars attend to the ways objects matter to human experience.

In examining the way objects relate to each other, we acknowledge that a particular type of meaning emerges when humans relate to each other – human-human relationality sometimes produces emotion, attachment, responsibility, advantage, commitment, or other value-laden effects. This mindful, valenced relationality and recursive influence or impact constitutes a relationship (Burscheid & Peplau, 1983; Harvey & Pauwels, 2009). Sometimes, human-nonhuman object relations have these same properties, as when a person loves a dog and the dog exhibits affection in return, or when a person treasures a concert t-shirt because it reminds that person of a memorable day, and so refuses to throw it away. We can understand it, simply, in this way:

$$object + object = relation$$

$$relation + subjective\ meaning = relationship$$

Connections between players and avatars are one such relation – they sometimes have properties mirroring human relationships. As such, the present study examines player-avatar relationality for its potential as a *social relationship*.

This perspective is common in studies of presence – "the perceptual illusion of non-mediation" (Lombard & Ditton, 1997, para. 30). Through this illusion, audiences or users experience social richness through perceived intimacy and immediacy (Argyle & Dean, 1965), perceive accurate representations of objects and events (Potter, 1988), feel transported into an environment (Reeves, 1991; Green & Brock, 2002; Green, Brock, & Kaufman, 2004) or a sense

of being with someone (Lanier & Biocca, 1992), feel immersed in a space or situation (Biocca & Levy, 1995), and respond to cues from mediated social actors (Horton & Wohl, 1956) and from the medium itself (Reeves & Nass, 1996) in parasocial interactions. Through these interactions, audiences may form strong senses of presence, identification, and intimate feelings with characters in television shows, movies, and other media (Cohen, 2001; Rubin, Perse, & Powell, 1985) as well as video game characters (Bowman et al., 2013; Gee, 2004; Juul, 2005). These intimacies with video game characters may be even deeper because, rather than a distal connection with a media character that does not respond to the audience, there is a tangible connection through the customization of (Bailey, Wise, & Bolls, 2009), control of (Klimmt and Vorderer, 2003), and response from (Lewis, et al., 2008) a game avatar. It is possible that these qualities may be especially strong when our technologies appear to be like us, as do humanoid avatars in gameworlds, although avatars that seem *too* human may set up high expectations of humanness that the avatar cannot fulfill, resulting in low senses of presence and sociality (Nowak & Biocca, 2003). In relations with digital games and avatars, we "do not simply play but are played. We do not simply configure but are configured" (Taylor, 2009, p. 336). Because of this sociality – this potential for objects to matter through bidirectional exchanges – I argue that human-technology connections should be examined from a "relationship" approach over a "relationality" approach.

As game developers consider new ways to make digital objects matter, such as creating a digital "companion" that accompany a person throughout her life (Schell, 2013), or how we best connect with the "essence" of things rather than the things themselves (Posey, 2013; Turkle, 2007b), it is even more important to understand these human-technology connections as social, bidirectional relationships. As technologies increasingly look like humans, act like humans, and

perform human functions, it is imperative to understand how we connect with them as social

agents, as entities with psychologies, and as human-like (Turkle, 2010).

The purpose of this study is to examine how the Self emerges from social relationships

among a particular pair of objects – World of Warcraft players and their avatars – and other

objects to which they relate. In order to understand the emergent Self, it is first important to

understand the nature of the player-avatar connection *as a relationship*, with particular attention

to the potential sociality of the avatar and other non-humans. To this end, I pose this study's first

research question:

RQ1: How do players and avatars have relationships?

In this chapter, I described how perspectives on the Self changed over time, and the

current tension between modernist approaches toward an essential Self and postmodernist

approaches toward a multimodal, multiplex, and multispatial Self. This tension manifests in

modernist dualisms - digital versus physical, virtual versus "real," human versus non-human. I

argue that these dualisms are particularly problematic in examinations of a Self, as the Self can

be best understood as emerging from and being signified through a range of objects and how

they relate to one another. A review of literature on avatars and the Self characterized the Self as

housed in physical and digital bodies, then highlighted the ways that most approaches leave no

room for the sociality of the avatar – for it to matter to the Self in the same way as other objects.

In this vein, I presented the first aim of this study: to explain the ways players and avatars exist

in potentially social relationships.

Additionally, I drew on perspectives that de-privilege the human in human-technology

relations to argue the need for an approach to the technology and the Self that accommodates a)

the potential for multiplicities of Self, b) the ways non-humans can matter in the human

experience, and c) the ways that Self may emerge through social relations among objects and through signification rather than embodied experience, and d) the ways that people apprehend these relations and experience them over time. In the next chapter, I draw on Actor-Network Theory – an approach arguing that humans are but one type of object in expansive, emergent networks – to present a Network Model of Self that accommodates these requirements. Through this lens, I examine how the Self emerges from player-avatar relationships.

CHAPTER 5: A NETWORK MODEL OF SELF

Arcane constructs are creatures spawned of pure mana and intellect. In the right hands, a construct allows its user to quickly assimilate vast riches of arcane knowledge ... So intelligent! So powerful! So very vulnerable to external tampering...

Upper Scrying Stone,
from the quest "Arcane De-Construction"
in World of Warcraft

In the previous chapter, I argued for an approach to the Self that bridges the gap between postmodern perspectives of the Self and the common modernist approaches to studying it. Such a bridge would accommodate a) the potential for multiplicities of Self, b) the ways non-humans can matter in the human experience, c) the ways that Self may emerge through object-relations, and d) the ways that people apprehend these relations and experience them over time. In this chapter, I describe the basic claims of Actor-Network Theory (ANT) – an approach to examining how objects relate to one another in complex networks – and how ANT has been applied in game studies. Then I draw on those concepts to present a conceptualization of the Self that integrates these concerns and serves as the lens for this study's examination of how Self emerges in relation to the player-avatar relationship.

Actor Network Theory

Actor-Network Theory is an approach to examining relations among objects. It posits that objects are actors that exist in social networks. The underlying assumption of ANT is that the world is made up of complex networks of objects and each of those objects is itself a complex network of other objects. Meaning arises out of those object-relations (Callon, 1986; Latour, 1987, 2005; Law, 1987). ANT is not concerned with why networks form the way they do, but *how* they are formed and what that formation means. Law (2009) argues that this approach should be taken up as a descriptive toolkit – as a methodological position – to sensitize the

researcher to the messiness of materiality and relationality, to tell interesting stories about that relationality, and to make inferences from those dynamics. In this section, I review the fundamental concepts and techniques of ANT and how those ideas support an effective frame for examining human-technology relationships and the Self.

Key Concepts

ANT was developed in the late 1970s and early 1980s by three scholars working independently: science and technology scholars Michael Callon and Bruno Latour, and sociologist John Law. Each noticed that vast, complex phenomena featured particular structures of material and immaterial entities that "hung together" to sustain the phenomena for extended periods of time. Law (1986), for example, considered the ways that spices, trade practices, wealth, militaries, religions, technologies, winds, currents, bribes, sailors, and stars were interrelated in the phenomenon of Portuguese imperialism in India. From these realizations came an effort to reframe research subjects as complex networks of objects, to reevaluate notions of what may be linked together in these networks, and to abandon preconceptions of what constitutes a "proper" assemblage (Latour, 2005).

ANT approaches networks – and their constitutive objects and object-relations – as inherently Social. Latour argues that the term "social" has been watered down, imbued with so many meanings that it nearly has no meaning. Sociality is generally thought of as an output of "humans among themselves" (Dolwick, 2009, p. 22), resulting in an understanding of sociality as an ingredient in specific phenomena such as social media, social gatherings, or social capital (Latour, 2005). ANT theorists argue that we must move beyond this definition of the Social to one where it is not an ingredient, but the phenomenon itself that we problematize. That is, it is not enough to describe a phenomenon as "social." Rather, the Social is what should be

explained: how is a medium itself, for example, a manifestation of the Social? How is the medium linked to other human and nonhuman objects in a broader ecosystem? And how do objects link together and give rise to that medium in the first place? The Social is an effect that arises from assemblages of objects in relation to one another, and these relations must be continuously performed or the network dissolves and that particular manifestation of the Social goes with it (Latour, 2005).

Important to note is the ubiquity of the term "social," both in popular discourse and in existing scholarship, as an ingredient rather than as a relational effect. Although Latour (2005) argues that we should not address "social" matters and that we instead should address matters as giving rise to "the Social," one need not adopt the terminology in order for the approach to be useful. In fact, one might be hard-pressed to communicate effectively with other scholars without using "social" as it is understood in common digital media studies vernacular. What is important, in this study – and, I argue, in human-technology research more broadly – is the de-privileging of humans as the *only* type of object capable of sociality so that we may better understand how nonhuman objects contribute to human experiences.

It is useful, here, to consider a common phenomenon from American life: a Super Bowl party. A group of friends and family congregate at the home of whichever member has the largest television, the game appears on that television in high definition, and the people cheer, jeer, banter, tease, eat, and drink. Each person later talks about the party and the game with other people at work, on Facebook, and via text message. The party is viewed, generally, as having a social quality in that there are people doing things with other people. An ANT-based approach takes a different view of the party. First, in addition to people, there are other things that matter in the complex network of objects that constitutes the party: the game, the subscription to

satellite programming, the coffee table and the fruit salad atop it, the Super Bowl as an institution, advertisements, opinions about the advertisements, and a host of other objects. Those objects contribute materially to how the Social emerges: without those objects, the situation comprises people standing among themselves and that would give rise to a very different variation on the Social. Second, people and other objects do not have social qualities, in themselves. The Social emerges from how all of these objects relate to one another. The food sits atop the coffee table instead of the kitchen table – its relation to the coffee table presents an opportunity for partygoers to eat while they watch the game, while a relation to the kitchen table would present a dilemma for a hungry guest: miss some of the game to go get food, or miss out on food to watch all of the game. These relations give rise to a particular manifestation of the Social. Because of the ways that each object matters, ANT calls these objects "actors."

Objects can be connected in many different ways. Objects and the relations among them are material and semiotic. That is, one object can matter to another object both in meaning and in physical effect. Take, for example, the fruit salad in our party spread. The food is a material thing – it is concrete in itself as it sits atop a table. But it holds meaning, but meaning varies according to the other objects it acts on or that act on it. For the host who made it, it is the product of work and an offering to guests. For neighbor Bob who cares not for football, eating it is a reason to stay at the party. For the table, it imbues the furniture with the purpose of supporting it. For the nachos sitting next to it, it presents a healthy foil to junk food. In this way, fruit salad becomes many different *kinds* of materiality as it moves beyond its inherent properties as an object through its connections to other objects. The fruit salad as a material object signifies its many manifest and possible meanings, resulting in "objects [as] frozen stories" (Haraway & Goodeve, 2000, p. 107).

All discrete material-semiotic relations must be maintained, or the nature of the network changes and a new Social emerges. In this way, particular realities are fleeting and fluid (Law, 2009). In the Super Bowl party, neighbor Bob is not at all interested in football and instead came to enjoy the host's cooking. Once the bowl of fruit salad is gone and removed from the table, the previous food-table relation is no longer performed, so the party is changed. Because of the change, Bob leaves the party, and the particular relations among Bob and any other objects in the party are broken. Thusly, the party is changed again. In two steps, the party as a local manifestation of the Social is shifted. When a specific relation – the material and/or semiotic connection – between two objects is severed or altered, the nature of the network that the object-relation contributed to

The ways that objects relate to one another takes the shape of a network. The definition for "network" taken up in the present research is an "interactive assembly of actors" (Dolwick, 2009, p. 39), where an actor is "something that acts, or to which activity is granted by others" (p. 39) that can be considered a network itself. Because of flux in the ways that actors enter and exit the network through newly performed or broken relations (e.g., the entrance of pizza to the party, or the family dog running off with the pizza), networks are a "provisional assembly" (Law, 2009, p. 146) of objects, always changing form and content. These networks are, effectively, boundless, because every object a) is itself a complex network of other objects, and b) contributes to networks constituting other objects. For example, the fruit salad is an object in itself. However, it is made up of other objects: apples, oranges, pears, grapes, whipped cream. The fruit salad also contributes to other objects: the aesthetics of the party buffet, conversations about the party food, the sense of fullness in a child's belly, the event of a garbage disposal grinding down dregs. Because of this potential for endless linkages, scholars taking up ANT as a

research approach must carefully define network boundaries to determine an appropriate scope of study in terms of the research question (Latour, 2005).

This mattering is considered as a property of both human and nonhuman objects. ANT specifically de-privileges the human, even in the study of human affairs. Humans are merely *one type* of object, or, as American postmodern novelist William S. Burroughs eloquently stated, "Human … is an adjective and its use as a noun is in itself regrettable" (in Ballard, 1997, p. 135). Everyday objects matter to humans in distinct ways (Latour, 1992). Returning to the Super Bowl party exemplar, it is intuitive to assume that a "party," as a particular human-organized instantiation of the Social, should include people. People in themselves, however, do not make a party. That is, 10 people standing in an empty space with no conversation, no music, no food, no interaction can reasonably be said to not having a party. Should we find those people in a room with comfortable chairs, with a television displaying a football game, and with food, drink, and conversation, they could be understood as having a party. In these ways, room, chairs, television, game, food, drink, talk all matter to emergent meaning of this assemblage as a party.

Because of this mattering, objects have a specific type of agency. In ANT, agency is "a relational effect generated by … interacting components whose activity is constituted in the networks of which they form a part" (Whatmore, 1999, p. 28). That is, agency arises from the relationships between actors (Latour, 2005; Wise, 1997), and is *functional* – it is a way of mattering that is common among material, semiotic, human, and non-human objects (Risan, 1997). Some scholars reject this definition of agency as illegitimate because non-humans cannot be held responsible for their actions (Klaus Krippendorf, 2011, personal communication; Merchant, 2006). This responsibility-taking, however, is a different kind of agency than discussed by ANT scholars – *moral* agency – that is understood as an exclusively human

capacity. In the same way that ANT does not privilege human actors, it does not privilege moral agency. Rather, moral codes are approached as objects in the network, and might not have relations with all other objects. To view moral agency as the quality by which we might judge an object "worthy of study" would engender an "impoverished view" of life (Latour, 2005, drawing from Bourdieu, 1990), limiting our ability to consider the ways that nonhuman objects matter and even silencing many human objects that matter to a phenomenon (Clarke, 2005).

Consider again the fruit salad at the party. It is an assembly of apples, pears, grapes, oranges, walnuts, and whipped cream. These ingredients are individual actors – they have functional agency in how they matter to each other and to other objects. They matter through a passive agency in that they have the potential to be *acted upon* by the salad-making host, and in that when brought together with other ingredients the relation among them constitutes the salad as a manifestation of the Social. A collection of ingredients without, say, the whipped cream would not be the same salad and so would not have not the same emergent relations, or sociality. The ingredients also have a more active functional agency in their potential to *act upon* other objects. The oranges in the salad keep the apples from turning brown, the whipped cream sweetens the taste of all the fruit. When ingested by neighbor Bob, the apples release nutrients and affect Bob's physiology. Thus all the objects in this network have agency, or matter in the situation: lip balm matters in networks of beach parties, beetles matter in networks of forests, hanging chads matter in networks of elections.

At its core, ANT approaches take an anti-universalist stance toward empirical research. That is, it rejects the notion of starting with universal theories and trying to explain or eliminate outliers in a model (Latour, 1996). Rather, ANT starts with an object of interest, explores how it is related to other objects, and how those objects are, in turn, related to still other objects. The

imperative in this approach is to "follow the actors" (Latour, 2005, p. 12) to understand the complexities and emergence of actor-networks by explaining chains of relations among objects. All objects have agency – they matter in relation to other objects and are Social in that they relate to one another. Objects can be material, immaterial, human, or non-human.

Actor-Networks in Games

Applying the ANT framework to the emergence of the Self in digital games requires attention to a range of objects, approached as actors in networks of objects. There is only a small body of game studies research drawing on ANT, and scholars tend to apply limited aspects of the framework rather than taking up the ANT as a formal methodology. Principally, this research relies on Latour's arguments for the agency and relevance of non-humans as an argument for why games and parts of games matter (Jenson, Fisher, & de Castell, 2011). This approach argues that games have agency in the ways that they create opportunities for interaction and control those modes of interaction (Giddings, 2007). For example, many games (including WoW) have short cinematic interludes called "cut-scenes" that help build the digital gameworld through narrative frameworks (Klevjer, 2006). These frameworks make believable the player's sense of agency in the world by creating sets of norms, rules, constraints, and conditions (Cheng, 2007). According to ANT, cut-scene, narrative, and player all have different but equally important agencies. This type of interaction is called "agency play," where there is no free will, per se, but an interaction of player abilities and game permissions. The player can make particular choices and provide input to the game (e.g., by pressing a button or clicking a mouse) signifying intent. That input relates in different ways to affordances and constraints of the game so that the outcome is determined by interactions among the agents (Harrell & Zhu, 2009). In this way, players enjoy a "constrained freedom" (Mateas & Stern, 2006), where part of the frustration and

fun of play is learning how to overcome constraints and leverage affordances (Gee, 2006; Giddings & Kennedy, 2008; Koster, 2004).

Part of the way that games have agency is in the relationality among their constitutive parts: code, mechanics, aesthetics, narratives, tasks, spatiality, and more. Video games and other media are composed of "units of meaning" (Bogost, 2006, p. 19) that interlock in different ways – different ways of interacting with the game unlock different unit combinations. Humans process units of meaning in story form, and we combine them with units of meaning from our own lives to form new meaning-systems (Bogost, 2006). The ways we can access and recombine these units are constrained by the game's rule system and by the player's understanding of those rules (Chen, 2010). Take, for example, designing an avatar. In most games, a player chooses among a limited set of body shapes and features governed by race (e.g., human, elf), chooses among a limited set of character classes (e.g., mage, hunter) and chooses a name that conforms to rules about length, types of characters, and content. During the design process, when players choose one of these features, they consider how that feature interacts with options for other features. For instance, a player might choose to play a human and then consider whether or not the name sounds like a Human name rather than an Elf name. In this way, discrete dimensions of the avatar design "talk" to each other in their relationality and inform the overall aesthetic of the avatar (Guitton, 2010).

In addition to these discrete relations, games as objects are also understood as part of networks, described as "sociotechnical" (Giddings, 2007) and "cyber physical" (Wu, Kao, & Tseng, 2011) networks. These can be cultural networks, where players are seen as embedded in networks of social norms, play secrets, opinions, magazines, web sites, and other players. The cultivation of a player identity necessarily draws on these "paratexts" and helps build "gaming

capital" (Consalvo, 2007), an extension of Bourdieu's "cultural capital" (1984), that acts as currency indicating legitimacy across different games. Alternately, video games are aesthetic forms created and maintained by global networks of human and technological agents (Cypher & Richardson, 2006; Johns, 2006), where that production in turn influences each agent in the network (O'Donnell, 2010, 2011).

Despite the field's interest in parts of ANT theory, rarely is ANT taken up formally as a theoretical frame and methodology. This is likely due to the complexity and intensity of the approach, since the scholar must be committed to "following the actors" and attending to sometimes faint traces of object-relations among sometimes non-intuitive actors. In this way, the researcher must relinquish certain controls to the phenomenon and relinquish the perception of humans' exclusive agency. In effect, ANT is an extension of ethnographic methods to include non-humans (Dolwick, 2009).These challenges are discussed in greater detail in Chapter 5.

Where ANT *is* employed formally in games literature, analysis reveals rich accounts of how human and non-human, material and immaterial actors assemble. These assemblages inform broader understandings of how humans and technologies relate to each other. For instance, we see how cheating players, cheating companies, illegal task-automation software, anti-cheating campaigns, discourses of fairness, and other objects intersect to affect a digital game's in-world economy and physical world economies (De Paoli & Kerr, 2010). We see how relations among human and non-human objects coalesce in raid combat (highly coordinated fights by 10 or 25 players against very difficult monsters), and how these networks stabilize and de-stabilize depending on how various objects do or do not fulfill their roles in the combat network (Chen, 2012). Often in raids, nonhuman objects such as interface modifications fulfill roles traditionally filled by humans and, in a sense, serve as a "members" of the raid (Taylor, 2009). We see how

digital games play a role in evolving literacy as one of many spaces in which learners find different types of information manifesting in different forms and flowing at different rates and rhythms (Leander & Lovvorn, 2006). We can understand the ways that players become "locked in a circuit – a cybernetic feedback loop – in which they, the consoles, controllers, and the game-software are nodes" (Giddings, 2009, p. 145). In these ways and in many other ways not yet understood, digital games and play are complex networks through which agency is distributed (Giddings, 2007) in a cyborgic assemblage (Giddings, 2009).

Citing Latour's (1992) call for inquiry into the "missing masses" (p. 152) comprising the "dark matter" of the Social (Harman, 2009, p. 133) – those forgotten objects contributing to human affairs – games scholar Seth Giddings proposes moving toward a "microethology of videogame play" that focuses not on play as a practice, a subject, or a technology but as an event where all three come together that is constituted by and constitutes those objects: "What the study of gameplay needs is a microethology, a study and description of the behaviours, affects, and mutual becomings of a microworld or the micronature of part(icipant)s, of fingers and thumbs, mushrooms and data projects, algorithms and aptitude, playing bodies both human and nonhuman, rather than the *a priori* establishment of human, machinic, or textual bodies as the objects of study" (Giddings, 2009, p. 152). Although his proposal carries the spirit of a relational ethnography, he follows Deleuze (1992) in eschewing the term "ethnography" in favor of "ethology," since the former puts humans at the center of inquiry and the latter originates in studies of environments and their denizens. In this way, he argues, we can address "entities coming together, material and aesthetic chains of cause and effect or feedback" (Giddings, 2009, p. 149)

It is with an eye toward the notion of microethology – in particular, a microethology of Self in the networks of play – that I propose in the following pages a Network Model of Self. In this proposal I argue that mundane objects of the world are not merely extensions of or tools for humans, rather through their relations with other objects they contribute materially to the human sense of Self. In other words, the Self emerges from complex networks of mundane objects – of Giddings' mushrooms and data – and we understand the Self through the subjective experience of those networks.

A Network Model of Self

In Chapters 3 and 4, I described the criteria for an appropriate approach to the postmodern Self. Such an approach would accommodate a) the potential for multiplicities of Self, b) the ways non-humans can matter in the human experience, and c) the ways that Self may emerge through object-relations, and d) the ways that people apprehend these relations and experience them over time. In this chapter, I added a methodological criterion: an accommodation for approaching the Self from a microethological perspective to understand how discrete objects give rise to a Self rather than establishing a "whole Self" *a priori* as an object of study.

In this section, I propose a Network Model of Self that draws on Actor-Network Theory to satisfy those requirements and bridge the current gap between modernist approaches to studying the Self as an objectively defined object and postmodernist understandings of the Self as a subjectively experienced multiplicity. In this model, the basic building blocks of the Self are material-semiotic relations among objects. These object-relations take the form of a network, and the particular ways that objects in the network cluster together determine the nature of the Self.

In effect, this approach moves away from more traditional perspectives that the Self is a node in interpersonal networks, to a view that the Self *is* a network.

The Self as Network of Networks

It is helpful to examine the Self as having a specific type of structure: the Self is made up of many material and immaterial objects that coordinate on two levels. At the first level, cohesive communities of objects give rise to discrete dimensions of Self called personas. At the second level, these personas network together and give rise to the Self. In the pages that follow, I define how each of these network structures function and how the network model shifts the Self as an object of study from a terminal node in the broader network of society (Baudrillard, 1976/1993) to a network in itself. This model, in effect, de-privileges the human in the study of human experience so that we may better understand how non-human actors play a role in the emergence of Self.

Object-relations. In understanding the Self as a network of networks, it is helpful to start at the simplest structure: the relation between two objects. Everyday objects – human and nonhuman, material and immaterial, digital and physical – relate to each other in different ways. Consider the scenario of a woman playing a computer game. In this situation, there are many objects: the computer, the woman, the game, the environment, and all of their constituent parts. For this example, I will focus on two specific objects: the woman's eye and the computer monitor (Figure 14). The eye and the monitor relate to each other in very specific ways that are both material and semiotic. The relation is material in that the eye and the monitor exist in the same physical space, and the monitor presents a display for the eye to detect, and the eye detects the projected images. It is semiotic in that in displaying and detecting, each object gives the other

a specific purpose in that moment of gameplay. The monitor gives the eye a particular display to detect, and the eye gives the monitor an audience for its projections.

Figure 14. Objects are related in specific material and semiotic ways.

Objects and their relations are the basic building blocks of the Self. However, objects do not exist in isolated pairs. In any given situation there are many, many objects that matter. In the game-playing scenario, the woman's eye is related to a physical body. That body is gendered and so related to discourses of gender, broadly, and of womanhood and femininity specifically. The computer monitor displays pixels, and sometimes those pixels present monsters. The woman really likes monsters and makes a t-shirt displaying her favorite monster. That t-shirt adorns the body. That body has a hand, and that hand uses a controller to target monsters in the game. In this way, many different object-relations take the shape of a network (Figure 15).

Object-relations must maintained, otherwise the network changes (Latour, 2005). For example, let us consider the game monster from the previous example. The monster is displayed on the monitor, however after the monster is defeated by the player, it "dies" and disappears from the screen. Because the monster no longer appears on the screen, that particular relationality is no longer being performed and the network of the play situation is changed. Similarly, when a new monster appears on the monitor, a new relation is performed and the network shifts again. In this way, the network structure is always changing.
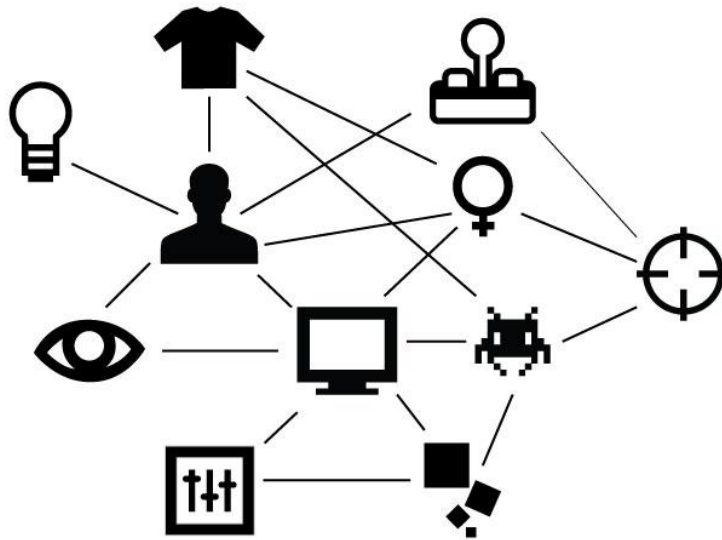
Figure 15. Collective object-relations take the shape of a network.

Persona-networks. Although Figure 15 displays only a few objects and object-relations, in any given situation there are always multitudes of objects and relations among them. Common in networks is the tendency for objects to cluster together as cohesive sub-networks and organize into "communities" (Clauset, Moore, & Newman, 2008; Clauset, Newman, & Moore, 2004; Girvan & Newman, 2002) based on common interest, similarity, interdependence, or affinity (Pearce, 2007). These sub-network communities may represent events, ideas, groups of people, systems, cultures, causes, or a range of other phenomena. Sometimes these communities represent a specific dimension of a human object's nature and way of being in the world – a dimension of the Self. I call these communities of objects "persona-networks" or "personas." Persona-networks represent discrete dimensions of the Self in different ways. They can represent social roles, gender and race identifications, cultural or ideological affinities, attributes or personality traits, or other ways understanding the quality of *who* an entity is versus *whether* or *how* an object exists.

Returning to the gameplay scenario, there are a number of object-relations active in the network constituting that particular moment of play. A specific group of objects – body, female gender, clothing, computer, game monster, and combat action – tend to "hang together" (Latour, 2005) in strong, multiplex clusters in the larger network (Figure 16). That is, each of the things in the group tends to be related to many of the other things so the object-relations form a tight sub-network within the broader network. These relations are often multi-layered – the objects relate in multiple ways – so the ties are strong. These object-relations tend to be continuously performed so that cluster, or sub-network, is stable. By focusing on the relational meanings – that is, *why* these objects matter to one another – the overall nature of the persona-network can be understood. The body is clothed according to social norms for women, and the particular style by which the body is clothed is a matter of personal taste. The clothing includes references to game monsters, that appear on the computer monitor and are fought in the game. Some popular discourses argue, however that women do not or should not play video games in general, and that "girls don't exist on the internet." Together, these object-relations form a sub-network that represents a "Girl Gamer" persona – a particular, local dimension of Self that emerges from the ways that these particular objects coalesce in the broader cultural and practical networks of play, gaming, fashion, bodies, and technology.

It may be intuitive to see a particular object – especially a human body – at the center of a persona-network as the focus of coordinated interest or affinity. This inclination, however, is counterproductive in this model's purpose to consider the Self independent of the particular objects that signify it. Persona-networks have no central object. The network is rhizomatic, with no top or bottom, as "whatever is in it is always in the middle" (Dolwick, 2009, p. 34).
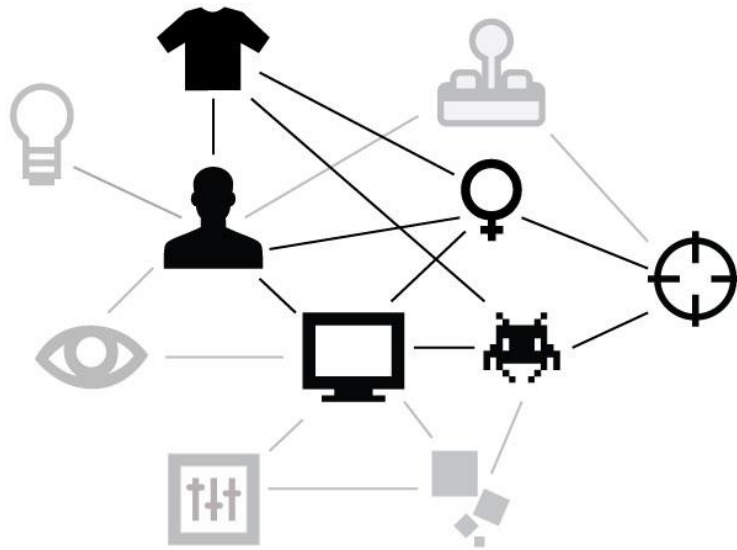
Figure 16. Some objects in networks tend to cluster together.
Sometimes these clusters represent discrete dimensions of Self called "personas."

The Self-network. Although object-relations give persona-networks their structures, an

individual object is not exclusive to a particular persona-network. Two or more persona-

networks may include a particular object. The computer monitor from the gameplay example, for

instance, belongs to the "Girl Gamer" persona-network, but could also be an important object for

the woman's "College Student" persona-network. In addition to being an important object for

gameplay, the monitor is also where she looks views answers to chemistry questions after

completing a Google search, where she reads the e-books she rents instead of buying textbooks,

and where she selects the music she listens to as she studies. As illustrated in Figure 17, the

computer monitor is an object that both "Girl Gamer" and "College Student" persona-networks

have in common.
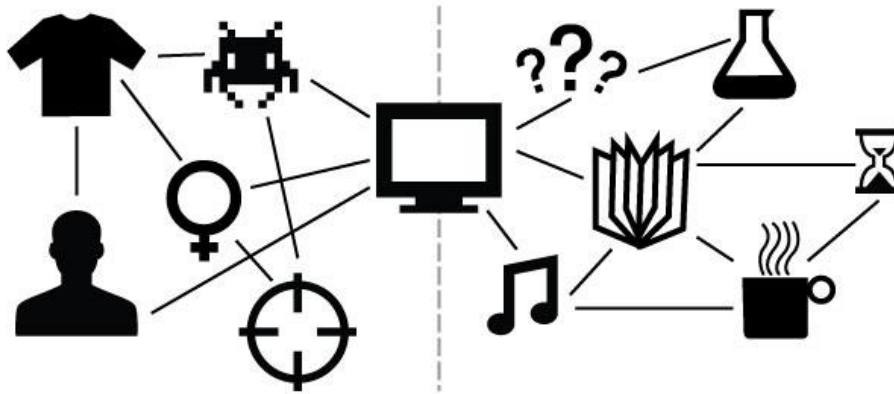
Figure 17. Often, objects are shared among persona-networks. This sharing networks personas together.

In the same way that objects and object-relations do not exist in isolation, persona-networks are not dissociated. It is through shared objects – like the computer monitor – that persona-networks matter to one another. Said another way, personas are themselves objects that exist in relation to other personas. When multiple personas relate to one another, the patterns of relations take a network structure. I call a community of networked personas a "Self-network" or "the Self." The Self, then, is a structure of networked personas that are, themselves, complex material-semiotic networks (Figure 18).
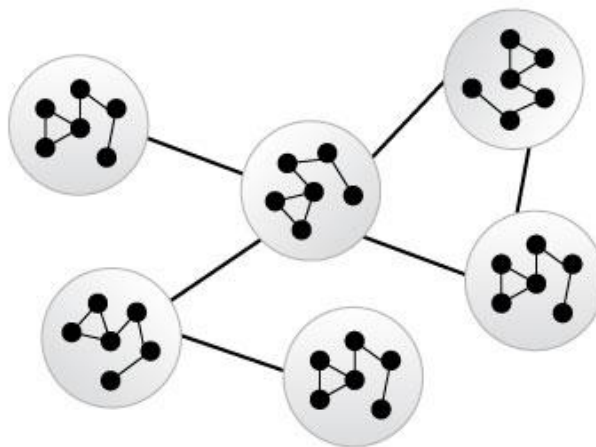
Figure 18. When personas network together, a Self-network is formed.

In the same way that one might intuitively put the human body at the center of a persona-network, it may seem appropriate to put a particular persona – especially a persona that depicts a particular physical body trait – at the center of a Self-network. For example, one may be likely to label the exemplar player as a "Woman" or "Hispanic" or "Young" or "Beautiful" before examining the ways that these and other personas coordinate in complex ways in a Self-network. As with objects in rhizomatic persona-networks, no persona in the Self-network is ever central.

Self-Awareness and Self-Identity

Thus far, I have described the Self in terms of how object-relations are organized at two levels: communities of objects that form persona-networks and communities of persona-networks that form the Self. This network-of-networks model of Self satisfies requirements laid out in Chapter 3 for accommodating the multiplicities of the postmodern Self: multimodality, multiplexity, and multispatiality – many different kinds of objects exist in complex relationships across spaces. That leaves one more accommodation to be made in this model: the ability for humans to consume the Self as signified in the network as a means of achieving Self-awareness. In this section, I will describe how Self-significations are perceived and how those perceptions give rise to a sense of Self at particular moments and over time.

Along with many other objects, the human body is an object in the Self-network. Unlike non-human objects, however, the human body as a network in itself includes the brain. The human brain is, in turn, a biological network whose constitutive object-relations give rise to a particular relational effect: the capacity for perceiving and reflecting on some of the objects in the Self-network. Because the perceiving brain is part of the human body network, the human body is necessarily a component of the Self-network but not necessarily a component of every persona-network. For example, perhaps the woman in our example is overweight. That is, her

body is an object made of a more expansive network of fat cells than is optimally efficient. That body could be part of the woman's "Overweight" persona and "Dieter" persona, but is not necessarily part of her "Girl Gamer" or "Student" personas because the body is not relevant in those sub-networks. This distinction thus accommodates an approach to the Self that can be divorced from the physical body.

Sometimes objects perceived and reflected on are specific significations of the Self, such as behaviors, thoughts, images, or created objects. Other times, they are parts of a Self-network that are not significations, per se, but are still relevant to developing an awareness of the Self. For example, the monster on the woman's computer monitor is not a performance of Self but is an important object in the Girl Gamer persona-network. Both signifying and non-signifying objects can be perceived and contribute to a sense of Self. Through this perception of objects, the human-object is able to apprehend and consider Self-network objects, giving rise to a particular perception of the Self. Important to note is that even though some objects cannot be perceived, they may still be relevant to the Self-network – as flowing electricity cannot be perceived but allows the woman to play the game that contributes to her Girl Gamer persona. However, non-perceived objects cannot contribute to a sense of Self since they must be apprehended and considered in order to inform Self-awareness – although electricity may *matter*, it is not *perceived* as relevant to the Self. In other words, for an object to contribute to a human's sense of Self, the human must be aware of it.

When a network-object is apprehended and considered, a sense of Self emerges on two levels. At the first level of perception, when a human object perceives objects signifying a single persona or a collection of closely related personas, the awareness of Self is narrow and situated – the Self is seen in terms of those personas that are "activated." That is not to say that other

personas do not exist, merely that the personas the human is accessing emerged from the situation as particularly relevant at that moment in time. This is a momentary or limited-term Self-awareness that guides how humans see themselves in the context of a particular network at a particular moment in time. This snapshot sense of Self drives how humans behave – that is, how they engage in subsequent object relations – in that network.

At the second level of perception, a person perceives many different personas over time, the awareness of Self is broad and complicated – the Self is seen in terms of all cumulatively experienced personas. That is not to say that all personas are activated at one time, merely that they exist and are in some way part of an enduring sense of Self. The Self-network is not experienced as a collection of personas. Rather, the multiple personas coordinate and inform local, particular significations of Self – thoughts, feelings, speech, appearance, actions, creations – and give rise to a sense of singularity. That is, feeling as though one is a single, unified entity rather than a motley collection of personalities is a product of the "group mind" of these personas as they coordinate according to common interests. This is an enduring sense of Self – a self-identity – that guides how humans see themselves as part of an evolving trajectory. That is, self-identity is the reflexive perception of networked personas that reveal the nature of the Self in the past, how the Self should be in the future, and so contributing to the activation of particular personas in the present.

Consider, again, the gameplay example. The woman is sitting at her computer, ritually wearing her monster t-shirt, running a raid with her guild. The monster kills every member of the raid, and a guildmate makes a sexist comment about how the group failed because of the females in the raid group. In that moment, it may be that the woman's intense gameplay is interrupted and she becomes intensely aware of her femaleness, that she is playing a game, that she did her

job in the raid, and that she is dedicating her Tuesday night to this group effort. In the network

constituting that event, many of the objects that contribute to her "Girl Gamer" persona are made

noticeable and so that persona becomes activated. In that moment, she sees herself as a girl

gamer (see Figure 19) and so is included in the group of players being attacked by the guildmate.

This Self-awareness drives her to defend herself and her female raid members against the attack.
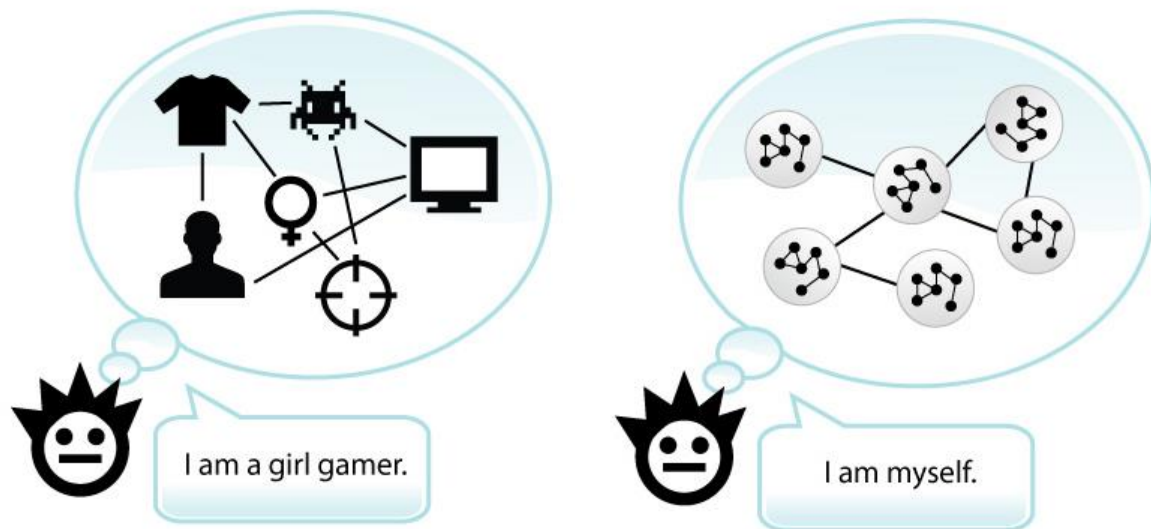
Figure 19. When a single persona is activated, the sense of Self is narrow and transient. When many personas are experienced over time, the sense of Self is broad and enduring.

That attack and response, however, is a single event. There were many events prior to that one,

and there would be many events to follow. In each event, different objects enter and exit the

Self-network and so different personas are activated. It is possible, for example, that the woman

had encountered many such experiences in the past – the accusation-object had been frequently

introduced into the network from which her Girl Gamer persona emerged. Over time, this object

may have become normalized as a part of the network so that the woman would *not* defend

herself. Further, the accusation-object may have become part of the gameplay network so

frequently that a new persona emerged: an "Anxious" persona. As a result, the Anxious persona

was activated as relevant to any gameplay situation, and even carried over to other competitive situations. In this way, the Girl Gamer persona became networked with the Anxious persona through the shared object of the game. The Anxious persona became networked over time with other personas (say a "Soccer Player" persona and a "Sibling" persona) through the object of competition. Over time, the woman would begin to see the Anxious persona as part of her whole Self.

Accommodations

To summarize the Network Model of Self, the world is made up of networks of objects. Often, these objects cluster together in communities, and sometimes these communities represent discrete dimensions of who a person is – these are persona-networks. Personas are networked together to form Self-networks. Both persona-networks and Self-networks are subjectively experienced by the human object, giving rise to both the momentary and enduring sense of Self.

This model of the Self accommodates the three requirements for an appropriate approach to the postmodern Self, as outlined in Chapter 3. First, the model accommodates the multiplicities of Self: objects of many different types are the basic unit of Self (multimodality), they are related in complex ways (multiplexity), and these relations span physical and physical spaces (multispatiality). In this way, the Self is signified through many different objects and their relations rather than being situated in a body. Through a lens of relational signification, we can begin to understand how the Self emerges independent of the medium in which it is signified at a given moment, such as a body, performance, or object. This emergence from and signification through objects accommodates the second accommodation for the ways that non-humans can matter in human experience. Third, the model accommodates the ways that humans may consume Self-significations – human bodies feature a particular way of apprehending and

103

considering objects that allows them to both contribute to the Self-network and to perceive it. Finally, since objects and object-relations are the basic units of the Self, the model accommodates the call for a microethology of play (Giddings, 2009) by expanding the notion to a microethology of the Self as it is situated in everyday networks. I describe an approach to understanding these object-relations in Chapter 5.

Bodies as Signifying Objects in Self-networks

The Network Model of Self presented in this chapter unravels binaries of "me" and "not-me" in favor of more precisely identified and interrelated agents (e.g., objects, ideas, events, interfaces) "melting into transmissive circuits" (Apter, 2008). In other words, this approach renders irrelevant traditional ego-centered, body-bound notions of Self and emphasizes the fluid, emerging transmission of meaning among object-relations that give rise to and continually constitute a Self that exists across spaces. I have spent a number of pages in this chapter and the last explaining why and how physical bodies should not be privileged. My purpose in this section is to now address why bodies – physical and digital – *do* matter, and to pose a research question addressing them.

My motivation for devising this approach was to de-privilege the human in human affairs. The goal of this de-privileging was not to remove the focus of this inquiry from the human experience, but to provide a framework from which we could better understand how technologies and other objects play a role in how a sense of Self emerges, in part, from the stuff of everyday life. Although this model rejects body-bound notions of Self, it does *not* reject the ways the body can matter to the Self. In fact, it highlights the ways that a body can be one among many significations of Self, and it is through these significations that humans – including scholars – may apprehend, consider, and understand the Self.

Because of the potential vastness of the Self-network and of the other networks to which it is inextricably linked, it is the researcher's burden to define the boundaries of the network being studied and to choose an entry point – an object or an object-relation – appropriate for the inquiry (Latour, 2005). Because the topic of interest in this study is the lived experience of the Self in, around, and through technologies, I have chosen the relation between the human-object and the avatar-object as the entry point because of the ways each object plays a role in anchoring the lived experience of play.

In this vein, it is important to acknowledge that people do not experience themselves *as* networks because consciousness is situated in a human body. As persona-networks coordinate and give rise to the Self, that Self can be experienced in a number of ways. For example it may feel like a matryoshka doll, where the body is in a room that is inside a building, in a city, in a state, in a country, on a planet, in the universe. In other words, humans – despite all of the object-relations giving rise to a sense of Self – experience the Self in relation to a physical body, and that body is considered as an object *through* that perceived situatedness. Despite these differences between the Network Model of Self and current understandings of the subjectively experienced Self, the model is still quite useful in examining the phenomenological Self, as described in detail in Chapter 6 and 7.

Sometimes a human, in its phenomenal embodiment, approaches a computer and creates a second body: an avatar, made of code and light rather than of meat and bones. So what of this situation of perceiving two bodies? That is, what of two objects that, in different ways, contribute to the emergence of and signify the Self? What of the differences in how those bodies may serve as significations? One can be controlled but not so easily designed, one that can be designed but controlled in limited ways. One can be persistent, for better or worse, and the other can be

summoned at will. One inevitably degrades, becomes irreparably broken, and eventually permanently dies, while the other can exist in perpetual perfection. This in mind, I present the second and final research question for this study:

RQ2: How does the Self emerge in relation to player-avatar relationships?

In the same way that a new theoretical frame was required for this study, an appropriate methodology was needed to accommodate multiplicities of the Self, the importance of non-human objects, reflective consumption of the Self, and discrete relations among objects as giving rise to complex phenomena. In studying phenomena that include digital media, digital culture scholar Richard Rogers called for approaches that are "natively digital" versus "digitized" – that is, methods that are "born" in digital media rather than having "migrated" to it (2009, para. 1). Following this call and Giddings' (2009) call for a microethology of play, I have drawn proven techniques from five methodologies to develop a new method for this study. I call this method "object-relation mapping." In the next chapter, I describe specifically how this methodology aligns with the Network Model of Self, and in Chapter 6 I describe how the method was applied in the present study.

CHAPTER 6: AN OBJECT-RELATION METHODOLOGY

Look … I need your help. I know most everyone in this cave thinks that we're not in a position to be worrying about anything but our own hides right now, but I cannot dismiss my ancestors so readily.

This was one of the royal cities of the elves in the days when Azshara was queen. In this city lie the keys to lore long lost and artifacts of unimaginable historical value. All I want from you, while you're out in the city proper, is to keep a watchful eye out for objects of significance.

> Elendri Goldenbrow,
> from the quest "An Occupation of Time"
> in World of Warcraft

As described in Chapter 3, modernist perspectives approach the Self as relatively stable and situated in a physical body. Investigations of the Self from this perspective employ measurement instruments to quantify the content of the Self according to its theorized internal structures, how the world affects those structures, and how content and structure affect behavior (Gergen & Gergen, 1983). In research on the Self related to digital media, these approaches (e.g., Keating & Murphy, 2009; Hancock, Merola, & Peña, 2006; Messinger, et al., 2008; Yee & Bailenson, 2007) are useful in their systematicity and in how reductionism accesses discrete relations among factors. However, such approaches often lose sight of how humans subjectively experience and understand the Self (Gergen & Gergen, 1983). Alternately, approaches such as ethnographic observation in digital and physical spaces (e.g., McKenna et al., 2010; Meadows, 2008; Nardi, 2010; Taylor, 2006) can account for the lived experience of Self, but still often focus on how the Self is represented or situated in digital or physical bodies and how those bodies fit into larger systems. In other words, the principle ways that the Self is studied address either discrete object-relations *or* lived experience (but not both) and even in acknowledging that the Self is not *defined by* a body, still marry the Self to a digital or physical body. As such,

existing approaches are not compatible with the Network Model of Self presented in Chapter 4, and a methodology that bridges the two approaches is required.

This chapter presents a theoretical analysis of the method used in the current study. That method, that I call "object-relation mapping" (ORM), draws on four existing theoretical frameworks in its epistemology, ontology, and methodology. Specifically, ORM draws on phenomenology, Actor-Network Theory, social network analysis, and Grounded Theory to establish an epistemological and analytical framework that drives data collection methods, analytical steps, and conclusions drawn. The approach is beneficial in that it address both object-relations and the subjective experience of them, and can account for the multimodality, multiplexity, and multispatiality of phenomena. In this way, ORM is appropriate for the examination of the Self as a material-semiotic network.

Material-Semiotic Ontology

Many approaches to empirical research take the world as "real" in one of two ways. Those in the positivist and post-positivist camps generally view the world as a singular reality and ideas about this reality can be confirmed or disconfirmed. Those in the constructivist camp view the world as a collection of multiple, subjective realities (Creswell & Clark, 2011). In subscribing to either perspective, legitimate objects of research are limited to what things are and what things mean. In this section, I outline my position as having a foot in each camp and describe how each of the contributing approaches accommodates that stance. That is, the singular, material reality and the multiple, semiotic realities are both legitimate objects of study and they are inextricably linked.

The world is made up of objects that exist as transient materialities in webs of relations with other objects. All things are objects, and all objects are real. Objects are "not Romantic or

modernist objects with internal laws of coherence. They are momentary traces focused by force fields, or they are information vectors in a barely embodied and highly mutable semiosis ordered by acts of recognition and misrecognition" (Haraway, 1991a, p. 185). This perspective draws heavily from ANT theory, holding that objects exist, but they are in states of flux and complex relationality with other objects. Take, for example, a book. It is an object – a material thing-in-itself – that exists apart from being seen, touched, or read. Over time, its corners become worn, it may have coffee spilled on it, its pages may be torn or highlighted or even torn out. In each of these moments, the relations among its constituent parts (pages, ink, glue, thread, cover) changes, and new parts are introduced (e.g., dirt, coffee, colored ink). Insofar as the relations among the objects is relatively stable, it may be recognized as a book, but should they shift – say, if all the pages fall out – it will no longer be recognized as such. In ANT terms, when the ties between actors are no longer performed, the network destabilizes. In this way, reality is continuously constructed through this materiality and through relational semiosis. Reality changes moment by moment as objects and their relations shift (Law, 2009).

Meaning emerges from object-relations (Latour, 2005). In the same way that objects are real, meanings are also real. One type of meaning is that which emerges when human objects (people) relate to another object. The human object – according to its unique faculties – may experience the object, act on it, be acted upon by it, think about it, feel something for it. The meaning of an object emerging through these relations is different for each human object that perceives it because each has different faculties. That is, each human object apprehends and considers objects differently. This conscious awareness of objects is the subject of phenomenological inquiry (Sartre, 1943). For example, one human object may see a book, consider its cover, wonder about what it means, and begin reading it. Another human object may

109

see the same book, consider its cover, and decide to opt for a television show instead, while still

another human object may see it as a rectangular object of the precise size and shape to stabilize

up a table with a wobbly leg. In this way, the meaning of the object is a relational effect of the

properties of the human perceiver and the properties of the object (Gibson, 1986; Greeno, 1994).

Any perception that an object is not real is a position held by a human object toward the

"not-real" object. That is, the perception of not-realness is a relational effect of the tie between

the real human object and the real object. From this position, all ontological dualisms break

down as mere relational effects between human and non-human objects (Law, 2009). Because

the entire world is, effectively, one expansive network, everything in the world regardless of its

nature is real. I argue that a failure to acknowledge that an object is real is a result of limiting the

boundaries of perceived networks. Likewise, comparisons of "large" versus "small," for

example, are a function of a human object's relational perception of one thing compared to

perception of another. That is, for human X, object A, and object B, the large/small dualism is

not a reality of an A-B relation, rather a function of the X-A relation compared to the X-B

relation. The same is true for dualisms of social/technological, nature/nurture, and

digital/physical.

The meanings emerging from human objects' relations with other objects, however, are

not the only type of meaning (Harman, 2005). There are infinite arrays of meaning. Nonhuman

objects may relate to one another in meaningful ways. Human objects can only understand these

object-relations only insofar as we can relate to each object individually and infer how those

discrete meanings fit together. We cannot fully understand how nonhuman objects relate to each

other because we, in the Hegelian sense, do not know what it is to have the unique faculties of

each object. These "alien phenomenologies" – how a camera senses light or how a computer

processes information – can only be understood by humans through removed metaphors (Bogost, 2012). For example, should a book be used to stabilize a table, we can perceive the book and understand it as a stabilizer, and we can perceive the table and understand it as needing stabilization. However we cannot understand what it means to be in the stabilizer-stabilized relation of the book and the table.

In addition to material objects, immaterial objects exist: ideas, cultures, laws, music, religion, voices, discourses, dreams, and the like. Immaterial objects are intangible things-in-themselves that also exist in webs of relations with other objects, and are evident in the traces of their relations with material objects. For example, a book publisher's brand-object is evident in the logo on the book spine. Ideas are evident in words on book pages or in wrinkled brows of a reader. Protest is evident in snarky notes scribbled in the margins. In this way, semiosis and materiality are entangled. They "co-emerge in fragile and ambivalent co-constitution" (Bettany & Kerrane, 2011, p. 1747).

In summary, both singularly real objects and the myriad meanings of them are legitimate objects of study. ANT accommodates both objects and meanings as real and as existing outside of human perception, and so aligns with object-relation, community structure, and network landscape levels of the Network Model of Self. Phenomenology addresses one particular material-semiotic reality – that between humans and other objects – according to the particular faculties of the human-object, and so aligns with the Self-consumption level of the Network Model.

Relational Epistemology

Given that both objects and their meanings are legitimate objects of study, how does one access them in the production of scientific knowledge? Again, there are two primary camps.

Positivists and post-positivists generally contend that researchers can and should be distanced, impartial observers of reality, and the constructivist argues that researchers are biased participants in the phenomenon being studied (Creswell & Clark, 2011). Because all objects – including human researchers – exist in complex material-semiotic networks, I take a constructivist position: that researchers are objects in the networks that give rise to research events, and scientific knowledge emerges from the ways that researcher relates to other objects in that network.

Knowledge is itself an emergent effect of object-relations. There are not universal Truths. Rather, there are a multitude of momentary truths that emerge as relational effects from the connections among objects. For example, take the truth that the aforementioned book is in a particular moment being read by a man – it is in his hands, his eyes are carefully apprehending the words on its pages, and considering them in a continuous stream. However, the moment the man's attention strays or the book falls out of his hands, the performance of the particular object-relation ceases and that truth is no longer a truth. Human knowledge is the accumulation of these perceived, accumulated truths.

In science, truths emerge from the relations between human objects and how they observe objects and object-relations. The nature of this observation depends on the materiality of the object of interest. Material objects and relations among them may be directly observed. Consider, for example, that a researcher is interested in how gamers use print and digital gameplay instruction manuals to improve their play performance. One facet of use is the amount of time players spend visually attending to the manual. The researcher can directly observe a player's material relation to the manual – that the eyes are directed at the manual and for what period of time – and when that relation ceases to be performed (e.g., the player yawns, rolls his eyes,

112

checks email, doodles in margins). In contrast, immaterial objects cannot be directly observed, but their existence may be inferred by directly observing traces of their relations with other immaterial and material objects. In the gameplay manual study, for example, if the researcher is concerned with the relationship between visual attendance and skill level, the object "skill level" cannot be directly observed. It can, however, be inferred by the traces left when the relation between skill level and the game are performed, such as combat logs noting damage-per-second and the individual players' competitive ranking in the game. These traces can be visualized through social network analysis techniques can be examined for patterns through Grounded Theory and other coding approaches.

From this frame, the process of human scientific knowing is best performed by, in a sense, "going with the flow" of natural observation: starting with an entry point (usually an object of interest), examining what other objects are tied to that object, and then moving to explorations of what entities are tied to that second actor. This is known as "following the actors" (Latour, 2005), and focuses on what is empirically traceable without presupposing particular global structures or what constitutes "appropriate" assemblage (Callon, 1986; Fioravanti & Velho, 2010; Latour, 2005). The purpose of this work is to build a detailed picture of discrete, local relations that incrementally contribute to a map of a broader phenomenal network landscape. Latour points out that in this approach the acronym "ANT" for Actor-Network Theory "was perfectly fit for a blind, myopic, workaholic, trail-sniffing, and collective traveler" (Latour, 2005, p. 9). In this way, we come to know how object-relations give rise to particular phenomena by explaining chains of meaning. Important to note is that these meaning-chains, ostensibly, are infinite and so the researcher must make decisions about when to stop "sniffing" based on particular research goals.

Potentials for tracing these object-relations are shaped by the properties of the observing and observed objects. That is, human researchers and the objects they perceive have particular properties that influence the relations among them. The first effect is the opportunity to know. We can know of an object only insofar as the object itself or the trace of its relations with other objects can be detected. If an immaterial object such as comprehension leaves no trace, or if a material object cannot be observed due to geographic distance, we cannot know of it directly. We can know of an object only insofar as we have the means to discern it. That is, the observer must have the necessary faculties to discern, measure, document, remember, or otherwise apprehend the truth of the relation between observer and observed (e.g., sight, hearing, proximity, instruments). These properties intersect so that certain objects are more or less fitted to our faculties, and these intersections give rise to opportunities to know of the object (Greeno, 1994).

The second relational effect between observer and observed is a particular way of knowing. Once the properties of the observing and observed objects align to present an opportunity for knowing, the intersections of these properties gives rise to particular meanings, and these meanings – or truths – will be qualitatively different should any property of the objects be changed. For example, the researcher observing a player attentively reading a game manual understands in that moment and jots down in field notes that the player's visual attendance to the manual is high. In the next moment, the player pulls out a cell phone and starts talking to his roommate. With that change in the observed object – the player – the relation between observed and observer is shifted. In this way, the human researcher is an object in the network of a phenomenon being observed and cannot be considered removed from or objective to the phenomenon. In effect, an empirical report is a phenomenology of the research moment from the

114

perspective of the researcher. To ignore this situatedness is to ignore particular, local truths that impact the nature of knowing. Knowing is a relational effect of transactions among objects. As the observer is one such object, the researcher cannot transcend the researched (Dewey, 1929; Thayer-Bacon, 2005).

In this vein, it is important to note that each way of human knowing is different (Law, 2009), and no specific transaction is the only legitimate way of producing knowledge. Scientific knowledge, for example, is created through the researcher's object-relations with the phenomena of study. For example, a researcher problematizes certain phenomena and holds a priori definitions of what objects serve what roles in a research design (Callon, 1986). Those objects of study, however, may experience the phenomenon of interest differently and those ways of knowing are not any more or less legitimate than the researcher's. Such potentials highlight the importance of combining multiple perspectives (Haraway, 1991a) and replicating investigations within perspectives (Kahneman in Bartlett, 2012) in the production of scientific knowledge.

In summary, knowledge is a relational effect of human researcher perceiving other objects according to unique faculties and inferring the relationships among objects based on those perceptions. Through this direct participation in the research network, a researcher can potentially relate directly to three levels of the Network Model of Self – object-relations, community structure, and network landscape – but could *not* perceive the Self-consumption level. To accommodate that portion of the model, object-relation traces must be sought from one particular object as it is situated in the network: the human object to which the Self is ascribed.

Personal Accounts as Ways of Knowing

In the previous section, I argued that since immaterial objects cannot be directly observed they are discernible only through traces of their relations with other objects. Personal accounts –

symbolic representations of subjectively experienced events (Prince, 1982; Onega & Landa, 1996) – are one type of trace. In the context of the relational epistemology described above, I take personal accounts as collections of linked traces of objects and object-relations that are past, present, anticipated, or imagined. These accounts may be anecdotes, analyses, extended narratives, statements of politic, musings, photographs or drawings, or other expressions of subjective experience. Although narratives – personal accounts characterized by the linear sequencing of events – are often taken as a key way to examine lived experience (see Reissman, 2008), I believe it is important to move beyond neat, linear "packages" of experience and examine how concepts link together across different types of personal accounts. That is the power of ORM: to break down personal accounts into their constituent objects and examine relations among objects across accounts. Although often momentary and immaterial in themselves, personal accounts like analyses and stories may be translated into fixed forms, such as a recording, a transcript, or a series of images. In these fixed states, personal accounts are phenomenological artifacts. They are traces of the meaning that emerge from human-objects' experiences with other objects and object-relations. Since in the present study the data are transcripts of oral interviews, I will focus here on how words are a particularly useful trace type.

Because personal accounts are linked traces of discrete object-relations, we can take particular collections of words or images as traces of particular objects and object relations. That is, a word in a story has some corresponding object it represents, so two words related in a sentence can signify two objects and a particular relation. For example, a gamer might make this statement: "I had an avatar, "Dingle," but I deleted it." In this narrative segment, *I* represents the gamer, *avatar* represents a particular digital body, *Dingle* represents the avatar's name, and *deleted it* represents a particular event. From this statement, then, we can see traces of specific

116

object-relations. The gamer and avatar are connected (one "had" the other), the avatar and the name are connected (the name was assigned to the avatar), and both gamer and avatar are related to the deletion event (as one performed the deletion and the other was subject to it). In this way, we may take oral personal accounts – the particular ways that people string together their words in recounting events or ideas – as ways of knowing the subjective experience of object-relations. These object-relation traces can be examined for emergent relational structures as described in the next section.

Personal accounts are a particularly important type of object-relation trace when examining the Self. Linde (1986) argues that the way a person recounts his or her life events is a construction of and a claim to a particular identity, since these accounts outline the way one wishes to be viewed and the groups or systems to which they see themselves belonging. Equally important are the ways that accounts indicate who the speakers are not, that claimed identities are always in flux and in a process of becoming, and they are often reflective of tension and duality (Yuval-Davis, 2006). Personal accounts provide a glimpse of the Self as it is actively becoming rather than passively being (Gergen & Gergen, 1983), as these stories, analyses, and musings are tools to make sense of life – to justify past actions, understand present situations, and strategize for future action (Linde; Webster & Mertova, 2007). Such data are especially helpful in the ANT-based research process because they have a built-in boundedness based on which objects the participant sees as relevant, so that the data source defines network boundaries rather than the researcher. In these ways, personal accounts constitute a lived epistemology and ontology (Somers, 1994).

Because I solicited and analyzed the personal accounts examined in this study, it is important to acknowledge my own role in shaping them, as I was an object in the networks

constituting research events (e.g., questions asked, answers given, play enacted). In the same way that participants had engaged objects and formed meaning conveyed in the personal accounts, they engaged me as an object in the moments of their telling. In the interviews, I decided which particular actors to "follow" by asking additional questions, my avatar was observed by participants, and my appearance and voice was made evident to them. In analysis, I drew on my knowledge, experience, and perspectives to interpret the transcripts. I – with all the assumptions described in this chapter – was an object in the research network, as the construction of stories and other personal accounts is never a private matter (Gergen & Gergen, 1983).

In summary, narratives are traces of human experiences of objects and object-relations, and may be taken up in research as surrogate traces for the objects and object-relations themselves.

Object-Relation Mapping Methodology

In the previous sections, I argued for a research approach that accommodates both the singular realities of the material world and the myriad meanings that emerge from object-relations. I also argued that personal accounts are key to empirically accessing material-semiotic realities. Narrative transcripts, however, are often complex constructions of sequenced events and are not conducive to examining discrete object-relations and how phenomena emerge from them. The data, then, must be analyzed by deconstructing the corpus into these object-relations and then restructured into networks that can be examined for content and form. ORM integrates techniques from phenomenology, ANT, social network analysis, and Grounded Theory.

Data Collection

Analysis effectively begins during data collection, as the researcher makes decisions on what situations, objects, and relations to attend to. In ORM, the unit of analysis is a situation,

broadly and abstractly construed, and the research task is to map object-relations so that a concrete understanding of the situation is empirically assembled (Clarke, 2005). The situation of interest should drive particular research questions that focus on understanding the dynamics of the network and its constitutive structures. Specifically, questions may address the nature or functions of the network landscape that composes the situation, of particular types of object-relations, of particular community structures, or of relations among community structures.

The task in data collection is to accumulate a corpus of evidence that fleshes out the situation of interest as completely and inclusively as is practically possible, without imposing *a priori* boundaries or criteria for what constitutes legitimate evidence. ORM takes from phenomenology, the study of humans' conscious experience of the world, an emphasis on subjective experiences of a situation as key data sources. That multimodal data may come in the form of personal stories, collected objects, captured images, or any other way that the participant can express experience. Because this corpus is a bricolage of accounts in different forms, they may at first seem unrelated, dissimilar, disjointed, contradicting, or even confusing. This sense of disorder is to be expected, and the methodological approach described in the following sections is designed specifically to deal with that complexity.

Because personal accounts told in interviews are traces of humans' relations with other objects as understood by the human, such stories are at the same time a) accounts of the narrator's understanding of a situation or phenomenon at the moment of telling, and b) accounts of the narrator's understanding of all accumulated object-relations. In the present study, these accounts constitute a "snapshot" of the player-avatar relationship, broadly, at a particular moment and inclusive of all past object-relations perceived as relevant in that moment.

In collecting these data, the researcher starts with a specific object – an object or a trace of an object – and explores how that object reveals connections to other objects, then repeats that exploration for the new object. This is an ANT technique known as "following the actors" (Latour, 2005) and is intended to allow the objects of study to inform the researcher of what is important in the situation rather than the researcher making assumptions about what is and is not relevant. How this is done depends on the type of data being collected. If the key data source is interviews, as in the present study, the conversations should be only loosely structured, with a broad question asked and the subsequent question being prompted by the answer to the first. The participant relates an object A that was the focus of the question to some other object B, and the subsequent question addresses how object B is related to other objects. In this way, the interview produces narratives that are chains of meaning uncovered by following object-relations. If data comprise documents, field notes, or other artifacts, those objects or objects depicted in them will provide clues to other objects that should be sought out. For such direct observation, in each permutation of this observation and clue-following the researcher documents the linkages followed from one object to the next. Because such relational chains could unfold perpetually, ANT charges the researcher with the responsibility to define when the inquiry should stop following object-relation chains or should find other object-relations according to the questions at hand.

Throughout this phase and the next, the researcher should write memos. Memoing is a core component of the GT methodology (Glaser, 2012), as the researcher documents emerging ideas about the data, the coding process, and the research process. In ORM, memoing should be completed throughout the study, documenting thoughts, feelings, and insights during case selection, data collection, analysis, and reporting. Recalling that the researcher is also an object

in the research network, memos about the personal experience of researching are important as well. In the present study, for example, I documented thoughts about interviews, ideas about what was important in play and player-avatar relationships, and emerging patterns at each level of Self-networks: objects and object-relations, persona-networks, Self-networks, and the network landscape.

The output of this phase is a corpus of texts – interview transcripts, field notes, images, videos artifacts, memos – that document is a collection of objects and their relations. Such a corpus represents in the most inclusive, detailed way possible the nature of the research situation.

Data Restructuring

After data are collected, the researcher begins the next phase of analysis, called here "data restructuring." The task of this phase is to break apart the personal accounts into their most granular components as a way of documenting the complexities of the situation. The first step in this phase is to identify the unit of observation. This specific unit depends on the research questions and the nature of the data. In verbal data, units may be individual words, concepts, sentences, pauses, laughter, or other discrete chunks of data. In visual data, units may be colors, shapes, image regions, depicted content, composition elements, or other relevant image components. Each unit of observation is taken, depending on the research question, as an object itself or as depicting an experienced object.

After the unit of observation is defined, the next task is to catalogue objects and object-relations. In this process, data are combed through unit by unit, to identify objects and determine through empirically observed traces how each object is related to other objects. Relational traces may be proximities (how close objects are to other objects), succession (one object follows another), interaction artifacts (as when something is left behind or created anew when two

objects engage each other), or contextual cues (as when sentence structures suggest relations between two objects). Throughout this process, the researcher should follow the ANT imperative to remain highly sensitive to the existence and importance of non-human and immaterial objects (Latour, 2005) in addition to more intuitively attended human and material objects. Simply, during the tracing of object-relations, the researcher should be cognizant of the ways that mundane objects – those that often fall into the background of investigations as we focus on human behaviors – contribute to phenomena of study. This object-relation tracing is tedious work, requiring careful attention to each unit and potentials for objects to relate to other objects even if counterintuitive. It is also highly interpretive work, relying on a deep understanding of the situation (e.g., cultural norms, chemical reactions, organizational structures) and influenced by the researcher's own position in the network before and during the research. These conditions should be recognized and accounted for throughout the process, especially through memoing.

The output of object-relation tracing is a catalog of object-relations – a list of paired objects that have been identified as being related in some way. This list could be annotated with the particular natures of those relations for easier interpretation in the next phase. The next step is to create a visualization of the network from this catalog. These visualizations, or network maps, are a class of social network analysis techniques for creating representations of how nodes are linked together. In ORM, these maps represent how individual object-relations aggregate to form a network landscape of the situation (see Figure 20).

Figure 20. A complete network landscape map of one player's personal accounts of a
player-avatar relationship.

Such maps can be easily created by entering the object-relations list into social network

analysis software and running commands that produce representations of how all objects are

related. The same collection of objects and relations (known in social network analysis as nodes

and ties or vertices and edges) can be represented in different ways based on particular

algorithms and layout features, and these different representations can facilitate analysis in

different ways (Di Battista, Eades, Tamassia, & Tollis, 1994). In ORM, there is no particular

"correct" way to visualize a network. The particular visualization techniques chosen should align

with the researcher's preferences and present clear, interpretable representations of the network.

Although it is beyond the scope of this chapter to review all algorithms and layouts in depth, in

the present study I found that a combination of the Harel-Koren Fast Multiscale (Harel & Koren, 2002) and Fruchterman-Reingold (Fruchterman & Reingold, 1991) algorithms worked well to create network maps where objects constellate around other objects for intuitive interpretation. Further examples of these maps are included in Chapter 7.

In ORM, these whole-network images are representations of the situation's network landscape: the entire universe of objects and object-relations from which personas and the Self may emerge from the phenomenon as experienced by participants. Statistics of the network's density and of a particular node's centrality are usually calculated by the social network analysis tool and can offer helpful information about how tightly connected the objects in a situation are connected and how important a particular object is in the situation. In addition to these measures, the visualization of this network landscape also has analytical utility on its own as the network maps can provide researchers with a visual heuristic for the situation and for which objects may be most important to the investigation.

These network maps, however useful in themselves, often become extremely complex and not especially intuitive when they include large numbers of objects. In these cases, it is helpful to break down the network into sub-networks that can be more easily interpreted. This deconstruction of the network landscape is accomplished by using community structure identification algorithms to identify how objects emerge from and hang together in the network landscape. According to theories of social networks, some nodes in networks naturally have closer ties with one another than with the rest of the network and are often connected according to some common interest or affinity (Granovetter, 1973). In social networks studies, these tighter groupings are known as community structures and the tighter community structures are held

together by looser connections (Girvan & Newman, 2002; Granovetter, 1973). These sub-networks can be parsed out and analyzed separately (Figure 21).

Figure 21. A highlighted sub-network of identified via community structure algorithm.

There are many different algorithms to detect community structures, each relying on different node, tie, and network properties, and there is no one correct way in ORM to identify these structures. The researcher should experiment with the techniques to find a best-fit technique for particular data and questions. Although it is beyond the scope of this chapter to review all options for identifying communities, I found that the Girvan-Newman method (Girvan & Newman, 2002) worked well, and was integrated with many social network analysis software packages. In ORM, these community structures can represent a range of phenomena emerging

from the narrative landscape: events, histories, people, objects, institutions, discourses, beliefs, emotions, etc. Of interest for investigations leveraging of the Network Model of Self are community structures representing personas, and how those persona-networks are connected to reveal the nature of the Self as it emerges from the network landscape.

The output of this process is a collection of sub-network visualizations – smaller maps of objects and object-relations – each with their own properties and internal dynamics and, should the researcher choose to use them, a unique set of network statistics (see Figure 22).
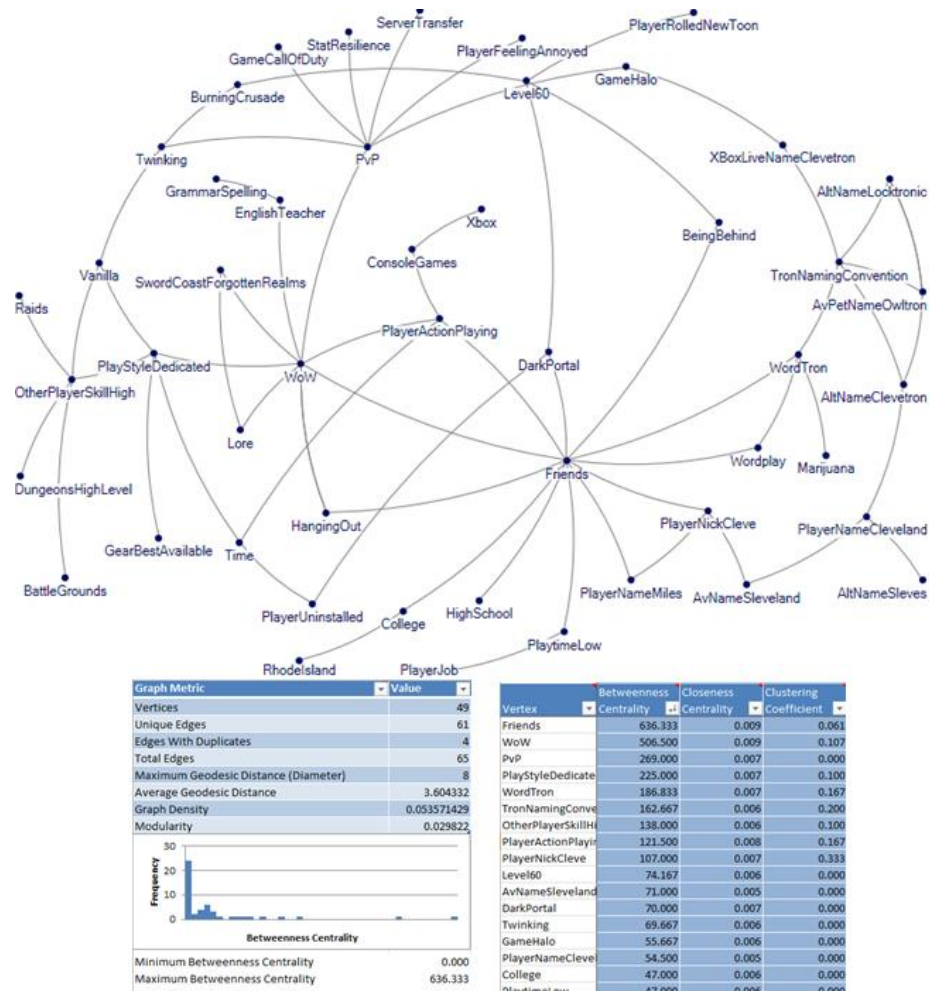
Figure 22. A community structure extracted from the network landscape, with statistics for the whole network and for individual nodes.

These sub-network or community maps are useful for a number of reasons. First, they represent smaller sets of interrelated objects that can be more easily analyzed than the whole network landscape. Second, they present opportunities to understand the types of communities – that is, what phenomena – make up the situation of interest. Third, they facilitate the analysis of the represented phenomena in relation to the whole network landscape from which they emerged. Finally, the objects and relations are disembedded from personal accounts – and their contextual spaces and times – so their importance *across* context and experiences can be better examined.

Structural Coding

The outputs of the preceding steps are: a catalog of object-relations, a collection of community structure sub-networks, and a map of the situation's network landscape. The next phase of work in ORM is coding the data to identify emergent themes. Coding is an iterative process where the researcher develops a deep understanding of the data through multiple readings and several stages of assigning codes or labels that represent themes or concepts in the data. While there are different types of coding and different perspectives on how it should be accomplished (see Kendall, 1999), the goal of this work is generally to generate new concepts that emerge from the data rather than focusing on specific, theory-driven concepts identified prior to data collection. This coding could address broad themes in the data, or could address very specific data points and then look for patterns in the codes. Grounded Theory coding techniques, described in brief below and in detail in Chapter 7, are well-suited for material-semiotic methods – especially those such as ORM that integrate the quantification of qualitative data – because they provide structure and systematicity while still leaving room for subjectivity, serendipity, and intuition in the interpretive process (Glaser, 2012).

In general, codes are assigned to specific data points – in the present study, objects and persona-networks – as markers for specific phenomena, and those labels are combined into higher-order concepts. In this way, different types of structures – object-relations, community structures, and network landscapes – can be coded for particular features and examined for patterns within and across structures, according to specific research questions.

ORM integrates coding on two levels. First, community structures (described in the preceding section) are coded for the phenomenon they represent in order to identify which structures should be analyzed to answer a particular research questions. Community structures could represent events, beliefs, discourses, subcultures, movements, or – as in the present study – personas. In addition to revealing the situation's components, this coding helps the researcher focus on a particular type of sub-network if it is appropriate for the research questions. Second, coding objects within community structures for the type of objects they are (e.g., people, animals, institutions, media, concepts) can likewise focus analysis by allowing the researcher to focus on the ways a particular type of object relates to other objects and contributes to and functions in the community and in the situation's network landscape.

After codes are assigned to objects, object-relations, communities, or ties among communities, themes within and across network structures can be evaluated. Grounded Theory approaches call these themes "theories," and they are developed by weaving together patterns of codes that emerge as related during the analytical process. In this way, combining coding at both the object-relation and the community structure levels facilitates the development of theories as to how the situation emerges from the very granular interactions among everyday objects and from the systemic relations among constitutive phenomena. The output of this phase may be a list of associated themes, a particular argument based on how themes coalesce, ideas about how

particular phenomena emerge, or other ways of answering particular research questions. In the present study, the output is a model for how the Self emerges in relation to the player-avatar relationship phenomenon. In general, the output will answer the research question(s) according to themes in how one or more of the network structures (object-relation, community, or landscape) contribute to the situation of interest. In effect, the object-relation mapping approach takes a whole account of a subjectively experienced phenomenon, deconstructs it to identify its constituent parts, evaluates how those parts work together, and draws from an understanding of those discrete relations to infer how the situation emerges.

To summarize, in ORM, four analytical approaches hang together in a methodological network of their own. Phenomenology drives the focus on privileging user voice and subjective experience by taking up participant narratives as the primary data source. Actor-Network Theory calls for the recognition of human and non-human actors in that data and for the tracing of their material and semiotic relationships. Social Network Analysis provides the technique for visualizing networks from paired objects and identifying how community structures emerge from those object-relations. Grounded Theory coding and memoing techniques provide a framework for evaluating emergent patterns at object-relation, community structure, networked communities, and landscape levels. The process of integrating these techniques into a comprehensive research method unfolds in four phases: data collection, data complication, and coding and theory development. Overall, analytical outputs include a catalog of actors and relational ties for each player, a catalog of community structures that may manifest as a range of phenomena (e.g, personas, technologies, relationships), and memos of coding criteria, emerging patterns, and pattern interpretations.

Object-relation mapping is a systematic, interpretive method that accommodates the multimodality, multiplexity, multispatiality, and subjective experience that characterize the Network Model of Self, and that are the foundation of the present study's research questions.

Challenges and Implications

Each of the frameworks that contribute to ORM has been subject to scientific critiques. Phenomenology aims to access the "original world" through subjective experience, when it is critiqued as accessing a world of cohesive, constructed meaning mediated by language and interpretation rather than the broken-down, sanitized world of science (Verbeek, 2005). Actor-Network Theory has suffered a range of critiques, most popularly arguments against the agency of non-humans, that Giddings (2007) sees as a function of an inability in the humanities and social sciences (as human-based disciplines) to attend to any agency outside of the human and the social. Social network analysis and the network as a way of understanding the world is critiqued as anti-social in over-privileging the node (Mejias, 2006), overly descriptive and atheoretical (see Borgatti, Mehra, Brass, & Lebianca, 2009). Critics of Grounded Theory argue that is impossible to be free of preconceptions, and that phenomena are not "discovered" (see Thomas & James, 2006).

ORM addresses many of these critiques. Using personal experiences as a means of accessing experiences of the world (rather than "the world"), a sort of "postphenomenology" emerges where objects are mediators of human experience (Verbeek, 2005). Addressing network structures at object-relation, community, and whole-structure avoids privileging distinct nodes. The particular epistemologies in which ORM is grounded simply do not subscribe to criticisms of non-human agency, that researchers are nodes in the network and are not preconception-free,

and that phenomena emerge from discrete object-relations that are not discovered but traced through evidence.

Applying ORM as a whole, however, has its own unique challenges. First, it requires the researcher to set boundaries for the study. ANT approaches, as integrated here, open up infinite object-relation chains and so infinite chains of meaning. If a researcher is to follow the actors, tracing relations could easily be a never-ending chain of examining one actor and moving to the next, that leads us to the next, and so on. Part of the responsibility of researchers engaged in ANT-driven research is to pragmatically define the boundaries of the network given the questions of interest and the situation that is the identified unit of analysis. Guided by theory and instinct, researchers must select a particular actor within the anticipated boundaries and start the investigations with that actor. In cases where participant accounts dictate these boundaries, researchers must be willing to acknowledge the participant's privilege to do so.

Another challenge of ORM is that it can be difficult to switch to a mode of thinking by which the realities in which we are immersed are viewed as a flat network of discrete object-relations. For many people – as it is for me – such a perspective is counter to a sense of being situated in the world. My life, as lived and experienced, seems to be a matryoshka doll of situatedness: a Self is situated in my body, which is sitting at my desk in my house in a town in Colorado in the United States. That Self does not *seem* to be made of the body, desk, house, and city in the same moment. In fact, many approaches describe the Self as emerging from the realization that there are things and people that are "not me," thus giving rise to the notion of "me" and the Self more generally (Lacan in Tallis, 1988). Such an angle, however, privileges the physical bodies over other objects, and situates the Self (and other phenomena) in a particular context rather than emerging from interactions across contexts. As a result of this different way

of thinking, coding and analysis may require detailed training, intensive practice, and much iteration.

Because of these difficulties and the nature of the object-relation cataloguing and the coding process, the ORM method is, to be frank, tedious and time-consuming. Each phase of the project may take many months, multiple iterations, and painful attention to detail. Further, because situations are emergent and ephemeral, networks are unstable and the researcher must either settle for a "snapshot" of a situation at a particular point in time (as I have done in the present study) or continue to trace object-relations and evolve the situation network landscape as the situation itself evolves. These pains are necessary, however, if one is to understand how phenomena emerge from the mundane stuff of life. As Latour noted, researchers "traveling" with such a method should be prepared for it to be "agonizingly slow," with interruptions, disruptions, and interference at every turn. One must "trudge like an ant, carrying the heavy gear in order to generate even the tiniest connection." These scholars should "pack as little as possible, don't forget to pay your ticket, and prepare for delays" (2005, p. 25).

In this chapter, I outlined the object-relation mapping method as it emerged from the Network Model of Self and from my own theoretical leanings. In the next chapter, I describe in detail how I applied the ORM approach in the present study.

CHAPTER 7: RESEARCH DESIGN AND METHOD

The ruins around Lake Mennar, to our east, have a tale to tell. The lesser races - like those clumsy dwarves - would go after the truth with picks and shovels. <Malynea wrinkles her nose.> We'll be using more elegant methods.

My scrying magic is somewhat rusty, but with the right trinket I should be able to peer through the shrouds of time. The bones of my forefathers have long since rotted away but some of their personal treasures may remain - bring me some.

> Malynea Skyreaver,
> from the quest
> "A Thousand Stories in the Sand"
> in World of Warcraft

In the present study's examination of the Self in relation to player-avatar relationships, I undertook six phases of work: participant recruitment, data collection, data preparation, and three phases of analysis. In this chapter, I describe the specific steps taken in each phase and provide two sample cases to illustrate analytical techniques. This protocol was approved by Colorado State University's Institutional Review Board (IRB) prior to beginning recruitment efforts (see Appendix A).

Procedures

This study takes the subjectively experienced player-avatar relationship as a particular network landscape from which the Self may emerge. The data required to answer this study's research questions, then, had to capture this landscape from each participant's particular, local perspective. To this end, I performed in-depth interviews with 29 WoW players to collect their accounts of the player-avatar relationship and of gameplay in general. I also collected other digital artifacts that contextualized and fostered a deeper understanding of those accounts. These data were collected in four steps: semi-structured voice interviews, semi-structured in-game play interviews, and post-interview collection of digital artifacts, and follow-up communication.

I pilot tested these procedures with four cases and adjustments were made to the question guides to improve flow, focus more clearly on the research questions, and facilitate an effective exchange. Because these adjustments were minor, pilot data were included in the formal study data as part of the 29 cases analyzed. Prior to beginning interviews, all participants completed an informed consent form. They also completed a questionnaire that allowed them to determine how they wished to be identified in the research. In this form, participants chose pseudonyms for themselves and indicated whether their avatar(s) could be referred to by name, by an altered name, or by some other identifier. All but two players permitted the use of the avatar's name. Pseudonyms selected by participants were used for all participants' names.

Participant Recruitment

For this study, 29 WoW players were selected from 404 recruitment survey responses. These players were invited to participate in in-depth, one-on-one interviews. Participants were recruited through a combination of convenience sampling from WoW players known to the researcher, open calls for participation in public World of Warcraft forums, posts in public World of Warcraft Facebook groups, and paid Facebook ads (see Appendix B). Compensation for completing the survey was an entry into a drawing for one year's worth of World of Warcraft game time (a $180 value). Recruitment ads and posts invited potential participants to visit a web site with consent materials and a link to the survey (see Appendix C). The site was designed by the researcher, and drew on visual and language styles common to World of Warcraft and gaming communities. This design was important to creating a cohesive, credible message for an audience of gamers that is generally very suspicious of giving out any personal information – especially information about their avatars or WoW accounts – due to the prevalence of hacking

134

and compromised accounts in WoW. After collecting 404 responses (approximate to the

maximum approved by IRB), I closed the survey.

I did not analyze survey responses as part of this dissertation, however they were used for

interview participant selection, and will be examined in future research. In the survey,

participants were asked to enter basic demographic information, the date they last logged into the

game, how much they liked different types of gameplay, the name and server of their favorite

avatar, their favorite memory with that avatar, and a brief statement about their thoughts/feelings

about the avatar. Respondents also had the option to upload up to three screenshots/images of

their avatar and to give a description of the image contents. Upon completing the survey,

respondents had the option to opt-in for the second phase of participation (the in-depth

interviews). The opt-in screen offered compensation of one month of WoW game time upon

being selected for and completing the interviews.

Participant Sampling

The purpose of the recruitment survey was to identify a diverse pool of potential

interview participants. Among the 404 complete survey responses, 335 players indicated they

were interested in participating in the interview phase of the study. From this list, 30 cases were

theoretically sampled with consideration for player age, gender identity, sexual identity, avatar

gender, avatar race, avatar class, non-matching avatar genders, types of play (e.g., roleplayers,

raiders, casual players, PvPers), and unique scenarios such as getting an account banned or race-

changing their avatar. These considerations were combined with a preliminary evaluation of

player-avatar relationship intensity as evidenced by the open-ended survey responses –

approximately 25% of selected participants had qualitatively low-intensity relationships (e.g.,

"It's just pixels."), 50% had moderate-intensity relationships (e.g., "I spend a lot of time on it

and I like it a lot."), and 25% had high-intensity relationships (e.g., "I LOVE my avatar – it's like my child and I'd be devastated if I lost her.")

The purpose of this approach was not to collect a representative sample, but to garner participation from many different types of players in order to make inclusive observations about the player-avatar situation, broadly, rather than trying to define what constitutes a "proper" or particular player-avatar relationship. In this sampling, I sought theoretical saturation (Glaser & Strauss, 1967). As I learned that the player-avatar relationships are conceptually endless – each one unique in its features, performance, and meanings held – I documented via memos emergent patterns, some of which would become my primary analytical categories. As I completed the 25th through 30th participants and reviewed these documented patterns, it was clear that no new concepts were being introduced and three central categories were well-developed. I concluded that I had achieved saturation and ceased collecting data.

Of an original 30 selected cases, one interviewee was dropped from the data set due to faulty audio recording of the interview. The approach yielded a 29-participant sample with 14 males, 11 females, and four genderqueer players; among them, 13 had favorite toons in the Alliance faction and 16 had favorite toons in the Horde faction. There was at least one of each avatar race available in the game at the time, and three female players and five male players played avatars of the opposite gender, and two genderqueer players played avatars with genders opposite their biological sex (see Table 1).

Table 1. Summary of interview participant characteristics.

Name†	Gender Identity	Sexual Identity	Racial Identity	Age	Avatar Gender	Avatar Race	Avatar Class	Inten-sity
Chris	Male	Straight	Caucasian	19	Male	Night Elf	Druid	Low
Dawn	Female	Straight	Caucasian	31	Female	Blood Elf	Death Knight	High
Cleve	Male	Straight	Caucasian	24	Male	Dwarf	Hunter	Mod.
Pete	Male	Straight	Caucasian	35	Male	Human	Priest	Mod.
Perry	Female	Straight	Latino	26	Male*	Night Elf	Hunter	Low
Roy	Queer	Fluid	Caucasian	23	Male	Tauren	Druid	Mod.
Chas	Male	Straight	Black	25	Male	Blood Elf	Paladin	High
Berkana	Female	Straight	Caucasian	33	Male*	Troll	Druid	Mod.
Chadwick	Male	Straight	Caucasian	20	Male	Human	Death Knight	Low
Adam	Male	Straight	Caucasian	23	Female*	Troll	Druid	Mod.
Lynne	Female	Straight	East Asian	30	Male*	Blood Elf	Paladin	Low
Synth	Male	Straight	Caucasian/ Arabic	34	Female*	Orc	Hunter	Low
Colleen	Female	Bisexual	Caucasian	28	Female	Human	Mage	High
Carill	Female	Straight	Caucasian	22	Female	Troll	Druid	Mod.
Alex	Male	Gay	Caucasian	23	Male	Worgen	Priest	Mod.
Mikey	Male	Straight	Caucasian	27	Male	Troll	Hunter	Mod.
Bug	Female	Lesbian	Caucasian	23	Female	Night Elf	Hunter	Mod.
David	Male	Straight	Caucasian	29	Male	Gnome	Rogue	Mod.
Jo	Female	Straight	Caucasian	28	Female	Draenei	Paladin	Mod.
Sedal	Female	Other	Caucasian/ Amer.-Ind.	33	Female	Goblin	Mage	Low
Mingus	Male	Straight	Caucasian/ Latino	29	Male	Undead	Warlock	Mod.
Mow	Male	Straight	Caucasian	27	Female*	Blood Elf	Priest	Mod.
Kayne	Queer	Straight	Caucasian	49	Female*	Blood Elf	Paladin	Low
Dominica	Female	Lesbian	Caucasian	48	Female	Night Elf	Druid	Mod.
Heiko	Queer	Pansexual	Caucasian	35	Male	Tauren	Druid	Mod.
Dani	Queer	Pansexual	Caucasian	24	Male*	Blood Elf	Priest	High
Penny	Female	Straight	Caucasian/ Af.-Amer.	25	Female	Tauren	Shaman	Mod.
Howard	Male	Straight	Caucasian	39	Female*	Draenei	Warrior	Low
Randy	Male	Straight	Caucasian	33	Female*	Human	Warlock	High

†All names are participant-chosen pseudonyms
*Indicates avatar gender is opposite the player's biological sex.

Voice Interviews

The voice interview was a semi-structured interview conducted via Skype, a voice-over-internet-protocol (VoIP) application that enables audio communication with or without video via

a user-chosen pseudonym. The purpose of the voice interview was to capture the players'

subjective accounts of their player-avatar relationships and of gameplay. In preparation for the

interview, I reviewed each player's recruitment survey responses, any submitted images, and

captured a screenshot of their avatar's profile in the World of Warcraft Armory, a web-based

database of all avatars in WoW. Participants indicated during session-scheduling emails whether

they preferred a voice-only interview or a voice-and-video interview in which the participant and

I could see each other. Seven players chose to engage in video interviews, and those interviews

recorded using a combination of a Skype audio recorder the screen/audio-capture software

Camtasia. The interview followed the question guide found in Appendix D. After beginning the

interview, I summarized the purpose of the study, told them what they could expect in the

interviews, and reiterated informed consent information. I then began the interview by asking

broad questions such as "Please tell me a bit about <avatar name>. What is his/her story?" and

used the "following the objects" approach (Latour, 2005, p. 12) to ask follow-up questions based

on specific objects mentioned in responses. I then moved to more specific questions like "When

you picture <avatar name>, where in the world of WoW do you picture him/her?" The

interviews lasted between 45 minutes and two hours, depending on participant comfort and

openness, and concluded with scheduling the second interview. Following the interviews, I wrote

session memos to outline first impressions of the conversation and document possible questions

for the second interview. The output of this data collection effort was 29 audio recordings of the

interviews, seven video recordings, screenshots of each avatar, and the rough notes and memos

for each participant.

Play Interviews

The play interview was an unstructured interview combining a voice and/or video Skype conversation with in-game activities. That is, I spoke with each participant as we played WoW together. This type of communication is a common gameplay practice. The sessions lasted anywhere from 45 minutes to just over two hours depending on the player's chosen activity and talkativeness. This second interview began with the very open question: "What would you like to do today?" The goal of this question was to engage players in an activity that they would normally do in the game as a means of capturing stories that might not have been salient outside of the game. In addition to player-defined activities and emergent conversation, I concluded the play interview with specific questions and sometimes included requests to clarify any unclear or incomplete stories from the first interview. The interview followed a loose question guide addressing experiences in general gameplay and player culture (see Appendix D). This interview was recorded in the same manner as the voice interview.

There were some variations in how players wished to communicate during the play interview, and it was important to accommodate these preferences in order to capture authentic play practices. In one case, the player preferred to use only the text-based party-chat channel to communicate during play, and we followed up the play session with a Skype conversation to address additional questions. Additionally, four players requested that I join a group of friends for the in-game activity and we used a combination of voice and in-game text communication. In these cases, the text communication was captured via the in-game chat logger, with all participants' consent. Specifically, all players in the group were informed of my presence, my research intentions, and my session-recording methods, and were given the opportunity to opt out of playing.

In addition to capturing speech and text communication, I also captured still images of the game interface during play moments that seemed important to players' stories. Ultimately, these data were not analyzed as part of the object-relation networks due to the richness and complexity of the verbal accounts alone. However these data did contribute to a greater understanding of each case and often illustrate specific examples of relational phenomena.

The output of this data collection effort was 29 audio recordings of the interviews, 29 video recordings of play activities, several screen shots from each interview session, and the rough notes and memos for each participant. Following this interview, participants were asked to complete an optional image-use agreement. In this form, participants could allow or disallow images collected during the interview process to be presented or published. All participants agreed to their gameplay images and videos' being used in research reports.

Post-Interview Activities

In some cases, participants indicated that various objects and activities outside of WoW are important to their relationship with the avatar. For example, some players blog about their gameplay experiences, while others regularly post images of their avatars to guild forums. Wherever participants indicated that participating in those arenas was important to the player-avatar relationship, player performances in these spaces were captured to the extent possible. Static web sites were screen-captured, textual performances were screen-captured and copy/pasted into text files, and graphic elements were screen-captured. Although both digital and physical artifacts can be relevant to player-avatar relationships, artifacts collected were limited to digital texts given time and funding constraints of the study. Again, these data were not analyzed as part of the object-relation mapping process due to the richness and complexity of the verbal

accounts alone, however the artifacts did contribute to deeper qualitative understanding of each case that aided in data interpretation.

Additionally, all participants were invited to contact me via email after the interviews with any additional thoughts or questions. A small number of participants accepted this invitation and sent additional reflections and screenshots. These communications were documented and stored as supplements to interview data. Textual contributions were included in the object-relation mapping, and images were used to help contextualize player narratives. In some cases, I initiated follow-up communication myself. This was done for two reasons. First, the question guide used for pilot interviews did not include some questions that appeared in the final version. Because I decided to include those participants in the final pool, I sent those players an email requesting answers to the added questions; all four participants responded and their answers were combined with interview transcripts in the construction of object-relation maps. Second, clarification was sometimes needed on points raised during interviews or on particular relations among objects mentioned. In these cases, I sent emails with specific questions. All such solicitations were answered and responses were likewise combined with interview transcripts to construct object-relation maps.

The outputs of this data collection were emails from six players, and a collection of digital artifacts including screenshots, articles, social media profiles, blog posts, media coverage, roleplay stories, character profiles, combat statistics files, guild forum posts, and machinima.

Data Management

The data collected through the described procedures included approximately 70 hours of interview audio recordings. This audio was transcribed into approximately 1,500 pages of interview transcripts. Transcriptions were of near-verbatim quality, where interjections such as

"Um" and pauses were omitted. The accuracy of these documents was checked by reading through transcripts corresponding to approximately 15% of the audio hours while listening to the original recordings and verifying the transcription quality. Afterward, I cleaned all transcripts by carefully reading them and ensuring correct spellings and references for the many strange words that can appear in conversations about WoW (such as monster and place names). I also resolved any discrepancies where transcriptionist had noted the audio was unintelligible or garbled, by listening to the audio again and improving the transcription where possible.

Non-transcript data (Armory profiles, surveys, screenshots, digital artifacts) were used to contextualize player interviews, but were not included in the object mapping procedures. All data were stored in a locked office on a password-protected computer, labeled by a participant ID number and each player's chosen pseudonym, and consent forms and addenda were stored separately from the data. The data were securely stored for three years, per IRB requirements.

Data Analysis

Transcripts of participant interviews were analyzed through an iterative process aimed at understanding how the Self emerges in relation to player avatar relationships at each level of the Network Model of Self: object-relations, community structures (persona-networks and emergent Self-networks), and self-consumption. This analysis was conducted in two phases, using thematic analysis to address RQ1 and object-relation mapping to address RQ2. This section describes those procedures.

Thematic Analysis

Research Question 1 focused on the ways that WoW players and avatars have relationships. Analytically, the purpose of this question was to understand the nature of the situation – player-avatar relationships, broadly – from players' lived perspectives before

investigating the object-relations that give rise to the phenomenon. In other words, answering this research question addressed the Self-consumption level of the Network Model of Self.

I used thematic analysis to answer this question. Thematic analysis is an iterative, interpretive, inductive process of identifying and integrating emergent patterns within and across data sets (Braun & Clarke, 2006; Guest, MacQueen, & Namey, 2012), where the unit of observation are particular data segments. I conducted this analysis in five steps, as prescribed by Braun and Clark. I also practiced the Grounded Theory technique of writing memos throughout the analysis to document candidate theme codes and concepts, observations about how some themes may be related.

First, I familiarized myself with the data by immersing myself in the transcripts and artifacts throughout the data collection, preparation, and pre-coding stages. That is, I engaged in active, repeated readings of the interview transcripts, paying careful attention to potentially important themes and documenting interpretations. In all, I read each transcript 3-5 times prior to beginning formal analysis.

Second, I generated a set of initial codes identifying particular features of the data. As this was an inductive process, relying on the data to inform me of important features, it was loosely guided by the definition of a relationship outlined in Chapter 4. The output of this process was a series of memos, a list of codes, and a list of cases in which each code appeared. Third, I analyzed these codes for themes among them, similar to the axial coding process in Grounded Theory (Strauss & Corbin, 1990). This step was likewise guided by this study's definition of a relationship as the object of study. The output of this step was a list of themes and sub-themes and corresponding data segments. An example of one theme and its subthemes and one transcript excerpt is shown in Table 2.

Table 2. An example of coded themes, sub-themes, and corresponding data.

Theme	Subtheme	Sample transcript excerpts
"Realness"	Having a true/real self	"I think both the being in a world where stomping on everybody's what you're supposed to do, and having a character connected to a lore that was reminding me of who I really am." ~Kayne
	Immersion	"I think if the quests did more to make you feel fully immersed in the game I think it would be more fun for me." ~Mingus
	Death isn't death	"I used to kind of make me a little bit sad, but I stopped caring a while ago when it started happening a lot." ~Perry
	Lore/Fantasy	"There are some points where you could easily break immersion if you're supposed to be in a fantasy world and everyone's calling you by your real name, even if they're your real friends." ~Penny
	"Real" people	"I just walk around the city and look at all the other characters as if I were walking around an actual city and they were real people." ~Dani
	"Real" responsibilities	"I mean, Burning Crusade [whistle], it was like raiding four nights a week. I'm looking at my wife like … 'this is like a team sport …? And I'm healer, so it's really important that I do this." ~Pete
	"Real" places	"When I created that first Orc, and I res-ed in Durotar, and got out to the beach by the troll starting zone, I was like, "This is home. This is a landscape that speaks to my soul. I know this place in my bones." ~Kayne
	Evidence of in-game events	"You know, the tabard is a trophy." ~Roy
	Not mattering in the game	"I do feel like I matter, because… you know, when you have one or two healers that don't show up, and you have one Druid in your guild, it's kind of like, uh oh, what's gonna happen?" ~Carill
	Digital as Real	"It's just it is really striking. It really is one of those things where it's like you have a memory and you almost don't want to violate the memory by seeing the reality, but no, it's good. It is pretty, on an aesthetic level." ~Heiko

In the fourth step, I reviewed themes for their prevalence and relevance to the research question. This resulted in discarding many themes in favor of more well-developed ones in an

effort to find the simplest combination of themes that explained differences among player-avatar relationships. Here, prevalence was evaluated not in terms of how many cases exhibited the feature, rather in the degree to which a feature was common in some form across all cases, requiring themes to be broad enough to have different values. Relevance was taken as, simply, whether or not the theme encapsulated a particular quality in the data that contributed to a deeper understanding of the situation as defined (Braun & Clarke, 2006). The relevance of themes was considered both in how the theme stands on its own, and how it combines with other themes to present a clear picture of the situation. Finally, those themes identified as key to the situation, along with their originating data segments, were cross-referenced with existing literature to name and define the themes and to flesh out how sub-themes contribute to the main themes.

In this way, I was able to identify how narrative sub-themes within cases reveal overarching relationship characteristics, and how patterns in these characteristics reveal particular relationship types across cases. The output of this analysis is the typology of player-avatar relationships reported in Chapter 8. This typology served as an organizing framework for the object-relation mapping analysis described in the next section.

Object-Relation Mapping

In order to address how the Self emerges in relation to player-avatar relationships toward answering Research Question 2, a mapping technique was developed based on ANT, phenomenology, social network analysis, and grounded theory (called here object-relation mapping or ORM, see Chapter 6). The technique used aimed to identify the coordination of particular network structures that emerge from the situation's network landscape. This technique assesses the object-relation, persona, and network landscape levels of the Network Model of Self. That is, it facilitates the identification of how discrete objects relate to one another, how

those objects hang together and sometimes give rise to emergent personas, and how those personas hang together to form a particular Self.

ORM is a process of deconstructing phenomena into their constitutive object-relations, rebuilding the data as a network based on those relations, and examining how phenomena tend to emerge from those object-networks. To do so, I first catalogued the interview data, then generated maps of identified object-relations, and from them extracted what I call *community structures,* or groups of objects that are related to one another. These were examined to identify and code persona networks, and then objects were further coded within the persona-networks. In each phase, I compared patterns in findings across the types of player-avatar relationships identified through thematic analysis in response to RQ1. This was an iterative, interpretive process in which I constantly compared findings among different levels of data (i.e., among object-relations, persona-networks, and Self-networks) in order to develop a comprehensive understanding of the Self-networks' structures. In this section, I describe these procedures in detail and provide an example of each phase from a single case.

Object-relation cataloguing. To catalogue object-relations, raw interview transcripts were examined to extract specific traces of objects and object-relations based on how they are represented by words and word-relations. Effectively, the question that guided this process is: what objects – human, nonhuman, digital, physical, material, immaterial – are present in the data and how are those objects related from players' perspectives?

This task was accomplished by evaluating how objects were conceptually tied together in each participant's language. I examined each speaking turn in a transcript by reading the entire turn, then reading individual sentences, and then attending to how each word was related to other words in the sentence. I identified particular relations between words (or between objects that the

146

words represented), and then ensured that the identified relation was valid within the context of the sentence and of the entire turn. In very complex cases, after reading through the turn I began identifying pairs from the end of the turn to the beginning so that I could attend to the specific, local meanings of words first and then determine how they fit into the overall meaning of the turn. In this process, relational ties were not identified as having a particular valence or quality, only that two objects were connected in some way. I also developed specific naming conventions for the objects that facilitated easy sorting of particular object types in later stages of analysis. For example, if an object was specifically understood as belonging to the player, the first word in the object's label was "player," as in "PlayerHand" or "PlayerEmotion."

Throughout, I carefully attended to all types of material and immaterial objects, to remain faithful to the participant's intended meaning, and to use the participant's original language whenever possible. The constant comparison technique was practiced within cases, but not across cases. Cases were not compared at this stage in order to privilege the unique language and concepts presented by each participant.

To illustrate this object-relation coding, consider one participant, Dawn. She said, "I think morality is defined by what we choose and I won't ever choose those things but if they are in me – have I had a dream about being kind of more like Linthiel? Yes …" The objects in that statement were identified as: morality, choice, "those things," being "in me," dream, and Linthiel the avatar. Here, "those things" referred to acts of killing (made evident in a preceding sentence), thus the resulting list of objects was: morality, choice, killing, potential, dream, avatar. Next, I identified the conceptual relationships among these objects. For this statement, she said that morality is defined by choice so a pair is coded: morality/choice. Similarly, "I had a dream... etc." links the potential for Dawn to be like her avatar, generating the coded pair potential/avatar.

These pairings were interpreted as relations among two objects. In this way, this statement resulted in a list of related objects (see Table 3).

Table 3. Sample conversation of statement to coded object-relation pairs.

Original statement: "I think morality is defined by what we choose and I won't ever choose those things but if they are in me – have I had a dream about being kind of more like Linthiel? Yes …"	
Phrase	Coded pairs
I think morality is defined by what we choose	Morality/Choice
I won't ever choose those things	PlayerChoice/Killing
but if they are in me	Killing/Potential
have I had a dream about being kind of more like Linthiel? Yes …	Dream/Potential Potential/Avatar

When a relation was identified, the paired terms were entered into a Microsoft Excel spreadsheet. Then, terms were consolidated by adjusting terms that were semantically close enough to collapse into a single label. When one term was linked with two or more objects, the term was entered into the spreadsheet once for each relation; as a result, a single term might be listed in the catalogue many times. The output of this phase was a catalog of paired words for each case, where each pair of words represented two objects connected in a particular way. Overall, 27,486 ties among 11,384 unique nodes were identified among the 29 cases.

Network map construction. Network map construction transformed the object-relation codes into a two-dimensional visualization, or map, that represented how each object related to other objects. This was used to depict the overall landscape of the player-avatar relationships. The map was generated using an Excel social network analysis plug-in called NodeXL (Connected Action, n.d.). Each case's list of paired objects was processed by NodeXL using the Harel-Koren Fast Multiscale visualization algorithm, also known as a graph-drawing algorithm,

that evaluates how nodes are connected to one another to generate a network map of the relations. A single network map (see Figure 23), included all object-relations coded from a single participant's transcript. I refer to that complete map as a participant object-relation *landscape*. Because of the large volume of nodes for each participant case, the resulting map is extremely dense, and must be simplified through extracting theoretically determined sets of nodes, discussed next.
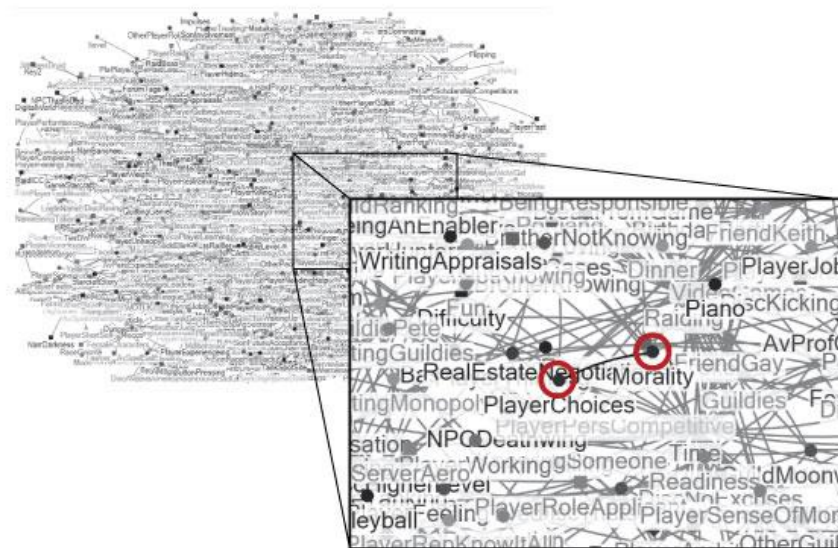
Figure 23. A network landscape composed of many different object-relations.

Community structure extraction. Community structures are sets of objects that hang together in tight groups as part of a broader network of nodes (Girvan & Newman, 2002). That is, some sets of objects connect closely together, and others do not have substantial linkages. These structures are determined by measuring the importance of a particular link in holding together hypothetical node-sets in comparison to other links. For example, the term *avatar* might be closely associated with eight different objects and those objects may be closely associated with each other, forming a community structure. Other objects, such as *work*, might not be

connected to *avatar* or to any of the objects connected to *avatar*, indicating it is not part of that community. In some cases a single connection links two otherwise separate structures; these were considered separate for purposes of analysis.

NodeXL has predictive clustering algorithms that extract such communities automatically. The best algorithm for this purpose was one that limited networks to fewer than 5,000 nodes and removed weak ties (or those with very few links), called the Girvan-Newman method. After communities were extracted, I used the Harel-Koren Fast Multiscale layout algorithm to display the community structures in easily analyzable arrays. Additional manual adjustments were performed to generate the final maps. Some of the generated community structure maps had very few nodes and simple node interrelations, and others had many nodes with many complex relations. For example, Figure 24 shows a complex community structure. Overall, 669 community structures were extracted across the 29 cases.
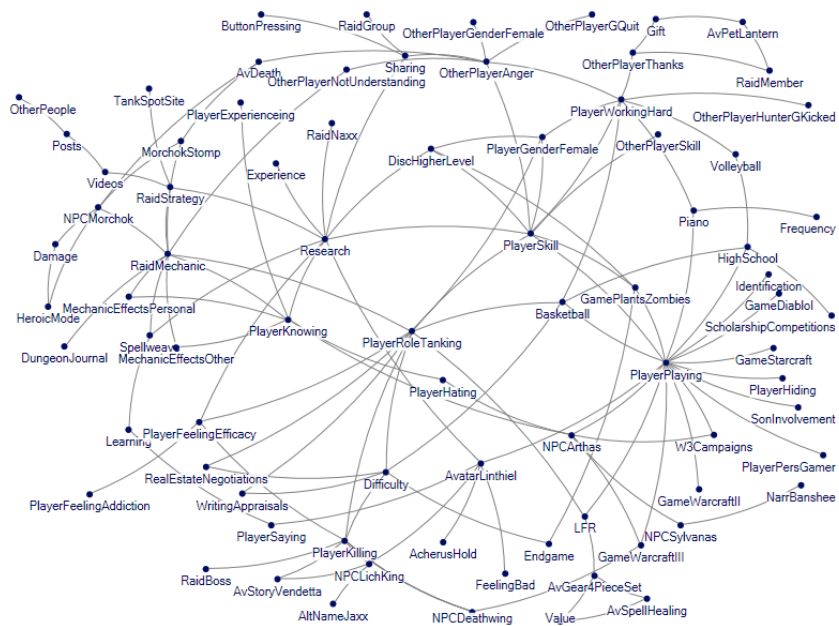
Figure 24. A community structure extracted from the broader network landscape.

Community structure coding. Once community structures were identified, they needed to be coded for the types of phenomena they represented. This was accomplished by conducting

a second phase of Grounded Theory coding on each community structure. This process consisted of qualitative analyses of both the generated maps and interview transcripts, and measures of node centrality generated by NodeXL.

In the same way that open coding of transcripts conceptualizes text segments line by line, I worked systematically in my evaluations of how the nodes were tied together and how those ties contributed to the entire community structure. First, I looked at each tie and considered how those nodes are semantically related throughout a transcript. Then I analyzed why collections of nodes might hang together in a community structure. Finally, I considered those evaluations and in relation to the participant landscape map as a whole. This work was highly interpretive, often requiring me to return to specific segments of interviews for data checks. When the number of nodes was extremely large, I used NodeXL's calculations of nodes' betweenness centrality (the measure of how often one node must the target node in a shortest-path to all other nodes in the network) to guide interpretation.

The output of this step was a list of 618 distinct community structure codes, with only a few structures representing very similar phenomena (e.g., social play, motivations for playing alts, starting the game, avatar appearance, and identity dimensions).

I then simplified the list of community structures using axial coding. I grouped the codes into similar concepts and then classified them into more general categories, memoing throughout the process. This coding began inductively during the initial open coding of community structures – I began to notice, for example, that some graphs depicted personas, some depicted events, and others depicted emotions or mental states. These observations informed the category development process. Ultimately, 16 categories of community structures emerged from the data: Affordance/Constraint, the Avatar, Behaviors, Boundaries, Cognition/Emotion, Discourse,

Form/Phenomenon, Game Content, Information/Media, Narrative, Persona, Gameplay, Sociality, States, Technology, and Transactions.

Persona-network coding. Because this study focused on the Self as it emerges in relation to the player-avatar relationship, I then focused only on community structures identified as persona-networks for the remainder of analysis. Overall, there were 76 persona-networks across 26 cases, as three participants' landscape maps revealed no persona-networks.

The persona-networks identified were then analyzed with a third phase of Grounded Theory coding, using the same technique as used to classify community structures in the previous step. Here, however, distinctions among persona types were identified. The initial output of open coding was a list of 59 distinct codes describing different person-network types, with only a few persona-networks representing very similar personas (e.g., avatar personalities, gamer personas, jokester personas). I collapsed the codes into similar concepts and then into broader categories. Ultimately, six categories of personas emerged from the data. These are the basis of the discussion in Chapter 9.

Object-relation coding. In order to more closely examine the content of persona-networks, a fourth round of open coding was conducted. This process examined how particular objects functioned in persona-networks and identified themes in the objects and relations that made up these networks. I found that two types of objects emerged as particularly important to how the network functioned – social group objects and technology objects. For each of these object types, I evaluated how individual nodes functioned in the network according to their discrete relations with other objects by moving back and forth between the persona-network maps and the interview transcripts. I memoed my observations and coding decisions throughout the process.

Theoretical coding. The task in theoretical coding was to understand the conceptual relationships among these categories and to situate those patterns in the literature toward answering RQ2. I accomplished this by moving iteratively among the persona-network maps, coding memos, and original transcripts, using the player-avatar relationships as an organizing framework. At this stage of analysis, there were three sets of categories that had been generated. First, from the initial thematic analysis phase of analysis, I identified specific types of player-avatar relationships. Second, from the community-structure and persona-network coding, I identified specific types of personas. Third, from the object-relation coding, I identified specific qualities in the ways that social entities and technological entities functioned in their respective persona-networks.

Critical Analysis of the Method

In this section, I discuss how the data collection and analytical methods used influenced interpretation and conclusions, and explain how their potential influence was addressed.

First, although I sought saturation with my sample, qualitative data and analyses are always subject to the limitations of small sample sizes and self-selection. This is particularly important in the present study because of the time required to participate in the interviews. I addressed this in four key ways. First, I recruited across many different sites that could be frequented by many different types of players, from Facebook groups and ads to player community sites. Second, I offered game time as compensation because it would be a relevant and appealing reward to players of a broad range of types. Third, through the initial survey I collected a large pool of potential participants to improve the chance that I could sample from many different types of players. Finally, I intentionally varied the interview participants by a range of factors (e.g., short story intensity, demographics, play habits) in order to include a broad

range of players. Although this study's sample is not considered representative, it covered a broad range of player types, ages, genders, and other characteristics of interest to this study.

Second, my own perspective, opinions, and theoretical lens shaped interpretations of the data. My lens might not have aligned with what participants would say is true. To address this potential, I communicated with participants via email during analysis to clarify vague points and to verify my interpretations of interview transcripts and object-relation. In general, my interpretations were in alignment with participant perspectives.

It is also possible that participants did not tell "true" stories during their interviews. For example, because I was asking many questions about avatars, some participants may have over-emphasized their relationships with their avatars. Similarly, the novelty of speaking with a researcher about their gameplay may have changed how participants spoke about themselves, resulting in conversations that were not typical of their experiences. To address this, I asked questions from many different angles by, for example, asking about multiple facets of a relationship in multiple ways. I also triangulated interview transcripts with initial survey answers, digital artifacts, and Armory profiles. Additionally, participants were very proud of and very eager to talk about their avatars. They described how they were happy that someone was willing to listen to their stories as legitimate experiences instead of writing them off as "gamer nerds" and instead of writing of play as an unworthy pastime. Through these efforts and evaluations I am confident that no participants were telling purposeful untruths. It is important to note that participant's accounts of their experiences were just that – accounts – embedded in the moment of conversation, and cannot be considered "objective" or "true" accounts that would be always described in identical ways in other contexts outside that particular exchange. These

accounts were ways that participants remembered and thought about events, not the events themselves.

To facilitate comfortable conversation and build trust, I made specific efforts to present myself as a "normal" player during the interviews. I used "soft" questions at each interview's start in order to build rapport and told stories of my own play as they became relevant. In this way, I created a social and recreational atmosphere rather than a research atmosphere, and no participants seemed uncomfortable or closed-off during the conversations. Important in this effort were considerations made in designing my avatar as a tool for conducting play interviews. As part of the interview process, I joined players in WoW using my high-level avatar. In order to be able to evolve interview questions on the fly and observe in ways I could translate later to session memos, I needed my phenomenal presence in the game to be Jaime-the-Researcher, not Jaime-the-Player. Although it was not prudent (or even possible) to altogether detach myself from my own sense of being a WoW player, I did need to occupy a middle ground between the two. In order to occupy this space, I made the difficult decision to change my avatar's name and appearance in order to play with Horde players. Additionally I leveled a completely separate avatar to play with Alliance players.

The avatar redesign was intended to maintain my familiarity with play mechanics of my avatar class (and as such, my ability to play effectively and to be seen as a legitimate community member) while removing my attachments to and my own sense of Self from Shauxna as familiar, authored body and eliminating specific ways that her appearance could bring cultural "baggage" into the interview. Specifically, her original Blood Elf race is often seen as "pretty," which for much of the player base translates to "silly" in this game of war. In a forum discussion on this topic, one poster described the Blood Elf stereotype as "young kids, usually 12, who want to be

kewl looking." Another pointed out that race suggests your toon has not been in the game as long (as the Blood Elf models were not available in the original release of WoW). Her class as Hunter was also subject to assumptions from the WoW community. Hunters are often criticized as a simple (again, read: "silly") class, and often referred to as "huntards," a play on "hunter" and "retard." Using Shauxna as my research toon risked introducing both of these stereotypes into the investigation. Although I could not change her combat class due to re-customization restrictions, I changed her race to Undead (see Figure 25), which generally elicits fewer associations of youth and novice status.

Figure 25. Using my main avatar for research required changing her name and her body, from a familiar, pretty Blood Elf to a strange, more neutral Undead.

This change also served to minimize the problematic intersections of play and work, so that I could still have fun in the game after returning Shauxna to her original state and so that the work would be less influenced by my own relationship with my avatar and by the immersion, fun, and history of my gameplay. Although it was difficult to evaluate whether or not participants acted in certain ways because Shauxna took an Undead form, one participant did feel

156

free enough to express her disdain for Blood Elves and their players: "They're ugly. And they annoy the piss outta me." I was not treated by participants as a casual or silly player, and I was not teased or mocked or diminished. After data collection was complete, I returned Shauxna to her original name and body.

Summary

This study, conducted over 18 months from January 2012 to June 2013, generated rich, complex data that were systematically analyzed using object relation mapping to focus on the research questions of interest. Careful attention was paid to the processes and decisions made during many rounds of coding that helped me both embed myself in my data fully and maintain a needed distance to assess and interpret the data. Throughout the process, critical examinations of both the data and my own analyses contributed to the final conclusions drawn. The following chapters present the results and discussion of analyses addressing players' relationships with their avatars, and how those relationships intersect with a sense of Self, with an additional focus on the role of social groups and technologies.

CHAPTER 8: A TYPOLOGY OF PLAYER-AVATAR RELATIONSHIPS

*When this creature died, some sort of energy was released from its
body. The energy was passed on to you, and now you feel
somewhat stronger.*

Text from the quest "Strange Life Forces"
in World of Warcraft

The objective of this study was to investigate the nature of player-avatar relationships and
how they contribute to players' sense of Self in and around the game World of Warcraft. This
study's first research question was: **How do players have relationships with their avatars?** To
address this question, I conducted within- and across-case thematic analysis of two-part
interviews with 29 World of Warcraft players. These analyses were triangulated with player-
submitted artifacts including blogs, forum posts, and social media accounts. This chapter first
examines the levels of self-differentiation players expressed when talking about their avatars. It
then builds on those distinctions to discuss three emergent themes in player-avatar relationships:
emotional intimacy, perceived agency, and gameplay practices. I examine how the intersections
of these themes reveal four distinct categories of player-avatar relationships that suggest the
potential for authentic social and emotional connections between players and their avatars.

Avatar as Self and Other

Players varied in the degree to which they perceived themselves as distinct from their
avatar, and as such differed in the degree to which they were capable of caring for it as separate
social entity. Some players explicitly described their avatars' preferences, goals, or motivations
of avatars that were separate from their own, while others explained that the avatars were
extensions of themselves. Such views were revealed in player language, such as whether or not
they used "I" or "it" or even "we" to refer to their avatars, as well as in descriptions of the
avatars' meaningfulness in gameplay and in social contexts.

Some players spoke of their avatars as completely separate agents, with distinct autonomy, histories, motivations, morality, and governing systems than themselves as human players. For example, Heiko spoke of his avatar's resistance to completing an infamous torture quest, despite his own interest as a gamer in seeing how it played out. "He didn't do it," he said. "I just could not do that quest with him and it made no sense. My [other avatar] loved it – had a ball because that's who she is – but yeah, he would not do that for a whole host of reasons that I know are personal for him." Likewise, Dani spoke of how her own goals aligned with her character's goals, an alignment that prompted her to join a roleplay guild (a social group focused on playing the game *as* their characters): "It sounds like fun for me and sounds like fun for [my avatar]. I guess that's where we're headed next." Most often, players seeing avatars as different from themselves called their avatars by name, referred to them as he/she and her/him, and used "we" to explain how the player and avatar experienced game activities. One player described an awareness of this third-personhood: "I talk about him like a third person – he's a separate entity – he's Lloyd. Yeah, Lloyd got a new shield today, I'm proud of my boy."

Other players spoke of their avatars as objects they owned and used in the same way one might use a car or a golf club, rather than as distinct beings. For them, the avatar was a plaything – a some*thing*, not a some*one*. These players often referred to the avatar as "it" and used metaphors, such as calling them tools or pixels. Berkana, for instance, spoke of her avatar's male body as an instrument for being taken seriously as a tank. "I made the character male because I was getting really sick of giving a strategy in a dungeon, and having the guy give the same strategy, and it's like 'Oh hey, yeah, that's a good idea, let's do that,' when I got ignored." Chris was indignant about the notion of considering an avatar as a "personality," considering such

ideas to be the domain of roleplayers: "I don't try to put him on a pedestal. He's nothing but an extension of my arm into that universe. He's not his own entity, he's me."

Some players approached their avatars as adaptations, replications, or extensions of themselves, representing a kind of middle-ground between an entirely separate personality and a functional tool. For instance, Randy lamented losing a piece of himself when his account was banned and he could no longer access his avatars: "I had definitely placed a part of my personal identity in those characters and re-leveling a bunch of other ones did not fill that void." Sometimes, players spoke of their avatars as representing only *dimensions* of themselves. Kayne, for example, noted, "I think [she] is me without all of the burdens of rules and expectations in [real life]." Dawn spoke of her avatar as having an aggressive, violent, no-nonsense personality: "She's just kind of that part of me that I don't allow to come out in … real life."

These variations in players' experiences of their avatars as distinct social or functional entities or as self-extensions can be understood as representing different levels of self-differentiation. Self-differentiation is the degree to which there is a concrete definition, understanding, and experience of the Self distinct from another entity in a social relationship (Bowen, 1978). Some players expressed low self-differentiation, in which the player saw the avatar as a manifestation or extension of Self, while others expressed high self-differentiation, in which the player saw the avatar as a completely independent social entity with its own goals, motivations, and preferences.

These differences emphasize the varying ways in which players position avatars in relation to themselves and suggest that, for some players, the avatar-connection goes beyond a "user-tool" relationship to something more akin to an interpersonal relationship. Those with higher degrees of self-differentiation from their avatars spoke of them as embodying a role, as

Linderoth (2005) would suggest, and approached avatars as characters embedded in a specific context and narrative. Such relationships did not result from confusing the avatar with "real" people, but instead were ways that players engaged the *concept* of the avatar as a social other. For those who viewed the avatar as a tool or extension of themselves, that concept was fundamentally different: the avatar served specific functions in the gameworld that followed player goals and motivations.

In summary, players perceived their avatars as distinct from themselves to different degrees, from viewing the avatar as an extension of the Self to viewing the avatar as a social other. These perceptions have implications for how player-avatar relationships manifested in perceptions and strength of emotional intimacy and agency, as well as in styles of gameplay.

Emotional Intimacy in Player-Avatar Relationships

Emotional intimacy emerged as an important theme in player-avatar relationships. It was generally expressed as care, closeness, a sense of having shared experiences with the avatar, and valuing the relationship. Analysis demonstrated that player-avatar relationships varied in the degree of experienced emotional intimacy: some players expressed no care for their avatars and instead approached them with utilitarian views, while others expressed deep emotion and attachment and viewed avatars as companions in play. All players expressed *some* degree of attachment to their avatars, however that connection ranged in character from a strategic attachment to the avatar as an optimized gamepiece to a social attachment to the avatar as a unique, independent personality.

Expressions of Emotional Intimacy

Players expressed an array of emotional intimacies in player-avatar relationships, from a general lack of sentiment to intense emotional ties. Distinct from physical and cognitive

161

intimacies, emotional intimacy is defined here as the *perception of closeness* that results in feelings of care and understanding, affirmation and value, and warmth and belonging (Sinclair & Dowdy, 2005; Sternberg, 1986). It has been suggested that authentic emotional intimacy requires self-differentiation – one must see an entity as separate from oneself in order to feel the perception of closeness (Bowen, 1978). Analysis revealed patterns in expressed emotional intimacy among relationships with varying levels of self-differentiation. Players expressed perceived emotional intimacy between themselves and their avatars in three key ways: language of care (including statements of emotion and closeness, and a perception of being cared for or understood in return), senses of sharing experiences with the avatar, and appreciating the relationship as meaningful rather than seeing it as a strategic investment offering competitive advantage in the game.

Emotional language. Players spoke of their avatars with varying degrees of emotional language, with some referring to their avatars as mere playthings and others discussing them as loved and respected entities with whom they had deep personal connections. For example, Dani noted, "I don't think I will ever stop feeling a connection to the character … All that history and all that emotion makes a really realistic character out of someone who started out as a joke." Similarly, Heiko mused, "[My main avatar] is my staple. He's my go-to. I love him." Sometimes expressions of care manifested in statements of commitment and loyalty, as in Chas's contention that although he would consider re-customizing or even deleting most of his characters, his main avatar "has immunity" and would never be changed. In contrast, other players either used no emotional language, or they explicitly stated that their avatar was merely a thing used to play the game. Synth explained, "If we were all just un-textured blocks that were running around, I would

still be an un-textured block running around." To him, the characteristics of his avatar made no difference in how he saw himself playing the game.

Shared experience. Some players told stories of how they had shared gameplay experiences with their avatars, from killing difficult monsters "together" to jointly making decisions about what to do in the game. Often, these stories were accompanied by statements that the avatar had played an important role in the player's life more generally. For Kayne, his avatar "was the cornerstone of [his] social life for a couple of years." Dani explained that she had been in a physically abusive relationship, and that she found strength in her avatar's personality. She noted, "I just don't think I'll ever shake the feeling that he saved my life." Dawn said that killing a very powerful boss, the Lich King, was very important for her avatar: "[My avatar] has a personal vendetta … there are things she's doing now, but they're not as great as that kill." For Dawn, the *avatar* liked the killing, and she the player facilitated the killing, effectively framing her avatar's motivations and abilities as the key driver of that event. Conversely, some players described their own motivations and abilities as the key drivers of experiences, focusing on their own sense of control, skill, and problem-solving. Strong and/or frequent senses of sharing experiences with avatars are consistent with the notion of transportation – the social co-presence of two entities in a shared space (Green & Brock, 2002; Lombard & Ditton, 1997) – suggesting that players' feelings of being in the world may be related to how close they feel to their avatar.

Relationship benefits. Players spoke of many different kinds of benefits they enjoyed from their relationships with avatars. Broadly, these benefits can be understood as being strategic or non-strategic benefits. Strategic benefits were ways that the player-avatar relationship afforded the player a competitive, social, or resource advantage in the game. Alex, for instance, said, "[My avatar] lets me continue doing what I like … and that's being invested in a character

163

so long that I get to that stage with it where I'm not having to re-learn anything." Being dedicated to a single character allowed him to become highly proficient to the point where when the class's mechanics change, he still had a strategic advantage. In another instance, Randy lost a specific social advantage after his account was banned and he could no longer enter the game as his familiar characters: "It wasn't just the ability to log into the game that I cared about … I wanted those characters for the name recognition because that's how people knew me." Non-strategic benefits were concerned with engaging the avatar for its own sake. That is, players spoke of playing their avatar simply because they cared for it and wanted to take care of it, and that there was inherent value in the relationship. For example, Chas lauded, "I'm proud of my boy," and many other players expressed a general appreciation that their avatars were "just cool."

Those players who enjoyed non-strategic benefits tended to be interested in their avatars' well-being and existence and they focused on meaning, and those enjoying strategic benefits tended to be concerned with engaging avatars for gameplay purposes generally, and winning specifically. These patterns align with Oliver & Rainey's (2011) notions of hedonic enjoyment (fun, gratification, and amusement) versus eudaimonic appreciation (meaningfulness, goodness, and virtue). These notions have been tied to video game enjoyment as pleasures of control over gameplay and pleasures of cognition through narrative and perspective-taking (Bowman et al., 2013), and are distinct from valences associated with liking or disliking (Oliver & Bartsch, 2011). This distinction is especially important considering that all players conveyed some sense of liking their avatars, however only some players expressed enjoying non-strategic benefits as a result of engaging their avatars over time. In other words, these findings suggest that liking one's avatar is fairly commonplace, but connecting with one's avatar on a deeper emotional level is a matter of seeing intrinsic worth and virtue in the avatar and in the relationship.

Overall, emotional language, shared experiences, and relationship benefits reflect

emotional intimacy between players and avatars. This finding aligns with Sinclair and Dowdy's

(2005) five dimensions of emotional intimacy: acceptance, openness to sharing thoughts and

feelings, understanding of thoughts and feelings, feelings of deep care, and unconditional

reliability. That players experienced these dimensions to varying degrees suggests that the

relationship between players and avatars is sometimes characterized by authentic emotional

intimacy, which can be classified along a continuum.

Emotional Intimacy Continuum

The three dimensions of emotional intimacy described above – emotional language,

shared experience, and non-strategic benefits –may be viewed along a continuum of low to high

emotional intimacy (Figure 26).

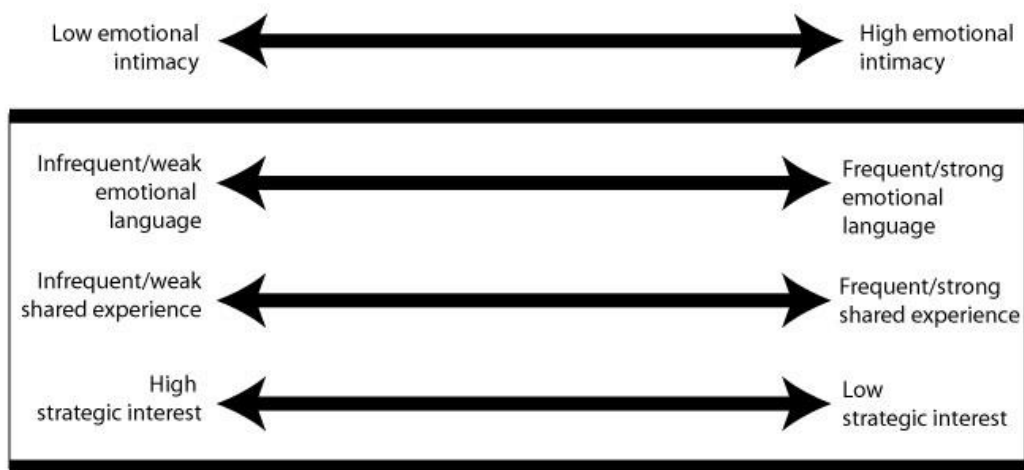*Figure 26.* Emotional intimacy as a function of emotional language, shared
experience, and non-strategic interest.

Players exhibiting low emotional intimacy rarely or never spoke of care, closeness, or

emotion; however they sometimes spoke of affection for the game itself. They rarely or never

spoke of their gameplay experiences as being shared with their avatar. They also tended to enjoy

165

strategic benefits from the relationship; that is, they were primarily concerned with how the avatar could offer them competitive advantages in gameplay rather than being interested in the avatar's well-being.

Players exhibiting moderate emotional intimacy – those positioned at the middle of the continuum – described their avatars with some degree of care, closeness, and affection, however these expressions often included hedges or incorporated the avatar's functional characteristics along with the emotional language. For example, Cleve compared his avatar's race and class to other classes, tempering his identifications with "kind of" and "a little." He explained, "He's just kind of more my style than [other avatars]." There was moderate strategic benefit in these relationships, however players were more concerned with how avatars facilitate access and being known in the game rather than how the avatar helps them to be successful in combat.

Players exhibiting high emotional intimacy used intense emotional language to express deep connections with the avatar. Expressions of the meaning of the relationship also tended to be complex and well-developed, suggesting they had thought carefully about the connection. Heiko, for instance, said, "I think it was T.S. Eliot who writes about the objective correlative which is the dominant theme of a story, that the one sort of touchstone that every chapter and every scene should kind of refer back to. He's my correlative. Everything I do should somewhat refers to the sort of block of notions that is him." These players tended to consider their avatars as entities distinct from and independent of themselves. They spoke of concern for the well-being and existence of those avatars in the world rather than of strategic relationship benefits.

These patterns emphasize the different ways that players are emotionally attached to their avatars and suggest that player-avatar relations go beyond the manipulation of pixels on a screen. Relationships with high emotional intimacy were characterized by frequent, intense emotional

language, feelings of shared experience, and attention to the value of the relationship. These patterns in emotional intimacy align with patterns in self-differentiation described in the preceding section: players with low emotional intimacy tended to also express low self-differentiation, and players with high emotional intimacy tended to also express high self-differentiation. This alignment adheres to Bowen's (1978) contention that authentic intimacy requires self-differentiation – a player must be able to see the avatar as existing legitimately separate from himself in order to emotionally care for it, to share experiences with it, and to see it as something other than a controlled object.

In summary, players were emotionally attached to their avatars to different degrees, from feeling little emotion and seeing the relationship as providing mainly strategic benefits to feeling strong emotion and seeing the relationship as having symbolic meaning and inherent value. These attachments have implications for how players approach the avatar as having inherent value in various social and play practices.

<div align="center">**Perceived Agency in Player-Avatar Relationships**</div>

Perceived agency emerged as another important theme in player-avatar relationships. Agency was generally expressed as the experience of an entity – player or avatar – being "in charge" of gameplay. Analysis of the language players used to describe control, motivation, and decision-making during gameplay demonstrated that player-avatar relationships varied in emphasis on the player versus the avatar as being "in charge" of gameplay as well as on the strength and focus of that agency. Some players saw avatars as independent agents that drove play decisions, and others viewed the avatar as tool completely subjugate to their will. Although no players treated the avatar as *completely* capable of achieving its own goals, there was evidence that some players perceived themselves as being *subject to* the avatar's perceived

motivations and intentions, and even to its perceived moral system. Overall, patterns suggest that this deference may be a purposeful relinquishing of perceived control to facilitate immersion and senses of fun.

Ways of Being "In Charge"

Players expressed a range of ways that both players and avatars could be in charge of play, from casting spells and moving around the world to talking with other players and deciding whether or not to complete quests. Overall, the perceptions of who was in charge – the player or the avatar – depended on the ways players' ideas about who decided on play actions, who was responsible for the results of those actions, and who had the ability to perform those actions.

Making decisions. Players talked about the different ways that the player and/or the avatar were perceived as making decisions about what to do in the game. This was most often related to issues of motivation (why the player or the avatar might want to perform an action) and consequence (what could happen as a result of that action).

Often, players described themselves as being the decision-maker regarding gameplay activities. For example, Alex said, "I feel like I have a lot more control over the success of a group [as a healer] than I did as just a damage dealer and it's much more engaging." By deciding to play a different class – a healer instead of a damage-dealing class – Alex controlled his avatar's contribution to group activities. Similarly, Randy described his decision-making process that put his own needs before that of his raid group: "I think sometimes the amount of effort it takes to do something … will outweigh the amount of utility and/or fun you get out of whatever it is you're doing … like that one day when I finally actively decided *not* to go to a raid." In these ways, players emphasized their thought processes, motivations, and outcomes associated with making decisions about gameplay, usually based on their own needs.

Sometimes players described their avatars as making decisions about gameplay activities. For example, Berkana said that her avatar, a male Troll, was aware of his sameness and differentness from other characters: "He doesn't flirt with other races because he's kind of a racist." This characteristic, explained Berkana, was not her own feelings about WoW races, but rather the Troll's alone. Sometimes the avatar's motivations were compared to the player's motivations, expressed in terms of agreement or disagreement, as when Mingus described his avatar's reasons for adventuring in a new continent: "I never play characters from a standpoint of 'There's glory to be won … go there and fight and make a name for yourself.' That's not my motivation, that's not [my avatar's] motivation. If anything, he would go there for a power play." Overall, engaging the avatar as a perceived decision-maker in gameplay often relied on complex backstories and well-developed personality for the avatar, much as fiction-writers create for book characters. Such stories are commonly associated with roleplaying in MMOs, although not all players who developed these backstories for their avatars were roleplaying *per se*.

Sometimes players described experiences of sharing decision-making with the avatar. In some cases this described a matter of common interest. That is, the player understood the avatar as having similar tastes and preferences, as when Perry described a shared preference for killing things in the game versus other types of gameplay: "In general, [my avatar] only likes to kill things and do it alone … He's my toon that I like to go kill things with." In some cases, shared decision-making was based on a sense of shared attributes and personality rather than preferences. For example, Mingus explained how he could "be himself" by virtue of his avatar's racial and class lore in the game: "It's fun to be able to take that part of my personality that's not really appropriate in real life … You do it in game as a Warlock, as an Undead, especially 'cause people expect us to be particularly terrible. It's okay. It makes sense … Like, I'm a warlock, of

course I'm going to kill this rat. Why wouldn't I do that? It's not going to kill itself." In these ways – through shared preferences and personalities – decisions were described as being made cooperatively, with consideration for both the player's and the avatar's motivations.

Enacting intention. Another way that players talked about who was in charge in the game was the different ways that either the player or the avatar could make things happen in the gameworld. This was most often in terms of abilities, such as the abilities to log into WoW, push a button, cast a spell, move around, and do enough damage to kill a monster. These types of abilities were most often framed as the capacity to enact the decisions made about actions in the game, and to make real the intention to change or influence the world. Often, players described themselves as the entity having and enacting intention. This enactment was generally accomplished by physically engaging a piece of computer hardware – the button. Randy spoke of "mashing a button" to cast a spell. Dani said, "You push the button that heals them and then the monsters die faster." Dawn described using a piece of game software: "You can share the data with someone else in your raid by just pressing the button." Players also described acting on decisions in other ways, such as when Alex changed servers to raid with a different team: "The leap I made to the hard-mode guild was from a guild that I had been with since 2006." In these ways, players see themselves as the primary force in enacting intention about what actions should be taken in the game.

Sometimes players described their avatars as entities making things happen in the game. Sometimes this enactment by the avatar was described explicitly, as when Dani noted, "He joined a guild last November, right after I had come back from taking that big long break from the game." For Dani, it was the avatar that actually joined the guild and that action was performed by the avatar distinct from her own action of re-joining the game. In this way, avatars

170

are sometimes viewed as enacting intention as a function of narrative – an avatar cannot press a button on the interface that puts the avatar's name on the roster, however it *can* join a guild as a persona within the game narrative and its own character narrative. Other times, descriptions of avatars enacting intention were more implicit. Chad, for example, outlined the competitive advantage his Death Knight (DK) avatar class gave him during a particular boss fight. He described the advantage in terms of his defensive abilities compared to the boss's offensive abilities: "DKs can do about 11k self-healing on top of a 200k shield so it'll reduce that magic damage they take from the debuff he applies: like 90k damage every two seconds and 120 if you let it stack up to three." In this way, avatars are sometimes viewed as enacting intention as a function of their internal mechanics – an avatar has a governing system of statistics and functions that are narratively framed as spells and abilities. In both ways that avatars can enact intention, the ability to do so occurs within a narrative frame, where the player perceives the avatar as able to make things happen in the gameworld according to the narrative of that world.

Sometimes players described ways that both the player and the avatar shared in the enactment of intention. That is, a decision perceived as being made by the player, the avatar, or both was enacted jointly drawing on the actual or perceived knowledge, abilities, access, location, sociality or other resources of both agents. In some cases, this was a function of the player and/or the avatar being perceived as having some deficit of abilities – the action could not be performed by player or avatar alone, but only through joint performance. For example, Chas described a desire to high-five other avatars in the game, but being limited by his avatar's ability to do so: "In Second Life, if you want to interact with somebody else, like you want to high five 'em – you high five 'em, right? But you can't do that in WoW … [instead,] when you're in a dungeon, you're just kind of like *bow* and toss a quick heal, that's unnecessary – just brings you

closer." In other words, the player can make the decision and have the intention to high-five another avatar, but is unable to do so through his physical embodiment – as Chas himself is not present in the gameworld – or his digital embodiment, since the game is not designed to allow avatars to interact thusly. What Chas *can* do is re-interpret the high-five gesture according to ways his avatar can interact with other avatars (bowing gestures and friendly healing spells), and type in the commands or press the buttons to enact those gestures. In joint action with that typing and button-pressing, the avatar enacts the intention signified by the typing and performs the gestures in the game space. These types of joint-actions were perceived as leveraging the abilities of each actor to account for the inabilities of the other.

It is important to note that the decision-making entity and the intention-enacting entity were not always the same. For example, Chris spoke of how game updates gave his avatar a new spell that had particular advantages in player-versus-player arena combat: "I look at the [spell] Solar Beam and it says 'AOE silence' … I'm gonna win. I'm gonna win the whole game. I'm gonna get in those arenas … this is what I have always needed. I could join the tournament and be the top guy with this silence. I have all the tools I need now!" Chris was the decision-maker through his motivation to enter an arena and use a spell and the expected consequence of winning the match. However, his avatar was, in part, the entity enacting that intention in the gameworld because the spell – part of the internal mechanics of the avatar - provided the ability to enact the combat effect. In this way, Chris's intention was enacted through the avatar's abilities. Such combinations of both player and avatar being experienced as "in charge" of gameplay actions highlights how each may contribute to game experiences in different ways for different players.

Taking responsibility. Players sometimes described who was in charge of game actions according to who must take responsibility for the enactment of intention. That is, players considered whether they, themselves, or their avatars would be responsible for activities in the game, either by realizing the benefits of productive actions or paying the consequences of hurtful or unproductive actions. Sometimes, players described themselves as taking responsibility. Most often, players took responsibility when a benefit or reward was presented, as when Carill enjoyed the fun and prestige of being on a world-ranked raiding team. Other times, players purposely made decisions to avoid responsibility, as when Lynne sometimes opted to play a damage-dealing (DPS, or damage-per-second) character so she could relax: "As a DPS, I am not responsible for the life and death of anybody, except myself. If I die a horrible death that's my own fault, but other than that, I'm not responsible for anything." These tendencies highlight the ways that responsibility and fault are important concepts in the outcomes of game actions, especially as they related to success or failure in the game, and how players worked to accept positive responsibility and avoid negative responsibility.

Sometimes players described their avatars as independently able – and sometimes duty-bound – to take responsibility for the actions performed in the game. These descriptions framed the avatar as having the ability to know and understand things about the world and about itself, feel emotions about events in the world, and to sustain a moral code and be responsible for its actions. Penny, for example, described that her Shaman avatar has "more maturity" and is "used to more responsibility than, say, me, who doesn't need to be leading people around very often."

In a more detailed story, Dani described the rationale for her avatar, "Lettuce," being a vegetarian: "It must be because he'd done something in the past to hurt animals or mistreat them, and he wanted to make up for it." For many, these stories added narrative dimensions to the

avatar, whether or not those stories were played out in dialog and interaction. "She doesn't have a home. She just is strong – for its own sake," said Dawn. "[She] was steady at whatever her craft is and she doesn't have all the things. She's kind of pissed off. She's kind of angry. She's got a vendetta. She expects the best from her and despises weakness." Like descriptions of avatars as decision-makers, players' perceptions of avatars as taking responsibility for actions in the game relied on character narratives that included ways that avatars think, feel, and understand meaning in the broader gameworld narrative.

On a few occasions, players perceived themselves and their avatars as taking responsibility for the consequences of jointly or singularly decided and performed actions. For example, Berkana described how, when running dungeons with friends, if the entire group died, they would type in */roll.* This command generates a random number for every player who types it and displays that number in a chat window. In Berkana's play, whoever had the highest roll would take the blame for the failure. She provided this as an example of how she saw herself and her avatar as sharing social positions and culpability in the game, even catching herself using a plural pronoun to refer to herself and her avatar: "'We?' … I'm talking about him like an actual person." Heiko described being conscious of his tendency to blame his avatar and instead to look at ways he contributes to a gameplay failure: "I think I've been frustrated at his (i.e. *my*) failing. It's a very convenient way to externalize your own inability to do something, right? It's a poor musician who blames his instrument, but he's a very convenient target if I fail at a raid or whatever or I fail at some quest." Although such blame-sharing was rare, these cases highlight the potential for shared culpability.

As with the enactment of intention, the entity taking responsibility was not always the entity who was described as making the decision in the first place or acting on the decision. For

example, Heiko said of his avatar and the decision to not complete a torture quest: "I know his voice, I know his stance, and I will frequently make choices in-game based on how I know he would act." In that case, the avatar is described as making the decision to abandon the torture quest and as the entity who would have to take responsibility if it w

as completed, but the player is the entity who enacts that intention by not actually completing the quest. That players sometimes consider the repercussions of actions to the avatar in addition to their own experienced repercussions highlights the ways players see their avatars as being influenced by game experiences.

Moral and Functional Agency

The differences in how players and avatars can be "in charge" of gameplay – as decisions are made, actions are performed, and responsibility is taken – can best be understood in terms of moral and functional agency. Decision-making (motivation and consequence) and taking responsibility for actions in the game are dimensions of moral agency. Moral agency is defined here as the ability carry out moral reasoning – to consider the consequences of one's actions and to take responsibility for those actions (Kohlberg, 1958; Lind, 1985). Sometimes, players described themselves as the primary moral agent. That is, they privileged their own needs, goals, and preferences over any that might be ascribed to the avatar, made decisions based on those motivations, and described themselves as responsible for gameplay decisions and actions. Sometimes players described their avatars as the primary moral agent. That is, they assigned to the avatar separate needs, goals, preferences, ideas, and beliefs. Most often, players acknowledged that they had imbued the avatars with some of these qualities initially, but also noted how the avatars' personalities had taken on lives of their own. By ascribing independent thoughts and feelings to their avatars, these players situated the avatar as a distinct entity with its

175

own moral agency, and with which players had a specific relationship. This often resulted in players' navigating what the avatar "wanted" in relation to their own desires, as well as insights, experiences, and reactions that were positioned as emerging from the avatar's moral agency rather than their own.

Functional agency is defined here as the ability to enact intention. That is, the entity has the capability to make manifest the decisions made by the moral agent (itself or the other). It is an "internal instrumentality through which external influences operate mechanistically, without motivation, self-reflection, self-reaction, creative, self-directive properties" (Bandura, 1989, p. 1175). Sometimes players described themselves as the primary functional agent, focusing on their own mechanical abilities – to push buttons, to log in, to communicate – and these physical, human functions to varying degrees were seen as making things happen in the gameworld. Alternately, some players described the avatar as the primary functional agent, focusing on mechanics, statistics, and features of the avatar as a game piece. These players described the mechanics associated with a specific avatar (such as spells, abilities, and limitations) as affecting their play style, but tended to focus on how they could leverage those mechanics for their own goals. For these players, the mechanics constrained their own agency, but did not imply agency on the part of the avatar itself.

Overall, attributions of functional and moral agency tended to be inversely associated. That is, players describing their avatars as moral agents tended to describe themselves as functional agents whose purpose is to enact the decisions of the avatar in the gameworld narrative. Conversely, players describing themselves as moral agents tended to describe their avatars as mere functional agents, as tools for the enactment of the player's will. In other words, at the extremes of agency attribution, the avatar was seen as a tool for the player or the player a

tool for the avatar. Despite this alignment, overall emphasis on each type of agency was not

equally weighted. Moral agency – the ability to make decisions in particular – was more

important to an overall sense of being "in charge" of gameplay. In other words, the entity (player

or avatar) most often perceived as driving gameplay decisions according to motivations,

preferences, and potential outcomes was seen as the stronger agent.

Perceived Agency Continuum

Perceived agency – defined here as the degree to which players perceive themselves or

their avatars as holding primary agency – may be viewed along a continuum of high player

agency to high avatar agency (Figure 27). A relationship's position on this continuum is a

function of perceived moral and functional agency.
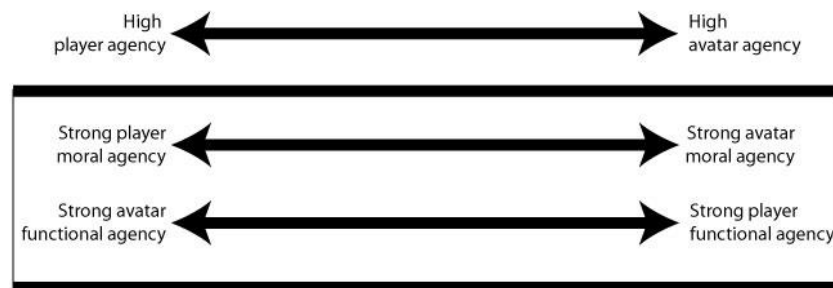
Figure 27. Perceived agency continuum as a function of moral and functional agency.

Players experiencing strong player agency viewed themselves as having moral agency

(making decisions and taking responsibility) and their avatars as having only functional agency.

In this way, the avatar was a tool for enacting player intention. These players approached the

avatar as a tool to fulfill various goals in the game. In the sense of Linderoth's "avatar as tool"

(2005, para. 28), some players focused on personal control and self-efficacy in gameplay and the

experience of that control was situated in the player's sense of Self.

Players experiencing strong avatar agency viewed the avatar as having moral agency (making decisions and taking responsibility) and themselves as having mainly functional agency. In this way, players saw themselves as tools for enacting perceived avatar intentions. These players approached the avatar as having a particular narrative trajectory that included motivations, emotions, morals, and the cognitive capacity to think about its actions in the gameworld. Those trajectories imbued the avatar with distinct moral autonomy and drove gameplay actions. Although players never considered the avatar to be a *completely* autonomous agent, they did tend to perceive themselves as *subject to* the avatar's agency.

These patterns emphasize the different ways that players see themselves and their avatars as differently involved in gameplay experiences. In particular, these findings depart from traditional notions of moral and functional agency that are necessarily intertwined in physical spaces – humans are generally assumed to be holistically deciders of, actors in, and responsible for their own behaviors. Humans commonly think of themselves as autonomous agents, "independent agents of their own actions" (Bandura, 1989, p. 1175). The relationship between player and avatar, however, creates a situation of joint agency, where each actor relies on the other in some fashion for either actor's agency to be realized. This is more in line with the notion of emergent interactive agency, where neither avatar nor player are discretely mechanical or autonomous agents, rather there is the potential for each to "make causal contribution to their own motivation and action" (Bandura, 1989, p. 1175) in a system of reciprocal causation.

Further, that attributions of functional and moral agency tended to be inversely associated departs from understandings of moral reasoning (decision-making and considerations of ethics and consequences) and moral action (the enactment of intention) as tightly linked (e.g., Bandura, 1999). Further, these findings correspond with recent scholarship suggesting that feelings of

control are not necessary for game enjoyment (Przybylski, Rigby, & Ryan, 2010), and in fact lacking complete control is often an entertaining experience (Bowman et al., 2013). An important advancement on these notions, however, is that although players still enjoyed a high degree of control in WoW (e.g., through avatar design, movement, combat, communication), they actively chose to play the game as though they didn't have control as a way of having fun in the game. These findings shed light on the potential for agency to be differently experienced through digital embodiments.

In summary, players saw themselves and their avatars as agents in different ways, and the balance between attributed functional and moral agency contributed to the degree to which player or avatar was seen as the primary agent. These attachments have implications for how players approach the avatar as having inherent value in various play practices and for how players may choose to take up their avatars as independent entities.

Gameplay Practices

Players described engaging in different game-driven and player-driven play practices; that is, they played the game for different reasons. As a result, play success was defined differently by the game (such as completing a dungeon) and by the player (such as making friends) in some cases. While all players expressed participating in a range of gameplay practices, analysis revealed that players tended to emphasize one or two practices as being central to their enjoyment of and benefit from the game. Their selected emphases corresponded to their levels of emotional intimacy and perceived agency.

Combat and Competition

Some players said that combat and competition were the most important aspects of their gameplay. Chad noted the importance of skill and competitive ranking in playing his Death

Knight avatar: "My DK is my pride and joy. I'm really good at DK. I ranked 95 percentile, 119 on heroic Hagara last week. I was like, Yay!" Often, players would insert competitive activities into the game themselves. For example, players created races or rivalries, as Carill did in challenging her guildmates to a competition for the most achievement points. Mow made it a personal challenge to collect all of the alchemy recipes in the game. In combat and competition practices, players focused on the game as a rivalry, race, sport, or otherwise contentious endeavor in which success and value were determined according to how quickly, efficiently, and completely the player achieved game-defined goals, especially compared to other players. For these players, playing WoW is primarily an enterprise to be the best at the game.

Social Play and Play-as-Practice

Other players emphasized social gameplay and gameplay as a practice – a daily activity or ritual. Mikey, for instance, highlighted social interaction as a reason he continues to play: "Especially if you're in a guild and you're in a guild with a bunch of friends. It's kind of a nice change from maybe always going out to the bars or something." Often, players described the game as an important part of their lives and as daily rituals: "It's just a force of habit to log in … when I come home from work. After I'm done checking my email and looking at to see if anybody's messaged me on Facebook, after all that's done I think it's always nice and comfortable just to log into the game." In social play and ritual practices, players focused on ways that avatars and WoW allow them to regularly socialize with other players (especially with faraway friends), to feel like they're part of a community, and to have places where they belong and can always go. For these players, the game is a social arena and a type of "third place" (Steinkuehler & Williams, 2006; Oldenburg, 1989) away from home and office.

Identity Negotiation and Sense-making

Another common theme was the practice of identity negotiation and sense-making as play practices. That is, some players described attempts to close the gap between how they saw themselves and how they wanted to be, or a discontinuity between self-concept and a perception of how the world sees them (see Erikson, 1970), or to experiment with alternate embodiments and personalities. "I was not feeling like a fun person," said Kayne of a particularly difficult time in his life. "Whereas I think [my avatar] was me without those burdens, and could be a lot more lighthearted, a lot more comfortable being warm and open and friendly, whereas I felt pretty locked down in RL." In this way, Kayne felt his avatar could embody a more ideal version of himself in the game than he was able to in his everyday life. Players also described trying to make sense of their individual and social situations inside and outside the game, often in terms of solving problems and overcoming challenges. Colleen suffered from severe social anxiety after a childhood of being bullied, and crafted an ideal social personality for her avatar and practiced being social in the game: "[My avatar] is the person that is trapped inside me. She is my way of being who I want to be as far as personality." In identity negotiation and sense-making practices, players focused on imagining, crafting, testing out, and sometimes adopting possible selves (Markus & Nurius, 1986) as a way of making sense of their lives inside and outside the game. For these players, the game is a laboratory and a proving ground for resolving Self-concept dilemmas.

Escape and Segmentation

Other players said they used the game to escape the boredom or stress of their everyday lives. "[Playing the game] lets me get away from stinky diapers," said Heiko, a new father. For Dani, roleplaying in the game was a way to escape the pressures of her abusive boyfriend and to

enjoy a fantasy world where she could enjoy friends and activities otherwise inaccessible to her. To keep the game a distinct and safe place to which they could escape, some players focused on keeping the game and "real life" as completely separate spaces. In particular, they commonly discussed distinct demarcations of player versus avatar and of physical life versus game life. For example, Penny said, "I'm 'Misha the Player' and she's 'Misha the Tauren Shaman.'" In describing her preference for character-narratives very different from her own life, Berkana expressed affinity for the Horde faction over the Alliance: "I found that a lot of the Alliance's roleplay was like, husband/wife-have-babies kind of roleplay. Well, I've got that in real life, why would I roleplay it?" In escape and segmentation practices, players focused on the ways that the gameworld is different from – and often better than – their everyday lives. They worked to create spaces and embodiments engaged as real, comfortable alternatives to the rigors of work, family, social and economic strife, and physical embodiment. For these players, the game is a second life in a real, persistent environment to which they can escape and become immersed.

Although most players expressed engaging all of these gameplay practices to different degrees, they emphasized certain practices as being more central to their enjoyment of and benefit from the game. These can be categorized into specific practices: combat and competition, social play and play as practice, identity negotiation and sense-making, or escape and segmentation. Most players placed one of these practices as most important to their gameplay, and that selection tended to align with their position on the emotional intimacy and perceived agency continuums noted above (see Figure 28). Players expressing low emotional intimacy and high player agency tended to focus on combat and competition; players at the center of the continuum emphasized either social play and gaming practices or identity negotiation and sense-

making; players expressing high emotional intimacy and high avatar agency emphasized escape and segmentation gameplay practices.
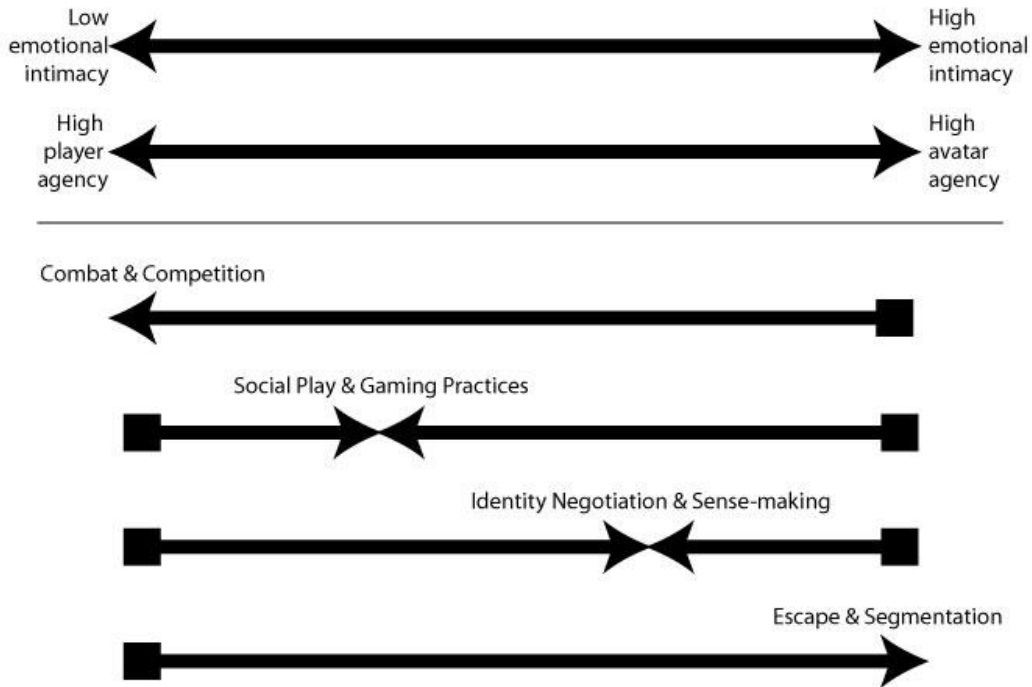
Figure 28. Gameplay practice emphasis aligned with emotional intimacy and perceived agency continuums.

These patterns emphasize the different ways that players play the game and suggest that even though play includes many dimensions of competitive, social, reflective, and narrative engagement, players tended to have key motivators for participating. Sometimes these motivators were ways of being successful by achieving goals laid out by game (as in combat practices) or by individuals or groups of players (as in social play). Other times these motivators were personal, driven by finding comfort, understanding, and peace by resolving internal conflicts (as in identity negotiation) or finding time away from the rigors of life (as in escape practices). These motivations align with Yee's (2006) motivations for play: achievement motivations (advancement, mechanics, and competition), social (socializing, relationships, and teamwork), and immersion (discovery, roleplaying, customization, and escapism). This

183

alignment reinforces that play experiences have different motivations and meanings for different people, and suggests that discrete dimensions of play – such as avatars – have different meanings for different people.

In summary, players differed in their focus on particular dimensions of gameplay, attending differently to both game-defined and personally defined characterizations of value and success in the game. These emphasized play practices, in tandem with variations in self-differentiation, emotional intimacy, and perceived agency, have implications for how players see the avatar as having particular uses, meanings, and value.

A Typology of Player-Avatar Relationships

The intersections of emotional intimacy, perceived agency, and key gameplay practices, player-avatar relationships can be best understood according to a typology of how players experience their avatars. Overall, player expressions of emotional intimacy tended to align with perceived agency, and players' emphasized gameplay practices reveal the ways that relationships can be categorized by providing demarcation points along those continuums (see Figure 29). In this section, this typology is detailed according to how players describe their avatars as objects, as versions of themselves, as symbiotes, and as social others.

The intersections of player-avatar relationships' characteristic emotional intimacies, perceived agencies, and emphasized gameplay practices can be best understood in terms of four overarching relationship types based on how the avatar was taken up by the player in the relationship. Players take up the avatar as an object, as "Me" in the game, as a symbiote, and as an independent social other.

Avatar-as-Object	Avatar-as-Me	Avatar-as-Symbiote	Avatar-as-Social Other
Low Intimacy			High Intimacy
High Player Agency			High Avatar Agency
Narratives of: Combat & Competition	**Narratives of:** Social Play & Gaming Practices	**Narratives of:** Identity Negotiation & Sense-making	**Narratives of:** Escape & Segmentation

Figure 29. Typology of player-avatar relationships.

These relationship types are characterized by level of emotional intimacy, strength of perceived agency, and the emphasis on specific dimensions of gameplay. The convergence of intimacy, agency, and play practice represents a distinct way to understand player-avatar relationships. This approach is a departure from existing literature that largely addresses discrete components of this model and introduces the relational dimension of emotional intimacy and the perception of avatars as independent social others. This typology is a key contribution to the game studies discipline as it presents a cohesive framework for integrating cognitive, affective, and play-behavior dimensions of player-avatar relationships.

Avatar-as-Object Relationships

Avatar-as-object relationships are characterized by low emotional intimacy, high player agency, and an emphasis on combat and competition. These relationships are generally detached and strategic, and these players effectively and enjoyably play the game without much consideration of the digital body as a body. This relationship type aligns with literature characterizing avatars as tools (Linderoth, 2005) and bundles of resources (Castronova, 2005).

185

Playing the avatar as an object is associated with a style of gameplay focused on game-defined goals rather than social interaction or identity expression in the digital world. This strategic approach to connecting with avatars constitutes an *exchange relationship* (Mills & Clark, 1982) rather than an intimate, social relationship.

Avatar-as-Me Relationships

Avatar-as-Me relationships have low to moderate emotional intimacy, high player agency, and emphasize social play and gaming as a daily activity, regular practice, or ritual. Overall, avatar-as-Me relationships are characterized as an experience of the avatar as an extension of the player and not as a distinct entity. The low intimacy is a function of perceiving that the avatar "is Me," so that there is not an "other" to care for or to share experience with. These relationships do tend to feature mild expressions of care, but these convey affection for how the item represents the player or "is Me," as one might express care for a favorite t-shirt, a loved car, or a childhood toy. In this type of relationship, avatars are reifications of players' sense of Self in the gamespace, and often were created to embody the roles, appearance, and interactions that the player wishes to extend into the digital world. Avatars were also an extension of player agency, enacting player intention in the world by providing a face for social interaction and the functionality achieving game-defined goals, as formal play was approached as a social activity engaged *through* the avatar. This relationship type is similar to characterizing avatars as surrogates in social interaction, as suggested by Gee (2006), vehicles for gameplay (Carr, 2002), and bricolages of raw materials combined to express identity (Turkle, 1997). Taking up the avatar as an expression or manifestation of the Self was most often associated with achieving a combination of player-defined and game-defined goals.

Avatar-as-Symbiote Relationships

Avatar-as-symbiote relationships have moderate to high emotional intimacy, mixed player-avatar agency, and emphasis on negotiating identity through mutual avatar-player benefits. While this relationship type aligns, in part, with literature characterizing avatars as masks (Galanxhi & Nah, 2007) and costumes (Merola & Peña, 2010), it extends these metaphors by adding a type of identity exchange between player and avatar. That is, not only does the player wear the avatar as a mask or costume, but the avatar is seen as drawing on player characteristics as it existed in the game space, and both player and avatar were engaged in processes of negotiating and becoming more alike. In other words, these players craft through their avatars an ideal or alternate persona (e.g., sober, brave, strong, happy, social, independent) and use the avatar to practice being that persona; after successful practice, players started bringing dimensions of that persona into non-game spaces. Taking up the avatar as a symbiote, or as a partner in play, is associated with a focus on experimentation, exploration, and sociality within the context of *both* gameworld narratives and non-game contexts. In this relationship type, both avatar and player are in cooperative processes of evolving, usually toward an ideal Self.

Avatar-as-Other Relationships

Avatar-as-other relationships have high emotional intimacy, high avatar agency, and an emphasis on escapism and separating game realities from non-game realities. Overall, avatar-as-other relationships are authentic social relationships, where the avatar is experienced as a distinct moral agent with its own governing systems, life history, and trajectory, and as embodying independent existence within the gameworld. As this relationship type is reminiscent of literature characterizing avatars as narratives (Webb, 2001), it goes beyond narrative: avatar-as-other

187

relationships rely on the experience of the avatar as a real amalgam of body, personality, behaviors, subjectivity, and supporting narrative *about which* new narratives are crafted over time. This aligns with existing research showing that intimacy is constructed through language that reduces psychological distance between social agents (Weiner & Mehrabian, 1968) – here the construction of a personal narrative about the avatar as a social entity and about the player's relationship with it. Taking up the avatar as a social other was associated with immersion and experiencing the gameworld as very real, where the player experiences herself in some ways as a *tool* for the achievement of the avatar's perceived goals.

Conclusion

Analysis revealed that players relate to their avatars in four primary ways according to emotional, cognitive, and practical qualities. Relationship categories differ by the degree of experienced emotional intimacy, perceived strength of player and avatar agency, and key gameplay practices. The four relationship types – avatar-as-object, avatar-as-Me, avatar-as-symbiote, and avatar-as-other – are associated with distinct play styles and motivations. There is evidence that relationships may shift over time according to specific events and influences – which aligns with current perspectives that the emotional significance of gameplay is linked to particular challenges and abilities (Grodal, 2000) – however that potential is beyond the scope of this study and should be addressed in future research. In highlighting the wide range of ways players relate to their avatars, this typology reveals the potential for player-avatar relationships to feature authentic emotions for their avatars as social others in ways that mirror human-human relationships.

If we are to understand the potential for authentic social and emotional relationships between humans and technology and how such relationships may affect our daily lives, it is

important to understand how avatars contribute to perceptions of the Self in and around these technologies, and how both human and technological factors play a role in such connections. The following chapters evaluate how personas – material-semiotic networks that emerge through lived experience and that convey dimensions of the Self – emerge in relation to these four relationship types. Overall, the types of player-avatar relationships presented in this chapter form a landscape from which personas emerge during gameplay. The following chapters examine the components of this landscape in more detail in order to discuss how players express a different sense of Self through particular community structures and object-relations.

CHAPTER 9: PLAYER-AVATAR RELATIONSHIPS AND THE SELF-NETWORK

> *Judging by your weight, build, and size, we're going to dress you as a troll. The Smolderthorn trolls have always worked with the Blackrock orcs, so you'll fit right in.*
>
> *Do you know much about tailoring? If not, then consider this your first lesson. My crafting table over there has all the necessary supplies on it.*
>
> *Go ahead and grab whatever you think is necessary, then bring it here ...*
>
> Thelaron Direneedle,
> from the quest "A Perfect Costume"
> in World of Warcraft

In addition to examining the nature of player-avatar relationships, this study investigated how the Self may emerge differently with respect to those relationships. This study's second research question was: **How does the Self emerge in relation to player-avatar relationships?** To address this question, I analyzed the transcripts of two-part interviews (45-120 minutes each in length) with 29 World of Warcraft players via object-relation mapping. I examined what I call community structures – cohesive groups of interrelated objects – that formed persona-networks. In this examination, I focused on persona-networks because they represent discrete dimensions of the Self. In examining how people express different combinations of personas, we can gain an understanding of how the Self emerges in relation to broader network landscapes. These persona-networks were analyzed to determine the type of persona, and patterns in persona-networks were evaluated in relation to the player-avatar relationship types discussed in the previous chapter. In this chapter, I discuss the types of personas that emerged in the context of gameplay experiences and how those personas were associated with different types of player-avatar relationships. I found that, (a) personas can be understood as being attributed to the player, to the avatar, or shared, (b) different combinations of personas emerge differently in relation to particular player-

avatar relationship types, and (c) the consistency or fragmentation of players' sense of Self

across digital and physical spaces is influenced by the way that personas are combined.

Personas in Player-Avatar Relationships

A range of personas emerged in relation to player-avatar relationships. As described in

Chapter 5, personas are cohesive communities of objects that hang together in broader network

landscapes and that players experience as particular dimensions of the Self. That is, a persona is

a collection of related tangible and intangible, human and non-human entities that represent a

dimension of *who one is*. Multiple personas are networked together, giving rise to the Self. This

is distinct from other community structures that represent *how one is* (e.g., practices, ideas,

behaviors). It is important to note that, from this perspective, a persona-network represents a

particular *sense* of Self versus a particular *performance* of Self in the Goffmanian (1959) sense.

Personas varied in the degree to which they were attributed to a specific agent. In the analysis

that follows, specific personas are on first reference indicated in quotation marks (e.g., an "Old

Timer" persona) and objects in persona- networks are indicated with capitalized and italicized

font (e.g., an *Adventure Game*).

Player-Specific Personas

Some personas were player-specific, attributed only to the player. These included

personas built around the notion of being a "gamer" as well as those associated with having a

particular lifestyle or worldview.

Gamer personas. Some persona-networks depicted identification with gamer culture and

practice, and were attributed specifically to players and not avatars. Players saw themselves as

players of games in general, as WoW players specifically. It is important to note that being a

gamer for these players was more than simply playing games, although this behavior is tightly

linked. Rather, one's identification as a gamer is for many a specific cultural and social identity

(Crawford, 2011; Shaw, 2010, 2012; Taylor, 2008).

The most common type of gamer persona represented being a player of games in a

general sense. These community structures were sub-networks that tended to include objects

representing a number of games, game platforms, or game knowledge. For example, Lynne's

gamer persona-network featured game genres she enjoyed (e.g., *Strategy Games, Action Games,*

Real-Time Strategy Games) compared to the first-person shooter genre (*FPS Games*) and the

reasons she disliked them (*Scariness, Aiming, Avatar Movement*) (see Figure 30). Further, the

centrality of *Other Games* – that is, games other than World of Warcraft – reveals the importance

of those games in framing her WoW experiences. In this way, Lynne described herself as a

gamer, broadly, because she had particular tastes and experience in playing many different types
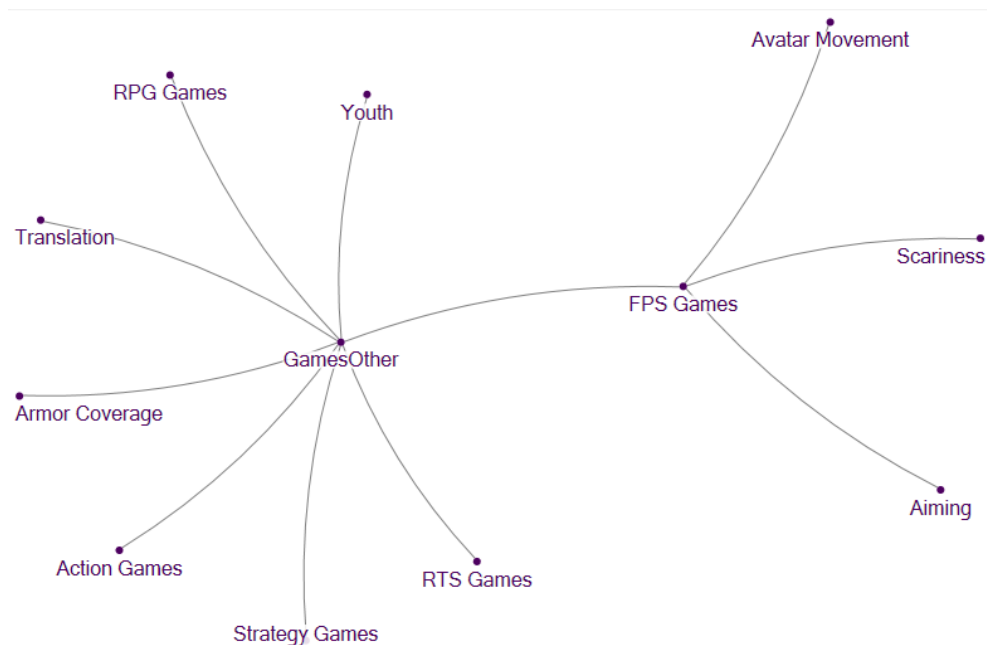
of games.

Figure 30. A gamer persona-network.

The gamer persona often includes the particular kind of gamer players see themselves to be, usually emphasizing a particular dimension of gameplay, intensity of play, particular skill or play style, or longevity in WoW specifically. Analysis revealed themes in what players see as most central to their sense of being a gamer. For example, some networks revealed close relationships among objects associated with being a collector of mounts, achievements, and pets, others indicated players were completionists working to master or maximize dimensions of the game. Some gamer persona-networks grouped objects related to being a competitor and a raider focused primarily on fighting, or to being a troll who relished in frustrating other players. These networks were related to activities as well as identities, emphasizing how what players do in-game and how they see themselves in-game contribute to different personas. For example, Randy's maps revealed a community structure representing being an experienced player based on his sense of veteran status and playing the game for many years. Randy explained, "I just sort of feel like an old man at this point, the guy who can't get off his rocker on the porch, but he has lots of stories."

Object-relation mapping showed that gamer personas were exclusively associated with the player, not the avatar. That is, there were no cases where the avatar itself was seen as a gamer. This is likely a function of the ways avatars are seen as tools, extensions, or characters *in the gameworld* rather than *playing the game*, as suggested by Linderoth (2005). Overall, gamer persona-networks represent how players' see themselves as belonging to the subculture of gamers or as playing a particular social, functional, or narrative role within that subculture.

Lifestyle and worldview personas. Some personas were associated with lifestyles and worldviews. These were community structures made up of behaviors, environmental factors, standards, opinions, and other objects that, together, frame players' life experiences. Lifestyle

persona-networks often represent a sense of Self associated professions or hobbies, such as those coded in analysis as "starving student" and "designer" personas. Others conveyed enduring social practices like being a "loner" or home scenarios like being a "cat owner." Although largely independent of the game, these personas emerged from ways that player lifestyles and worldviews drove behaviors and decisions during gameplay. For example, one of Perry's personas, coded in analysis as a "falconer" lifestyle persona (see Figure 31), emerged from the ways her interest in birds of prey and her falconry hobby drove her academic and professional decisions (*Research* on *Falcons* and *Biogeography*) and manifested in game decisions (naming *Alliance* avatars after loved *Falcon Species*).
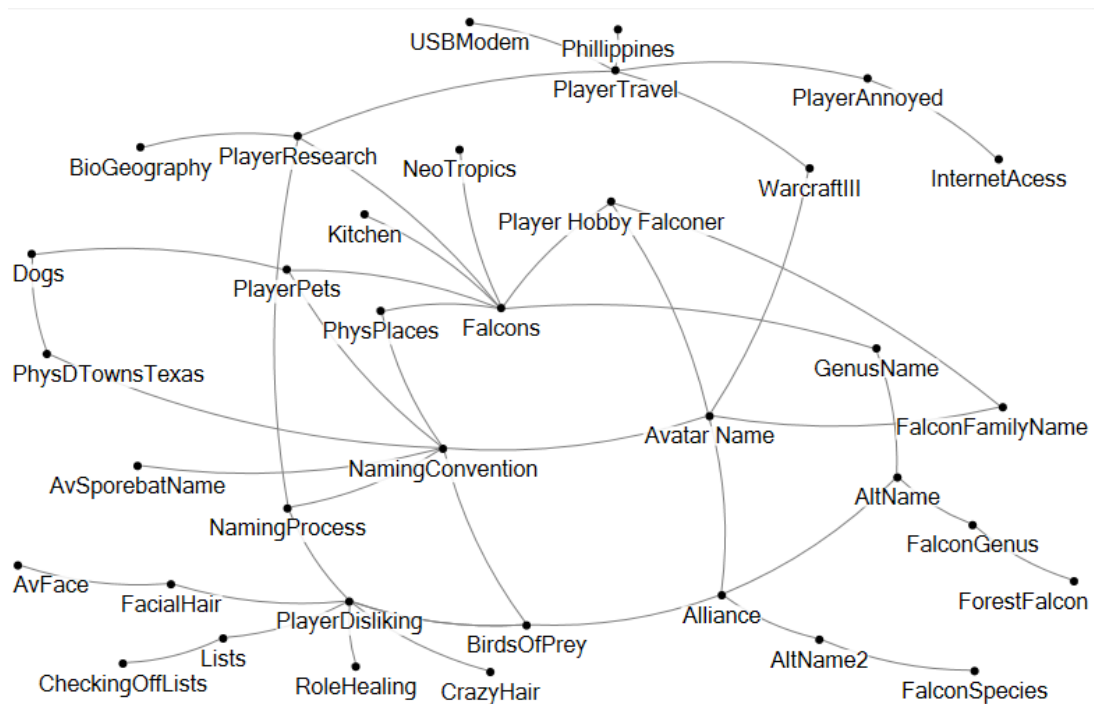

Figure 31. A persona-network depicting a lifestyle persona by integrating game and non-game variations on a falconry hobby.

Research, Birds of Prey, the *Avatar Name* are all represented in objects very central in this network. In this way, Perry's hobby as part of her overall lifestyle emerged in both physical

and game contexts. Analysis revealed that, most often, lifestyle and worldview personas included similar integrations of elements from both digital and physical environments, interpreted here as drawing on non-game dimensions of Self to frame game experiences.

Somewhat surprisingly, no participants attributed lifestyle and worldview personas to their avatars. That is, avatars themselves could have been described as artists or designers, as has been found in other virtual worlds such as Second Life (Martey & Consalvo, 2011), but no participants did so. Overall, lifestyle and worldview personas are indicative of the ways players see the world, including the game, and how they see their positions in the world. These personas most often include both game and non-game elements that originate from particular cultural systems and that network across spaces (e.g., non-game political structures, non-game artistic movements, in-game narratives, in-game visual symbols). This incorporation of objects from digital and physical spaces (and their respective cultures and norms) reveals that players expressing lifestyle and worldview personas may have a unique ability to understand how ideas, preferences, morals, habits, and other objects apply to the world, broadly, and a tendency to translate those objects across different spaces and cultures according to each context's affordances and constraints. This suggests that players with strong worldviews or established lifestyles may experience a more cohesive identity across spaces.

Avatar-Specific Personas

Some personas tended to be avatar-specific. That is, players understood some personas as belonging to their avatars rather than to themselves. Only one type of avatar-specific persona emerged: those associated with a sense of who the character was in itself, consisting of nodes for names, gear and weapons, appearance features, behaviors, events, ideas, emotions, and narratives. Character personas represent a sense of the avatar as having a personality, as

195

suggested by MacCallum-Stewart & Parsler (2008). Although particular objects like names, body features, and emotions *could* have been attributed to the player, for these persona-networks they generally were not.

These personas emerged from players' descriptions of their avatars as characters with varying depths, from relatively simple framings of the avatar as a character in the game to highly complex constructions of the avatar as a multifaceted personality and as living in the world. The simplest character personas emerged from players' ideas about how the avatar exists "in [their] head" or "in [their] imagination" as a collection of ideas. For example, the network for one of Dawn's character personas (see Figure 32) included a small number of objects representing personality attributes (*Strong, Steady*) in combination with segments of a character narrative (*No Home,* being *Pissed Off*) and describes that those attributes are how her avatar lives in her imagination. In this way, the network represents a relatively simple personality associated with Dawn's avatar as she described it in her imagination.
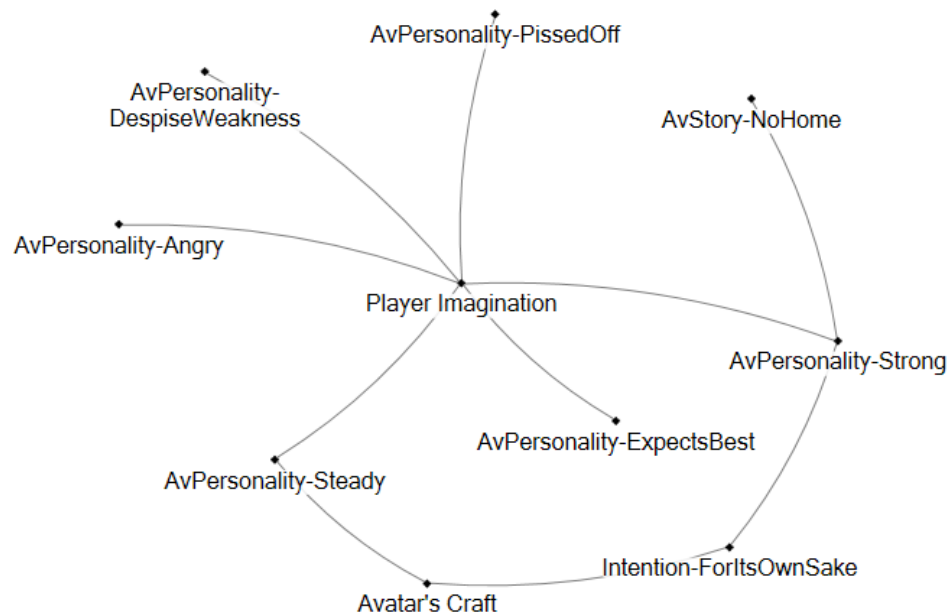

Figure 32. A character persona-network representing how the persona emerges through a player's imagination.

196

At their most complex, character personas are elaborate representations of avatars as multi-dimensional avatar-personalities. From Dani's description of her avatar, for example, a character persona emerged that combined behaviors (*Gathering Food, Learning, Escaping*), states (*Being Away from Parents*), roles (*Comic Relief*), personality traits (*Childish*), design elements (*Avatar Name, Green Skin, Naming Convention*), and gameworld elements (*Silvermoon City, Troll* race). As was common among complex character persona-networks, Dani's character persona also included indications of her own influence on the character – *Thinking, Creating, Suspension of Disbelief*, and both avatar-related objects and player-related objects were constellated around the object *Reason* (Figure 33)*. In this way, Dani's avatar is a complex construction that was actively crafted by reasoning through how behaviors, states, roles, traits, and the gameworld all fit together legitimately.
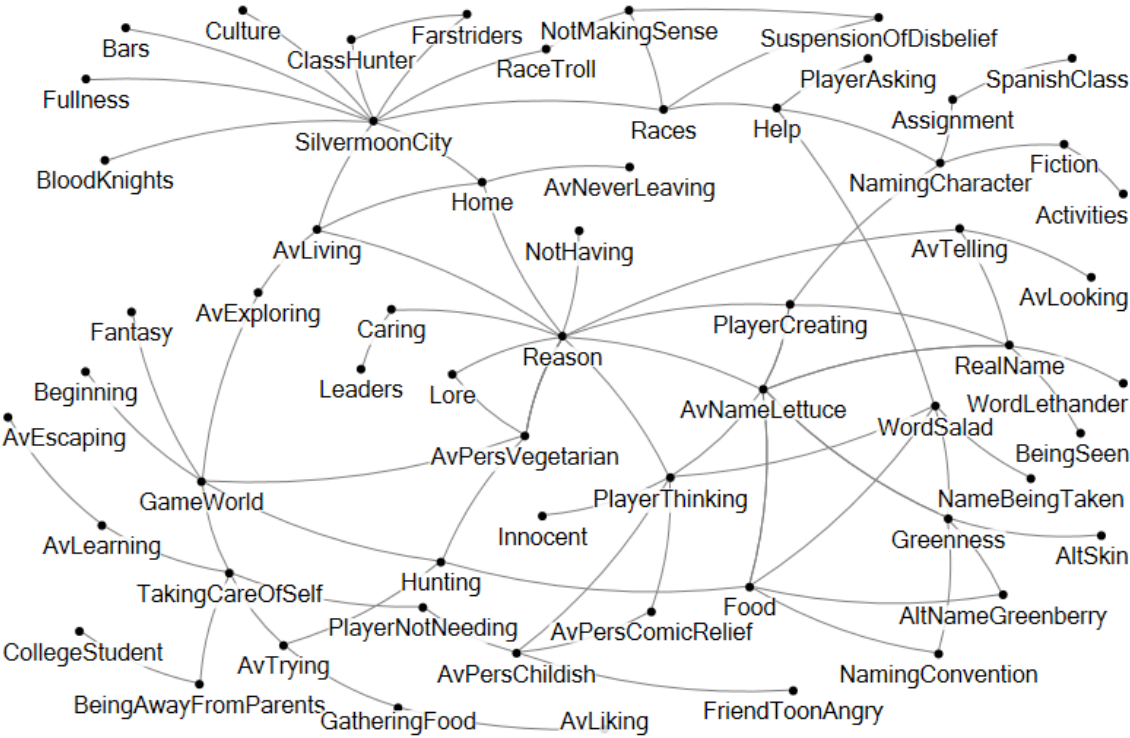

Figure 33. A character persona-network representing how the persona emerges from a process of reasoning and sense-making.

197

Overall, character personas varied in complexity and in indications of purposeful construction versus emergence over time. Analysis revealed that highly complex character personas tended to be described in great detail by participants – they were carefully thought-out and reasoned. In contrast, simpler character personas tended to be described as emerging organically from the player's imagination. This suggest that more complex personas are more purposefully constructed and are seen as more concrete, and that this careful persona-construction is key to establishing the avatar as a distinct social agent. In other words, complex character personas are a function of intentional crafting of an avatar personality rather than from unplanned or emergent acts of play.

Flexible Personas

In the previous sections, I described one type of persona that was consistently associated with players and another that was consistently associated with avatars. There is a third type of persona – flexible personas – that was not consistently attributed to either agent. Instead, the ways that such personas were attributed to agents varied across players depending on a number of factors and were sometimes even perceived as being shared by both agents. Flexible personas tended to focus on the purpose or function of the player or of the avatar, on cultural exemplars, and on discrete traits or qualities.

Role personas. Some persona-networks were associated with specific roles. These community structures were social, functional, or organizational behavior patterns and expectations (see Biddle, 1986) that identified purposes that players and/or avatars fulfill across spaces. Usually these purposes emerged from combat or social functions derived from the game, such as protecting or leading other players or avatars. Players and avatars can occupy a role in different ways. For example, a persona associated with being a guild master (a formal position of

top leadership in a WoW guild) could be attributed to the player as leading other players through raid instruction and scheduling, or it could be attributed to the avatar as leading other avatars through narratively driven actions or movement through a dungeon. Players and avatars do not *necessarily* share roles, however. Sometimes a persona-network representing a role was attributed to the player, sometimes to the avatar, and sometimes shared by both.

Analysis revealed that, despite the potential for players to assign role-personas to different agents, role-sharing was most often based on both player and avatar taking up a role in interconnected ways. For example, one of Kayne's personas, coded in analysis as a "Tank" role (the lead fighter in a battle; see Figure 34), emerged from connections among acts that either player or avatar could perform, such as *Taking Flack* from co-workers or from monsters, being *Up Front and Hands On* at a meeting or in a raid group, and facilitating *Collaboration* among other people or other avatars. Further, the centrality of *Preferred Play Style* in connecting player and avatar contributions to the persona revealed that both agents' contributions to the role emerge from a favored way of being in digital and physical worlds, generally. A "tank play style" manifested specifically in the game through play mechanics, wearing plate armor, leading groups, and diverting attention. Kayne could not, however, cast spells or wear plate armor in his everyday, physical world activities, so he saw tanking as manifesting outside the game through his behaviors and personality. In other words, the physical world constrains the way he can "tank." In this way, Kayne experiences the tank role persona as being shared between himself and his avatar. This suggests that in the same way that bringing non-game phenomena into the gameworld is subject to the constrained freedoms of the game itself, the possibilities for bringing game phenomena outside of WoW – including personas related to the game – is also subject to constrained freedoms of the outside physical or digital space.
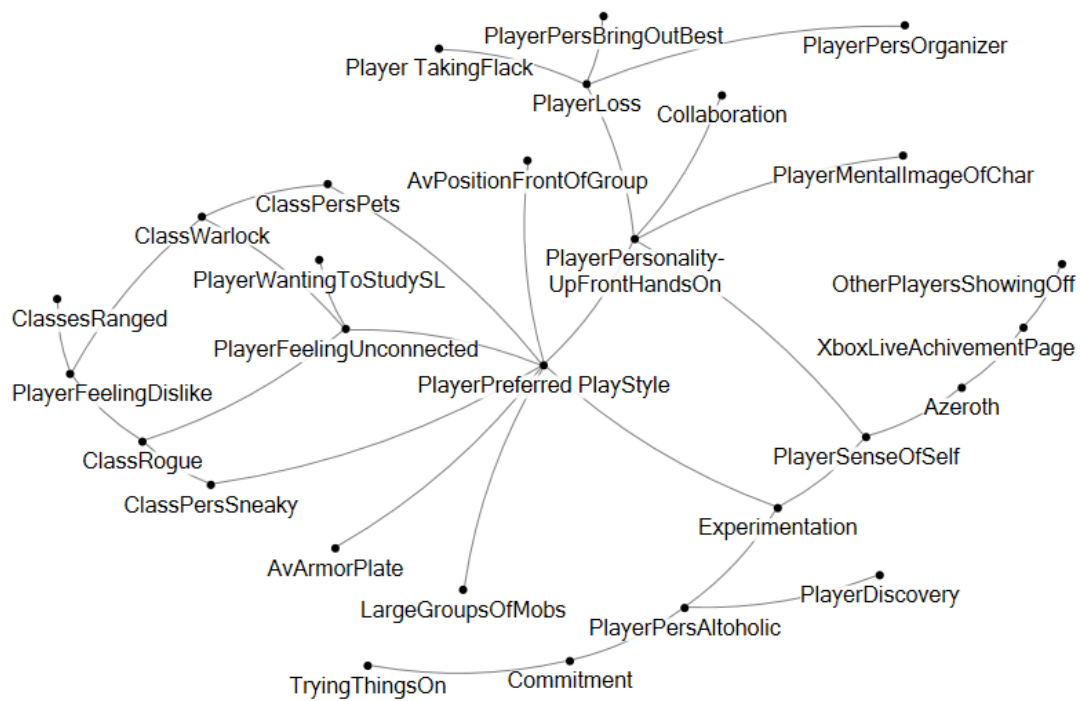
Figure 34. A role persona-network illustrating how both player and avatar contribute to the persona.

Overall, role personas indicate players' senses of their social, functional, and organizational purposes across spaces by drawing on particular concepts that constitute these roles (e.g., protection, welfare, cooperation, optimization, discovery, leadership) and seeing them as manifesting in both the gameworld and in non-game spaces. That these abstractions tended to be combat-related suggests that understanding the fulfillment of roles across spaces may be associated with an attempt to make sense of one's purpose as a visitor in an alien world and trying to feel comfortable and efficient in the game.

Archetype personas. Archetypes, here, are exemplar images that draw on distinct cultural motifs that can be represented in different ways without losing their essence (Jung, 1964). While role personas represent specific functions, archetype personas focus on abstract exemplars. Archetype personas are also distinct from character personas in that the archetype may be drawn on to craft or enact an archetypal concept across various spaces where the

character persona is seen as representing the personality of a particular WoW avatar. In other words, archetypes are collections of ideas that can be presented across spaces according to the affordances and constraints of each space. Such ideas are abstract enough that the exemplar remains intact regardless of the specific manifestation. For example, one persona, coded as a "buxom blonde" archetype, favored by one player was the basis for his avatars across multiple games and digital worlds. As long as he could create a blonde female with an hourglass figure and imbue her with particular personality traits, the archetype could emerge in any space.

Most often, archetype personas emerged from players' understandings of themselves and how they fit into stereotypes. For example, Cleve's "woodsman" persona (see Figure 35) emerged from a combination of self-identifying as a woodsman and various dimensions of what he saw as "woodsmanship" (*Woods, Wildlife, Leather, Plant Species, Nature*). That persona emerged from the ways he carried these dimensions from physical spaces into the creation of a Hunter character. Important to Cleve was that his avatar could fight with a *Pet Fox* named after the famously studied *Silver Fox* "*Mavrik,*" and with a *Pet Owl* that reminded him of the *Northern Sawhet Owls* on which he had conducted *Migratory Research*. The centrality of both *Fox* and *Owl* reveals how the avatar's combat pets were important to establishing the woodsman archetype persona in the gameworld. WoW, as it includes combat pets that are very much like his physical pets, presented a way that player and avatar could both contribute to the Woodsman persona through pet choice. Overall, by choosing a class, pets, and features that represent the archetype's key concepts, Cleve was able to present that archetype in the gameworld.
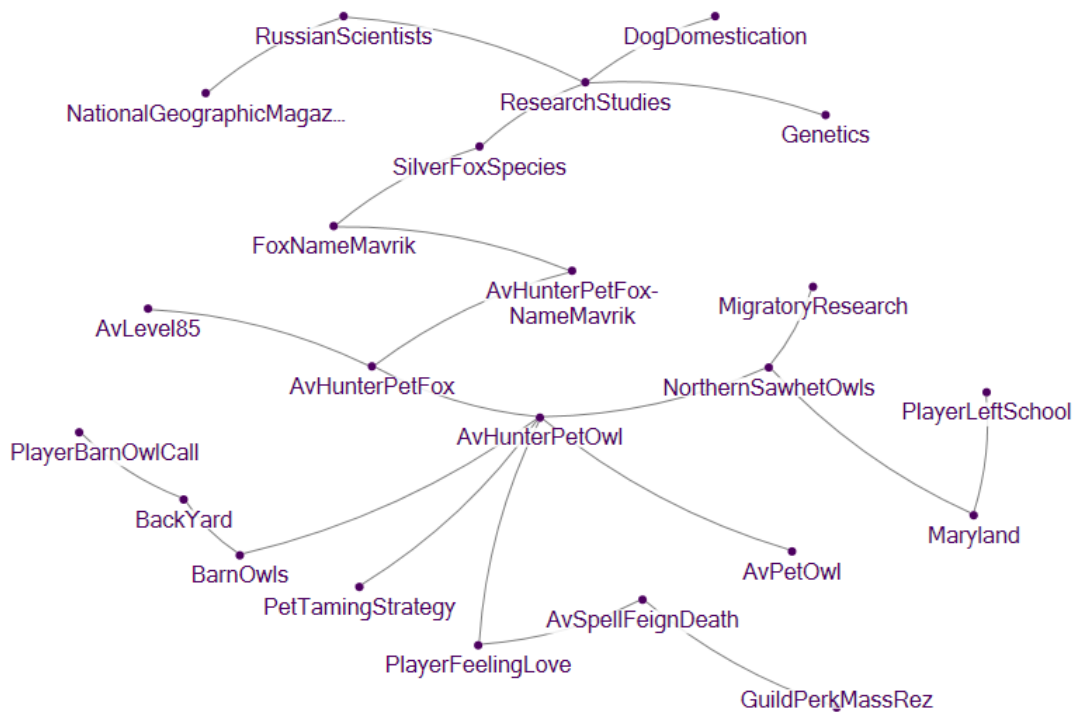
Figure 35. A persona-network representing a woodsman archetype persona.

In other cases, archetype personas drew from popular culture to inform how both player and avatar are instantiations of a cultural or subcultural exemplar. For example, Mingus' archetype persona, coded in analysis as depicting a "dark side" archetype (see Figure 36), emerged from his ideas about how being *Male*, *Confrontational*, *Revolutionary*, a *Jerk*, and a *Smartass* together represented dark, nefarious characters in the *Star Wars* stories, for which the player had a particular affinity. Those notions were attributes that both player and avatar could express and those expressions made sense in both digital and physical world narratives. Both player and avatar are male, and Mingus played his avatar as a confrontational, smart-assed jerk, and also saw himself that way. He saw his avatar's Undead race and its lore – rising up against the Humans who took their land – as similar to his own Punk movement politics in their revolutionary qualities. In addition to concepts like being confrontational, being a smart-ass, and

being a jerk that the player can extend through his avatar, the game afforded an additional feature

to re-present the archetype: the aesthetic and lore of the Undead race. Player and avatar

cooperated in enacting the dark side archetype in the gameworld through social *Interaction* and

Being Known inside and outside the game for embodying the archetype. In this way, both player

and avatar were agents contributing to the emergence of the persona and in the performance of it

in the game.
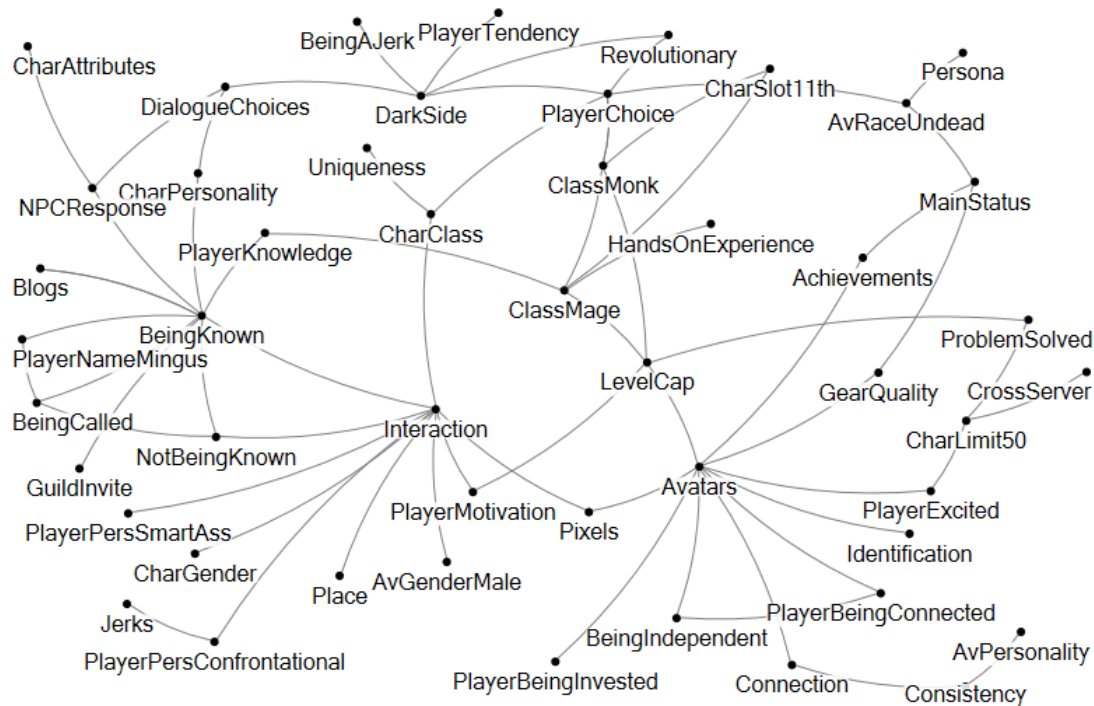
Figure 36. An archetype persona-network depicting how player and avatar embody a
cultural image of darkness.

Overall, the content and structure of archetype persona-networks illustrate that players

sometimes draw on culturally determined combinations of concepts and objects to frame how

they see themselves and their avatars across spaces. The presence of many game-independent

archetypes that both player and avatar may contribute to, such as Mingus's dark side persona,

suggests that these exemplars can be brought into WoW from other spaces. The archetypes

players manifest in game, therefore, draw from a broader sense of culture, Self, identity, and behavior, rather than emerging exclusively from game experiences themselves. This phenomenon represents active attempts to create ways of being in the game that are consistent with how players see themselves in terms of broader cultural images. The avatar, then, may sometimes represent a reinterpretation of a culturally produced exemplar.

Attribute personas. Some persona-networks emerged as representing particular attributes – enduring traits or qualities considered to be the basic dimension of personality (McCrae & Costa, 1997) – that can belong to a player or avatar, or can be characteristic of both agents. These qualities tended to be very abstract and subjectively experienced with distinct positive or negative valence. Analysis revealed that when the attribute was viewed positively, it tended to be shared by both player and avatar. For example, Roy saw a particular attribute, coded in analysis as a "playful" attribute persona (see Figure 37), as being a positive part of who he knows himself to be, so much so that he wanted to imbue his avatar with that trait by crafting the whimsical *Polar Armor* in the bright color *Blue* and wearing silly-looking *Goggles*, and most enjoyed his avatar's frisky *Cat Form*. Although the limits on character customization and clothing in WoW constrained the ways that the avatar could contribute to shared playfulness through behavior, it supported the representation of playfulness through avatar costumes. In this way, both player and avatar could express playfulness as a desired attribute, allowing Roy to identify with his avatar through this characteristic.
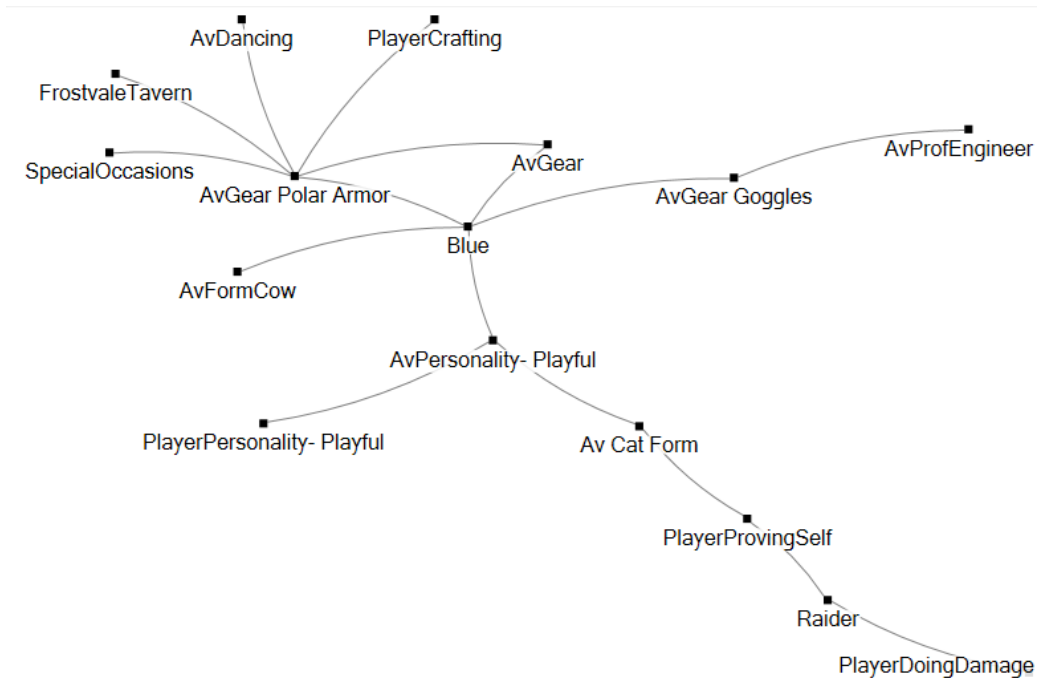
Figure 37. A persona-network depicting the trait of playfulness
by bringing together many different avatar and player features.

When an attribute was viewed negatively, however, it tended to be attributed to the

avatar. For example, Dani's attribute persona representing a cuteness trait (see Figure 38)

emerged from the ways she saw her avatar as conveying *Cuteness* through his *Gear* and *Non-*

Intimidating presence. However, she did not see herself as cute, and she disliked cuteness in

general because, she explained, being *Outgoing,* giving *Compliments,* and conveying *Cuteness*

results in people getting treated better in life. Despite this negative feeling about cuteness, Dani

felt that the ways her avatar was cute in the gameworld provided social and narrative advantages

and because it was the avatar's *Preference* (not her own) to appear cute and innocent. In this

way, the tension between the avatar's perceived feelings and her own feelings about cuteness

contributed to the emergence of a persona associated with the avatar but not with the player

herself. Sometimes, a negative attribute was described as being shared with the avatar. For

example, Randy's tendency to be lazy outside the game extended to which spells the avatar used.

That players tended to defer or share the "blame" for negative traits aligns with the notion of fundamental attribution error (Ross, 1977) and defensive attribution (Shaver, 1970), and suggests that avatars may be important tools for players to offload unfavorable or conflicting dimensions of Self in order to enjoy the gameplay experience.
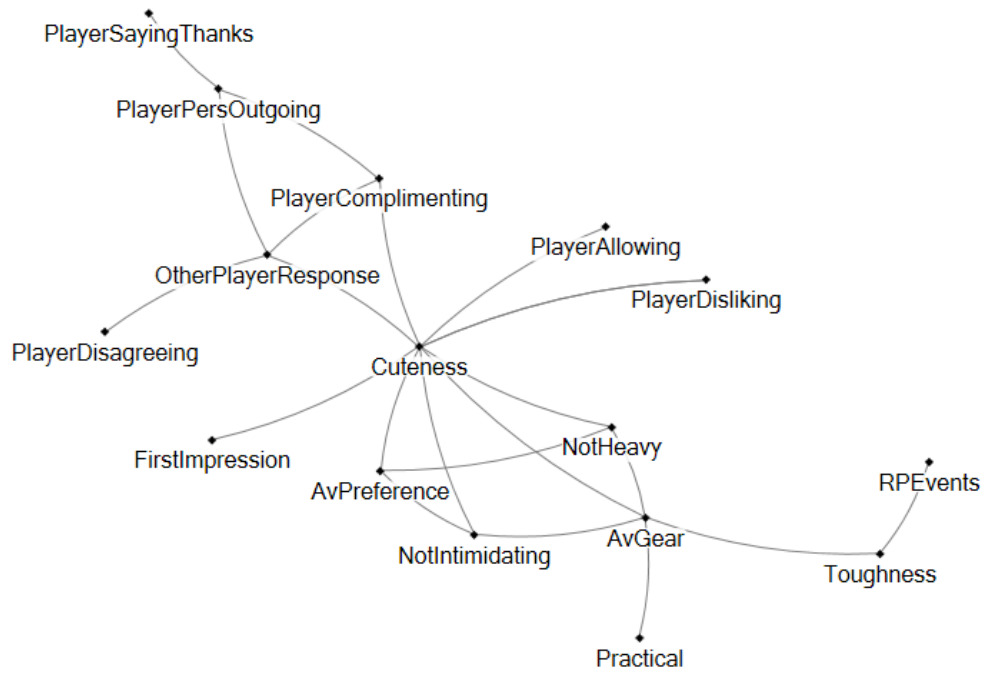
Figure 38. A persona-network depicting how a particular trait (cuteness) was viewed negatively and so attributed to the avatar and distanced from the player.

Overall, analysis revealed that attribute personas conveyed complex constructions of traits or qualities expressed differently across spaces so that positive attributes tended to be shared by player and avatar and negative attributes tended to be attributed to or shared with the avatar. This suggests that players with attribute personas may be more concerned with identity issues in the game than those who do not, particularly in terms of associating with positively construed dimensions of Self and distancing themselves from negatively construed dimensions of Self.

In general, the flexible role, archetype, and attribute personas all draw from abstractions that *can* manifest similarly for both players and avatars; however, such personas are often understood as manifesting differently depending on whether or not they are seen as possible in the game space or in physical space, given the constraints of each environment. This tacking back and forth between possibility and signification emerges from players' attempts to make sense of their place in both digital and physical worlds in the context of normative, culturally constructed systems. In other words, flexible personas emerge in part from objects that have meaning in both game and non-game spaces, and the sharing of those objects may be important ways that players connect with their avatars as they feel a sense of being in both worlds.

Summary of Persona Attention as Self Construction

These three types of personas – player-specific, avatar-specific, and flexible – together reveal that attending to a particular combination of personas may be a key mechanism by which players make sense of the experience of participating simultaneously in two persistent worlds and having two persistent bodies. Specifically, for players who see the avatar as a distinct social other, agent-specific personas may be particularly important and flexible personas may not be particularly relevant. Conversely, for players who see the avatar as a part of or extension of themselves, flexible personas may be especially important and agent-specific personas may not be so relevant. In other words, these findings suggest that the emergence of certain combinations of personas may be a way of constructing a Self that supports the player avatar relationship. Where the relationship is the way that cross-space participation makes sense, the active organization of a Self is the sense-making mechanism. In the next section, I discuss the ways that players of each player-avatar relationship type (described in detail in Chapter 8) tended to organize a sense of Self by attending to certain agent-specific or flexible personas, and not

attending to others. These patterns hold implications for the ways the Self is perceived as complex or simple, and fragmented or consistent across spaces.

The Self in Player-Avatar Relationships

Players combined these play-specific, avatar-specific, and flexible personas differently, from a single persona assigned to a single agent to many personas of different agent-specificities. The ways that players combine personas give rise to a particular Self that emerges in relation to the phenomenon of player-avatar relationships. Drawing from the Network Model of Self laid out in Chapter 5, these combinations of personas together make up the Self as it is experienced and understood in and around World of Warcraft. That is, the Self experienced by each player in and around the game is the particular combination of personas that are activated as relevant to the player-avatar relationship and to gameplay, more generally. This is not to say that the player does not have other personas, just that activated personas are those experienced as important to their game experiences and, thus contribute to the players' particular, local sense of Self as they engage the game and the avatar. That emergent sense of Self was more or less complex and consistent across spaces, depending on the ways players combined agent-specific or flexible personas.

This section examines each player's combinations of persona-networks in relation to the four types of player-avatar relationships discussed in Chapter 8: avatar-as-object, avatar-as-Me, avatar-as-symbiote, and avatar-as-other. Analysis revealed patterns in the types of persona-networks most common in each player-avatar relationship, showing what I interpret as a particular sense of Self associated with each relationship type. For each relationship type, there were trends in the number, type, and specificity of salient personas. These patterns suggest that

players approaching their avatars differently experience multidimensionality of Self to different degrees across game and non-game spaces.

The Self in Avatar-as-Object Relationships

Avatar-as-object relationships (here called "object relationships") tend to have a relatively low number of personas (usually one or two), and those tend to be of only one type: player-specific gamer personas focusing on being a gamer. In other words, these relationships are associated with a relatively simple and focused sense of Self in and around the game, where players see themselves to be a player of games and World of Warcraft is just one such game.

Object relationships usually feature high player agency, low emotional intimacy with the avatar, and an emphasis on combat and competitive play. This suggests that, for players in object relationships, play experiences with other games inform the way they approach WoW and their avatars. That is, taking up the avatar as an object or tool for gameplay may be a function of the way that these players view the game overall – as just another space for play. Further, high player-agency may go beyond agency experienced in WoW to a higher-order, multi-space "master agency" – a sense of being "in charge" across different game environments – and avatars are functional objects to enact this agency. For players in object relationships, being a gamer is a player-specific persona that spans across physical spaces and various game environments for a consistent but narrow sense of Self.

The Self in Avatar-as-Me Relationships

Avatar-as-Me relationships (here called "Me relationships") tend to feature a higher number of personas (usually three to six), and these personas more varied (as many as four different types), and those persona types were a combination of player-specific and flexible ones. Overall, Self-networks emerging in relation to Me relationships include different combinations

of gamer, archetype, attribute, and lifestyle and worldview personas. This suggests that players taking up the avatar as an extension of themselves experience a more complex and varied sense of Self in and around the game than those with other relationship types – they see themselves as a combination of multiple, varied personas, many of which draw on game-independent ways of seeing themselves.

These players usually express high player agency, moderate emotional intimacy, an emphasis on social play, and a tendency to create high-fidelity representations of themselves in the game. The variety of persona types associated with avatar-as-Me relationships suggests that players in those relationships draw on abstractions that hold meaning in both their everyday lives and in gameworld narratives. Such abstractions manifest differently according to the constrained freedoms of each space, and players translate a complex, everyday sense of Self into the gameworld through their avatars. Players in Me relationships tend to see themselves as the stronger agent or the only agent, but they share abstract roles and attributes with their avatars to facilitate identity extensions. These players' tendency to see themselves as embodying multiple personas that can be mapped onto avatars contributes to more complex, comprehensive, and consistent sense of Self across game and non-game spaces.

The Self in Avatar-as-Symbiote Relationships

Avatar-as-symbiote relationships (here called "symbiote relationships") generally have a moderate to high number of personas (usually two or three, but as many as six) of a moderate number of types (usually two), and those persona types were a combination of avatar-specific and flexible varieties. Overall, they feature different combinations of character, attribute, and role personas, where attributes tend to be assigned to the avatar (rather than to the player) and roles are shared by both player and avatar. In other words, players in symbiote relationships

experience a sense of Self in WoW that draws heavily from a perception that the avatar is an autonomous character in the gameworld but also incorporates roles as personas to which both player and avatar contribute.

Avatar-as-symbiote relationships feature a shared agency with their avatar, express moderate to high emotional intimacy with their avatar, and emphasize gameplay as a way to resolve dissonance in or make sense of non-game situations. Players in such relationships tend to focus on identity negotiation by engaging the avatar as an ideal or alternate personality, and that negotiation relies heavily on shared roles. Specifically, this analysis suggests that such players create an avatar as a whole character and imbue it with particular traits that the player does not embody but to which the player aspires. Players may then share roles with the avatar as ways of testing out affinity for or comfort and with those traits. This is similar to Nakamura's (2002) notion of identity tourism, however instead of touring social or demographic identities these players are touring trait or role identities as suggested by Jansz (2005). This experience of disparate attributes and shared roles in the player-avatar relationship contributes to a complex sense of Self that varies across spaces as a result of expressing different personas when the avatar is being played compared to when the avatar is not being played.

The Self in Avatar-as-Other Relationships

Avatar-as-other relationships (here called "other relationships") generally have a moderate number of personas (usually three). These personas were generally only character personas, but sometimes a character persona is linked to a shared (but avatar-dominated) role or attribute persona. In other words, the avatar's identity is privileged in the game as central to the player's sense of Self. Whereas existing research discusses the avatar as a tool that the player uses to perform a character (e.g., Fron et al., 2007; Jørgensen, 2009; Tronstad, 2008; Williams,

Kennedy, & Moore, 2010), these findings reveal that players in avatar-as-other relationships tend to consign *themselves* as tools that support the performance of characters attributed to avatars.

Avatar-as-other relationships generally feature high avatar agency, high emotional intimacy, and an emphasis on segmenting the gameworld from the physical world. Players in these relationships engage the avatar conceptually as an independent, social agent, facilitated by active attention to avatar-specific character personas. This leads players to exclude player-specific and shared personas that could compromise the self-differentiation required to see the avatar as a distinct other that exists legitimately in the gameworld. The emphasis on avatar personas enhances their immersion in the gameworld and supports the avatar-as-other relationship. This experience of relegating their own identities and privileging character personas contributes to a narrow sense of Self in the gameworld. The Self, then, is fragmented – the Self that is signified in the gameworld during play with the avatar is different than the Self that is expressed outside the gameworld.

Persona Activation and Self-Organization

The Self-network that emerges in relation to player-avatar relationships varies in the number of personas and of type of personas experienced during gameplay. This emergent Self can be best understood in terms of two properties: complexity of the Self and consistency of that Self across spaces. Players who see their avatars differently express different experiences of Self as more simple or complex, and more consistent or fragmented as they move from one digital or physical space to another. I argue that these ways of experiencing Self emerge from a process of Self-organization. Self-organization is the active attention to discrete but complementary personas in ways that support desired states, and inattention to types of personas that detract

212

from those states. In the present study, those states are the player-avatar relationships that help make sense of the strangeness of inhabiting multiple bodies and spaces.

Self Consistency and Complexity

In the preceding section, I outlined the ways that players of different relationship types tended to see themselves differently in and around the game: those in object relationships see themselves as gamers, those in Me relationships see themselves as embodying multiple personas across game and non-game spaces, those in symbiote relationships see themselves as different from their avatars but sharing roles with them, and those in other relationships tend to dismiss their own identities and privilege character personas for a sense of Self that shifts inside and outside the game. Analysis revealed that an important element of how the Self varies in relation to player-avatar relationships is in the different levels of agency and self-differentiation of those relationships.

Complexity of the Self is understood here as an interaction between the number of personas overall and the number of different types of personas. Together, these Self-network characteristics give rise to a quality of the Self that ranges from simpler and uni-dimensional to more complex and multi-dimensional. Self complexity is associated with perceived agency. Players who see the game as a distinct space – either for player-driven competition or avatar-driven narrative immersion (i.e., those in avatar-as-object and avatar-as-other relationships) – tend to express discrete, game-dependent personas. In alignment with Goffman's view of Self (1956), they activate a particular sense of Self for that space and for their competition or immersion motivations in that space. Conversely, those in avatar-as-Me and avatar-as-symbiote relationships who see the game as a shared space – either for avatar-facilitated social interaction or for identity negotiation – express a wider array of personas. In contrast to Lyotard's argument

(1984) that a distributed Self loses its master-narrative, those players maintain a stable sense of how they see themselves and the world as they move among spaces. They often experience player-specific and game-independent personas (e.g., lifestyle) as relevant to the gameplay experience, and they bring those dimensions of Self into their relationships with avatars. Player-avatar relationships with moderate or mixed agencies are associated with experiencing a more multifaceted sense of Self. They see non-game identities as relevant to the game. These findings are consistent with Schneider's notion of the "paradoxical self" (1999) in that there is a continuum of Self experiences – from narrow and restricted to expansive and inclusive. However instead of being an innate capacity, as Schneider suggests, these findings reveal that a player's position on such a continuum may be purposeful as a way of supporting gameplay goals and bolstering ideal perceptions of agency. Stronger levels of player or avatar agency are associated with narrow, context-specific identities in the game. In other words, seeing the avatar as a partner to or extension of the player in the game is associated with seeing the avatar as contributing to a sense of Self.

Consistency of the Self is understood here as the degree to which players express a stable Self – that is, a consistent collection of personas – in relation to game and non-game spaces. A consistent Self incorporates game-independent personas into game experiences and game-dependent personas into non-game experiences. Analysis revealed that patterns in Self consistency are related to patterns in Self-differentiation. Players in avatar-as-symbiote and avatar-as-other relationships see their avatars as social others to some degree – either as partners in play or as living separate lives – and tend to experience a more fragmented sense of Self inside and outside the game as they work to parse the player from the avatar. I argue that this fragmentation emerges as those players work to tack back and forth between personas that make

214

sense in the gameworld and those that make sense outside of WoW. This interpretation is consistent with scholarship revealing that players create stories to make sense of how the avatar mediates immersion in the gameworld (Jensen, 2009). This sense-making relies on assumptive models about how each world works (Gee, 1996; Steinkuehler, 2008). Conversely, players in avatar-as-object and avatar-as-Me relationships who see their avatars as parts of themselves – either as tools for play or as extensions of themselves – tend to experience a more consistent sense of Self inside and outside the game (see Figure 39). I argue that this consistency emerges as those players eliminate any discord associated with in-game and extra-game personas by rejecting the idea that the avatar can have a distinct identity. Overall, in trying to make sense of their presence and participation in two worlds at the same time through the avatar, players with different degrees of self-differentiation take different strategies.
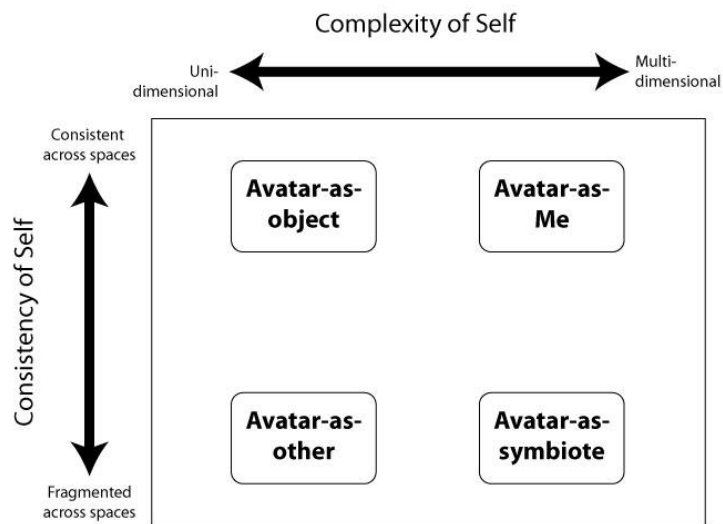

Figure 39. Self complexity and consistency according to player-avatar relationship type.

Overall, these patterns in complexity and consistency depend on the degree of persona-negotiation required to maintain the particular type of player-avatar relationship as players try to

215

make sense of being immersed in two spaces. That is, what amount of effort must players expend in negotiating a balance of player-specific and avatar-specific personas so that the connection between player and avatar still makes sense?

Relating to avatars as objects requires little active management of personas, since the sense of Self is narrow (attributed only to the player) and focused in the game. Relating to avatars as extensions of oneself is more effortful, as players manage how their own identities map to the avatar. Relating to avatars as partners in order to try out new traits and roles requires expending slightly more effort on thinking through how approach, judge, and take up possible identities. It is, in a sense, an interaction that "enables one to meet oneself in a situation on the screen in the form of an avatar" in a way that allows new or possible sides of the Self to be considered reflectively (Jensen, 2007, p. 193). The separation of players and avatars as distinct personalities with distinct lives requires extensive management to keep their player personas separate from avatar personas in order to maintain immersion and integrity of the character's narrative. These findings highlight the fragility of multiple embodiments and the work required to maintain it (Linderoth, 2012; Taylor, 2002). Overall, players of different relationship types engage in active, purposeful management of the Self by attending to personas that support the connection between player and avatar. The more a player-avatar relationship resembles an interpersonal human relationship – the greater the self-differentiation, emotional intimacy, and perceived avatar agency resulting in the player simultaneously inhabiting two bodies – the more rigorous and effortful the persona-negotiation required to maintain that relationship.

Self-Organization

This chapter described the types of personas that emerge in relation to player-avatar relationships, analyzed patterns in how different personas are associated with each type of

216

relationship, and discussed how these patterns relate to varying degrees of complexity and consistency of Self across game and non-game spaces. I argue that Self complexity and consistency are a function of perceived agency and self-differentiation in the player-avatar relationship, and that those features require more or less effortful persona negotiations in order to maintain the relationship.

This persona negotiation, I argue, is a purposeful organization of the Self through the active attention to and inattention to particular types of personas as relevant to gameplay. I suggest that this purposefulness emerges from players' attempts to make sense of simultaneous immersion in physical and digital spaces, as suggested by Jensen (2009). Thus the player-avatar relationship, as the product of sense-making efforts, requires a certain amount of effort to maintain. Having become engaged in a comfortable, non-dissonant relationship that serves individual gameplay motivations, players purposefully maintain an ideal Self-organization – a collection of activated, complementary personas – that supports the relationship. In supporting the relationship, the Self supports the comfortable experience of, effectively, having two bodies in two spaces. In this way, the Self emerges in relation to player-avatar relationships through the selective activation of personas and revealed through players' personal accounts of gameplay.

This interpretation aligns with notion of impression management: the active work people undertake to define a situation through behavior, drawing on environmental cues and knowledge of a real or imagined audience's expectations to perform in particular ways that will elicit favorable responses (Goffman, 1956). The majority of scholarship on impression management and avatars addresses how avatars are created and used to elicit particular impressions from other players (e.g., Bélisle & Bodur, 2010; Takashima et al., 2008; Vasalou & Joinson, 2009), it is important to note that these patterns did not emerge in discussions about social position, identity

performance, or interactions with *other players*, specifically. Rather, the persona-networks and resulting sense of Self reflect expressions of internal as well as external personas, suggesting a kind of internal, or self-directed impression management. The difference between Goffman's impression management and Self-organization as described here is that the "audience" is the player himself or herself. In other words, players undertake purposeful work to perform and then experience *for themselves* a Self that supports their particular player-avatar relationships as necessary conditions for comfortable play. Linderoth (2012) suggests this is the case for roleplayers as they craft narrative frameworks that facilitate immersion, however I argue this is the case for roleplayers and non-roleplayers alike – players, generally, craft and uphold frameworks in different ways.

This work consists of active attention to personas that align with and support the player-avatar relationship and inattention to types of personas that interrupt or problematize the relationship. Understood in terms of Goffman's dramaturgical theory (1956), the player activates certain personas in a "front stage" signification of Self and is not activating other personas. Those non-activated personas are relegated to a "back stage." It is not that those back-stage personas do not exist in that moment, just that they are not the personas activated as relevant to or supportive of the player-avatar relationship. For Goffman the front and back stages are the difference between public and private performances. Here I argue that the difference is between activated and non-activated personas where the player is his or her own audience.

Conclusion

Analyses demonstrated that the number of personas, number of persona types, and agent-specificity of personas vary for each type of player-avatar relationship. The complexity of these persona-combinations and the degree to which they are consistent inside and outside the game

gives rise to a sense of Self that requires more or less effort to manage as players seek to support the player-avatar relationship. This management is a kind of Self-organization, or the emergence and consumption of a Self that supports the player's goals. In highlighting the ways that particular types of personas are held as salient, these findings reveal the ways that players actively organize the Self *for themselves* to maintain social relationships with their avatars.

This study's focus is on understanding player-avatar relationships to inform an understanding of human-technology relationships. Thus the next chapter examines how particular types of objects function in persona-networks through their relations with other objects with a focus on social groups and technologies.

CHAPTER 10: SOCIAL GROUPS AND TECHNOLOGIES
IN PERSONA-NETWORKS

The Kirin Tor constructs are primitive at best. Nevertheless, they pose a threat.

Go to Violet Rise and dismantle Jaina's pitiful war machines. Show the Kirin Tor how easily they can be defeated!

This will be a message the Kirin Tor cannot easily ignore.

> Girana the Blooded,
> from the quest "Deconstruction"
> in World of Warcraft

The purpose of this study was to understand the phenomenon of player-avatar relationships and how they give rise to a sense of Self. This study's second research question was: **How does the Self emerge in relation to player-avatar relationships?** In Chapter 9, I argued that players develop different personas made up of different types of objects and concluded that players actively organize those personas in ways that support their relationships with their avatars. This organization is active; that is, players attend to personas that support their specific player-avatar relationship, and ignore, avoid, or suppress those that do not.

A wide range of objects – material or semiotic, human or non-human – make up these person-networks, and each object-relation contributes to network structure. Literature on human-technology interaction – and on video games specifically – emphasizes the importance of two types of objects in this process: social groups and technologies (Behnke, 2012; Chen, 2012; Giddings, 2007; Giddings, 2009; Lisk, Kaplancali, & Riggio, 2012; King et al., 2010; Papargyris & Poulymenakou, 2005; Steinkuehler & Williams, 2006; Taylor, 2002, 2006, 2009; Williams, 2006). Similarly, my analysis demonstrated these types of objects were often particularly significant in persona-networks. In this chapter, I examine more closely how social groups and technologies provide a type of constrained freedom that contributes to how the Self emerges. To

do so, I use object-relation mapping to identify objects that support and constrain persona-networks. I evaluate how each social group or technological object relates to other objects in the persona-network and the purpose they serve. I argue that the strategies players have for Self-organizing influences how they understand and embrace social and technological objects that contribute to the human sense of Self, sometimes in critical ways.

<center>**Social Groups in Persona-Networks**</center>

A number of different social groups were present in the persona-networks that emerged from the player-avatar relationship. Social groups are defined here as constructed associations by which players and/or avatars are organized or categorized according to shared attributes (e.g., gender, age), interests (e.g., music bands, political parties), or interdependence (e.g., families, guilds). In identifying social groups, I endeavored to be as inclusive as possible and to follow players' definitions of groups according to how they saw themselves in relation to them (see Reicher, 1982). As such, social groups are objects that represent one way that players understand how they and their avatars are situated in relation to others inside of WoW, outside of WoW, and across digital and physical spaces.

Many different social groups were present as objects in persona-networks, ranging from very broad and inclusive to very specific and local, and from being narrowly meaningful within the gameworld to being broadly meaningful across digital and physical spaces. In the broadest groups, players identified with cultural and subcultural groups both inside and outside of WoW. Most often their associations with these groups were characterized by relatively weak identification (compared to other social groups) and a loose adoption of those groups' symbols, norms, behaviors, or values (see Fine & Kleinman, 1979). Cultural and subcultural groups were most often introduced through distinct statements of membership or non-membership. For

<center>221</center>

example, in a portion of Mikey's "Spiritual" persona-network (Figure 40), *Catholicism* and *Native American Culture* were pitted against each other, an ideological struggle rooted in his *Youth. Catholicism* and the discourse of *God as a Bearded Guy* are on the outskirts of the sub-network – disconnected from other concepts – and other cultural and spiritual groups were more tightly constellated. Associations with cultural groups were not always so purposeful and conscious. Pete, for instance, spoke of resolving dissonance with the social group *Dorks* as he saw himself becoming one after he started playing WoW.
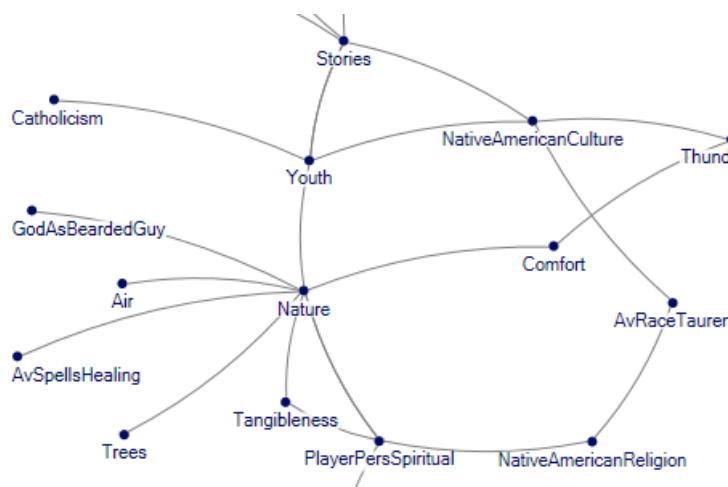
Figure 40. A portion of Mikey's "Spiritual" persona featuring tension between positive and negative social group influences.

Players also tended to situate themselves definitively in World of Warcraft factions – principally the *Horde* or *Alliance* – by claiming group membership in one and/or rejecting the qualities and value of the other. These broad social groups were seen by some players as constraining in how they established specific ways that people must be or behave, either in general or in order to claim membership in the group. They were also seen by some players as useful in that people can select among different groups in order to reap the benefits of membership, such as feelings of belonging, cohesive sets of values, and ready-made social connections. In this way, players often found it meaningful to identify with perceived ingroups

and to reject perceived outgroups both inside and outside of WoW. These tendencies are consistent with social identity theory (Tajfel, 1970, 1974), and were key ways that players understood their positions in relation to other players and avatars across different spaces.

Often, players mentioned social groups that were more local and familiar, referring to a particular collection of known avatars, players, or other people in various spaces. Consistent with Cooley's (1909/2005) notion of "primary groups," these tended to be smaller social groups in which players described spending a good deal of time, and whose members shared activities, knew each other, and had concern for each other. In contrast to broad cultural groups, players most often viewed these as ingroups and claimed membership. Many players mentioned a *Guild* or a playgroup such as an *Arena Team, Raid Group.* In a few cases, however, these small groups coalesced and disbanded very quickly for a particular function, such as a *Pick-up Group* formed only to run a dungeon. Important to note is that although these were often combat play groups, social group affiliations are not always limited to interactions inside the game. Often, for example, guilds may have backyard barbeques and meet-ups at gaming conventions, and arena teams sometimes socialized on Ventrilo (a group VoIP application). Sometimes these local groups had little or nothing to do with WoW, *per se*, but were still relevant to players' gameplay experiences. For example, some players mentioned being part of a *Family, Married Couple, or Household*, and obligations to those groups conflicted or aligned with obligations to gameplay groups. Other times, local groups were formed outside of the game, but crossed over into gameplay scenarios, as when *Co-workers* and *Friends* started to play WoW together. Sometimes, these non-game groups crossed over to become formal game groups.

These local social groups were seen as constraining when players' roles in them conflicted with one another or with individual goals, as when a player's role as a husband in a

223

family meant that he was obligated to spend time with his wife instead of fulfilling his role as a member of a raid group. In this way, social roles can place conflicting demands on players, with each constraining their ability to fulfill the demands of others (Toby, 1952). More often, however, such groups were seen as offering social and gameplay benefits. In particular, combat groups were seen as both constraining and beneficial, depending on each player's perspective and gameplay goals, because the game privileges cooperative gameplay in dungeons, battlegrounds, and raids. That is, if players enjoyed cooperative play they tended to see combat groups as beneficial, and if they preferred solo play they saw combat groups and the game's privileging of them as constraints on how they could enjoy playing WoW. Sometimes experiences of combat groups depended on how effective they were. For example, Chris usually saw value in his *Arena Teams* so long as they showed *Dedication*, but often saw them as *Stupid* because instead of thinking through combat strategy they memorized *Game Guides* (Figure 41). In this way, membership in local social groups was an important way that players saw themselves as being situated in the broader landscape of human sociality *and* game functionality across spaces.

Figure 41. A portion of Chris's "Nonconformist" persona, illustrating the tensions between the value and lack of value of one social group, an *Arena Team*.

Players also often mentioned social groups defined by individual attributes of the player and/or the avatar. Most frequently, players noted avatar races (e.g., *Undead, Worgen, Taurens*), avatar classes (e.g., *Druids, Hunters, Warlocks*), avatar professions (e.g., *Skinners, Engineers*),

and combat roles (e.g., *Tanks, DPS, Ranged*). The high frequency of these attribute-based social groups compared to other groups is likely an artifact of this study's use of avatars as entry points for the exploration of Self in and around WoW, however their prevalence is nonetheless important in two ways.

First, when a player mentioned an avatar's social group, the reference was not necessarily limited to a feature of the avatar. Often, players assigned avatar attributes to themselves. Sometimes this was because they saw a direct correlation. Cleve, for example, described being a Hunter, both in playing an avatar in the Hunter class and in his physical-world hunting hobby. He described the connection to the social group in many ways including how, since he lives in the forest, he and his avatars have corresponding physical and digital pets: *Avatar Pet Owls* corresponding with *Northern Sawhet Owls* and *Barn Owls* (Figure 42). Other times the association looser, as when Dominica likened herself to her Druid avatar because she was "outdoorsy" and when Mingus noted that his Undead avatar reflected his "dark side."
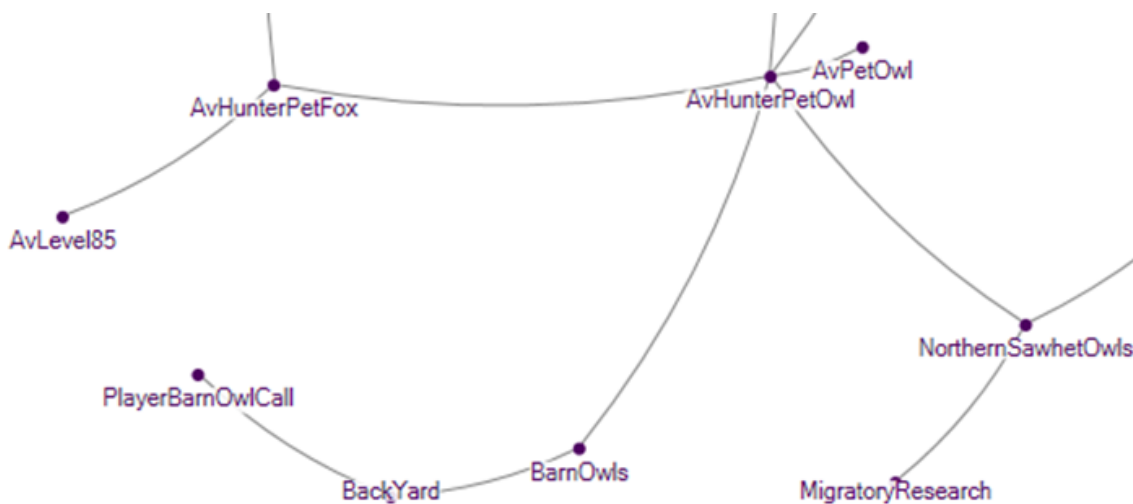

Figure 42. A portion of Cleve's "Woodsman" persona-network illustrating the Hunter social group both he and his avatar share.

Second, these avatar-trait social groups were mentioned frequently; player-trait social groups were hardly ever referenced. This suggests that, contrary to literature suggesting that race, gender, and appearance are important ways that players represent themselves in the game (Bessiere, Seay, & Kiesler, 2007; Namakura, 2002; Vasalou & Joinson, 2009), such specific player traits may not frequently be actively acknowledged and translated into the game. Rather, it appears that players generally take up the avatar-trait social groups established by the game and work to find comfortable memberships among those groups. That is, instead of grafting physical-world social groups onto the game, players often situate themselves in gameworld narrative and its associated social groups through avatar choice and design. This aligns with evidence that digital world denizens engage in acculturation processes whereby they acquire the world's social interaction schemas (Ward, 2010). This is not to say that broader player group memberships such as gender, race, class, nationality, etc. are not important. In fact, gender-trait social groups in particular *were* mentioned during interviews; however they tended to emerge in community structures coded as representing discourses and *not* in those coded as representing personas. Although objects not present in persona-networks were outside the scope of this study, these findings suggest there may be a relationship between emergent discourses of player traits and players' willingness to take up those traits in constructing personas in and around the game. The relative infrequency of player-trait group objects in persona-networks suggests that such traits are de-emphasized by players in their active pursuit of organizing the Self in WoW, and future research should examine the dynamics of these objects' inclusion and exclusion in discourse-networks, persona-networks, and other community structures. These findings reveal that emphasizing avatar-trait social groups are key ways that players understand both their own and

their avatars' social situatedness across spaces. In this way, players experienced avatar-trait social groups as offering a range of affordances for identity expression and gameplay.

Although gender did not emerge as a primary organizing object for most players, some did draw on being *Male* or *Female* in discussions of their relationships with their avatar. Where gender was relevant to players, it was discussed in terms of the sameness or difference of avatar gender in comparison to player gender and how gendered groups are perceived in WoW overall. For example, Mingus noted that other players must take him as belonging in the gameworld as a *Male* because his avatar, as his face in the game, was *Male*. Lynne noted that she plays a *Male* avatar because *Females* are not respected in playgroups, and felt that avatar gender is unimportant to how she sees herself in and around the game – avatar gender is a tool for performance and preferential treatment rather than identity expression. Heiko spoke of the differences between his own sense of masculinity, identifying as genderqueer, and of combining avatar attributes that he felted represented *Maleness* (*Largeness* and *Horns* of the *Monster*-like *Tauren* Body) and *Femaleness* (a *Healing Role*) to craft a comfortable avatar gender (see Figure 43).
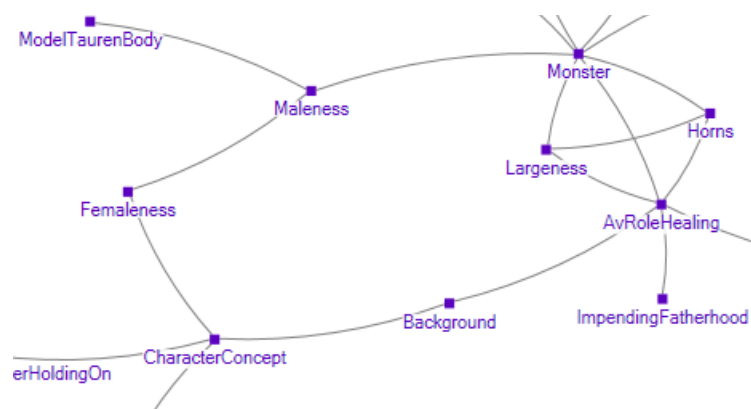

Figure 43. A portion of Heiko's avatar-persona network showing conceptual ties among perceived male and female traits.

In this way, even in the face of constraints on gender identity expression, some players worked to craft a Self-signification through an assemblage of available digital, physical, and immaterial resources. Although those resources *per se* are often subject to traditional notions of gender (e.g., the choice between a male or a female avatar), the affordance of mixing together and reframing the raw materials of avatar appearance presents the opportunity for gender expression to emerge as a collection of traits, roles, and behaviors that, together, "lack the familiar perceptible boundaries between men and women, a celebratory 'medley' of potentialities" (Kacen, 2000, p. 353). That gender-based social groups stood out as the key way that players sometimes translated their own trait-based group membership to avatars' trait-based group membership suggests that gender identifications powerfully contribute to a sense of Self across spaces. Although this can be seen as a function of the Self being rooted in the body (Butler, 1990), I interpret this finding as evidence that, like personas in general, gender identities are assemblages of material and immaterial objects that include, but are independent of, physical bodies and that can be reinterpreted across spaces according to the affordances and constraints of each space. As Haraway suggests, this cyborgic Self-signification is "a way out of the maze dualism in which we have explained our bodies and our tools to ourselves. This is a … powerful infidel heteroglossia" (1991b, p. 181). As such, gender was actively used in much the same way other objects were used in player Self-organization.

These cultural, local, and trait-based social groups are best understood in terms of whether they emerge directly from WoW or emerge independently of the game, since players respond to their affordances and constraints differently as the Self emerges across game and non-game spaces. Game-dependent social groups are those whose origin and meaning reside primarily in and around the gameworld and that depend on WoW for their formation and

maintenance but can be translated into non-game spaces (e.g., avatar races and classes, guilds, factions, playgroups). Conversely, game-independent social groups are those whose origin and meaning reside primarily outside the gameworld but can be brought into gameplay contexts (e.g., cultures or subcultures, player traits, family structures). This distinction between social groups' spatial nativity emerged as important because players tended to differently experience social groups of each type. These different experiences are closely aligned with gameplay motivations, as is discussed in detail later in this chapter.

Technologies in Persona-Networks

Technologies are defined here as digital objects, their components, or associated concepts that are outside of WoW (e.g., other video games, web sites, VoIP applications, hardware), or that are inside WoW but outside the game narrative (e.g., the talent system, trade chat channels, and software patches). These are not structures with which the avatar may *narratively* interact such as combat spells or non-player characters. Many different technologies were present in the persona-networks that emerged from player-avatar relationships. Players were generally cognizant of the how technologies afford and constrain individual actions in gameplay experiences, and players responded to those influences in various ways.

Some technological objects in persona-networks compose the game's infrastructure, such as the hardware and software that can be seen or inferred by players as part of the World of Warcraft interface and supporting systems. Players most often expressed having some degree of control over these technologies. Infrastructure technologies include physical hardware (e.g., computer, screen, keyboards, buttons, modems, controllers), game-interface elements (e.g., the gameworld map, interface modification software, typed commands such as "macros"), and software and related concepts (e.g., pixels and patches). In general, these technologies were not

229

tied in persona-networks to particular affordances or constraints, rather they were taken as

necessary conditions for play. Sometimes players did mention limitations imposed by game

systems (e.g., a cap on the number of avatars a player may have), the character creation interface,

and the "Dungeon Finder" system that automatically joins players together in balanced play

groups (see Figure 42). Although these were sometimes experienced as constraints, most often

players reframed these limitations as personal goals, mechanisms, or challenges. In effect, these

objects constituted the technological underpinnings that made gameplay possible; overcoming

limitations arising from them was often seen simply as part of gameplay.

Figure 44. The World of Warcraft Dungeon Finder game system interface.

Occasionally, players mentioned technologies that afforded particular freedoms to change

avatars' properties, including name, race, faction, appearance, gender, and server on which they

played. Players engaged these technologies for many different reasons, ranging from roleplayers

who wanted their avatars' name and appearance to match the character's narrative to a self-

proclaimed jokester who liked to amuse guildmates by changing his avatar's name weekly based

on an inside joke. Despite these technologies' constraints on how avatar features can be created –

e.g., only certain characters in names, only male or female genders, only 13 races – players almost exclusively understood them as affording freedom in avatar design. This may be a function of how the game has evolved from not allowing re-customization at all to permitting name, race, and server changes so that players are happy to be able to change their avatar in any way at all.

Additionally, avatar gear customization – known as transmogrification –emerged frequently in persona-networks. Although one requirement for an object to be considered a technology in this study was that it be outside the game narrative, an exception was made for transmogrification. This ability to change the appearance of the avatar's armor and weapons for a fee is woven into the game narrative by making the feature available through automated game characters called "Ethereal Transmogrifiers" (see Figure 43) who use "magic" to perform the transformation.

Figure 45. The transmogrification interface used to customize an avatar's gear appearance.

Customization through transmogrification is treated in analysis as a technology due to similarities in how players treated the feature compared to other customization technologies, and because the game does not frame the transformation as though the avatar itself is creating the

outfits. These avatar-customizing technologies emerged as key mechanisms by which players achieved their individual goals in gameplay according to how their avatars appeared to themselves and to other players, since customization has become an important part of consumer culture, broadly (Buffington, 2011; Flynn & Vencat, 2012).

Often, persona-networks included technologies that were understood by players as defining separate digital and physical spaces or moderating access to or movement among those spaces, but were generally not experienced as belonging to the spaces themselves. It is helpful to think of these technologies as objects that establish boundaries between and within spaces. Generally, these technologies were seen as serving a neutral organizing function, rather than as negatively constraining or positively supporting particular actions or intentions. For example, an *Account* belonging to a player establishes boundaries between what avatars, weapons, and resources belong to that player and what does not. Similarly, a *Username/Password* combination entered at the *Log-In Screen* (Figure 44) established boundaries according to which player has the right to access a particular account.

Figure 46. The World of Warcraft log-in interface, requiring an account name and password in order to access the game.

A computer's *Off Button* establishes a different kind of boundary by severing a player's potential to connect with the gameworld via the computer. Some players even saw the gameworld as having particular boundaries created by technological controls – it was seen as a bounded space and the boundary could not be altered. In this way, technologies that organize people, resources, access, and spaces function as the "physics" and "economics" of the gameworld. That is, the boundaries they institute are the rules according to which the environment and its inhabitants exist.

Of note is the frequently mentioned *Server* technology. Analysis revealed that although a server can be defined here as an infrastructure technology – a piece of hardware – it was perceived by players less as a tangible piece of hardware and more as a technology that defines gameplay and social boundaries. Specifically, players saw *Servers* as lines of demarcation among groups of players and avatars, as dividers of collections of game resources like gear and currency, as governing players' access to avatar names, and as frameworks for competition such as when players are ranked competitively according to their avatar's server. This distinction between the assumed materiality of the technology and the meaning that emerged when players related to the object's affordances and constraints highlights the importance of attending to subjective experiences of discrete objects in understanding how they play a role in emergent networks.

Most frequently, communication technologies emerged as important in persona-networks. These included multimedia (e.g., audio, video, images), verbal-communication channels (e.g., email, voice-over-IP applications, instant messaging), social network platforms (e.g., Twitter, guild web sites, and forums), web content (e.g., gameplay guides, popular media presences), and other digital games (e.g., genres, specific games, and gaming platforms). Analysis revealed that

these technologies were understood as important parts of play experiences in three key ways.

First, they afforded players the opportunity "export" play to spaces outside of WoW.

Specifically, players often took in-game Self-signification such as an avatar name, avatar image,

habits, reputation, and opinions and extended them beyond the gameworld. For example, Pete

used a stylized image of his avatar as his Twitter profile background (Figure 45), used a WoW-

related Twitter handle, and often tweeted about avatar costume design and other game topics.

Figure 47. A stylized representation of a WoW avatar, used as the background image for a Twitter profile page.

Other times, players saw communication technologies as important to importing

experiences into the game, as many players developed expectations and preferences for gaming

by player other games, and brought those preferences into WoW. Sometimes, players described

participating in a recursive process of importing and exporting information about play

experiences to and from specific communication technologies. For example, Randy described

participating in the WoW forum on SomethingAwful.com, where he would get information

234

about WoW, apply that information in the game, and go back to the forum to talk about his experiences.

These communication technologies afforded players different means to expand play and game-derived dimensions of Self beyond the gameworld boundaries. This import/export dynamic is consistent with theories of transmediation by which users isolate particular pieces of information (e.g., words, images, concepts) from one space or medium and translate or reinterpret them in another space (Giovagnoli, 2011) based on the unique affordances and constraints of each environment. That communication technologies were most frequently used to import and export simple but meaningful significations of Self (e.g., names, images) suggests that these multimedia "chunks" are key ways that the Self is signified in different spaces.

Overall, all of these types of technologies were common in persona-networks and players were aware of how technologies supporting and constraining gameplay in different ways. The objects, however, were not always explicitly identified *as technologies.* Instead, consistent with human tendencies to anthropomorphize technologies (Marakas, Johnson, & Palmer, 2000; Reeves & Nass, 1992), these objects were more often acknowledged in terms of the affordances for or constraints to individual goals or actions those technologies presented. Some players paid more attention to particular types of technologies than to others, and attention to particular technologies was closely tied to individual motivations for play. In the next section I discuss specific patterns in how players of different player-avatar relationship types differently experienced technologies and social groups, and the implications of those patterns.

Social Groups and Technologies in Player-Avatar Relationships

In this section, I discuss the ways that social group and technology objects play a role in the persona-networks that emerge in relation to each type of player-avatar relationship. The

typology of player-avatar relationships discussed in Chapter 8 has four types: avatar-as-object, avatar-as-Me, avatar-as-symbiote, and avatar-as-other – that varied in the strength of emotional intimacy, perceived agency, and the focus of gameplay practices.

Analysis revealed that, generally, the ways that social groups and technologies functioned in persona-networks aligned with players' emphasis on perceived agencies and gameplay. Specifically, players responded to these objects in ways that protected their perceived agency and their motivations for playing the game. Sometimes these responses took the form of actively embracing or resisting an object's influence, and other times they took the form of paying attention to an object or ignoring it.

Object-Relations in Avatar-as-Object Relationships

As described in Chapter 8, avatar-as-object relationships (here called "object relationships") are those featuring high player agency, low emotional intimacy, and an emphasis on combat and competition in gameplay. Generally, players in object relationships respond to social groups and technologies in ways that reveal these players have a common approach to many different objects as tools for combat and competition.

Persona-networks emerging in relation to object relationships included very few social groups compared to those of other relationship types. This is likely a function of the ways that these players in object relationships see WoW as a space of competition in which their primary adversary is the game itself – monsters, difficult achievements, challenging fight mechanics – rather than a space of socialization, social play, or identity expression. Where social groups were present in personas, they were almost exclusively native to the game and combat-related. That is, these players were concerned primarily with social groups that could potentially support or constrain their ability to make decisions and effectively compete in the game, such as a *Raid*

236

Group or an avatar's *Class*. They most often responded positively to these social groups insofar as they contributed to success in cooperative gameplay activities like raiding and dungeons. For example, many such players described how they came to enjoy and identify with being a member of a combat community, such as *Druids or Healers*. Others drew on social groups like *Guilds* or *Arena Teams* to garner competitive advantages in gameplay, such as accessing difficult endgame content or having access to highly skilled play partners. These players often carefully linked their avatars to advantageous combat social groups, augmenting the avatar-as-object with competitive advantage. For example, Carill's persona-networks featured the groups *Guild, Druids, Healers, Tanks,* and *Tauren*, and each group bolstered her avatar's ability to compete by contributing a specific benefit. In this way, these players focused on the affordances of social groups to satisfy the specific ways that WoW privileges cooperative gameplay (Bardzell et al., 2008).

Players in object relationships tended to see these combat social groups as malleable, which could be manipulated, shaped, or appropriated for each player's individual goals. For example, an *Arena Team* is generally meant to be formed for the purpose of winning arena matches, however Mow would sometimes form teams on a pay-to-play basis as a way to earn money. That is, he would "carry" lower-skilled or lower-level players in these matches in exchange for in-game currency. In this way, he appropriated the social group as a structure in the game and repurposed it in a way that served him. Generally, these players did not actively attend to game-dependent non-combat social groups or to game-independent social groups. In other words, their persona-networks excluded any social groups that can interrupt these players' experiences of WoW as a space for competition or that can be detrimental to their focus on competitive play. In this way, players who take up their avatars as objects to be leveraged can be

seen as *also* leveraging the affordances of combat social groups (e.g., shared resources, combined skills) and resisting or ignoring the constraints of non-combat social groups.

Persona-networks emerging in relation to object relationships also tended to include game-system infrastructure technologies that allowed players to impact game events directly and that controlled competitive play and governed interdependence in cooperative gameplay. In other words, the technologies that mattered most to these players were those that allowed them to extend their perceived agency into the gamespace (e.g., *Computer Screen*, *Keyboard*) and that established the framework for combat and competition (e.g., *Talent System*, *Looking For Group* system). For example, Lynne was concerned with long waits in the *Looking for Group Queue* decided to play a tank (rather than a damage-dealer or a healer) so she could quickly and easily get into playgroups. Because these systems are integral parts of the game, their constraints were often viewed as canon, however knowledge of the rules and how they can be leveraged afforded a competitive advantage.

In contrast to social groups seen as malleable and appropriable, players in object relationships tended to view technologies as immutable objects. That is, game systems were essentially the given rules of the game and a key challenge of gameplay was to excel within those constraints. As such, other technologies were less important to these players and only sometimes were taken up in service of combat interests and as tools to maintain social roles in combat groups. For example, Synth used a customization technology to change his avatar's name every week as a way to fulfill his raid-group role as "comic relief" and Carill changed her avatar's faction and race in order to raid with a highly competitive guild. In this way, some technologies were understood as tools that allow them to manipulate or otherwise leverage the affordances of social groups to improve competitive advantage in combat.

In summary, for players in object relationships with avatars, combat social groups are experienced as malleable objects whose affordances can be leveraged for competitive advantage, and game system technologies are experienced as immutable objects whose constraints set the rules for play and success. These findings suggest that these players tended to view both social groups and technologies as objects important to the game. In other words, in the same way that avatars are taken up as gamepieces and tools (Linderoth, 2005), social groups and technologies are as well. Moreover, avatars were often taken up as tools to leverage affordances and work through and around constraints as players worked to actively associate the avatar with advantageous social groups.

These tendencies can be understood as particular ways that, in avatar-as-object relationships, players actively work to maintain their perceived high agency in WoW and support their combat gameplay focus. So long as social groups and technologies are seen as inanimate objects, rather than as entities with any sort of agency, they can be "played with" – manipulated, altered, worked-around, and figured-out. This aligns with Consalvo's notion of "gaming capital," a derivation of Bourdieu's social capital whereby players accumulate knowledge, experiences, skills, and other resources within and across games to facilitate serious play (2007). Specifically, combat social groups and system technologies are seen by these players as predictable objects that establish the frameworks for what can and cannot be done in combat, what tools are available to use, and what accomplishments constitute success in WoW.

Where object affordances support player agency and competition, they are leveraged; where object constraints limit player agency and competition, they are reframed as important parts of play rather than as limitations. These patterns are consistent with literature arguing that an important part of play is the frustration and fun of learning how to overcome constraints and

leverage affordances (Gee, 2006; Giddings & Kennedy, 2008; Koster, 2004), and extends this notion by revealing that, for some players, this negotiation with objects is conducted as a way of maintaining the experience of high agency.

Object-Relations in Avatar-as-Me Relationships

Avatar-as-Me relationships are those featuring high player agency, low to moderate emotional intimacy, and an emphasis on social play and identity extension. Players in avatar-as-Me relationships responded to social groups and actively attended to technologies according to how those objects' affordances can facilitate highly individual gameplay goals and support consistent Self-significations across game and non-game spaces.

Persona-networks emerging from Me relationships tended to feature social groups that were both native to the game and emerging independently of the game. Most often, these game-dependent and game-independent social groups were in direct conflict. As these players frequently emphasized avatar social groups (e.g., avatar race, class, gender) as liberating in their identity expression efforts, and they drew on associated aesthetics, character archetypes, and playstyles as "raw materials" they could use to craft an avatar that was "Me." Players who identified with an avatar social group often saw that group as a metaphor for a specific part of themselves. Conversely, social groups emerging from outside the game were seen as highly constraining, and these players often actively rejected membership in or worked against these constraining groups. Sometimes positive responses to avatar social groups were expressions of resistance to such constraining social groups. In these ways, players in Me relationships often uniquely resisted constraining social groups by inscribing avatar bodies with properties of or metaphors for supporting social groups. In this way, these players tended to craft avatars that represented their uniquely understood sense of "Me" and rejected the constraining sense of "not-

Me," and social groups were frames of reference for that crafting. Avatars, then, are distinctive artifacts of the process of Self-signification, extending identity by telling a relational story about how one does and does not relate to others (Kleine, Kleine, & Allen, 1995).

Persona-networks emerging in relation to avatar-as-Me relationships also tended to feature more technologies and more different kinds of technologies than those of any other relationship type. That players in Me relationships found a range of technologies important to their gameplay experiences is likely a function of their motivations to interact with other players and to extend their sense of Self into the gamespace. Specifically, because they were less concerned with preserving a particular agentic experience (as were players in avatar-as-object relationships) and more concerned with how they could be social, have fun, and express themselves across spaces, they considered and made us of many different technological tools to achieve these broad goals.

In contrast to players in avatar-as-object relationships who saw technologies as constraining objects, players in avatar-as-Me relationships generally saw technologies in terms of their affordances for sociality and identity expression across game and non-game spaces. Most frequently, their persona-networks featured communication technologies and infrastructure technologies. Communication technologies were primarily seen as facilitating the "export" senses of being WoW players to non-game spaces. For example, Mingus wrote game-related commentary, and made game-related *Audio* and *Video* clips, and regularly posted them on his *Blog* and on his *Guild Web Site* as a way of taking his WoW experiences beyond gameworld boundaries. These players also tended to shift gameplay preferences, avatar names, and character archetypes (e.g., stealthy thief) to and from other games and media in a type of personal transmedia storytelling (Giavagnoli, 2011). This pattern reveals that these players' concern with

"being known" by other players and with creating faithful representations of themselves is not limited to a particular identity in the gameworld, but is instead an effort to be seen consistently across many different spaces.

Computer hardware, understood here as a type of infrastructure technologies, generally functioned in persona-networks as the means by which players in avatar-as-Me relationships could instantly extend their perceived agency into the gamespace. By clicking buttons on a keyboard or mouse, players could enact their intentions and impact gameworld events in different ways. Often, this enactment was experienced as occurring across physical, interface, and digital spaces. For example, Chris interchangeably used the word "button" to reference the key on his keyboard, the spell icon on the game interface, and the avatar's spell that was cast when the key was pushed. These patterns reveal that these players see computer hardware and software as tools needed to impact the gameworld and sometimes as extensions of their physical presence, properties, or absence.

In summary, for players in avatar-as-Me relationships, social groups were experienced as frames for positively or negatively perceived social situatedness in different spaces and so as both affordances for and constraints on identity expression. Constraining social groups can be resisted through affinities for and membership in supporting social groups, and that resistance can be written onto the avatar primarily through race, class, and gender choices. In this way, avatar social groups provide the "raw materials" to metaphorically craft an embodiment of "Me" in WoW. Similarly, multimedia objects like images and words can be transported into other physical and digital environments with the help of communication technologies. These patterns reveal that, overall, these players actively combine aesthetic, narrative, and interactive properties of objects in order to craft high-fidelity significations of Self that can serve their goals of

extending agency into the gamespace and being known inside and outside the game. For them, an important part of play is a process of building Self-significations by putting together a puzzle of multimodal objects like group affiliations and images.

I interpret these tendencies as emerging from an egocentric perspective that players in avatar-as-Me relationships tend to hold toward objects in general. Social groups are metaphors and foils for dimensions of Self and technologies are tools to make that Self manifest across spaces. So long as such objects in some way support the signification of Self in a particular space, they can be "played with" – reinterpreted, translated, performed, or used as a canvas. The constraints of each object limit the ability to signify the Self, so these players attend to particular affordances and resist constraints. This is consistent with the Hyperpersonal Model of computer-mediated communication, whereby users attend to the potential mechanisms by which they may optimally present a Self (Walther, 1996).

Object-Relations in Avatar-as-Symbiote Relationships

Avatar-as-symbiote relationships are those with mixed player and avatar agency, moderate to high emotional intimacy, and an emphasis on identity negotiation and sense-making. Players in symbiote relationships responded to social groups and technologies in ways that reveal how joint player-avatar agency manifests across different types of objects, and how constraints contribute positively to that cooperation.

Persona-networks emerging in relation to symbiote relationships almost exclusively featured social groups that emerged from the game. These were most often avatar social groups (e.g., class, profession, race), however instead of negotiating among representations of "Me" and "not Me" inside the game, players in these relatinoships took up avatar social groups as ways that they could make manifest dimensions of Self that they felt they could not express outside of

the game. That is, in playing avatars with certain characteristics, players claimed memberships in

gameworld social groups that aligned with a perceived "true" or desired sense of Self. For

example, Roy could not attend college outside the game, so he played a knowledge-seeking

Druid in WoW, and Dawn had to be conservative in her job, so she played a feisty Death Knight.

This tendency is likely a function of these players' life situations outside the game: they were all

in states of flux or had recently experienced troubling life events, including struggling with

finances, recovering from alcoholism, shifting from youth to adulthood, being bullied, and

escaping from domestic abuse. In the same way that these players expressed attribute and role

personas that they shared with their avatars as a way of experimenting with an emerging sense of

Self (see Chapter 9), they also took up membership in gameworld social groups through their

avatars a step toward realizing a particular, desired Self. This pattern reveals that an avatar-as-

symbiote functions as a sort of "transitional object" (Winnicott, 1953, 1971), a coping

mechanism (Williams, Kennedy, & Moore, 2011), and a "thing to think with" (Turkle, 2011), as

players work to intentionally evolve from one Self to another. Specifically, avatars served as

embodiments of possible or desired dimensions of Self (Markus & Nurius, 1986, 1987) inside

the game. When engaging the avatar, players simultaneously experience those possible

dimensions of Self as working Self-concepts (Markus & Wurf, 1987) and current dimensions of

Self outside the game. When both embodiments coalesce during gameplay, players in symbiote

relationships worked to bridge the gap between the current and desired sense of Self (Markus &

Wurf, 1987).

These findings suggest that avatar social groups function both as metaphors for these

players' sense of Self in the game *and* as particular frames for the player and avatar's social

situatedness in the gameworld narrative. They also function as conceptual rules for how avatars

(and, by proxy, players) *should* exist and behave in the world, and so as safe frameworks for identity negotiation. For example, the avatar class "Death Knight" represented particular, acceptable personality traits and how the avatar itself should exist in the gameworld narrative. "Death Knight-ness" emerged from the avatar social group as a real concept in both the gameworld narrative and as a concept the player could identify with. Thus, the social groups function as symbolic frames for interaction between players and avatars and as key connecting points between them.

Persona-networks associated with avatar-as-symbiote relationships also tended to feature infrastructure technologies of the interface (screen, game client visuals, game-client modifications). These technologies emerged as important spaces of joint agency, where both player and avatar can carry out their respective functions. In other words, because the interface displays both the avatar as it exists in the gameworld and the outcomes of players' intentions, those technologies constitute spaces between the avatar and the player where the player can at once observe both his own actions and the actions of the avatar. As such, they are key ways that players experience shared or mixed agency with their avatars as a means of negotiating identity. Additionally, these persona-networks often included communication technologies – primarily games and other virtual worlds – to import preferences for avatar personalities and characteristics. For example, Kayne imported his "buxom blonde" model and Chas imported his "seasoned warrior with swords of fire and ice" model. An important part of this affordance is that many game genres have common themes in avatar races and classes (Ducheneaut & Moore, 2005), allowing players to craft broad concepts drawing on those themes and move them from game to game. This pattern suggests that identity and agency negotiations characteristic of avatar-as-symbiote relationships do not play out through isolated avatars in isolated spaces, but

245

through distributed negotiations through multiple avatars and spaces. I take this practice as an effort by players to experience how a possible or ideal Self would fit into different environments and to "practice" it in different situations. Although similar to notions of "identity tourism" (Nakamura et al., 2000), the stakes of this transitional identity-taking are greater, as players are invested beyond "touring" and novelty and instead are working to develop consistency and resolve dissonance across spaces as they bridge the gap between the current and ideal Self.

In summary, for players in avatar-as-symbiote relationships, avatar social groups are experienced as symbolic objects that present frameworks for identity negotiation. They are seen as constraining and unchanging, but these players find freedom in those constraints because they provide safe spaces, guidelines, and norms for acceptable identities and behavior among group members. Interface technologies are spaces of visible, shared agency so that these players can observe the interplay between player and avatar contributions, and communication technologies facilitate the import of avatar concepts from other spaces. Technologies that matter, then, are those that support the connection between player and avatar and afford the player to consume and reflect on their identity negotiations.

I interpret these tendencies as emerging from these players' exploration of a possible or ideal Self through avatars and from their affinities for safe spaces in which to conduct that exploration. Both social groups and technologies constitute such spaces, as they are seen as having particular structures that are defined by each objects' constraints. In this way, these players are very aware of how discrete objects institute constrained freedom by providing frameworks of rules, norms, and standards but allowing movement within those frameworks. So long as objects in some way provide constrained freedom, they can be "played with" – used for identity practice, experimentation, or negotiation.

Object-Relations in Avatar-as-Other Relationships

Avatar-as-other relationships are those featuring high avatar agency, high emotional intimacy, and an emphasis on escapism and separating game realities from non-game realities. Players in these relatinoships responded to social groups and technologies in ways that reveal a strong commitment to maintaining the avatar's status as a separate social agent despite potential constraints to that self-differentiation.

Persona-networks emerging in relation to avatar-as-other relationships primarily featured avatar social groups and players tended to embrace and celebrate those groups as foundations for how avatars, as independent social agents, should behave in the space and how their individual stories should make sense in relation to the gameworld narrative. Such positive response to avatar social groups is likely a function of how these players actively worked to maintain the experience of high avatar agency as a way they can escape to the digital world. That is, players can only maintain the experience of avatar agency and legitimate existence in the gameworld insofar as each avatar's character narrative aligned with the gameworld narrative by conforming to avatar social groups' norms. Avatar classes and roles, in particular, were key ways that players experienced their avatars as situated in the gameworld: healing and support roles were seen as feminine, Shamans and Priests as wise and trustworthy, Druids as versatile and earthy. Of note is that, despite the magic and fantasy of WoW, those characterizations of social groups drew on more traditional, non-fantastical values, suggesting that despite these players' emphasis on escapism and demarcation of realities, they still framed digital and physical experiences according to what is seen as inherently good and valuable in the physical world.

Further, social groups emerging from outside the game (e.g., family groups, binary genders) were perceived as potentially interrupting persistent character and gameworld narratives

or calling into question the division between the player and the avatar-as-other. Players in avatar-as-other relationships actively resisted such non-game social groups, seen here as active efforts to prevent any disruptions to the integrity of WoW's narrative and to protect the independent existence of avatars. In this way, players' acceptance of gameworld social groups and rejection of non-game social groups and their constraints are necessary conditions for the experience of high avatar agency. These findings reveal that the experience of high avatar agency is entwined with the consumption and production of world and avatar narratives, and that social groups are a key part of those narratives. Some objects, such as avatar social groups, constitute frameworks for gameworld norms and character behaviors, roles, and characteristics, and serve as scaffolds around which players may build avatar-character narratives. In this way, membership in and adherence to norms of avatar social groups are necessary conditions for the self-differentiation and resulting high avatar agency experienced by these players.

Persona-networks associated with avatar-as-other relationships included very few technological structures overall, compared to other player types. This is likely a function of a) this study's definition of a technology as something with which the avatar may not interact and b) the great attention paid to each avatar's status as a social other within the gameworld boundaries (e.g., personality, events, character backstories). This is consistent with existing scholarship defining narrative and interactive dimensions of involvement (e.g., kinaesthetic, spatial, cooperative, affective, cohabitative, ludic) common to players engaged in deep immersion and storytelling with rather than technical dimensions (Calleja, 2013). Further, this finding is consistent with Linderoth's (2012) contention that roleplayers experienced technology as hindering narrative immersion. Although players in avatar-as-other relationshisp were not all roleplayers, they *did* all craft detailed stories about their avatars, suggesting that the resistance to

248

acknowledging and integrating technology into immersive experiences may not be related roleplayer, per se, but to the construction of narratives. In the limited cases where technologies were mentioned, they were seen as tools for reinforcing the segregation of the digital gameworld from the physical world, and for crafting and maintaining the avatar as a character in the gameworld and narrative. Specifically, these players customized avatars to build and visual reinforce character concepts and stories, used game systems that bolstered or maintained those concepts, and acknowledged boundary technologies as defining the edges of the gameworld.

These patterns reveal that, for players in avatar-as-other relationships, technologies function as tools for the experiencing and active maintaining the separation of the digitally real from the physically real (Fine, 2002). Players selectively attend to technologies support their efforts to keep the digital gameworld separate from and safe from the influences of the players' human embodiment, sociality, and environment. In this way, the integrity of the narrative, the space, and time spent in them are necessary conditions for immersion and escape (Brooks, 2003). Not only did they tend to suspend disbelief in the gameworld as "fictional," but also ignored or discounted technological structures that would interrupt or break that suspension. In other words, it may be that if technologies (and associated processes, boundaries, and potentials) would not be real or discernible to the avatar as it exists in the gameworld, they may not be particularly salient to the player's narratives of that avatar.

In summary, for players in avatar-as-other relationships, avatar social groups are key frameworks that guide how an avatar should behave in the world, and adherence to those norms are necessary conditions for the avatar's perceived independent agency and status as a social other in the world. Technologies are not especially important to these players, except insofar as they support the creation and maintenance of the avatar-character and the distinction between the

digital and physical worlds as separate realities. These players tend to reject the influences of social groups and technologies that exist outside the "magic circle" (Huizinga, 1949) as irrelevant and potentially detrimental to the plausibility of the world of WoW.

These tendencies can be understood as emerging from these relationships' emphasis on maintaining the avatar as a social other, a state of self-differentiation that maintains the gameworld as a real space to which they can escape. So long as such objects in some way fit into the gameworld narrative and environment, they can be "played with" – participated in, created from, performed with. These findings suggest that, in working to maintain the experience of the avatar as a social other, players in these avatar-as-other relationships not only engage in a strong suspension of disbelief about the gameworld – seeing the digital world as real and true by ignoring its implausibility (Coleridge, 1817) – but also in a limited suspension of belief about the physical world.

Overall, patterns in how objects function in persona-networks and patterns in how players respond to them reveal that how players engage in relationships with their avatars as human-like technologies may be an amalgam of how they respond to technologies and to social groups as objects with human social properties. In other words, the avatar to various degrees is seen as both human and technological. These findings have particular implications for how both human and technological objects are experienced as jointly contributing to the emergent Self.

Conclusion

In summary, this chapter addressed the question of how the Self emerges in relation to player-avatar relationships at the object-relation level of Self-networks. Social groups and technologies were found to function differently in persona-networks of different player-avatar relationship types. Specifically, players in avatar-as-object relationships tended to take up

combat social groups and game systems as objects of play, to be manipulated for competitive advantage. Players in avatar-as-Me relationships most often took up avatar social groups as metaphors for Self and many technologies as tools to manifest that Self across spaces, taking an egocentric, utilitarian, and expressive stance toward the objects. Players in symbiote relationships most often saw avatar groups and interfaces as spaces of shared agency, and experienced those objects' constraints as rules and norms that guided identity explorations. Players in avatar-as-other relationshisp most often took up avatar social groups as structures that govern how the avatar should exist in the world as a social agent, and largely ignored technologies, working to legitimize the avatar's position in the narrative and protect the game as an escape from objects that can break immersion or interfere with the narrative trajectory. As those objects functioned in persona-networks, attention was paid to their affordances and constraints as they influenced gameplay goals and motivations.

From this analysis, I conclude that social groups can be understood as a human or human-like element of gameplay that exists in particular relations with technological elements. Patterns in how each type of object functioned in persona-networks and how the functions coalesced suggest that the ways players respond to human and technological objects together inform how they related to avatars as human-like technologies. In other words, experiences of human objects and experiences of technological objects are intertwined as the avatar is experienced as an object with characteristics of both humans and technologies. These experiences emerge from individual positions toward objects, more generally, and those positions are driven by the ways that perceived agency and gameplay motivations are enmeshed in gameplay and in player-avatar relationships. From these positions, players of all types actively embraced, celebrated, appropriated, manipulated, resisted, or ignored them, or otherwise chose how they experienced

251

objects as contributing to personas. In this way, players engaged in active Self-organization at the object-relation level of the Self in addition to the persona level. Patterns in how different types of objects are uniquely and similarly approached are key to understanding how humans have relationships with technologies and how the Self emerges in relation to those technologies.

In this chapter and in Chapters 8 and 9, I analyzed properties of player-avatar relationships as a network landscape from which a particular sense of Self emerges, the types of personas that make up each Self, and the ways objects function in those persona-networks. In the next and final chapter, I discuss conclusions from this analysis and propose a model of Self-organization in the context of player-avatar relationships.

CHAPTER 11: CONCLUSIONS

Hunt down the flesh giants at the death gate and use the fluid from their spines to render batches of the plague ineffective.

You are striking at the heart of the enemy's strategy. This is an important mission - vital to our cause, and should be carried out whenever time permits.

Koltira Deathweaver,
from the quest "Neutralizing the Plague"
in World of Warcraft

This dissertation examined how the Self emerges in relation to player-avatar relationships. Drawing on literature addressing the constrained freedoms of digital gameplay, the postmodern Self, and human-technology relationality, I reframed the Self as a material-semiotic network. From this frame, I posed two research questions. First, how do players have relationships with their avatars? Second, how does the Self emerge in relation to player-avatar relationships? After identifying the gaps between the Network Model of Self and existing methodologies, I proposed a new method, called object-relation mapping (ORM), which focuses on phenomenological data, breaks it down to distinct object-relations, and restructures the data as a network from which personas may be extracted. To address the research questions through thematic analysis and ORM, I interviewed 29 World of Warcraft players about their avatars and gameplay, generally. In analyzing interview transcripts to answer the first research question, I found that players have four different types of relationships with their avatars – avatar-as-object, avatar-as-Me, avatar-as-symbiote, and avatar-as-other – that vary in degrees of Self-differentiation, emotional intimacy, perceived agency, and key gameplay practices. In answering the second research question, I found that players selectively attend to certain personas that help maintain the player-avatar relationship and the meaning those relationships hold. Further, I found that in the networks that compose personas, players work with, against, and around the

constraints of social groups and technologies in ways that align with their perceived agencies and key gameplay practices. In this final chapter, I discuss the conclusions drawn from those findings. I argue for shifts in understanding intersections of humans and technologies, in how humans play active roles in the emergence of Self, how objects play active roles in the emergence of Self, and that multiplicities of Self are legitimate ways of being.

Human-Technology Relationships Can Be Social Relationships

This study revealed that player-avatar relationships are complex convergences of Self-differentiation, emotional intimacy, perceived agency, and individual gameplay practices. From these findings, I presented a four-point typology of player-avatar relationships and argued that the particular type of relationship a player enters into with his or her avatar is associated with a particular sense-making process in which players try to resolve the dissonance, uncanny, or novelty of the experience of simultaneously having two bodies – one digital, one physical.

Of particular importance in this examination is that some players expressed authentic emotions for the avatar as a distinct social other. Recent scholarship has highlighted the question of whether or not humans can form authentic relationships with technologies made by them and for them (Brooks, 2002; Herzfeld, 2002; Turkle, 2007), especially when that creation maps human attributes to those devices (Lee, 2007). For Turkle, this is a question not of whether or not a machine is really capable of emoting in return, but of how humans' relational stance evokes vulnerability and heightened connection to objects when they thrive in our care. The player-avatar relationship types presented in this study provide an answer to Lee's and Turkle's questions: humans *can* form authentic relationships with technologies on the basis of real emotional vulnerability, senses of connection and attachment, nurturing, confirmation of worth, commitment, information exchanges, reliable companionship, and the experiences of alliance.

These qualities satisfy the criteria for an authentic, intimate social relationship (Granovetter, 1973; Sinclair & Dowdy, 2005; Weiss, 1974). However, although Reeves and Nass (1996) argue that our engagements with media are social and natural, and that, fundamentally, "media experiences equal human experiences" (p. 251), these findings suggest that such human-media sociality is not necessarily the case. Some people have authentic, social relationships with their digital bodies and others have more functional, strategic relationships. These relationship variations align with the notion of varied presence – the illusion of non-mediation – as the output of an intimate, psychologically immediate, seemingly real experience with a social entity that is co-present in an immersive space (Lombard & Ditton, 1997). Further, that the most social and intimate player-avatar relationships relied on the careful construction of narratives aligns with scholarship outlining the connection between media enjoyment and narrative transportation and immersion (Green, Brock, & Kaufman, 2004). These alignments suggest that existing perspectives on presence and transportation are useful approaches for examining player-avatar relationships.

A key condition of that potential for players to have social relationships with their avatars is Self-differentiation: the ways that avatars are sometimes seen as autonomous and distinct from the players who create them. A particular condition of the player-avatar relationship is critical to how this Self-differentiation unfolds: one agent is physical in nature and the other is digital. Despite my own position, drawing on Jurgenson's notion of augmented reality over physical/digital dualisms (2012a, 2012b) and ANT principles that all objects matter equally, it is important to acknowledge that players subjectively experienced events and objects in digital environments as fundamentally different than those in physical environments. Sometimes the importance of this digital/physical division was so important to gameplay experiences that

255

players worked adamantly to protect that division. As the Thomas theorem contends, "If men define situations as real, they are real in their consequences" (Thomas & Thomas, 1928, p. 571). This study's findings bolster that theorem's extension to digital situations – where pixels and avatars and fantastic stories and combat mechanics are seen as real, so are their consequences (Gottschalk, 2010; Boellstorff, 2008). This extension has particular implications for how scholars address digital phenomena as "real" or not. Specifically, regardless of researchers' own positions on the sameness or difference of objects and events and meaning across spaces, it should be acknowledged that people with different beliefs, motivations, and experiences can see the digital and physical as similar or different, and as equally or differently important. Research perspectives should leave room for all such positions as legitimate phenomenological positions, especially because even when the digital and the physical – or the technological and the human – are seen as different, they are inextricably enmeshed both materially and semiotically. Moreover, those positions and the conditions under which these various positions are formed are important topics of inquiry.

  Methodologically, this study revealed that avatars – and by extension other vehicles that permit us access to digital media experiences – are ideal entry points for examinations of human-technology relationships, more broadly. Even when players downplay the importance of their avatars, the ways that avatars serve as tools for and mechanisms of gameplay facilitate the uncovering of chains of relational meaning. In this way, the nature of the relations among objects may be explored, regardless of the particular relation between the objects of player and avatar. This utility also reveals that avatars are special kinds of objects. Even for players who experience their avatars with low emotional intimacy and low Self-differentiation, avatars are more than mere collections of pixels. They are, as Latour (1992) might suggest, sociotechnical

assemblages: incredibly complex amalgams of human properties, technological properties, discourses, aesthetic preferences, mathematics, social group referents, histories, and more. It is possible that this complexity and this integration of human and non-human elements is what makes it possible for players to have authentic relationships with them. Future research should address that potential, as well as whether digital embodiments of varying complexity and humanness are to greater or lesser degrees taken up in social relationships. Further, this study reveals that avatars and player-avatar relationships are far more complex phenomena than is usually acknowledged in the literature. They are often relegated to mere mentions in scholarly reports, as tools for or necessary conditions of the "sexy" stuff of video game play: violence, narrative, serious/educational potentials. I argue that avatars and player-avatar relationships should be promoted as important play phenomena in themselves and that contribute in important ways to those game scholarship headlines.

In summary, these findings contribute to the fields of digital media and game studies by revealing the ways that people may engage technologies as social others. Further, despite the treatment of avatars as "like" people to varying degrees, the digital and physical are most often experienced as fundamentally different. This notion of "different sameness" contributes to the field by parsing out user perceptions of humanness and sociality from the human bodies to which those properties are normally ascribed.

Players Actively Organize the Self

This study also revealed that the Self emerges as players actively attend to particular personas that support the player-avatar relationship, and work with, against, and around the affordances and constraints of particular objects that give rise to those personas. I conclude this is an active Self-organization, where the aim of the process is to maintain the player-avatar

relationship as a comfortable frame for simultaneous digital-physical embodiments. That is, in the face of objects (people, technologies, discourses, systems, etc.) that, by design, organize players' experience and sense of Self, players actively work to organize themselves according to their own goals, comforts, and Self-concepts. Self-organization happens at two levels.

First, players actively organize the Self by activating or paying attention to particular personas that support the player-avatar relationship, or at least do not interfere with it, and that are in some way relevant to individual gameplay goals. Second, players embrace, resist, appropriate, manipulate, ignore, or reframe properties of objects encountered in relation to play and in relation to avatars as a way of defining how those objects are experienced as contributing to particular, activated personas. Together, these organizing efforts give rise to the Self as it is experienced in the player-avatar relationship situation (see Figure 46).
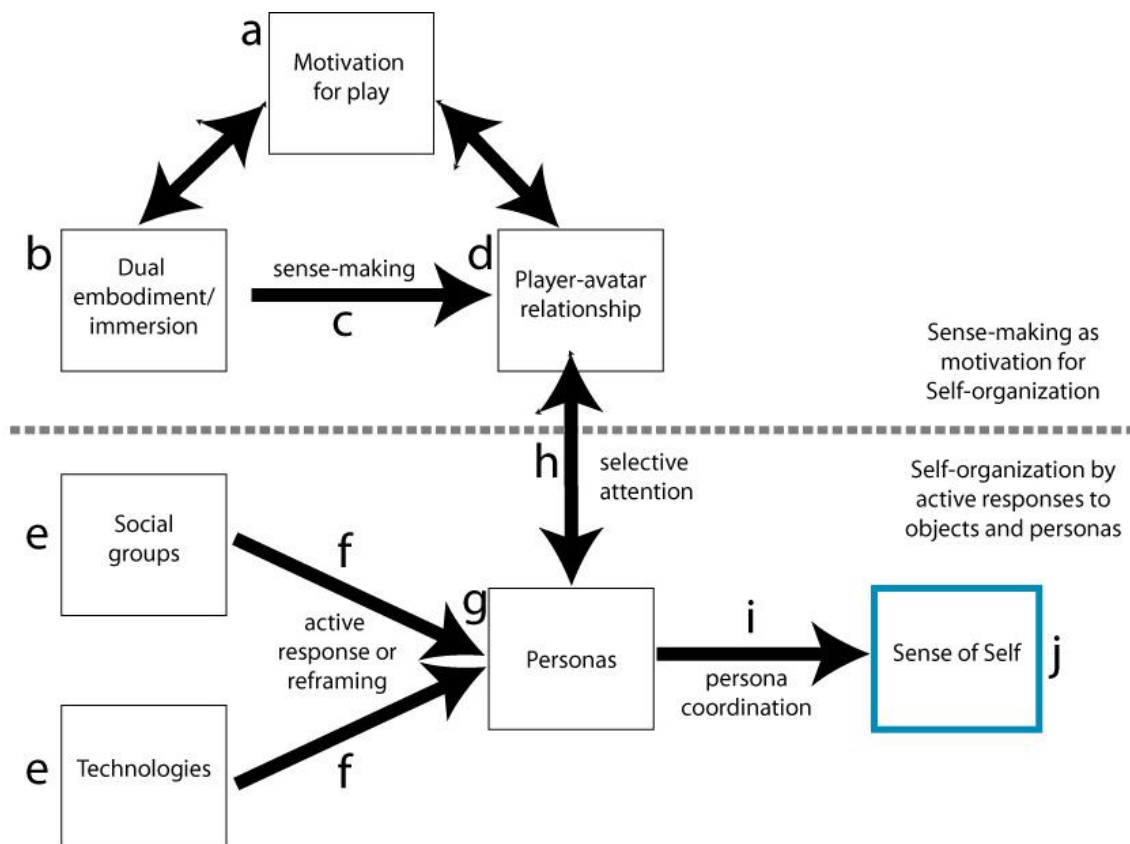

Figure 48. Model of Self-organization in relation to player-avatar relationships.

258

I argue that Self-organization efforts are the result of players trying to make sense of the situation of simultaneously having two bodies – one digital and one physical – and being simultaneously immersed in two environments. Specifically, Self-organization unfolds as a player enters WoW with unique motivations (a), as supported by Yee (2006), and is thrust into the dual embodiment/immersion situation (b). This duality prompts the player to engage in a sense-making process to resolve the dissonance, uncanny, or novelty of the duality (c) (Jensen, 2007, 2009). The output of that sense-making is a particular relationship between the player and the avatar (d). That relationship is the player's ideal experiential state – a set of ideas about the reality of the situation – required to feel comfortable with dual embodiment. This aligns with Linderoth's (2012) finding that some players deal with different layers of meaning at the same time. This state requires maintenance through stories players tell about themselves, about the avatar, and/or about the player and the avatar together. There are a multitude of objects and dimensions of Self that could interfere with those stories. Preventing that interference through selective attention or actively responding to those narrative intruders, such as technology or mechanics (Linderoth, 2012; MacCallum-Stewart & Parsler, 2008) or even the game narrative itself (Juul, 2005; Salen & Zimmerman, 2004), is the motivation for Self-organization.

At the first level of Self-organization, players come to understand through direct experience or inference how objects (e) may support or interfere with the persona and with the narrative state that the persona supports. With this understanding, players engage in a purposeful response (f) to the object based on its properties and potential for affording or constraining the ideal state (Mateas & Stern, 2006) and the player's commitment to that state (Tanenbaum & Tanenbaum, 2009). Where objects support the state, players embrace or celebrate the object and welcome it into the situation. Where objects neither support nor interfere with the state, players

passively accept or ignore the object. Where objects interfere with the state, players resist, manipulate, or work around the object (as suggested in a limited way by Linderoth, 2012). The particular relations among objects in the situation – whether attended to by players or not – give rise to personas (g), or discrete dimensions of the Self. At the second level of Self-organization, players selectively attend (h) to dimensions of the Self as they, in a sense, perform for themselves. That is, they actively attend to, or "activate," personas that support the player-avatar relationship narrative and ignore, or "deactivate," personas that would interfere with the narrative. That is not to say that interfering personas do not exist in that moment, merely that they are relegated to the "backstage" (Goffman, 1959). The ways these activated personas coordinate with each other (i) give rise to the Self (j) that emerges in relation to the player-avatar relationship. In this way, players actively construct a sense of Self that fits individual, ideal understandings of dual embodiment – they organize the Self in the face of objects designed to organize them differently.

This model contributes to the fields of digital media and identity studies first by building on existing scholarship contending that roleplayers work to make transparent the interface and other social and technological indicators of the game-as-a-game in order to maintain immersion (Linderoth, 2012). Specifically, I expand on that notion as applying beyond roleplayers. Specifically, I argue that *all players* engage in the construction of a Self, of a player-avatar relationship, and of personal accounts that help make sense of being immersed in two spaces and occupying two bodies. I contribute to this field of study the insight that narrative constructions and sense-making labors (Jensen, 2009) are important not only to roleplayers seeking immersion, but also to a range of other players with different gameplay motivations. Future research should

evaluate how this sense-making unfolds in relation to particular relationships, playstyles, and motivations.

Further, this model contributes a framework integrating how human and non-human objects matter in the emergent Self according to technologies' constrained freedoms and users' agency in relating to them. Although this model of Self-organization is tailored specifically to the player-avatar relationship as examined in this study, the relationships represented provide insight about human-technology relationships, more broadly. Specifically, it may be extrapolated that when a person adopts a technology, there may be dissonance or tension about interacting with a digital object. The user crafts particular stories to resolve those tensions. To maintain those stories, users attend to particular personas and actively manage the influence of particular objects to those personas. Further research is needed to determine if such an extrapolation is viable, and if the model can be applied to avatars in other immersive digital environments, to other types of games and avatar engagements, and to other types of human-technology interaction.

Objects Have Meaning

As this model emerged from the data, three characteristics of this Self-organization process emerged as surprising and that revealed the importance of objects in the emergence of Self. First, objects are not necessarily experienced as objects, per se. Rather, in matters of the Self, objects are very frequently experienced as metaphors: for held, imagined, or hoped-for personality traits, physical traits, abilities, sociality, politics, resources, and more. The objects that most powerfully facilitate connections between players and avatars are immaterial (e.g., roles and social groups) because they most easily serve as metaphors. The notion of how digital objects serve as metaphors and organizing principles for behavior in digital environments draws

on how physical-space meanings and norms are translated into the space (Martey & Stromer-Galley, 2007). This study revealed, however, that in Self-organization, objects' functions as metaphors rely less on social norms tied to the object and more on how each person uniquely sees the object as representing an important dimension of Self. In this way, for players wanting to express identity through the avatar, it is less about the literal translation of physical traits to the avatar (e.g., femaleness of the player to the femaleness of the avatar, whiteness of the player to whiteness of the avatar), and more about the figurative representation of personality traits from physical-world sign systems to digital-world sign systems (e.g., being a dark and mysterious person to being an Undead avatar). To this end, the objects most important to the signification of Self in WoW are "boundary objects": things that are plastic enough to be interpreted differently in different spaces according to the meaning it holds in that space, but concrete enough that they maintain their integrity as objects (Bowker & Star, 2000; Star & Griesemer, 1989). Boundary objects, in the original theory, are things that allow different groups of people to work together in relation to the object without consensus of the object's meaning– it exists between social worlds, is attended to by people in both worlds, and cooperating entities move back and forth between multiple meanings of the object (Star & Griesemer, 1989; Star 2010). In the spirit of ANT as a sociology of objects, I extend that notion here to the objects player and avatar: the most important objects in the emergence of Self in relation to player-avatar relationships are those that have distinct meanings in the narrative sign systems of the avatar and the physical-world sign systems of the player, where those meanings are compatible so there may be an interplay as the player engages the avatar.

Second, when objects constrain actions, players work against or around them. Further, where constraints cannot be overcome, players shift their sense-making stories to reframe the

constraint as a "goal" or a "challenge." This reframing is an important Self-organization

technique aimed at maintaining a particular component of the player-avatar relationship:

perceived agency. In other words, in order to maintain a comfortable dual-embodiment state,

players craft stories that rationalize the role of constraining objects as necessary or positively

contributing to that state (Jensen, 2009). In this vein, I echo ANT positions that agency is a

relational effect of objects interacting in networks (Castree, 2002; Whatmore, 1999).

Specifically, the perception of agency in the player-avatar relationship is a relational effect of the

player's interactions with objects and their properties. As Tanenbaum and Tanenbaum (2010)

argue, we should move beyond examining agency in games in terms of choice or freedom, and

instead evaluate it as a "commitment to meaning" (p. 10) where narratives and player intents

coalesce through games' interactive features: a player commits to particular meanings, thinks

and behaves in ways that support this commitment, and continues to do so insofar as they receive

a satisfying result.

Finally, as patterns emerged in how Self-differentiation, perceived agency, and key

gameplay practices were related to Self-organization, the relationship element of emotional

intimacy – the perception of closeness resulting in feelings of care, affirmation, and belonging

(Sinclair & Dowdy, 2005) – was conspicuously absent. This is not to say that players were not

emotional in their accounts, rather that no patterns emerged in how such intimacy plays a role in

Self-organization. Nonetheless, if emotional intimacy is a key feature of deep connections

between players and avatars, why were there no observable patterns of its role in Self-

organization processes? Although this absence could be due to this study's attention to social

groups and technologies and players may have low senses of intimacy with those objects, I

theorize that emotional intimacy is not a driver of the player-avatar relationship and derivative

Self-organization, but instead is that satisfying result of the commitment to meaning (Tanenbaum & Tanenbaum, 2010). That is, strong emotional intimacy emerges from some players' commitment to maintaining narratives of self-differentiation and of their avatars' independence as a social other. Emotional connections may emerge out of sustained, effortful maintenance of narratives that resolve the dissonance of dual embodiment. This is an important insight because existing approaches to social relationships often assume that emotional intimacy is a necessary condition for social relationships – an input rather than an output (e.g., Bowen, 1978; Burscheid & Peplau, 1983; Harvey & Pauwels, 2009). Future research should examine the ways that emotional intimacy, specifically, develops as people engage technologies.

In summary, these insights contribute to the field of identity studies by identifying particular strategies by which the Self is actively organized and identifies coordinated cognitive, affective, and behavioral mechanisms in that process.

The Multiphrenic Self is a True Self

In Chapter 3, I discussed how scholars from different perspectives are concerned about how social and digital technologies are disintegrating the enduring, whole sense of Self by disembedding the Self from the body and fragmenting it, so that it is signified differently across contexts. This fear of losing essentiality and of the ways technology "makes" humans do certain things (Carr, 2010) drives much of the paranoia about social media, digital games, and computing technologies, broadly. As noted in the introduction to this dissertation, Kenneth Gergen's notion of the Multiphrenic Self (1991) is emblematic of this concern.

For Gergen, digital communication technologies are sometimes seen as forcing humans into states of crisis, bombarding us with ideas, obligations, disparate norms, and potentials such that overwhelming relativism breaks apart the core, essential self. Instead of feeling whole, we

264

swim "in ever-shifting, concatenating, and contentious currents of being" (Gergen, 1991, p. 80).

From this study, I conclude that Gergen's theory about the emergence of a distributed, fragmented, "multiphrenic" Self (1991) is correct, however his arguments about its mechanisms and about the consequences of multiplicity are not. We do exist in flux, pulled in different directions by objects (e.g., social groups, technologies), and signifying the Self across spaces in different ways depending on a range of factors. This flux and multiplicity, however, are not forced upon us and is not necessarily detrimental to the human sense of Self. In fact, the distribution and different significations of Self can serve very important purposes in people's lives.

This study revealed that the fragmentation of Self is not forced upon us. Of particular importance is the introduction of evidence that players actively craft a Self by activating particular personas, drawing on particular objects to bolster those personas, and that Self-organization is purposeful and driven by individual beliefs and motivations for engaging the avatar and the game. More broadly, it may be extrapolated that as users engage media technologies, their individual goals drive active Self-organization in relation to that technology. In this way, users experience a Self that is narrow or multi-dimensional, consistent or fragmented, depending on the user's relationship with the technology. In contrast to Gergen's universal claims, not all players experience multiplicities of Self. Instead, some players actively organize a very consistent Self across spaces by leveraging the affordances of each environment to represent the subject essence of the Self. Where the Self is experienced as a multiplicity – that is, multifaceted or signified differently in different contexts – it is often purposefully organized to escape from extra-game pressures, to maintain immersion, to experiment with possible or ideal personas, or to be acknowledged as a whole, complex person.

Additionally, this study revealed that players have overarching approaches to objects in general – utilitarian, egocentric, negotiating, protective – and technologies are one such object. It may be inferred, then, that technologies do not determine how the Self emerges when users engage technologies, as suggested by Scharmen (2006). Rather each player's general approach to the objects in the world determines how players work with, against, and around technological demands and constraints as players actively organize the Self. This phenomenon is similar to identity negotiations in non-digital spaces (boyd, 2006). Rather than being immersed in a world of "ought" (Gergen, 1991, p. 76), people define their obligations and strategically engender spheres of intentional, strategic cohesion and fragmentation, essentiality and multidimensionality. In these ways, the Self is not determined by technology or damned by multiplicity.

In summary, this insight contributes to identity scholarship by revealing the ways that multiplicity, distribution, and signification can be beneficial, and even necessary, to human welfare.

Limitations and Future Research

This dissertation has examined the nature of player-avatar relationships as a particular landscape from which the Self may emerge, and analyzed how discrete objects and personas contribute to that emergent Self. I concluded that the player-avatar relationship is a social one, with many of the same properties of human relationships, resulting from players' attempts to make sense of having two bodies. I also concluded that the Self emerges through a process of active Self-organization aimed at maintaining the stories that sustain the player-avatar relationship. Through this research, I offer to the field a new theoretical frame for examinations of the Self (the Network Model of Self), a new method for examining phenomena (object-

266

relation mapping), evidence that human-technology relationships can be social, and evidence that the Self is not technologically determined and that multiplicities of Self are legitimate, important ways of being in the world.

As much as this research has provided new insights and approaches to studies of the Self and of digital games, it opens up many more questions that should drive future research. For example: under what conditions do people reframe constraints rather than act against them? How do metaphors contribute to the consistency or fragmentation of Self across spaces? How does emotional intimacy emerge over the course of the player-avatar relationship? Do sense-making processes differ for players engaging different modes of dual embodiment, such as a non-humanoid avatar or avatars that are more or less customizable?

In addition to research directions mentioned throughout this dissertation, I call out here some key research directions that will advance the method and theory presented in this study. First, this study was intended to be exploratory and so was necessarily limited in scope. I investigated the experiences of a relatively small number of players and focused only on World of Warcraft. Broadly, future research should examine the extent to which my conclusions may extend to other WoW players, other games, other modes of embodiment, and other types of digital media and technologies. Further, my analysis of the roles that objects play in persona-networks was limited to two types of objects – social groups and technologies – and future studies should address the potentials for other types of objects (e.g., avatar gear, monsters, environments) to contribute to emergent personas and Self.

An important lesson learned in this study is that the object-relation mapping (ORM) method, although rigorous in identifying object-relations and faithful to players' subjective experiences, is extremely time-consuming and, as such, not particularly scalable. In order to

accomplish the broad aims described above, ORM may need to be adjusted, and experimentation with other, more flexible and efficient methods is prudent. For example, it is possible that that other methods or tools such as automated language processing (Khade & Gomase, 2010; Tausczik & Pennebaker, 2009; Zagal, Tomuro, & Shepitsen, 2011) and content analysis may be leveraged to detect relationship types and Self-organization features. Second, it will be useful to analyze the extent to which both relationship type and Self-organization tendencies might be detectable in short stories or live chat text, since existing scholarship reveals that individual and interpersonal features can be predicted from such data (e.g., Broadwell et al., 2012; Shaikh et al, 2012; Strzalkowski et al, 2012; Strzalkowski et al, 2013), or even from player-captured gameplay screen captures.

Additionally, an important discovery in this examination is initial evidence that the nature of player-avatar relationships may shift over time. For example, some players described that their avatars were mere objects until they were encouraged by friends to craft character narratives, suggesting that narrative may be a key driver in forging feelings of deeper emotional intimacy with the avatar and a sense that they exist independently. Conversely, some players spoke of how their favorite avatar used to be a "fun toon" and shifted to a "work toon" when they started using it for raiding, suggesting that increased play intensity or optimizing the avatar as a play tool may be associated with a decrease in emotional intimacy and feelings of heightened player agency. Analysis of how such relationships change over time is beyond the scope of this study's research questions and method, as player narratives are taken here as a snapshot of players' understanding of the relationship at a single point in time. However, this topic has not yet been addressed in the literature and future research should address the potential for game and non-game factors to influence the development of and changes to player-avatar relationships over time.

The potential for genuine relationships between humans and their media technologies – their avatars in particular – has particular implications for the application of communication theories to human-technology relationships. As suggested by Reeves and Nass (1996), since humans and their technologies can potentially be engaged in genuine relationships with many of the qualities of human relationships, then it may be useful to extend theories of interpersonal communication to the study of human-technology relationships. For example, Hyperpersonal Model (Walther, 1996) could be extended to consider the ways that humans deal with "impoverished" cues in human-technology relationships where the technology does not yet speak back; symbolic interaction perspectives (e.g., Mead, 1934) may be taken up to better understand how meaning emerges through human-technology interactions; social penetration theory (Altman & Taylor, 1973) may frame investigations of human-technology relationship development over time. Future research should address these potentials.

Final Thoughts

The potentials for authentic emotion and social relationships with avatars are particularly important when we consider that leading game developers are asking complex questions about what avatars are, what they mean, and how they will evolve. Game designer and professor Jesse Schell (2013) spoke of a vision for "digital companions" that move with their users across games and other digital spaces, learning about their users' thoughts, feelings, and experiences, and are inherited by their users' progeny. In the webcast that revealed the Xbox One gaming console, using the device was described as a "deep companion experience" wherein you "speak and your troops follow your command" such that "you and your television will have a relationship" (Microsoft, 2013). Game narratives and characters and challenges are being written to provoke visceral emotional reactions and moral dilemmas (Posey, 2013; Rouse 2013), to facilitate the

perception of romantic relationships between players and characters (Gaider, 2013), to involve us emotionally (Jungbluth & Hooks, 2013), and to help us in our daily lives (McGonigal, 2013). Not only are we engaging avatars and other game objects in social relationships, but those objects are being designed, specifically, to *be* social.

In this vein, visionaries like Sherry Turkle (2003), Ian Bogost (2012), and Donna Haraway (1999) have asked – and continue to ask – important, provocative questions about the technicization of humans and the humanization of technologies. As we advance understandings of how technologies contribute to the human experience, we must not be so egocentric as to say that technologies do not matter, and we must also not be so object-oriented to think that we do not have a say in our own humanity. This dissertation has demonstrated that the Self is not determined by technology or damned by multiplicity, nor is it entirely free from those influences. Rather, the Self – in its multiplicity – is an achievement of relations between humans and the tools we make for ourselves. As it is signified across spaces in relation to norms, affordances, and constraints, the Self is more a realization of a whole truth of multiplicity than a relativization of the false "Truth" of essentiality.

REFERENCES

Aarseth, E. (2008). A hollow world: World of Warcraft as spatial practice. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital culture, play, and identity: A World of Warcraft reader* (pp. 111–22). Cambridge, MA: MIT Press.

Adler, P. A., & Adler, P. (1999). Transience and the postmodern self: The geographic mobility of resort workers. *The Sociological Quarterly*, *40*(1), 31–58. doi:10.1111/j.1533-8525.1999.tb02357.x

Alamri, A., Jongeun, C., & El Saddik, A. (2010). AR-REHAB: An augmented reality framework for poststroke-patient rehabilitation. *IEEE Transactions on Instrumentation and Measurement*, *59*(10), 2554 – 2563. doi:10.1109/TIM.2010.2057750

Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York: Holt, Rinehart and Winston.

Ananthaswamy, A. (2012). Nerve probe controls cyborg moth in flight. *New Scientist*, *213*(2851), 21.

Andre, E., Klesen, M., Gebhard, P., Allen, S., & Rist, T. (2000). Integrating models of personality and emotions into lifelike characters. In *Affective interactions* (Vol. 1814, pp. 150–165). Berlin: Springer Verlag.

Apter, E. (2008). *Technics of the subject: The avatar-drive*. Unpublished manuscript. Retrieved from http://www.english.illinois.edu/-people-/faculty/schaffner/w4w/readings/apter.pdf

Argyle, M., & Dean, J. (1965). Eye-contact, distance and affiliation. *Sociometry, 28*, 289–304.

Au, W. J. (2001, December 12). CTO Cory Linden Leaves. *New world newsfeed*. Retrieved from http://nwn.blogs.com/nwn/2007/12/new-world-new-3.html

Axelsson, A.-S., & Regan, T. (2006). Playing online. In *Playing video games: Motives, responses, consequences* (pp. 294–306). Mahwah, NJ: Lawrence Erlbaum.

Azjen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179–211.

Baig, E. C. (2003, November 11). Slip into a second skin with an online avatar. *USA Today*. Retrieved from http://www.usatoday.com/tech/columnist/edwardbaig/2003-11-11-baig_x.htm

Bailey, R., Wise, K., Bolls, P. (2009). How avatar customizability affects children's arousal and subjective presence during junk food-sponsored online video games. *Cyberpsychology, Behavior, and Social Networking, 12*, 277-283.

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, *44*(9), 1175–184.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, *3*(3), 193–209.

Bardzell, J. (2009, April). Interaction criticism and aesthetics. Presented at the CHI 2009 - Informed Design, Boston, MA. Retrieved from https://files.t-square.gatech.edu/access/content/attachment/f853f7ad-ba3b-40f7-aea6-f7c6c07a7121/p2357-bardzell.pdf

Bardzell, S., Bardzell, J., Pace, T., & Reed, K. (2008). Blissfully productive: Grouping and cooperation in World of Warcraft instance runs. In *Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work* (pp. 357–360). Presented at the CSCW '08, San Diego, CA: ACM. doi:10.1145/1460563.1460621

Barr, P., Noble, J., & Biddle, R. (2007). Video game values: Human–computer interaction and games. *Interacting with Computers*, *19*(2), 180–195. doi:10.1016/j.intcom.2006.08.008

Bartle, R. A. (2001). Avatar, character, persona. Retrieved from http://mud.co.uk/richard/acp.htm

Bartlett, T. (2012, October 4). Daniel Kahneman sees "train-wreck looming" for social psychology. *Percolator: Research that matters*. Retrieved from http://chronicle.com/blogs/percolator/daniel-kahneman-sees-train-wreck-looming-for-social-psychology/31338

Bates, M. C. (2009). Persistent rhetoric for persistent worlds: The mutability of the self in massively multiplayer online role-playing games. *Quarterly Review of Film and Video*, *26*(2), 102–117.

Baudrillard, J. (1981). *Simulacra and simulation*. (S. F. Glaser, Trans.). Ann Arbor, Michigan: University of Michigan Press.

Baudrillard, J. (1983). *In the shadow of silent majorities*. New York: Semiotext(e).

Baudrillard, J. (1984). Interview: Game with vestiges. *On the Beach*, *5*, 19–25.

Baudrillard, J. (1987). *The ecstasy of communication*. (B. Schütze & C. Schütze, Trans.). Cambridge, MA: MIT Press.

Baudrillard, J. (1976/1993). *Symbolic exchange and death.* London: Sage.

Behnke, K. A. (2012). Ladies of Warcraft: Changing perceptions of women and technology through productive play. In *Proceedings of the International Conference on the Foundations of Digital Games* (pp. 288–289). Presented at the FDG '12, Raleigh, NC: ACM. doi:10.1145/2282338.2282403

Bélisle, J.-F., & Bodur, H. O. (2010). Avatars as information: Perception of consumers based on their avatars in virtual worlds. *Psychology & Marketing*, *27*(8), 741–765.

Bergson, H. (1913). *Time and free will: An essay on the immediate data of consciousness*. (F. L. Pogson, Trans.). Mineola, NY: Dover Publications. Retrieved from http://www.brocku.ca/MeadProject/Bergson/Bergson_1910/Bergson_1910_toc.html

Bergson, H. (1934). *Key writings*. New York: Continuum.

Bernard, L. (2002). Countermemory and return: Reclamation of the (postmodern) self in Jamaica Kincaid's The Autobiography of My Mother and My Brother. *Modern Fiction Studies*, *48*(1), 113–138. doi:10.1353/mfs.2002.0002

Berscheid, E., & Peplau, L. A. (1983). The emerging science of relationships. In *Close relationships* (pp. 1–19). New York: W.H. Freeman & Company. Retrieved from http://www.peplaulab.ucla.edu/Peplau_Lab/Publications_files/Berscheid_Peplau_83.pdf

Bessière, K., Seay, A. F., & Kiesler, S. (2007). The ideal elf: Identity exploration in World of Warcraft. *CyberPsychology & Behavior*, *10*(4), 530–535. doi:10.1089/cpb.2007.9994

Bettany, S., & Kerrane, B. (2011). The (post-human) consumer, the (post-avian) chicken and the (post-object) Eglu: Towards a material-semiotics of anti-consumption. *European Journal of Marketing*, *45*(11/12), 1746–1756. doi:10.1108/03090561111167388

Biddle, B. J. (1986). Recent developments in Role Theory. *Annual Review of Sociology*, *12*, 67–92. doi:10.1146/annurev.so.12.080186.000435

Billig, M., Condor, S., Edwards, D., Gane, M., Middleton, D., & Radley, A. (1988). *Ideological dilemmas*. Thousand Oaks, CA: Sage Publications.

Billinghurst, M., & Dünser, A. (2012). Augmented reality in the classroom. *Computer*, *45*(7), 56–63. doi:10.1109/MC.2012.111

Bimber, O., Encarnação, M. L., & Schmalstieg, D. (2003). The virtual showcase as a new platform for augmented reality digital storytelling. In *Proceedings of the workshop on virtual environments 2003* (pp. 87–95). Presented at the EGVE '03, Vienna, Austria: ACM.

Biocca, F., & Levy, M. R. (1995). *Communication in the age of virtual reality*. Hillsdale , NJ : Lawrence Erlbaum Associates.

Bitarello, B., Fuks, H., & Queiroz, J. (2011). New technologies for dynamic tattoo art. In *Proceedings of the fifth international conference on Tangible, embedded, and embodied interaction* (pp. 313–316). Presented at the TEI '11, Funchal, Portugal: ACM.

Blascovich, J. (2002). Social influence within immersive virtual environments. In Ralph Schroeder (Ed.), *The Social Life of Avatars* (pp. 127–145). London: Springer. Retrieved from http://link.springer.com/chapter/10.1007/978-1-4471-0277-9_8#page-1

Blascovich, J., & Bailenson, J. (2011). *Infinite reality: Avatars, eternal life, new worlds, and the dawn of the virtual revolution*. New York: HarperCollins.

Blascovich, J., Loomis, J., Beall, A. C., Swinth, K. R., Hoyt, C. L., & Bailenson, J. (2002). Immersive virtual environment technology as a methodological tool for social psychology. *Psychological Inquiry*, *13*(2), 103–124. doi:10.1207/S15327965PLI1302_01

Boellstorff, T. (2006). A ludicrous discipline? Ethnography and game studies. *Games and Culture*, *1*(1), 29–35.

Boesel, W.E. (2012, November 28). Let sleeping memories lie: High school and the Facebookless past. *Cyborgology*. Retrieved from http://thesocietypages.org/cyborgology/2012/11/28/let-sleeping-memories-lie-high-school-and-the-facebookless-past/.

Bogost, I. (2006). *Unit operations: An approach to videogame criticism*. Cambridge, MA: MIT Press.

Bogost, I. (2007). *Persuasive games: The expressive power of videogames*. Cambridge, MA: MIT Press

Bogost, I. (2012). *Alien phenomenology: Or what it's like to be a thing*. Minneapolis, MN: University of Minnesota Press.

Boler, M. (2007). Hypes, hopes and actualities: New digital Cartesianism and bodies in cyberspace. *New Media & Society*, *9*(1), 139–168.

Borgatti, S. P., Mehra, A., Brass, D. J., & Labianca, G. (2009). Network analysis in the social sciences. *Science*, *323*(5916), 892–895. doi:10.1126/science.1165821

Boudreau, K. (2012). *Between play and design: Hybrid-identity and single-player videogames* (Unpublished dissertation). Université de Montréal, Montreal, Canada.

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). New York: Greenwood.

Bourdieu, P. (1990). *The logic of practice*. Stanford, CA: Stanford University Press.

Bowen, M. (1978). *Family therapy in clinical practice*. New York: Aronson.

Bowker, G. C., & Star, S. L. (2000). *Sorting things out: Classification and its consequences*. Cambridge, MA: MIT Press.

Bowman, N. D., Rogers, R., & Sherrick, B. I. (2013, April). "In control or in their shoes": How character attachment differentially influences video game enjoyment and appreciation. Presented at the Broadcast Education Association Research Symposium "Media and Social Life: The Self, Relationships, and Society," Las Vegas, NV.

Bowman, N. D., Schultheiss, D., & Schumann, C. (2012). I'm attached, and I'm a good guy/gal!": How character attachment influences pro- and anti-social motivations to play MMORPGs. *Cyberpsychology, Behavior, & Social Networking*, *15*(3), 169–174. doi:10.1089/cyber.2011.0311

boyd, danah. (2006, February). Identity production in a networked culture: Why youth heart MySpace. Presented at the American Association for the Advancement of Science, St. Louis, MO. Retrieved from http://www.danah.org/papers/AAAS2006.html

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. doi:0.1191/1478088706qp063oa

Bretón-López, J., Quero, S., Botella, C., García-Palacios, A., Baños, R. M., & Alcañiz, M. (2010). An augmented reality system validation for the treatment of cockroach phobia. *Cyberpsychology, Behavior, and Social Networking*, *13*(6), 705–710. doi:10.1089/cyber.2009.0170

Broadwell, G. A., Stromer-Galley, J., Strzalkowski, T., Shaikh, S., Taylor, S., Liu, T., & Webb, N. (2013). Modeling sociocultural phenomena in discourse. *Natural Language Engineering*, *19*(2), 213–257. doi:10.1017/S1351324911000386

Brooks, K. (2003). There is nothing virtual about immersion: Narrative immersion for VR and other interfaces. Retrieved from http://www.immersive-medien.de/sites/default/files/biblio/Immersive_Not_Virtual.pdf

Brooks, R. (2002). *Flesh and machines: How robots will change us*. New York: Pantheon Books.

Bruner, J. (1997). A narrative model of self-construction. *Annals of the New York Academy of Science*, *818*, 145–161.

Buffington, J. (2011). Comparison of mass customization and generative customization in mass markets. *Industrial Management & Data Systems*, *111*(1), 41–62. doi:10.1108/02635571111099721

Burn, A. (2003). Poets, skaters and avatars: Performance, identity and new media. *English Teaching: Practice and Critique*, *2*(2), 6–21.

Burn, Andrew, & Carr, D. (2003, September). Signs from a strange planet: Role play and social performance in Anarchy Online. In *COSIGN 2003* (pp. 14–21). Presented at the 3rd Conference on Computational Semiotics for Games and New Media, Teesside, UK.

Burn, Andrew, & Schott, G. (2004). Heavy hero or digital dummy? Multimodal player–avatar relations in Final Fantasy 7. *Visual Communication*, *3*(2), 213–233. doi:10.1177/147035704043041

Butler, J. (1990). *Gender trouble: Feminism and the subversion of identity*. New York: Routledge.

Butler, J. (2004). *Undoing gender*. New York: Routledge.

Calleja, G. (2013). Narrative involvement in digital games. In *Proceedings of the Foundations of Digital Games 2013* (pp. 9–16). Presented at FDG '13, Chania, Greece. Retrieved from http://www.fdg2013.org/program/papers/paper02_calleja.pdf

Callon, M. (1986). Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St Brieuc Bay. In J. Law (Ed.), *Power, action and belief: A new sociology of knowledge?* (pp. 196–223). London: Routledge.

Cameron, D., & Carroll, J. (2011). Encoding liveness: Performance and real-time rendering in machinima. In H. Lowood & N. Nitsche (Eds.), *The machinima reader*. Cambridge, MA: MIT Press.

Carr, D. (2002). Playing with Lara. In T. Krzywinksa & G. King (Eds.), *Cinema/videogame interfaces* (pp. 171–180). London: Wallflower Press.

Carr, N. (2010). *The shallows: What the internet is doing to our brains*. W.W. Norton.

Castree, N. (2002). False antitheses? Marxism, nature and actor-networks. *Antipode*, *34*(1), 111–146.

Castronova, E. (2003). Theory of the avatar. *CESinfo Working Paper Series No. 752*. Retrieved from http://ssrn.com/abstract=385103

Castronova, E. (2005). *Synthetic worlds: The business and culture of online games*. Chicago: University Of Chicago Press.

Cerulo, K. A. (1997). Identity construction: New issues, new directions. *Annual Review of Sociology*, *23*, 385–409. doi:0360-0572/97/0815-0385

Chee, F., Vieta, M., & Smith, R. (2006). Online gaming and the interactional self: Identity interplay in situated practice. In J. P. Williams, S. Q. Hendricks, & W. K. Winkler (Eds.), *Gaming as culture: Essays on reality, identity, and experience in fantasy games* (pp. 154–174). Jefferson, NC: McFarland.

Chen, M. (2012). *Leet noobs: The life and death of an expert player group in World of Warcraft*. New York: Peter Lang.

Cheng, P. (2007). Waiting for something to happen: Narratives, interactivity and agency and the video game cut-scene. In *Situated Play, Proceedings of DiGRA 2007 Conference*. Presented at the DiGRA, Tokyo, Japan. Retrieved from http://lmc.gatech.edu/~cpearce3/DiGRA07/Proceedings/003.pdf

Christiansen, R. (1989). *Romantic affinities: Portraits from an age 1780-1830*. London: Bodley Head.

Chu, Z., Gianvecchio, S., Wang, H., & Jajodia, S. (2010). Who is tweeting on Twitter: Human, bot, or cyborg? In *Proceedings of the 26th Annual Computer Security Applications Conference* (pp. 21–30). Presented at the ACSAC '10, Austin, TX. doi:10.1145/1920261.1920265

Churchill, E. F., Snowdon, D. N., & Munro, A. J. (Eds.). (2001). *Collaborative virtual environments: Digital places and spaces for interaction*. Springer-Verlang.

Clark, A. (2004). *Natural-born cyborgs: Minds, technologies, and the future of human intelligence*. New York: Oxford University Press.

Clarke, E. A. (2005). *Situational analysis: Grounded theory after the postmodern turn*. Thousand Oaks, CA: Sage Publications.

Clauset, A., Moore, C., & Newman, M. E. J. (2008). Hierarchical structure and the prediction of missing links in networks. *Nature*, *453*, 98–101.

Clauset, A., Newman, M. E. J., & Moore, C. (2004). Finding community structure in very large networks. *Physical Review E*, *70*(6), 066111. doi:10.1103/PhysRevE.70.066111

Clifford, M. (2012, August/September). Cyborg citizenry: The futility of trust in a post-representational world. Presented at the APSA 2012 Annual Meeting, Washington, D.C.: American Political Science Association. Retrieved from http://ssrn.com/abstract=2105340

Clynes, M. E., & Kline, N. S. (1960, September). Cyborgs and space. *Astronautics*, 26–27, 74–76.

Cohen, J. (2001). Defining interaction: A theoretical look at the identification of audiences with media characters. *Mass Communication and Society*, *4*(3), 245–264.

Coleridge, S. T. (1868). *Biographia literaria*. New York: Harper & Brothers.

Connected Action. (n.d.). NodeXL: Network Overview, Discovery and Exploration for Excel. Retrieved from http://nodexl.codeplex.com/

Conrad, M., Neale, J., & Charles, A. (2010, June). Of mice or men? – The avatar in the virtualscape. Presented at the The International Conference on Information Society, London.

Consalvo, M. (2007). *Cheating: Gaining advantage in videogames*. Cambridge, MA: MIT Press.

Cooley, C. H. (1909). *Social organization*. New Brunswick, NJ: Transaction.

Corneliussen, H. G. (2008). World of Warcraft as a playground for feminism. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital culture, play, and identity: A World of Warcraft reader* (pp. 225–246). Cambridge, MA: MIT Press.

Corneliussen, H. G., & Rettberg, J. W. (Eds.). (2008). *Digital culture, play, and identity: A World of Warcraft reader*. Cambridge, MA: MIT Press.

Crawford, G. (2012). *Video Gamers*. New York: Routledge.

Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publications.

Croftzi. (2011). Bitten [WoW machinima]. *YouTube*. Retrieved from http://www.youtube.com/watch?v=2T6NfNE8vKE&feature=c4-overview&playnext=1&list=TLCDm8mNADchM

Cypher, M., & Richardson, I. (2006). An actor-network approach to games and virtual environments. In *Joint International Conference on CyberGames and Interactive Entertainment 2006*. Presented at the CGIE2006, Fremantle, Australia. Retrieved from http://researchrepository.murdoch.edu.au/11772/1/an_actor_network.pdf

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of

information technology. *MIS Quarterly*, *13*, 318–339.

Davis, J. (2013, January 23). Theorizing embodiment. *Cyborgology*. Retrieved from

http://thesocietypages.org/cyborgology/2013/01/23/theorizing-embodiment/

De Paoli, S., & Kerr, A. (2010). "We will always be one step ahead of them": A case study on

the economy of cheating in MMORPGs. *Journal of Virtual Worlds Research*, *2*(4).

Retrieved from http://eprints.nuim.ie/2418/1/We_will_always.pdf

Dean, E, Cook, S., Keating, M., & Murphy, J. (2009). Does this avatar make me look fat?

Obesity and interviewing in Second Life. *Journal of Virtual Worlds Research*, *2*(2).

Retrieved from http://journals.tdl.org/jvwr/article/view/621/495

Decety, J. (2005). Perspective taking as the royal avenue to empathy. In B. F. Malle & S. D.

Hodges (Eds.), *Other minds: How humans bridge the divide between self and others* (pp.

135–149). New York: Guilford Press.

Deleuze, G. (1992). Ethology: Spinoza and us. In J. Crary & S. Kwinter (Eds.), *Zone 6:*

Incorporations (pp. 625–633). New York: Zone Books.

Denzin, N. K. (1993). Rain Man in Las Vegas: Where is the action for the postmodern self?

Symbolic Interaction, *16*(1), 65–77. doi:10.1525/si.1993.16.1.65

Derrida, J. (1978). *Writing and difference*. London: Routledge.

Descarte, R. (1633). *The world and other writing*. (S. Gaukroger, Trans.) Cambridge: Cambridge

University Press.

Dewey, J. (1929). *The quest for certainty: A study of the relation of knowledge and action*. New

York: Capricorn Books.

Di Battista, G., Eades, P., Tamassia, R., & Tollis, I. G. (1994). Algorithms for drawing graphs: an annotated bibliography. *Computational Geometry*, *4*(5), 235–282. doi:10.1016/0925-7721(94)00014-X

Dickey, M. D. (2005). Brave new (interactive) worlds: A review of the design affordances and constraints of two 3D virtual worlds as interactive learning environments. *Interactive Learning Environments*, *13*(1-2), 121–137. doi:10.1080/10494820500173714

DiGiuseppe, N., & Nardi, B. (2006). Real genders choose fantasy characters: Class choice in World of Warcraft. *First Monday*, *12*(5).

Digman, J.M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology, 41*, 417-440. doi: 10.1146/annurev.ps.41.020190.002221.

Dolwick, J. S. (2009). "The Social" and beyond: Introducing Actor-Network Theory. *Journal of Maritime Archaeology*, *4*, 21–49.

Doyle, D., & Taey, K. (2007). Embodied narrative: The virtual nomad and the meta dreamer. *International Journal of Performance Arts & Digital Media*, *3*(2-3), 2009–222.

Dreyfus, H. L., & Dreyfus, S. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. Oxford: Blackwell.

Dreyfus, H. L., & Spinosa, C. (2003). Further reflections on Heidegger, technology, and the everyday. *Bulletin of Science, Technology & Society*, *23*(5), 339–349. doi:10.1177/0270467603259868

Ducheneaut, N., & Moore, R. J. (2005). More than just "XP": learning social skills in massively multiplayer online games. *Interactive Technology and Smart Education*, *2*(2), 89–100. doi:10.1108/17415650580000035

Ducheneaut, N., Wen, M.-H. D., Yee, N., & Wadley, G. (2009). Body and mind: A study of

avatar personalization in three virtual worlds. In *CHI 2009 - New Media Experiences* (pp.

1151–1160). Presented at the CHI 2009, Boston, MA.

Ducheneaut, N., Yee, N., Nickell, E., & Moore, R. J. (2007). The life and death of online gaming

communities: A look at guilds in World of Warcraft. In *Proceedings from CHI 2007*.

Presented at the CHI '07, San Jose, CA.

Dunn, R. A., & Guadagno, R. E. (2012). My avatar and me – Gender and personality predictors

of avatar-self discrepancy. *Computers in Human Behavior*, *28*, 97–106.

doi:10.1016/j.chb.2011.08.015

Eastin, M. S. (2006). Video game violence and the female game player: Self- and opponent

gender effects on presence and aggressive thoughts. *Human Communication Research*,

32(3), 351–372. doi:10.1111/j.1468-2958.2006.00279.x

Eckel, M. D. (2002). *Understanding Buddhism: Origins*Beliefs*Practices*Holy Texts*Sacred

Places*. Oxford: Oxford University Press.

Ellul, J. (1964). *The Technological Society*. (J. Wilkinson, Trans.). New York: Knopf.

Erickson, R. J. (1995). The importance of authenticity for self and society. *Symbolic Interaction*,

18(2), 121–144. doi:10.1525/si.1995.18.2.121

Erikson, E. (1956). The problem of ego identity. *Journal of the American Psychoanalytic

Association*, *4*, 56–121.

Erikson, E. (1959). *Identity and the life cycle*. New York: W.W. Norton.

Erikson, Erik H. (1970). Reflections on the dissent of contemporary youth. *International Journal

of Psychoanalysis*, *51*, 11–22.

Faas, T. B. (2010, April 30). *An examination of social presence in video conferencing vs. an augmented reality conferencing application*. Purdue University, West Lafayette, IN. Retrieved from http://docs.lib.purdue.edu/techmasters/15/

Fakhrullin, R. F., Zamaleeva, A. I., Minullina, R. T., Konnova, S. A., & Paunov, V. N. (2012). Cyborg cells: Functionalisation of living cells with polymers and nanomaterials. *Chemical Society Reviews*, *41*, 4189–4206. doi:10.1039/C2CS15264A

Farman, J. (2009). Locative life: Geocaching, mobile gaming, and embodiment. In *Proceedings of the Digital Arts and Culture Conference, 2009*. Irvine, CA. Retrieved from http://escholarship.org/uc/item/507938rr

Feldon, D. F., & Kafai, Y. B. (2007). Mixed methods for mixed reality: Understanding users' avatar activities in virtual worlds. *Education Technology Research & Development*, *56*, 575–593. doi:10.1007/s11423-007-9081-2

Ferguson, C. J. (2007). The good, the bad and the ugly: A meta-analytic review of positive and negative effects of violent video games. *Psychiatric Quarterly*, *78*(4), 309–316.

Ferguson, W. (2012). Wire up tissue to create cyborg hearts and brains. *New Scientist*, *215*(2880). doi:10.1016/S0262-4079(12)62244-1

Fine, G. A. (2002). *Shared fantasy: Role playing games as social worlds*. Chicago: University Of Chicago Press.

Fine, G. A., & Kleinman, S. (1979). Rethinking subculture: An interactionist analysis. *American Journal of Sociology*, *85*(1), 1–20.

Fioravanti, C., & Velho, L. (2010). Let's follow the actors! Does Actor-Network Theory have anything to contribute to science journalism? *Journal of Science Communication*, *9*(4).

Fishbein, M. A., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading: Addison-Wesley.

Flew, T., & Humphreys, S. (2005). *Games: Technology, industry, culture*. South Melbourne: Oxford University Press.

Fluegelman, A. (1976). *The new games book*. San Francisco, CA: New Games Foundation.

Flynn, A., & Vencat, E. F. (2012). *Custom nation: Why customization is the future of business and how to profit from it*. Dallas, TX: BenBella Books.

Fogg, B. J., & Nass, C. (1997, April). How users reciprocate to computers: An experiment that demonstrates behavior change. Presented at the CHI 97, Atlanta, GA, USA. Retrieved from http://www.sigchi.org/chi97/proceedings/short-talk/bjf.htm

Foote, N. N. (1951). Identification as the basis for a theory of motivation. *American Sociological Review*, *16*, 14–21.

Foresight Future Identities. (2013). *Changing identities in the UK: The next 10 years*. London, UK: The Government Office for Science.

Fox, J., & Bailenson, J. (2009). Virtual self-modeling: The effects of vicarious reinforcement and identification on exercise behaviors. *Media Psychology*, *12*(1), 1–25.

Fox, J., Bailenson, J. N., & Tricase, L. (2013). The embodiment of sexualized virtual selves: The Proteus Effect and experiences of self-objectification via avatars. *Computers in Human Behavior*, *29*(3), 930–938. doi:10.1016/j.chb.2012.12.027

Friedman, D., Steed, A., & Slater, M. (2007, September). Spatial social behavior in Second Life (Vol. 4722, pp. 252–263). Presented at the 7th International Working Conference, IVA 2007, Paris, France. Retrieved from http://link.springer.com/chapter/10.1007/978-3-540-74997-4_23#page-1

Fron, J., Fullerton, T., Morie, J. F., & Pearce, C. (2007, January). Playing dress-up: Costumes, roleplay and imagination. Presented at the Philosophy of Computer Games 2007, Reggio Emilia, Italy. Retrieved from http://egg.lmc.gatech.edu/publications/LudicaDress_Up.pdf

Fruchterman, T. M. J., & Reingold, E. M. (1991). Graph drawing by force-directed placement. *Software: Practice & Experience*, *21*(11), 1129–1164. doi:10.1002/spe.4380211102

Gaider, D. (2013, March). Sex in Video Games. Presented at the 2013 Game Developers Conference, San Francisco, CA. Retrieved from http://schedule2013.gdconf.com/session-id/823972

Galanxhi, H., & Nah, F. F.-H. (2007). Deception in cyberspace: A comparison of text-only vs. avatar-supported medium. *International Journal of Human-Computer Studies*, *65*, 770–783.

GamingLives. (2010). *World of Warcraft Cataclysm Night Elf intro*. Retrieved from http://www.youtube.com/watch?v=Wxe33L7sPr8

Gee, J. P. (1996). *Social linguistics and literacies: Ideology in discourses* (2nd ed.). London: Routledge.

Gee, J. P. (2003, October). What video games have to teach us about learning and literacy. *Computers in Entertainment (CIE) - Theoretical and Practical Computer Applications in Entertainment*, *1*(1), 1–4.

Gee, J. P. (2004). *What video games have to teach us about literacy and learning*. New York: Palgrave MacMillan.

Gee, J. P. (2005). Pleasure, learning, video games, and life: The projective stance. *E-Learning and Digital Media*, *2*(3), 211–223.

Gee, J. P. (2006). Attendee notes from keynote lecture "Video games as learning machines for a global world" at *Vision Splendid – ICT: Research, Pedagogy, implementation in Schools*. Retrieved from http://ccclearning.edublogs.org/2006/08/17/a-vision-splendid-james-paul-gee

Gee, J. P. (2008). Video games and embodiment. *Games and Culture*, *3*(3-4), 253–263.

Gergen, K. J. (1991). *The saturated self: Dilemmas of identity in contemporary life*. New York, NY: Basic Books.

Gergen, K. J., & Gergen, M. M. (1983). Narratives of the self. In *Studies in social identity* (pp. 254–273). New York: Praeger. Retrieved from http://www.pasadena.edu/library/reserves/tfkeeler/engl1c/GergenNarrativesSelf.pdf

Gergen, M. M., & Gergen, K. J. (2000). Qualitative inquiry: Tensions and transformation. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (2nd ed., pp. 1025–1046). Thousand Oaks, CA: Sage Publications.

Gibson, J. J. (1986). *The ecological approach to visual perception*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Gibson, W. (1984). *Neuromancer*. London: HarperCollins.

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Cambridge, MA: Polity Press.

Giddings, S. (2007). Playing with nonhumans: digital games as techno-cultural form. In S. de Castell & J. Jenson (Eds.), *Worlds in play: International perspectives on digital games research*. New York: Peter Lang.

Giddings, S. (2009). Events and collusions: A glossary for the microethnography of videogame play. *Games and Culture*, *4*(2), 144–157. doi:10.1177/1555412008325485

Giddings, S., & Kennedy, H. W. (2008). Little Jesuses and fuck-off robots: On cybernetics, aesthetics and not being very good at Lego Star Wars. In M. Swalwell & J. Wilson (Eds.), *The pleasures of computer gaming: Essays on cultural history, theory and aesthetics* (pp. 13–32). Jefferson, N.C.: McFarland.

Giordano, J. (2012). *Neurotechnology: Premises, potential, and problems*. Boca Raton, FL: Taylor & Francis.

Giovagnoli, M. (2011). *Transmedia storytelling: Imagery, shapes and techniques*. (F. Montesano & P. Vaglioni, Trans.). ETC Press.

Girvan, M., & Newman, M. E. J. (2002). Community structure in social and biological networks. *Proceedings of the National Academy of Sciences of the United States of America*, *99*(12), 7821–7826. doi:10.1073/pnas.122653799

Glaser, B. G. (2012). Stop. Write! Writing Grounded Theory. *Grounded Theory Review*, *11*(1). Retrieved from http://groundedtheoryreview.com/2012/06/01/stop-write-writing-grounded-theory/

Glaser, B., & Strauss, A.L. (1967). The discovery of grounded theory: Strategies for qualitative research. Chicago: Aldine Publishing Company.

Glass, J. M. (1993). Multiplicity, identity and the horrors of selfhood: Failures in the postmodern position. *Political Psychology*, *14*(2), 255–278.

Glassner, B. (1989). Fitness and the postmodern self. *Journal of Health and Social Behavior*, *30*(2), 180–191.

Gleason, P. (1983). Identifying identity: A semantic history. *The Journal of American History*, *69*(4), 910–931.

Goffman, I. (1959). *The presentation of self in everyday life*. New York: Anchor Books.

Goldberg, C. B., & Allen, D. G. (2008). Black and white and read all over: Race differences in reactions to recruitment Web sites. *Human Resource Management*, *47*(2), 217–236. doi:10.1002/hrm.20209

Gonzalez, J. (2000). The appended subject: Race and identity as digital assemblage. In E. Shohat & R. Stam (Eds.), *Multiculturalism, postcoloniality, and transnational media* (pp. 299–318). Piscataway, NJ: Rutgers University Press.

Gottschalk, S. (2010). The presentation of avatars in Second Life: Self and interaction in social virtual spaces. *Symbolic Interaction*, *33*(4), 501–525. doi:10.1525/si.2010.33.4.501

Granovetter, M.S. (1973). The strength of weak ties. *The American Journal of Sociology, 78*(6), 1360-1380. doi:10.1086/225469

Gray, C. H. (2003). Posthuman soldiers in postmodern war. *Body & Society*, *9*(4), 215–226. doi:10.1177/135703403773684739

Green, M. C., & Brock, T. C. (2002). In the mind's eye: Transportation-imagery model of narrative persuasion. In M. C. Green, J. J. Strange, & T. C. Brock (Eds.), *Narrative impact: Social and cognitive foundations* (pp. 315–341). Mahwah, NJ: Lawrence Erlbaum Associates.

Green, M.C., Brock, T.C., & Kaufman, G.F. (2004). Understanding media enjoyment: The role of transportation into narrative worlds. *Communication Theory, 14*(4), 311-327.

Greeno, J. G. (1994). Gibson's affordances. *Psychological Review*, *101*(2), 336–342.

Griffiths, M. (2005). Video games and health: Video gaming is safe for most players and can be useful in health care. *British Medical Journal*, *331*(7509), 122–123. doi:10.1136/bmj.331.7509.122

Grodal, T. (2000). Video games and the pleasures of control. In D. Zillman & P. Vorderer (Eds.), *Media entertainment: The psychology of its appeal* (pp. 197-213). Mahwah, NJ: Lawrence Erlbaum Associates.

Gross, N. C. (1942). *The diffusion of a culture trait in two Iowa townships* (Masters Thesis). Iowa State College, Ames, IA.

Gubrium, J. F., & Holstein, J. A. (1994). Grounding the postmodern self. *The Sociological Quarterly*, *35*(4), 385–703.

Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. Thousand Oaks, CA: Sage Publications.

Guitton, M. J. (2010). Cross-modal compensation between name and visual aspect in socially active avatars. *Computers in Human Behavior*, *26*(6), 1772–1776. doi:10.1016/j.chb.2010.07.004

Guttentag, D. A. (2010). Virtual reality: Applications and implications for tourism. *Tourism Management*, *31*(5), 637–651. doi:10.1016/j.tourman.2009.07.003

Ha, S., & Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research*, *62*(5), 565–571. doi:10.1016/j.jbusres.2008.06.016

Hagstrom, C. (2008). Playing with names: Gaming and naming in World of Warcraft. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital culture, play, and identity: A World of Warcraft reader* (pp. 265–286). London: MIT Press.

Hancock, J. T., Merola, N., & Peña, J. (2006, June). Avatar color and social identity effects on attitudes and group dynamics in online video games. Presented at the Annual Meeting of the International Communication Association, Dresden, Germany.

Haraway, D. (1991a). A cyborg manifesto: Science, technology, and socialism-feminism in the late Twenthieth Century. In *Simians, Cyborgs, and Women: The Reinvention of Nature* (pp. 149–182). New York: Routledge.

Haraway, D. (1991b). Situated knowledges: The science question in feminism and the privilege of partial perspective. In *Simians, Cyborgs, and Women: The Reinvention of Nature* (pp. 183–202). New York: Routledge.

Haraway, D. (1999). The biopolitics of postmodern bodies: Determinations of self in immune system discourse. *differences: A Journal of Feminist Cultural Studies*, *1*(1), 3–43.

Haraway, D., & Goodeve, T. (1999). *How like a leaf: An interview with Donna Haraway*. New York: Routledge.

Harel, D., & Koren, Y. (2004). Graph drawing by high-dimensional embedding. *Journal of Graph Algorithms and Applications*, *8*(2), 195–214.

Harman, G. (2002). *Tool-Being: Heidegger and the metaphysics of objects*. Peru, IL: Carus Publishing.

Harman, G. (2005). *Guerrilla metaphysics: Phenomenology and the carpentry of things*. Peru, IL: Carus Publishing.

Harman, G. (2009). *Prince of networks: Bruno Latour and metaphysics*. Melbourne, Australia: re.press. Retrieved from http://www.re-press.org/book-files/OA_Version_780980544060_Prince_of_Networks.pdf

Harman, G. (2011). *The quadruple object*. Hants, UK: John Hunt Publishing.

Harrell, D. F., & Zhu, J. (2009, March). Agency play: Dimensions of agency for interactive narrative design. Presented at the Spring Symposium on Narrative Intelligence, Stanford,

CA: Association for the Advancement of Artificial Intelligence. Retrieved from

http://www.aaai.org/Papers/Symposia/Spring/2009/SS-09-06/SS09-06-008.pdf

Harris, O. C. G. (2003). *William Burroughs and the secret of fascination*. Chicago, IL:

University Of Chicago Press.

Harvey, B. (2010). History of ideas: The Age of Enlightenment to the age of anxiety. Retrieved

from http://www2.fiu.edu/~harveyb/HI-romanticpoems.pdf

Harvey, J. H., & Pauwels, B. G. (2009). Relationship connection: A redux on the role of minding

and the quality of feeling special in the enhancement of closeness. In S. J. Lopez & C. R.

Snyder (Eds.), *The Oxford handbook of positive psychology* (pp. 385–392). New York:

Oxford University Press.

Hasler, B. S., & Friedman, D. (2012). Sociocultural conventions in avatar-mediated nonverbal

communication: A cross-cultural analysis of virtual proxemics. *Journal of Intercultural

Communication Resesarch*, *41*(3), 238–259.

Hayles, N. K. (1999). *How we became posthuman: Virtual bodies in cybernetics, literature and

informatics*. Chicago: The University of Chicago Press.

Heaton, T. (2006, February 23). A circular model of gameplay. *Gamsutra*. Retrieved from

http://www.gamasutra.com/features/20060223/heaton_01.shtml

Heidegger, M. (1927). *Being and time*. (J. Macquarrie & E. Robinson, Trans.). London: SCM

Press.

Heilig, M. L. (1962, August 28). Sensorama simulator. Retrieved from

http://www.mortonheilig.com/SensoramaPatent.pdf

Herzfeld, N. L. (2002). *In our image: Artificial intelligence and the human spirit*. Minneapolis,

MN: Fortress Press.

Hillis, K. (1999). *Digital sensations: Space, identity, and embodiment in virtual reality*. Minneapolis, MN: University of Minnesota Press.

Hitchens, M. (2009). B.J.'s family: A survey of first person shooters and their avatars. In *Proceedings of the Sixth Australasian Conference on Interactive Entertainment* (p. article 4). Presented at the IE '09, Sydney, Australia: ACM. doi:10.1145/1746050.1746054

Hoffman, L., Krämer, N. C., Lam-chi Anh, & Kopp, S. (2009). Media equation revisited: Do users show polite reactions towards an embodied agent? In *Intelligent Virtual Agents* (Vol. 5773, pp. 159–165). Presented at the 9th International Conference, IVA 2009, Amsterdam, The Netherlands. doi:10.1007/978-3-642-04380-2_19

Hoffman, L., Stewart, S., Warren, D., & Meek, L. (2009). Toward a sustainable myth of self: An existential response to the postmodern condition. *Journal of Humanistic Psychology*, *49*(2), 135–173. doi:10.1177/0022167808324880

Horton, D., & Wohl, R. R. (1956). Mass communication and para-social interaction: Observations on intimacy at a distance. *Psychiatry, 19*(3), 215–229.

Huizinga, J. (1949). *Homo ludens: A study of the play-element in culture*. Boston: The Beacon Press.

Hume, D. (1739). *A treatise of human nature*. Oxford: Oxford University Press.

Idhe, D. (1990). *Technology and the lifeworld*. Bloomington, IN: Indiana University Press.

Introna, L., & Ilharco, F. M. (2003). The ontological screening of contemporary life: A phenomenological analysis of screens. *European Journal of Information Systems*, *13*(3), 221–234.

Isbister, K., & Nass, C. (2000). Consistency of personality in interactive characters: Verbal cues, non-verbal cues, and user characteristics. *International Journal of Human-Computer Studies*, *53*, 251–267.

Ivory, J. D., & Kalyanaraman, S. (2007). The effects of technological advancement and violent content in video games on players' feelings of presence, involvement, physiological arousal, and aggression. *Journal of Communication*, *57*(3), 532–555.

Jang, D., Kim, J.-S., Li, K.-J., & Joo, C.-H. (2011). Overlapping and synchronizing two worlds. In *Proceedings of the 19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems* (pp. 493–496). Presented at the GIS '11, Chicago, Illinois, USA: ACM. doi:10.1145/2093973.2094057

Jansz, J. (2005). The emotional appeal of violent video games for adolescent males. *Communication Theory*, *15*(3), 219–241. doi:10.1111/j.1468-2885.2005.tb00334.x

Jensen, S. S. (2007). Reflective designing for actors and avatars in virtual worlds. In S. B. Heilesen & S. S. Jensen (Eds.), *Designing for networked communications: Strategies and development* (pp. 187–216). Hershey, PA: Idea Group Publishing.

Jensen, S. S. (2009). Actors and their use of avatars as personal mediators: An empirical study of avatar-based sense-makings and communication practices in the virtual worlds of EverQuest and Second Life. *MedieKultur. Journal of media and communication research*, *25*(47). Retrieved from http://ojs.statsbiblioteket.dk/index.php/mediekultur/article/viewArticle/1403

Jenson, J., Fisher, S., & de Castell, S. (2011). Disrupting the gender order: Leveling up and claiming space in an after-school video game club. *International Journal of Gender, Science and Technology*, *3*(1), 149–169.

Jin, S. A. (2010). "I feel more connected to the physically ideal mini me than the mirror-image

    mini me": Theoretical implications of the "Malleable Self" for speculations on the effects

    of avatar creation on avatar–self connection in Wii. *Cyberpsychology, Behavior, and*

    Social Networking, *13*(5), 567–570. doi:10.1089/cyber.2009.0243

Johns, J. (2006). Video games production networks: Value capture, power relations and

    embeddedness. *Journal of Economic Geography*, *6*(2), 151–180.

Johnson, D., Gardner, J., & Wiles, J. (2004). Experience as a moderator of the media equation:

    The impact of flattery and praise. *International Journal of Human-Computer Studies*,

    61(3), 237–258.

Jones, D. E. (2006). I, Avatar: Constructions of self and place in Second Life and the

    technological imagination. *Journal of Communication, Culture and Technology*, *6*.

    Retrieved from http://gnovisjournal.org/2006/01/10/i-avatar-constructions-of-self-and-

    place-in-second-life/

Jørgensen, K. (2009). "I'm overburdened!" An empirical study of the player, the avatar, and the

    gameworld. In *Breaking new ground: Innovation in games, play, practice and theory.*

    Proceedings of DiGRA 2009. Presented at the DiGRA 2009, Middlesex, United

    Kingdom.

Jung, C. G. (1964). *Man and his symbols*. London: Aldus Books.

Jungbluth, M., & Hooks, E. (2013, March). Animation bootcamp: Designing a performance.

    Presented at the 2013 Game Developers Conference, San Francisco, CA.

Jurgenson, N. (2011, February 24). Digital dualism versus augmented reality. *Cyborgology*.

    Retrieved from http://thesocietypages.org/cyborgology/2011/02/24/digital-dualism-

    versus-augmented-reality/

Jurgenson, N. (2012a, October 29). Strong and mild digital dualism. *Cyborgology*. Retrieved

    from http://thesocietypages.org/cyborgology/2012/10/29/strong-and-mild-digital-

    dualism/.

Jurgenson, N. (2012b). When atoms meet bits: Social media, the mobile web and augmented

    revolution. *Future Internet, 4*(1), p. 83-91

Juul, J. (2005). *Half-real: Video games between real rules and fictional worlds*. Cambridge, MA:

    MIT Press.

Kacen, J. J. (2000). Girrrl power and boyyy nature: The past, present, and paradisal future of

    consumer gender identity. *Marketing Intelligence & Planning*, *18*(6/7), 345–355.

Kafai, Y. B., Fields, D. A., & Cook, M. (2010). Your second selves: Player-designed avatars.

    Games and Culture, *5*(1), 23–42. doi:10.1177/1555412009351260

Karahanna, E., Agarwal, R., & Angst, C. M. (2006). Reconceptualizing compatibility beliefs in

    technology acceptance research. *MIS Quarterly*, *30*(4), 781–804.

Kelly, G. (1955). *The psychology of personal constructs. Volume two: Clinical diagnosis and*

    psychotherapy. New York: Routledge.

Kelly, K., & Rheingold, H. (1993). The dragon ate my homework. *Wired*, *1*(3). Retrieved from

    http://www.wired.com/wired/archive/1.03/muds.html

Kendall, J. (2013). Axial coding and the Grounded Theory controversy. *Western Journal of*

    Nursing Research, *35*, 543–545. doi:10.1177/019394599902100603

Keramidas, K. (2010). What games have to teach us about teaching and learning: Game design

    as a model for course and curricular development. *Currents in Electronic Literacy*.

    Retrieved from http://currents.cwrl.utexas.edu/2010/keramidas_what-games-have-to-

    teach-us-about-teaching-and-learning

Khade, A. B., & Gomase, V. S. (2010). Natural-language processing: Method of human-computer interaction. *Journal of Machine Learning Technologies*, *1*(1), 1–36.

Kim, Y. Y. (2005). Becoming intercultural: An integrative theory of communication and cross-cultural adaptation. In W. B. Gudykunst (Ed.), *Theorizing about intercultural communication*. Thousand Oaks, CA: Sage Publications.

King, D., Delfabbro, P., & Griffiths, M. (2010). Video game structural characteristics: A new psychological taxonomy. *International Journal of Mental Addiction*, *8*, 90–106. doi:10.1007/s11469-009-9206-4

Kirman, B., Linehan, C., & Lawson, S. (2009, September). Exploring the edge of good taste: Playful misconduct in social games. Paper presented at the 3rd Vienna Games Conference Future and Reality of Gaming (F.R.O.G.), Vienna. Retrieved from http://eprints.lincoln.ac.uk/2171/1/Kirman_et_al_FROG_09_Extended_Abstract.pdf

Klastrup, L. (2008). What makes World of Warcraft a world? A note on death and dying. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital culture, play, and identity: A World of Warcraft reader* (pp. 143–166). Cambridge, MA: MIT Press.

Klastrup, L., & Tosca, S. (2009). "Because it just looks cool!" Fashion as character performance: The case of WoW. *Journal of Virtual Worlds Research*, *1*(3), 3–17.

Kleine, S. S., Kleine, R. E., & Allen, C. T. (1995). How is a possession "me" or "not me"? Characterizing types and an antecedent of material possession attachment. *Journal of Consumer Research*, *22*, 327–343. doi:0093-5301/96/2203-000752.00

Klevjer, R. (2006). *What is the avatar? Fiction and embodiment in avatar-based singleplayer computer games* (Doctoral dissertation). University of Bergen, Bergen, Norway.

Retrieved from

http://folk.uib.no/smkrk/docs/RuneKlevjer_What%20is%20the%20Avatar_finalprint.pdf

Klimmt, C. & Vorderer, P. (2003). Media psychology 'is not yet there': Introducing theories on

media entertainment to the presence debate. *Presence: Teleoperators and Virtual*

Environments, 12, 346-359.

Kohlberg, L. (1958). *The development of modes of moral thinking and choice in the years 10 to*

16 (Unpublished dissertation). University of Chicago, Chicago, IL.

Kohut, H., & Wolf, E. S. (1978). The disorders of the self and their treatment: An outline. *The*

International Journal of Psychoanalysis, *59*, 413–425.

Kolko, B. E. (1999). Representing bodies in virtual space: The rhetoric of avatar design. *The*

Information Society, *15*(3), 177–186. doi:10.1080/019722499128484

Konijn, E. A., & Bijvank, M. N. (2009). Identity construction through digital game play. In U.

Ritterfeld, M. J. Cody, & P. Vorderer (Eds.), *Serious games: Mechanisms and effects* (pp.

179–203). New York: Routledge.

Koster, R. (2004). *A theory of fun for game design*. Scottsdale, AZ: Paraglyph Press.

Koster, R. (2011, August 2). Am I a game neoconservative? *Raph Koster's Website*. Retrieved

from http://www.raphkoster.com/2011/08/02/am-i-a-game-neoconservative/

Lagspikefilms. (2011). Meet the hunter. *YouTube*. Retrieved from

http://www.youtube.com/watch?v=2uTrOc0lfXY

Landwehr, P., Diesner, J., & Carley, K. M. (2009). The words of Warcraft: Relational text

analysis of quests in an MMORPG. In *Proceedings of DiGRA 2009: Breaking New*

Ground: Innovation in Games, Play, Practice and Theory. Presented at the DiGRA '09,

Brunel University, London.

Langer, J. (2008). The familiar and the foreign: Playing (post)colonialism in World of Warcraft. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital culture, play, and identity: A World of Warcraft reader* (pp. 87–110). Cambridge, MA: MIT Press.

Lanier, J., & Biocca, F. (1992). An insider's view of the future of virtual reality. *Journal of Communication, 42*(4), 150–172.

Latour, B. (1987). *Science in action*. Cambridge, MA: Harvard University Press. Retrieved from http://www.shi.uo-mo.com/images/misc/200704211104130.pdf

Latour, B. (1992). Where are the missing massess? The sociology of a few mundane artifacts. In W. Bijker & J. Law (Eds.), *Shaping Technology* (pp. 225–258). Cambridge, MA: MIT Press.

Latour, B. (1993). We have never been modern. (C. Porter, Trans.)*Configurations*, *2*(3). Retrieved from http://ezproxy2.library.colostate.edu:2104/journals/configurations/toc/con2.3.html

Latour, B. (1996). On Actor-Network Theory: A few clarifications. *Soziale Welt*, *47*(4), 369–381.

Latour, B. (2005). *Reassembling the social: An introduction to Actor-Network Theory*. New York: Oxford University Press.

Laurel, B. (1993). *Computers as theatre*. Boston, MA: Addison-Wesley.

Law, J. (1986). On the methods of long distance control: Vessels, navigation and the Portuguese route to India. In Power, action and belief: A new sociology of knowledge. London: Routledge.

Law, J. (1987). Technology and heterogenous engineering: The case of Portuguese expansion. In W. E. Wijker, T. P. Hughes, & T. J. Pinch (Eds.), *The social construction of technological systems*. Cambridge, MA: MIT Press.

Law, J. (2009). Actor-Network Theory and material semiotics. In B. S. Turner (Ed.), *The New Blackwell Companion to Social Theory*. Blackwell Publishers.

Law, J., & Callon, M. (1992). The life and death of an aircraft: A network analysis of technical change. In *Shaping technology/Building society: Studies in socio-technical change* (pp. 21–52). Cambridge, MA: MIT Press.

Leander, K. M., & Lovvorn, J. F. (2006). Literacy networks: Following the circulation of texts, bodies, and objects in the schooling and online gaming of one youth. *Cognition and Instruction*, *24*(3), 291–340. doi:10.1207/s1532690xci2403_1

Leary, M. R., & Tangney, J. P. (2003). The self as an organizing construct in the behavioral and social sciences. In *Handbook of self and identity* (pp. 3–14). New York: Guilford Press.

Lee, B. (2007). Nonverbal intimacy as a benchmark for human-robot interaction. *Interaction Studies, 8*(3), 411-422.

Lee, K. M., & Nass, C. (2003). Designing social presence of social actors in human computer interaction. In *CHI Letters* (Vol. 5(1), pp. 289–296). Presented at the CHI 2003, Ft. Lauderdale, Florida. Retrieved from http://pdf.aminer.org/000/089/186/designing_social_presence_of_social_actors_in_human_computer_interaction.pdf

Lévi-Strauss, Claude. (1966). *The savage mind*. Chicago: University Of Chicago Press.

Levin, D. M. (1987). *Pathologies of the modern self: Postmodern studies on narcissism, schizophrenia, and depression*. New York: New York University Press.

Levy, P. (1997). Welcome to virtuality. *Digital Creativity*, *8*(1), 3–10.
doi:10.1080/09579139708567068

Lewis, W., Agarwal, R., & Sambamurthy, V. (2003). Sources of influence on beliefs about
information technology use: Empirial study of knowledge workers. *MIS Quarterly*, *27*(4),
657–678.

Lewis, M.L., Weber, R., & Bowman, N.D. (2008). "They may be pixels, but they're MY pixels:"
Developing a metric of character attachment in role-playing video games.
CyberPsychology & Behavior, *11*(4), 515–518. doi:10.1089/cpb.2007.0137

Li, D. D., Liau, A. K., & Khoo, A. (2013). Player–avatar identification in video gaming: Concept
and measurement. *Computers in Human Behavior*, *29*(1), 257–263.
doi:10.1016/j.chb.2012.09.002

Lind, G., Hartmann, H. A., & Wakenhut, R. (1985). *Moral development and the social
environment: Studies in the psychology and education*. Chicago: Precedent Publishing.

Linde, C. (1986). Private stories in public discourse: Narrative analysis in the social sciences.
Poetics, *15*(1-2), 183–202.

Linderoth, J. (2005). Animated game pieces. Avatars as roles, tools and props. In *Aesthetics of
Play Online Proceedings*. Presented at the Aesthetics of Play, Bergen, Norway. Retrieved
from http://www.aestheticsofplay.org/linderoth.php

Linderoth, J. (2012). The effort of being in a fictional world: Upkeyings and laminated frames in
MMORPGs. *Symbolic Interaction*, *35*(4), 474–497.

Linton, R. (1986). *The study of man: An introduction*. New York: Appleton.

Lisk, T. C., Kaplancali, U. T., & Riggio, R. E. (2012). Leadership in multiplayer online gaming
environments. *Simulation & Gaming*, *43*(1), 133–149. doi:10.1177/1046878110391975

Little, G. (1999). An avatar manifesto. *Intertexts*, *3*(2). Retrieved from

http://www.gregorylittle.org/avatars/text.html

Llobera, J., Spanlang, B., Ruffini, G., & Slater, M. (2010). Proxemics with multiple dynamic

characters in an immersive virtual environment. *ACM Transactions on Applied*

Perception, *8*(1), 3:1–3:12. doi:10.1145/1857893.1857896

Locke, J. (1690). *An essay concerning human understanding*. Essay. Retrieved from

http://www.marxists.org/reference/subject/philosophy/works/en/locke.htm

Lombard, M. (1995). Direct responses to people on the screen: Personal space and television.

Communication Research, 22, 288-324.

Lombard, M., & Ditton, T. B. (1997). At the heart of it all: The concept of presence. Journal of

Computer-Mediated Communication, 13. Retrieved from:

http://www.ascusc.org/jcmc/vol3/issue2/lombard.html

Lombard, M., Reich, R.D., Grabe, M.E., Bracken, C.C., & Ditton, T.B. (2000). Presence and

television: The role of screen size. *Human Communication Research, 26*(1), 75-98.

Lyons, J. O. (1978). *The Invention of the self: The hinge of consciousness in the Eighteenth*

Century. Carbondale, IL: Southern Illinois University Press.

Lyotard, J.-F. (1984). *The postmodern condition: A report on knowledge*. (G. Bennington & B.

Massumi, Trans.). Minneapolis, MN: University of Minnesota Press.

Lyotard, J.-F. (1994). The postmodern condition. In S. Seidman (Ed.), *The postmodern turn:*

Perspectives on social theory (p. 27–). Cambridge, UK: Cambridge University Press.

MacCallum-Stewart, E. (2008). "Never such innocence again": War and histories in World of

Warcraft. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital culture, play, and*

identity: A World of Warcraft reader. Cambridge, MA: MIT Press.

MacCallum-Stewart, E., & Parsler, J. (2008). Role-play vs. gameplay: The difficulties of playing

a role in World of Warcraft. In H. G. Corneliussen & J. W. Rettberg (Eds.), *Digital

culture, play, and identity: A World of Warcraft reader*. London: MIT Press.

Manovich, L. (2001). *The language of new media*. Cambridge, MA: MIT Press.

Marakas, G. M., Johnson, R. D., & Palmer, J. W. (2000). A theoretical model of differential

social attributions toward computing technology: when the metaphor becomes the model.

International Journal of Human-Computer Studies, *52*(4), 719–750.

doi:10.1006/ijhc.1999.0348

Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of

Personality and Social Psychology*, *51*(4), 858–866.

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41*(9), 954–969.

Markus, H., & Nurius, P. (1987). Possible selves: The interface between motivation and the self-

concept. In K. Yardley & T. Honess (Eds.), *Self and identity: Psychosocial perspectives*

(pp. 157–172). Oxford: John Wiley & Sons.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective.

Annual Review of Psychology, *38*, 299–337. doi:10.1146/annurev.ps.38.020187.001503

Marsh, T. (2005). Vicarious experience: Staying there connected with and through our own and

other characters. In P. J. Williams (Ed.), *Gaming as culture: Social Reality, identity and

experience in role-playing, collectible, and computer games* (pp. 196–213). Jefferson,

NC: McFarland.

Martey, R. M., & Consalvo, M. (2011). Performing the looking-glass self: Avatar appearance

and group identity in Second Life. *Popular Communication*, *9*(3), 165–180.

doi:10.1080/15405702.2011.583830

Martey, R. M., & Shiflett, K. (2010, August). Unlocking methods from methodologies: Toward an integrative approach to online research. Presented at the Annual Convention of the Association for Education in Journalism and Mass Communication, Denver, CO.

Martey, R. M., & Stromer-Galley, J. (2007). The digital dollhouse. *Games and Culture*, *2*(4), 314–334. doi:10.1177/1555412007309583

Martinez, N. M. (2011). Liminal phases of avatar identity formation in virtual world communities. In A. Peachey & M. Childs (Eds.), *Reinventing ourselves: Contemporary concepts of identity in virtual worlds* (pp. 59–80). London: Springer Verlag. Retrieved from http://link.springer.com/chapter/10.1007%2F978-0-85729-361-9_4

Masters, C. (2005). Bodies of technology: Cyborg soldiers and militarized mascuilinities. *International Feminist Journal of Politics*, *7*(1), 112–132.

Mateas, M., & Stern, A. (2006). Interaction and narrative. In K. Salen & E. Zimmerman (Eds.), *The game design reader: A rules of play anthology* (First., pp. 642–669). Cambridge, MA: MIT Press. Retrieved from https://www.cs.ucsc.edu/~michaelm/publications/mateas-game-design-reader-2005.pdf

Matei, S., & Ball-Rokeach, S. J. (2001). Real and virtual social ties: Connections in the everyday lives of seven ethnic neighborhoods. *American Behavioral Scientist*, *45*(3), 550–564. doi:10.1177/00027642010045003012

McArthur, V. (2008, November). World of Warcraft as a ludic cyborg. Presented at the FuturePlay 2008, Toronto, Canada.

McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, *52*(5), 509–516.

McGonigal, J. (2013, March). THERE IS NO ESCAPE: Designing games for maximum real-life

impact. Presented at the Game Developers Converence, San Francisco, CA.

McKenna, B., Gardner, L. A., & Myers, M. D. (2010). Chaotic worlds: An analysis of World of

Warcraft. In *Proceedings from AMCIS 2010* (p. Paper 174). Retrieved from

http://aisel.aisnet.org/amcis2010/174

Mead, G. H. (1934). *Mind, self, and society*. Chicago: University Of Chicago Press.

Meadows, M. S. (2008). *I, avatar: The culture and consequences of having a second life*.

Berkeley, CA: New Riders.

Mejias, U. (2006, October 9). The tyranny of nodes: Towards a critique of social network

theories. *Ulises Mejias*. Retrieved from http://blog.ulisesmejias.com/2006/10/09/the-

tyranny-of-nodes-towards-a-critique-of-social-network-theories/

Merchant, G. (2006). Identity, social networks and online communication. *E-Learning*, *3*(2),

235–244.

Merola, N. A., & Peña, J. (2010). The effects of avatar appearance in virtual worlds. *Journal of

Virtual Worlds Research*, *2*(5). Retrieved from

http://journals.tdl.org/jvwr/article/viewFile/843/706

Messinger, P. R., Ge, X., Stroulia, E., Lyons, K., & Smirnov, K. (2008). On the Relationship

between My Avatar and Myself. *Journal of Virtual Worlds Research*, *1*(2). Retrieved

from http://journals.tdl.org/jvwr/index.php/jvwr/article/viewFile/352/263

Metz, C. (1982). *The imaginary signifier: Psychoanalysis and the cinema*. (C. Britton, A.

Williams, B. Brewster, & A. Guzzett, Trans.). Bloomington, IN: Indiana University

Press.

Microsoft. (2013, May 30). Xbox, A New Generation Revealed. Retrieved from

http://www.xbox.com/

Miller, J. L., & Crowcroft, J. (2009). Avatar movement in World of Warcraft battlegrounds. In

Proceedings of the 8th Annual Workshop on Network and Systems Support for Games (p.

Article No. 1). Presented at the NetGames '09, Paris, France: IEEE Press. Retrieved from

http://dl.acm.org/citation.cfm?id=1837166

Miller, P. J. (1994). Narrative practices: Their role in socialization and self-construction. In U.

Neisser & R. Fivush (Eds.), *The remembering self: Construction and accuracy in the self-*

narrative (pp. 158–179). Cambridge, UK: Cambridge University Press.

Mills, J., & Clark, M. S. (1982). Exchange and communal relationships. In Wheeler, L. (Ed.),

Review of Personality and Social Psychology (pp. 121–144). Beverly Hills, CA: SAGE.

MIT Comparative Media Studies. (2007). *Fan Labor*. Retrieved from

http://cms.mit.edu/news/2007/12/futures_of_entertainment_2_fan.php

Mitzner, T. L., Boron, J. B., Fausset, C. B., Adams, A. E., Charness, N., Czaja, S. J., … Sharit, J.

(2010). Older adults talk technology: Technology usage and attitudes. *Computers in*

Human Behavior, *26*(6), 1710–1721.

Morningstar, C., & Farmer, F. R. (1991). The lessons of Lucasfilm's Habitat. In M. Benedikt

(Ed.), *Cyberspace: First steps*. Cambridge, MA: MIT Press.

Morrison, E. (2012). Cyborg theatre: Corporeal/technological intersections in multimedia

performance. *Contemporary Theatre Review*, *22*(3), 428–430.

Murphy, S. C. (2004). "Live in your world, play in ours": The spaces of video game identity.

Journal of Visual Culture, *3*(2), 223–238.

Murray, J. H. (1997). *Hamlet on the Holodeck: The future of narrative in Cyberspace*. New York: The Free Press.

Nakamura, L. (2002). *Cybertypes* (First.). Bristol, PA: Taylor & Francis. Retrieved from http://dl.acm.org/citation.cfm?id=515278

Nakamura, L., Kolko, B. E., & Rodman, G. (2000). Introduction. In *Race in Cyberspace* (pp. 1–13). New York: Routledge.

Nardi, B. (2010). *My life as a night elf priest: An anthropological account of World of Warcraft*. University of Michigan Press.

Nardi, B., & Harris, J. (2006). Strangers and friends: Collaborative play in World of Warcraft. In *Proceedings from CSCW '06*. Presented at the 20th Anniversary Conference on Computer Supported Cooperative Work, New York: ACM.

Nardi, B., Ly, S., & Harris, J. (2007, January). Learning conversations in World of Warcraft. Presented at the 40th Hawaii International Conference on Systems Science, Waikoloa, HI. Retrieved from http://www.computer.org/portal/web/csdl/doi/10.1109/HICSS.2007.321

Nass, C., & Moon, Y. (2000). Machines and mindlessness: Social responses to computers. *Journal of Social Issues*, *56*(1), 81–103.

Neustaedter, C., & Fedorovskaya, E. (2009). Presenting identity in a virtual world through avatar appearances. In *GI '09 Proceedings of Graphics Interface 2009* (pp. 183–190). Presented at the Graphics Interface 2009, Kelowna, British Columbia, Canada: Canadian Information Processing Society. Retrieved from clab.iat.sfu.ca/uploads/Main/AvatarAppearances.pdf

Newman, J. (2002). The myth of the ergodic videogame. *Game Studies*, *2*(1). Retrieved from

http://gamestudies.org/0102/newman/

Nie, N. H., & Hillygus, D. S. (2002). Where does internet time come from? A reconnaissance. *IT*

& Society, *1*(2), 1–20.

Nie, N. H., Hillygus, D. S., & Erbring, L. (2002). Internet use, interpersonal relations, and

sociability: A time diary study. In B. Wellman & C. Haythornthwaite (Eds.), *The Internet*

in Everyday Life (pp. 215–243). Malden, MA: Blackwell Publishers.

Nishida, H. (2005). Cultural schema theory. In W. B. Gudykunst (Ed.), *Theorizing about*

intercultural communication. Thousand Oaks, CA: Sage Publications.

Nowak, K.L., & Biocca, F. (2003). The effect of the agency and anthropomorphism on users'

sense of telepresence, copresence, and social presence in virtual environments. *Presence,*

12(5), 481-494. Retrieved from

http://coms.uconn.edu/directory/faculty/HCILab/publications/Nowak.Biocca-2003-

Presence.pdf.

O'Donnell, C. (2011a). Games are not convergence: The lost promise of digital production and

convergence. *Convergence*, *17*(3), 271–286. doi:10.1177/1354856511405766

O'Donnell, C. (2011b). The Nintendo Entertainment System and the 10NES Chip: Carving the

Video Game Industry in Silicon. *Games and Culture*, *6*(1), 83–100.

doi:10.1177/1555412010377319

Oldenburg, R. (1989). *The great good place*. New York: Marlowe & Company.

Oliver, M. B., & Bartsch, A. (2011). Appreciation of entertainment: The importance of

meaningfulness via virtue and wisdom. *Journal of Media Psychology: Theories,*

Methods, and Applications, *23*(1), 29–33. doi:10.1027/1864-1105

Oliver, M.B., & Raney, A.A. (2011). Entertainment as pleasurable and meaningful: Identifying

    hedonic and eudaimonic motivations for entertainment consumption. *Journal of*

    Communication, *61*, 984–1004.

Onega, S., & Landa, J. Á. G. (1996). *Narratology: An introduction*. London: Longman.

Papargyris, A., & Poulymenakou, A. (2005). Learning to fly in persistent digital worlds: The

    case of Massively Multiplayer Online Role Playing Games. *Newsletter ACM SIGGROUP*

    Bulletin - Special issue on online learning communities, *25*(1), 41–49.

Parasuraman, A. (2000). Technology Readiness Index (TRI): A multiple-item scale to measure

    readiness to embrace new technologies. *Journal of Service Research*, *2*(4), 307–320.

    doi:10.1177/109467050024001

Pearce, C. (2009). *Communities of play: Emergent cultures in multiplayer games and virtual*

    worlds. Cambridge, MA: MIT Press.

Pearce, W. B. (2007). *Making social worlds: A communication perspective*. Malden, MA:

    Blackwell Publishers.

Peña, J., Hancock, J. T., & Merola, N. A. (2009). The priming effects of avatars in virtual

    settings. *Communication Research*, *36*(6), 838–856. doi:10.1177/0093650209346802

Perron, B. (2006). The heuristic circle of gameplay: The case of survival horror. In *Gaming*

    realities: A challenge for digital culture (pp. 62–71). Athens: Fournos.

Pita, S., & Pedro, L. (2012). Verbal and non-verbal communication in Second Life. In N. Zagalo,

    L. Morgado, & A. Boa-Ventura (Eds.), *Virtual worlds and Metaverse platforms: New*

    communication and identity paradigms (pp. 100–116). Hershey, PA: Information Science

    Reference.

Ploeger, D. (2010). Being-human as evolving memory: Art and posthumanism in the present tense. In *Post-Human // Future-Tense*. Chicago, IL: PH//FT Press / Proform Technologies.

Polivka, L. (2000). Postmodern aging and the loss of meaning. *Journal of Aging and Identity*, *5*(4), 225–235. doi:1087-3732/00/1200-0225

Posey, J. (2013, March). Tastes like chicken: Authenticity in a totally fake world. Presented at the Game Developers Conference, San Francisco, CA. Retrieved from http://schedule2013.gdconf.com/session-id/823740

Postman, N. (1993). *Technopoly: The surrender of culture to technology*. New York: Random House.

Powers, T. M. (2003). Real wrongs in virtual communities. *Ethics and Information Technology*, *5*(4), 191–198.

Prensky, M. (2006). *Marc Prensky - Don't bother me, Mom, I'm learning! How computer and video games are preparing your kids for 21st century success and how you can help*. St. Paul, MN: Paragon House.

Prince, G. (1982). *Narratology: The form and functioning of narrative*. Berlin: Mouton.

Przybylski, A., Rigby, C. S., & Ryan, R. M. (2010). A motivational model of video game engagement. *Review of General Psychology*, *14*(2), 154–166.

Reeves, B. (1991). "Being there:" Television as symbolic versus natural experience. Unpublished manuscript, Stanford University, Institute for Communication Research, Stanford, CA.

Reeves, B., & Nass, C. (1992, May). Information characteristics of media technologies that give a sense of "being there." Presented at the Annual Meeting of the International Communication Association, Miami, Florida.

Reeves, B., & Nass, C. (1996). *The media equation: How people treat computers, television, and new media like real people and places*. Stanford, CA: Cambridge University Press.

Rehak, B. (2003). Playing at being: Psychoanalysis and the avatar. In M. J. P. Wolf & B. Perron (Eds.), *The video game theory reader* (pp. 103–127). New York: Routledge.

Reicher, S. D. (1982). The determination of collective behaviour. In *Social identity and intergroup relations* (pp. 41–83). Cambridge, MA: Cambridge University Press.

Reissman, C. K. (2008). *Narrative methods for the human sciences*. Thousand Oaks, CA: Sage Publications.

Reid, E. M. (1996). Text-based virtual realities: Identity and the cyborg body. In. P. Ludlow (Ed.), *High noon on the electronic frontier: Conceptual issues in cyberspace* (pp. 327-346). Cambridge, MA: MIT Press.

Rettberg, J. W. (2008). Corporate ideology in World of Warcraft. In H. G. Corneliussen & J. W. Rettberg (Eds.), . Cambridge, MA: MIT Press.

Reys, P. J. (2013, March 21). Materiality matters: Confronting digital dualism with a theory of co-affordances. *Cyborgology*. Retrieved from http://thesocietypages.org/cyborgology/2013/03/21/materiality-matters/

Ribeiro, J. C. (2009). The increase of the experiences of the self through the practice of multiple virtual identities. *PsychNology Journal*, *7*(3), 292–302.

Risan, L. C. (1997). Artificial life: A technoscience leaving modernity? An anthropology of subjects and objects. Retrieved from http://www.anthrobase.com/Txt/R/Risan_L_05.htm

Roberts, D. J., Rae, J., Duckworth, T. W., Moore, C. M., & Aspin, R. (2013). Estimating the Gaze of a Virtuality Human. *IEEE Transactions on Visualization and Computer Graphics*, *19*(4), 681–690. doi:10.1109/TVCG.2013.30

Robinson, L. (2007). The cyberself: The self-ing project goes online, symbolic interaction in the digital age. *New Media & Society*, *9*(1), 93–110. doi:10.1177/1461 444807072216

Rogers, E.M. (1962). *Diffusion of innovations*. Glencoe: Free Press.

Rogers, R. (2009, May 8). The end of the virtual – Digital methods. Retrieved from http://www.govcom.org/rogers_oratie.pdf

Rosier, K. N. (2011). *Of humans and avatars: How real world gender practices are brought into World of Warcraft* (Unpublished master's thesis). Georgia Institute of Technology, Atlanta, GA, USA. Retrieved from http://www.digitalkate.net/research/thesis/files/Rosier_Kady_201105_mast.pdf

Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 173-220). New York: Academic Press.

Rouse III, R. (2013, March). Seven (Or So) Techniques for writing a moral game. Presented at the Game Developers Conference, San Francisco, CA.

Rubin, A. M., Perse, E. M., & Powell, R. A. (1985). Loneliness, parasocial interaction, and local television news viewing. *Human Communication Research*, *12*(2), 155–180. doi:10.1111/j.1468-2958.1985.tb00071.x

Ryan, B., & Gross, N. C. (1943). The diffusion of hybrid seed corn in two Iowa communities. *Rural sociology*, *8*(1), 15–24.

Salen, K., & Zimmerman, E. (2004). *Rules of play: Game design fundamentals*. Cambridge, MA: MIT Press.

Sartre, J. P. (1943). *Being and Nothingness: An Essay in Phenomenological Ontology*. New York: Citadel Press.

Sato, H., Kolev, S., Goehausen, N., Nyi, M. N., Massey, T. L., Abbeel, P., & Maharbiz, M. M. (2010, November). Cyborg beetles: The remote radio control of insect flight. Presented at the Sensors, 2010 IEEE, Kona, HI.

Scharmen, F. (2006). "You must be logged in to do that!": MySpace and control. Retrieved from http://www.sevensixfive.net/myspace/myspacetwopointoh.html

Schell, J. (2013, March). The future of storytelling: How medium shapes story. Presented at the Game Developers Conference, San Francisco, CA.

Schneider, K. J. (1999). *The paradoxical self: Toward an understanding of our contradictory nature*. Amherst, NY: Humanity Books.

Schroeder, R. (2002). Social interaction in virtual environments: Key issues, common themes, sand a framework for research. In *The social life of avatars: Presence and interaction in shared virtual environments* (pp. 1–18). London: Springer-Verlang.

Schroeder, R. (2008). Defining virtual worlds and virtual environments. *Journal of Virtual Worlds Research*, *1*(1).

Schultze, U., & Leahy, M. M. (2009). The avatar-self relationship: Enacting presence in Second Life. In *CIS 2009 Proceedings*. Presented at the Thirtieth International Conference on Information Systems, Phoenix.

Sedikides, D., Gaertner, L., & Toguchi, Y. (2003). Pancultural self-enhancement. *Journal of Personality and Social Psychology*, *84*(1), 60–79.

Shaikh, S., Strzalkowski, T., Stromer-Galley, J., Broadwell, G. A., Taylor, S., Liu, T., & Boz, U. (2012, November). Modeling influence in online multi-party discourse (pp. 515 – 522). Presented at the 2012 Second International Conference on Cloud and Green Computing, Xiangtan, China. doi:10.1109/CGC.2012.94

Shaver, K.G. (1970). Defensive attribution: Effects of severity and relevance on the responsibility assigned for an accident. *Journal of Personality and Social Psychology, 14*(2), 101-113.

Shaw, A. (2009). Putting the gay in games: Cultural production and GLBT content in video games. *Games and Culture*, *4*(3), 228–253.

Shaw, A. (2010). What is video game culture? Cultural studies and game studies. *Games and Culture*, *5*(4), 403–424. doi:10.1177/1555412009360414

Shaw, A. (2012). Do you identify as a gamer? Gender, race, sexuality, and gamer identity. *New Media & Society*, *14*(1), 28–44. doi:10.1177/1461444811410394

Shelley, M. W. (1818). *Frankenstein; or, The modern Prometheus*. Intervisual Books. Retrieved from http://etext.lib.virginia.edu/toc/modeng/public/SheFran.html

Sherry, J. L. (2009). The effects of violent video games on aggression: A meta-analysis. *Human Communication Research*, *27*(3), 409–431.

Sherry, J. L., Greenberg, B. S., Lucas, K., & Lachlan, K. (2006). Video game uses and gratifications as predictors of use and game preference. In P. Vorderer & J. Bryant (Eds.), *Playing video games: Motives, responses, and consequences* (pp. 248–262). Hillsdale, NJ: Lawrence Erlbaum Associates.

Sinclair, V. G., & Dowdy, S. W. (2005). Development and validation of the emotional intimacy scale. *Journal of Nursing Measurement*, *13*(3), 193–206.

Skorupski, J., McCoy, J., Zanbaka, C., Ryall, K., & Mateas, M. (2012, May/June). Three avatars walk into a bar: Defining and evaluating realism for virtual supporting characters. Presented at the FDG '12, Raleigh, NC: ACM. Retrieved from http://users.soe.ucsc.edu/~jskorups/wiki/_media/academia/draft_skorupski_threeavatarsw alkintoabar.pdf

Somers, M. R. (1994). The narrative constitution of identity: A relational and network approach. *Theory and Society*, *23*, 605–649.

Sparrow, B., Liu, J., & Wegner, D. M. (2011). Google effects on memory: Cognitive consequences of having information at our fingertips. *Science*, *333*, 776–778.

Spinrad, N. (1980). *Songs from the stars*. New York: Simon and Shuster.

Star, S. L. (2010). This is not a boundary object: Reflections on the origin of a concept. *Science, Technology, & Human Values*, *35*(5), 601–617. doi:10.1177/0162243910377624

Star, S. L., & Griesemer, J. R. (1989). Institutional ecology, `translations' and boundary objects: Amateurs and professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science*, *19*(3), 387–420. doi:10.1177/030631289019003001

Steinkuehler, C. (2008). Cognition and literacy in massively multiplayer online games. In *Handbook of research on new literacies*. New York: Lawrence Erlbaum. Retrieved from http://www.academiccolab.org/resources/documents/Steinkuehler_NEWLIT.doc.

Steinkuehler, C., & Williams, D. (2006). Where everybody knows your (screen) name: Online games as "third places." *Journal of Computer-Mediated Communication*, *11*(4). Retrieved from http://jcmc.indiana.edu/vol11/issue4/steinkuehler.html

Stephenson, N. (1992). *Snow crash*. New York: Bantam Dell.

Sternberg, R. J. (1986). A triangular theory of love. *Psychological Review*, *93*, 119–35.

Stone, A. R. (1995). *The war of desire and technology*. Cambridge, MA: MIT Press.

Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research*. Newbury Park, CA: Sage.

Strzalkowski, T., Shaikh, S., Liu, T., Broadwell, G. A., Stromer-Galley, J., Taylor, S., & Ren, X. (2012). Modeling leadership and influence in multi party online discourse. In *Proceedings of COLING 2012: Technical Papers* (pp. 2535–2552). Presented at the COLING 2012, Mumbai, India. Retrieved from http://www.newdesign.aclweb.org/anthology/C/C12/C12-1155.pdf

Strzalkowski, T., Shaikh, S., Liu, T., Broadwell, G. A., Stromer-Galley, J., Taylor, S., & Ren, X. (2013). Influence and power in group interactions. *Lecture Notes in Computer Science*, *7812*, 19–27.

Sung, Y., Moon, J. H., Kang, M., & Lin, J.-S. (2011). Actual self vs. avatar self: The effect of online social situation on self-expression. *Journal of Virtual Worlds Research*, *4*(1).

Suznjevic, M., Dobrijevic, O., & Matijasevic, M. (2009). Hack, slash, and chat: A study of players' behavior and communication in MMORPGs. In *Proceedings from NetGames*. Presented at the The 8th Workshop on Network and Systems Support for Games, Paris, France. Retrieved from http://www.fer.unizg.hr/images/50010419/Hack%20Slash%20and%20Chat%20A%20study%20of%20players%20behavior%20and%20communication%20in%20MMORPGs.pdf

Swan, M. (2012a). Crowdsourced health research studies: An important emerging complement to clinical trials in the public health research ecosystem. *Journal of Medical Internet Research*, *14*(2), e46. doi:10.2196/jmir.1988

Swan, M. (2012b). Health 2050: The realization of personalized medicine through

crowdsourcing, the quantified self, and the participatory biocitizen. *Journal of*

Personalized Medicine, *2*(3), 93–118.

Swan, M. (2012c). Sensor Mania! The internet of things, wearable computing, objective metrics,

and the quantified self 2.0. *Journal of Sensor and Actuator Networks*, *1*(3), 217–253.

Synnott, A. (1992). Tomb, temple, machine and self: The social construction of the body. *The*

British Journal of Sociology, *43*(1), 79–110.

Tajfel, H. (1970). Experiments in intergroup discrimination. *Scientific American*, *223*(5), 96–

102.

Tajfel, H. (1974). Social identity and intergroup behaviour. *Social Science Information*, *13*, 65–

93. doi:10.1177/053901847401300204

Takashima, K., Omori, Y., Yoshimoto, Y., Itoh, Y., Kitamura, Y., & Kishino, F. (2008). Effects

of avatar's blinking animation on person impressions. In *Proceedings of Graphics*

Interface 2008 (pp. 169–176). Presented at the GI '08, Toronto, Canada: Canadian

Information Processing Society. Retrieved from

http://dl.acm.org/citation.cfm?id=1375744

Tallis, R. (1988). *Not Saussure: A critique of post-Saussurean literary theory*. New York:

Macmillan Press.

Tamborini, R., Grizzard, M., Bowman, N. D., Reinecke, L., Lewis, R. J., & Eden, A. (2011).

Media enjoyment as need satisfaction: The contribution of hedonic and nonhedonic

needs. *Journal of Communication*, *61*(6), 1025–1042. doi:10.1111/j.1460-

2466.2011.01593.x

Tanenbaum, K., & Tanenbaum, J. (2010). Agency as commitment to meaning: Communicative competence in games. *Digital Creativity*, *21*(1), 11–17. doi:10.1080/14626261003654509

Targett, S., Verlysdonk, V., Hamilton, H. J., & Hepting, D. (2012). A study of user interface modifications in World of Warcraft. *Game Studies*, *12*(2). Retrieved from http://gamestudies.org/1202/articles/ui_mod_in_wow

Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, *29*(1), 24–54. doi:10.1177/0261927X09351676

Taylor, T. L. (2002). Living digitally: Embodiment in virtual worlds. In R Schroeder (Ed.), *The social life of avatars: Presence and interaction in shared virtual environments*. London: Springer-Verlang.

Taylor, T. L. (2006). *Play between worlds: Exploring online game culture*. Cambridge, MA: MIT Press.

Taylor, T. L. (2007). Pushing the borders: Player participation and game culture. In J. Karaganis (Ed.), *Network_Netplay: Structures of participation in digital culture*. New York: Social Science Research Council. Retrieved from http://tltaylor.com/wp-content/uploads/2009/07/Taylor-PushingTheBorders.pdf

Taylor, T. L. (2008). Becoming a player: Networks, structures, and imagined futures. In Y. Kafai, C. Heeter, J. Denner, & J. Sun (Eds.), *Beyond Barbie and Mortal Kombat: New perspectives on gender, games, and computing* (pp. 51–65). Cambridge, MA: MIT Press.

Taylor, T. L. (2009). The assemblage of play. *Games and Culture*, *4*(4), 331–339.

Thayer-Bacon. (2005). The nurturing of a relational epistemology. *Educational Theory*, *47*(2), 239–260. doi:10.1111/j.1741-5446.1997.00239.x

theimpalers. (2006). The internet is for porn [video]. Retrieved from

http://www.youtube.com/watch?v=YRgNOyCnbqg

Thomas, G., & James, D. (2006). Reinventing Grounded Theory: Some questions about theory, ground, and discovery. *British Educational Research Journal*, *32*(6), 767–795.

Thomas, W. I., & Thomas, D. S. (1928). *The child in America: Behavior problems and programs*. Oxford: Knopf.

Thong, J. Y. L., Hong, S.-J., & Tam, K. Y. (2010). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of Human-Computer Studies*, *64*(9), 799–810.

Toby, J. (1952). Some variables in role conflict analysis. *Social Forces*, *30*(3), 323–327.

Tofts, D. (2003). Avatars of the tortoise: Life, longevity, and simulation. *Digital Creativity*, *14*(1), 54–63.

Trepte, S., & Reinecke, L. (2010). Avatar creation and video game enjoyment. *Journal of Media Psychology: Theories, Methods, and Applications*, *22*(4), 171–184. doi:10.1027/1864-1105/a000022

Tronstad, R., Corneliussen, H. G., & Rettberg, J. W. (2008). Character identification in World of Warcraft: The relationship between capacity and appearance. In *Digital Culture, Play, and Identity: A World of Warcraft Reader*. Cambridge, MA: MIT Press.

Tuan, Y.-F. (1977). *Space and place: The perspective of experience*. Minneapolis, MN: University of Minnesota Press.

Turel, O., Serenko, A., & Bontis, N. (2010). User acceptance of hedonic digital artifacts: A theory of consumption values perspective. *Information & Management*, *47*(1), 53–59.

Turkle, S. (2007a). *Evocative objects: Things we think with*. Cambridge, MA: MIT Press.

Turkle, S. (1995). *Life on the screen: Identity in the age of the internet*. New York: Simon and Shuster.

Turkle, S. (1997). Multiple subjectivity and virtual community at the end of the Freudian century. *Sociological Inquiry*, *67*, 72–84.

Turkle, S. (2003). Sociable technologies: Enhancing human performance when the computer is not a tool but a companion. In M. C. Roco & W. S. Bainbridge (Eds.), *Converging technologies for improving human performance: Nanotechnology, biotechnology, information technology and cognitive science* (pp. 150–158). Arlington, Virginia: National Science Foundation and Springer.

Turkle, S. (2007). Simulation versus authenticity. In J. Brockman (Ed.), *What is your dangerous idea? Today's leading thinkers on the unthinkable* (pp. 244–247). New York: Harper Perennial. Retrieved from http://web.mit.edu/sturkle/www/pdfsforstwebpage/ST_Simulation%20vs%20Authenticity.pdf

Turkle, S. (2008). Always-on/always-on-you: The tethered self. In J. E. Katz (Ed.), *Handbook of mobile communication studies*. Cambridge, MA: MIT Press.

Turkle, S. (2010). In good company? On the threshold of robotic companions. In Y. Wilks (Ed.), *Close engagements with artificial companions: Key social, psychological, ethical and design issues*. Amsterdam: John Benjamins Publishing Company.

Turkle, S. (2011, June 13). The Anthony Weiner in all of us: Why, in a Twitter world, we're all vulnerable to Weineresque errors. *The New York Daily News*. New York.

Turner, F. (2006). Why study new games? *Games and Culture*, *1*(1), 1–4. doi:10.1177/1555412005281823

Valkenburg, P. M., & Peter, J. (2007). Online communication and adolescent well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication*, *12*(4), article 2.

Valkyrie, Z. C. (2011). Cybersexuality in MMORPGs: Virtual sexual revolution untapped. *Men and Masculinities*, *14*(1), 76–96. doi:10.1177/1097184X10363256

Van Looy, J., Courtois, C., & De Vocht, M. (2010, October). Playing a self: An exploration into the effect of avatar identification on gamer ratings of self, ideal self and avatar personality in MMORPGs. Presented at the pre-conference to the ECREA 2010 – 3rd European Communication Conference, Avatars and Humans. Representing Users in Digital Games, Hamburg, Germany. Retrieved from https://biblio.ugent.be/publication/1059804

Vasalou, A., & Joinson, A. (2009). Me, myself and I: The role of interactional context on self presentation through avatars. *Computers in Human Behavior*, *25*, 510–520.

Vekiri, I., & Chronaki, A. (2008). Gender issues in technology use: Perceived social support, computer self-efficacy and value beliefs, and computer use beyond school. *Computers & Education*, *51*(3), 1392–1404.

Verbeek, P.-P. (2005). *What things do: Philosophical reflections on technology, agency, and design*. University Park, PA: The Pennsylvania State University Press.

Verbrugge, L. M. (1979). Multiplexity in adult friendships. *Social Forces*, *57*(4), 1286–1309. doi:10.1093/sf/57.4.1286

Vicente, K. (2006). *The Human Factor: Revolutionizing the way people live with technology*. New York: Routledge.

Virilio, P. (1994). *The vision machine*. Bloomington, IN: Indiana University Press.

Von der Pütten, A. M., Krämer, N. C., Gratch, J., & Kang, S.-H. (2010). "It doesn't matter what you are!" Explaining social effects of agents and avatars. *Computers in Human Behavior*, *26*(6), 1641–1650. doi:10.1016/j.chb.2010.06.012

Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, *23*(1), 3–43. doi:10.1177/009365096023001001

Wanenchak, S. (2012, December 6). Myths of origin: Social media and narrative disruption. *Cyborgology*. Retrieved from http://thesocietypages.org/cyborgology/2012/12/06/myths-of-origin-social-media-and-narrative-disruption/

Ward, M. (2010). Avatars and sojourners: Explaining the acculturation of newcomers to multiplayer online games as cross-cultural adaptations. *Journal of Intercultural Communication*, *23*(7), 1–32.

Wark, M. (2007). *Gamer theory*. Cambridge, MA: Harvard University Press.

Webb, S. (2001). Avatarculture: Narrative, power, and identity in virtual world environments. *Information, Communication & Society*, *4*(4), 560–594.

Webster, L., & Mertova, P. (2007). *Using narrative inquiry as a research method: An introduction to using a critical event narrative analysis in research on learning and teaching*. Abingdon, UK: Routledge Falmer.

Weiss, R. S. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others* (pp. 17–26). Englewood Cliffs, NJ: Prentice-Hall.

Wellman, B. (2013, January 22). Digitizing ozymandias. *Networked*. Retrieved from http://networked.pewinternet.org/2013/01/22/digitizing-ozymandias/

Whatmore. (1999). Hybrid geographies. In D. Massey, J. Allen, & P. Sarre (Eds.), *Human geography today* (pp. 22–39). Cambridge, MA: Polity Press.

Wiener, M., & Mehrabian, A. (1968). *Language within language: Immediacy, a channel in verbal communication*. New York: Appleton-Century-Crofts.

Wiener, N. (1948). *Cybernetics or control and communication in the animal and the machine*. Cambridge, MA: MIT Press.

Wilkinson, N., Ang, R. P., & Goh, D. H. (2008). Online video game therapy for mental health concerns: A review. *International Journal of Social Psychiatry*, *54*(4), 370–382.

Williams, D. (2006). Groups and goblins: The social and civic impact of an online game. *Journal of Broadcasting & Electronic Media*, *50*(4), 651–670. doi:10.1207/s15506878jobem5004_5

Williams, D., Ducheneaut, N., Xion, L., Yee, N., & Nickell, E. (2006). From tree house to barracks: The social life of guilds in World of Warcraft. *Games and Culture*, *1*(4), 338–361.

Williams, D., Kennedy, T. L. M., & Moore, R. J. (2011). Behind the avatar: The patterns, practices, and functions of role playing in MMOs. *Games and Culture*, *6*(2), 171–200. doi:10.1177/1555412010364983

Williams, J. P., Hendricks, S. Q., & Winkler, W. K. (2006). *Gaming as culture: Essays on reality, identity and experience in fantasy games*. Jefferson, N.C.: McFarland & Company.

Winnicott, D. W. (1953). Transitional objects and transitional phenomena - A study of the first not-me possession. *The International Journal of Psychoanalysis*, *34*, 89–97.

Wise, J. M. (1997). *Navigating technology and social space*. London: Sage.

Wolf, G. (2010, April 28). The data-driven life. *The New York Times*. New York.

Wolfendale, J. (2007). My avatar, my self: Virtual harm and attachment. *Ethics and Information Technology*, *9*, 111–119. doi:10.1007/s10676-006-9125-z

Wordsworth, W. (1798). Lines composed a few miles above Tintern Abbey. Retrieved from http://www.bartleby.com/145/ww138.html

Wu, F.-J., Kao, Y.-F., & Tseng, Y.-C. (2011). From wireless sensor networks towards cyber physical systems. *Pervasive and Mobile Computing*, *7*(4), 397–413. doi:0.1016/j.pmcj.2011.03.003

Yee, N. (2010a, September 8). Character roles. *PARC PlayOn* [blog]. Retrieved from http://blogs.parc.com/playon/2010/09/07/character-roles

Yee, N. (2010b, September 21). Character race. *PARC PlayOn* [blog]. Retrieved from http://blogs.parc.com/playon/2010/09/21/character-race

Yee, N. (2001). *The Norrathian Scrolls: A study of Everquest*. Retrieved from http://nickyee.com/report.pdf

Yee, N. (2005, July 28). WoW gender bending. *PARC PlayOn* [blog]. Retrieved from http://www.nickyee.com/daedalus/archives/001369.php

Yee, N. (2006). Motivations for play in online Games. *CyberPsychology & Behavior*, *9*(6), 772–775. doi:10.1089/cpb.2006.9.772

Yee, N. (2007). *The Proteus effect: Behavioral modification via transformations of digital self-representation* (Doctoral dissertation). Stanford University, Stanford, CA.

Yee, N., & Bailenson, J. (2007). The Proteus Effect: The effect of transformed self-representation on behavior. *Human Communication Research*, *33*(3), 271–290.

Yee, N., Bailenson, J. N., & Ducheneaut, N. (2009). The Proteus Effect: Implications of transformed digital self-representation on online and offline behavior. *Communication Research*, *36*(2), 285–312. doi:10.1177/0093650208330254

Yee, N., Bailenson, J. N., Urbanek, M., Chang, F., & Merget, D. (2007). The unbearable likeness of being digital: The persistence of nonverbal social norms in online virtual environments. *CyberPsychology & Behavior*, *10*(1), 115–121. doi:10.1089/cpb.2006.9984

Yee, N., Ducheneaut, N., Nelson, L., & Likarish, P. (2011). Introverted elves and conscientious gnomes. The expression of personality in World of Warcraft. In *Proceedings of CHI 2011*. Retrieved from http://www.nickyee.com/pubs/Yee%20%28CHI%202011%29%20-%20Personality%20in%20WoW.pdf.

Yee, N., Ellis, J., & Ducheneaut, N. (2009). The tyranny of embodiment. *Artifact*, *2*, 1–6.

Yuval-Davis, N. (2006). Intersectionality and feminist politics. *European Journal of Women's Studies*, *13*, 193–209.

Zagal, J. P., Tomuro, N., & Shepistsen, A. (2012). Natural language processing in game studies research: An overview. *Simulation and Gaming*, *43*(3), 356–373. doi:10.1177/1046878111422560

Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on Facebook: Digital empowerment in anchored relationships. *Computers in Human Behavior*, *24*, 1816–1836. doi:10.1016/j.chb.2008.02.012

Zimmerman, B. J. (2000). Attaining self-regulation: A social-cognitive approach. In M. Boekaerts, P. Pintrich, & M. Seidner (Eds.), *Self-regulation: Theory, research, and applications*. San Diego, CA: Academic Press.

Zurcherer, L. A. (1977). *The mutable self*. Beverly Hills, CA: Sage Publications.

APPENDIX A: UNIVERSITY IRB APPROVAL

Colorado State University
Knowledge to Go Places

NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE: February 22, 2012

TO: Martey, Rosa, 1785 Journalism Tech Comm

Luft, Gregory, 1785 Journalism Tech Comm, Banks, Jaime, 1785 Journalism Tech Comm

FROM: Barker, Janell, , CSU IRB 1

PROTOCOL TITLE: Human-technology relationality and the implications for identity emergence: An examination of player-avatar relationships in World of Warcraft

FUNDING SOURCE: NONE

PROTOCOL NUMBER: 11-3132H

APPROVAL PERIOD: Approval Date: February 22, 2012   Expiration Date: January 09, 2013

The CSU Institutional Review Board (IRB) for the protection of human subjects has reviewed the protocol entitled: Human-technology relationality and the implications for identity emergence: An examination of player-avatar relationships in World of Warcraft . The project has been approved for the procedures and subjects described in the protocol. This protocol must be reviewed for renewal on a yearly basis for as long as the research remains active. Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

If approval did not accompany a proposal when it was submitted to a sponsor, it is the PI's responsibility to provide the sponsor with the approval notice.

This approval is issued under Colorado State University's Federal Wide Assurance 00000647 with the Office for Human Research Protections (OHRP). If you have any questions regarding your obligations under CSU's Assurance, please do not hesitate to contact us.

Please direct any questions about the IRB's actions on this project to:

Janell Barker, Senior IRB Coordinator - (970) 491-1655 Janell.Barker@Colostate.edu
Evelyn Swiss, IRB Coordinator - (970) 491-1381 Evelyn.Swiss@Colostate.edu

Barker, Janell

Barker, Janell

Includes:
The amendment approval is for an increase in the number of survey participants to a maximum of 400 (by adding 150 to the original 250).

Approval Period: February 22, 2012 through January 09, 2013

Review Type: EXPEDITED

APPENDIX B: RECRUITMENT MATERIALS

"AMPER Project" Web Site Screenshots:
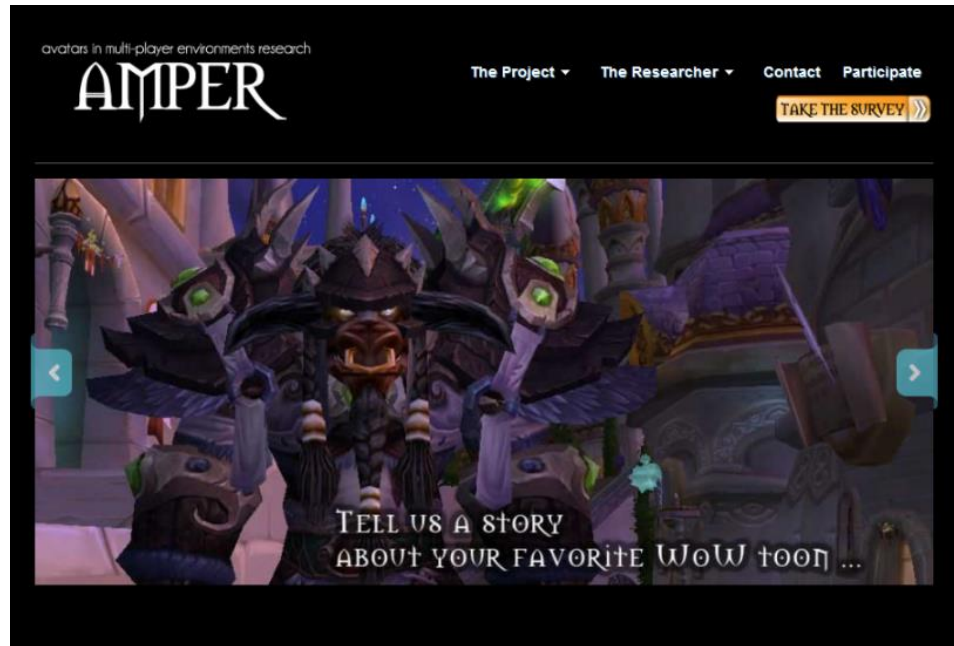
Figure 49. AMPER Project home page.

Figure 50. AMPER Project researcher information web page.

Forum Posts
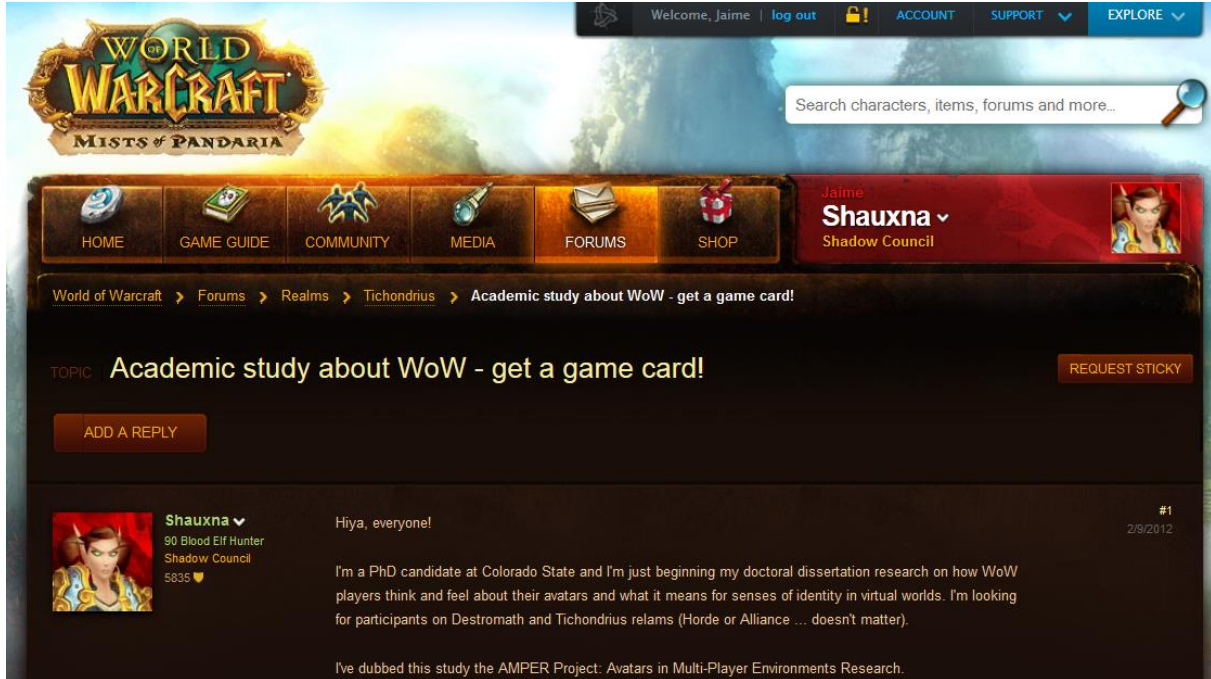
Figure 51. A recruitment post on the official World of Warcraft forums.

Complete text:

Hiya, everyone!

I'm a PhD candidate at Colorado State and I'm just beginning my doctoral dissertation research on how WoW players think and feel about their avatars and what it means for senses of identity in virtual worlds. I'm looking for participants on Destromath and Tichondrius relams (Horde or Alliance ... doesn't matter).

I've dubbed this study the AMPER Project: Avatars in Multi-Player Environments Research.

You can go to my snazzy web site for full details: www.amperjay.com

Part 1: A survey: The 10-15 minute survey is open to any WoW player (so please pass it along to your friends!). In the survey, you'll be asked questions about yourself, how you like to play WoW, and about your favorite avatar.
The payoff: everyone who completes the survey will be entered in a drawing for one year of pre-paid game time.

Part 2: Interviews: Based on responses to the survey, 20-30 people will be selected to participate in the second phase of the study. If selected, you'll be asked to do an interview over Skype where we'll talk more in-depth about your avatars and your experiences in WoW. Then, in a second session, you'll pick something for us to do in-game and we'll chat about avatars some more and how it has a place in the WoW universe.

The payoff: everyone who completes the interview phase of the study will be given a guaranteed one-month game card.

Through the whole study, as always, any information you submit will be confidential. As social scientists, we are held to high standards of ethics, lawfulness, and good science. The project has been approved by Colorado State University's review board and adheres to federal standards for protecting your rights and your privacy as a research participant.

I promise - no scams, no need to enter account info, nothing shady. I'm a researcher - it's my job - I wouldn't put my own account or my career at risk.

You can take the survey and (if you wish) sign up to do the interviews at the web site: www.amperjay.com

If you have any questions at all, please let me know. Thanks! :)

PS - tell your friends and guildies!

Facebook Group Posts

Figure 52. Recruitment post to a WoW-focused Facebook group, and supportive comments.

Facebook Advertisement

Figure 53. Paid recruitment ad on Facebook.

Thank you for your interest in participating in the AMPER study.

The following information is provided so that you may make an informed decision about participating in this research. This protocol and the following information have been approved by Colorado State University's Institutional Review Board.

Dear WoW player,

My name is Jaime Banks and I am a researcher from Colorado State University in the Department of Journalism & Technical Communication. We are conducting a research study on how people think and feel about their avatars. The title of our project is Human-technology relationality and the implications for identity emergence: An examination of player-avatar relationships in World of Warcraft. The Principal Investigator is Dr. Rosa Mikeal Martey of the Department of Journalism and Technical Communication and I am the Co-Principal Investigator.

There are two phases of this study. This online survey is the first phase, where we will ask you to tell us a story about your main WoW character and provide some information about yourself and how you play the game. Completing the survey will take approximately 15 minutes. In the second phase, participants will be asked to participate in two interviews that may last from 1-3 hours each. Not everyone will be invited to participate in the second phase, and if you are selected for the second phase you will receive more information at a later date.

Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participation at any time without penalty. You must be 18 or older to participate in this study.

All survey submissions will be kept confidential, and your email address will be stored separately from your survey answers. Only the PI and co-PI will have access to the survey submissions.

While there are no direct benefits to you for participating in this study, we hope to gain a better understanding of how people relate to their avatars and to technology in general. Everyone who completes the entire survey will be entered in a drawing for one year of pre-paid game time for World of Warcraft (value: approximately $180).

There are no known risks associated with participating in this phase of the study. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

This research is being conducted under the guidance of the principal investigator Dr. Rosa Mikeal Martey (Assistant Professor of Journalism & Technical Communication at Colorado State University), who may be contacted at rosa.martey@colostate.edu.

If you have any questions about the study, please contact Jaime Banks at jaime.banks@colostate.edu. If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator, at 970-491-1655.

Sincerely,

Rosa Mikeal Martey
Assistant Professor
Principal Investigator

Jaime Banks
PhD Candidate
Co-Principal Investigator

Please indicate whether or not you have read and understand the information above and consent to participating in this research *

If you do not understand the information above and/or if you do not consent to participate, please close this window and do not continue.

☐ Yes, I understand and consent to participate.

Next

Thank you for your interest in the AMPER Project. This survey should take 10-15 minutes to complete. For the questions in this section, please think about your preferences and habits for playing World of Warcraft.

1. When, approximately, did you first start playing WoW?

Please enter a month and year. This can be your best guess ... it does not have to be exact.

2. Do you currently have an active World of Warcraft account? *

- ◯ Yes
- ◯ No

3. When was the last time you logged into WoW?

- ◯ Today
- ◯ Within the last week
- ◯ Within the last month
- ◯ Within the last six months
- ◯ Within the last year
- ◯ More than a year ago
- ◯ Never

4. How many hours per week do you play WoW, on average?

5. How many avatars over Level 20 do you have?

6. How many avatars at Level 85 do you have?

7. Below are some different activities in WoW. Please rate these activities according to how much you enjoy them.

	I dislike it very much.	I dislike it somewhat.	I dislike it slightly.	I'm indifferent.	I enjoy it slightly.	I enjoy it somewhat.	I enjoy it very much.	Not Applicable
Questing	○	○	○	○	○	○	○	○
Running dungeons/instances	○	○	○	○	○	○	○	○
Raiding	○	○	○	○	○	○	○	○
Running battlegrounds	○	○	○	○	○	○	○	○
Participating in arena matches	○	○	○	○	○	○	○	○
World PvP	○	○	○	○	○	○	○	○
Role-playing	○	○	○	○	○	○	○	○

8. In addition to regular gameplay, there are many other ways to play WoW. Please rate the following types of play according to how much you enjoy them.

	I dislike it very much.	I dislike it somewhat.	I dislike it slightly.	I'm indifferent.	I enjoy it slightly.	I enjoy it somewhat.	I enjoy it very much.	Not Applicable
Reputation grinding	○	○	○	○	○	○	○	○
Leveling professions	○	○	○	○	○	○	○	○
Collecting pets/mounts	○	○	○	○	○	○	○	○
Earning achievements	○	○	○	○	○	○	○	○
Socializing with my guild	○	○	○	○	○	○	○	○
Socializing with strangers	○	○	○	○	○	○	○	○
Participating in holidays	○	○	○	○	○	○	○	○
Griefing	○	○	○	○	○	○	○	○
Costuming/transmogrification	○	○	○	○	○	○	○	○
Experimenting with avatar races/classes/genders	○	○	○	○	○	○	○	○

Are there other things you like to do in WoW? If so, please tell us about them here:

9. **Please indicate if you have done any of the following (check all that apply):**

- ☐ Create WoW machinima videos
- ☐ Create WoW still visual art
- ☐ Participate in general WoW forums or chat rooms
- ☐ Participate in guild-specific forums or chat rooms
- ☐ Use a Facebook or Twitter profile AS your character (instead of using your given name)
- ☐ Participate in a Facebook group or other social platform group related to WoW
- ☐ Post a role-play profile on a public site (e.g., the Moon Guard wiki)
- ☐ Participate in offline social events related to WoW (guild meetups, LAN parties, etc)
- ☐ Attend gaming conventions (e.g., BlizzCon)
- ☐ Meet people offline that you have met first in WoW
- ☐ Play WoW with family, offline friends, or co-workers

Back   Next

10. To which faction are you more loyal?

○ Horde

○ Alliance

Comments:

11. Please think about your favorite WoW avatar. What is its name? *

On what realm/server do you play that avatar? *

What is the approximate date you created this avatar?

Please enter a month and year. This can be your best guess ... it does not have to be exact.

12. What is your favorite memory with this avatar? Please tell us that story.

13. Optional: Please upload up to three screenshots of your avatar.

This could be your favorite snapshot, a picture of a memorable event, a picture of your character with your guild, or whatever else is important to you. **If you have trouble uploading, you may email images to AMPERproject@gmail.com.**

Browse... Upload

If you uploaded images above, please give a brief description of what is going on in the picture.

14. Do you consider this avatar to be your main?

○ Yes

○ No

Why or why not?

15. Would you say you have a relationship with this avatar?

○ Yes

○ No

16. Please briefly describe how you feel about this avatar.

17. For this avatar, what in-game achievement are you most proud of?

Back   Next

Please answer the following information about yourself as you are OFFLINE (not according to your avatar's character). All answers are kept confidential.

18. With what gender(s) do you identify? *

- ☐ Female
- ☐ Male
- ☐ Gender queer
- ☐ Androgynous
- ☐ Other

19. What is your age? *

[   ]

20. In order for to understand more about identity in online virtual worlds, please tell us which among the following aligns the most with your racial/ethnic identity.

(You are welcome to choose more than one.) If you feel your race is not represented here, you are welcome to describe your orientation in the comments section at the end of this survey.

- ☐ Caucasian/White
- ☐ American Indian
- ☐ Arabic, Egyptian or Maghreb
- ☐ Australian Aboriginal
- ☐ Black/African
- ☐ East Asian e.g. Chinese, Japanese, South-East Asian
- ☐ Hispanic/Latino
- ☐ Indian, Pakistani, Bangladeshi, or any other Asian
- ☐ Pacific Islander
- ☐ White/Caucasian/European
- ☐ Other
- ☐ Decline to respond

21. Which of the following best describes your sexual orientation?

If you feel your sexual orientation is not represented here, you are welcome to describe your orientation in the comments section at the end of this survey.

- ○ Heterosexual (Straight)
- ○ Gay
- ○ Lesbian
- ○ Bisexual
- ○ Pansexual
- ○ Fluid
- ○ Other

22. Please select your highest level of education.

- ○ Less than high school
- ○ GED
- ○ High school diploma
- ○ Some college
- ○ Associate degree
- ○ Bachelor's degree
- ○ Master's degree
- ○ PhD/JD/MD or equivalent
- ○ Other education (please describe):

Back   Next

You have nearly completed the survey.

This survey makes up the first phase of the study, and you may have the opportunity to participate in the second phase if you wish.

In the second phase of the AMPER Project, 20-30 players will be chosen to participate in 2-5 hours of interviews over Skype and in WoW. If you are chosen to participate and if you complete the second phase, you will be given a one-month WoW game card in exchange for your time and cooperation. Not everyone will be chosen to participate.

23. Are you interested in participating in the next phase of the study, including interviews over Skype/Ventrilo and a play session in WoW? *

○ Yes, I am interested in participating in the next phase of the study.

○ No, I am not interested in participating in the next phase of the study.

24. Do you wish to be considered for the drawing for the one-year WoW game card? *

○ Yes, I want to be included in the drawing.

○ No, I don't want to be included in the drawing.

25. IF YOU ANSWERED YES TO EITHER/BOTH OF THE QUESTIONS ABOVE:
Please enter your email address so we may contact you if you are the winner of the drawing, and/or about participating in the second phase of the study.

This does NOT need to be your WoW account address, and will be used only for correspondence regarding your game-card drawing entry and for communicating about further participation in the study. Your email address will remain confidential.

[   ]

26. Do you have any additional thoughts or comments on avatars in general, World of Warcraft, or your interest in the study?

If not, please just press SUBMIT to complete your submission.

[   ]

Back   Submit

Thank you for taking the AMPER Project survey.

If you are the winner of the one year of pre-paid WoW game time, you will be notified by April 30, 2012.

If you are selected to participate in the next phase of the study, you will be contacted within the next 30 days.

In the meantime, if you have any questions or concerns you are welcome to contact the researchers at amperproject@gmail.com.

Achievement Earned
Survey-valist
25

Survey-valist
Well, that was a lot easier than leveling a profession ...
25

Reward: Chance to win 1 year of pre-paid WoW game time

APPENDIX D: INTERVIEW QUESTION GUIDES

Interview 1 Question Guide (Voice Only)

The following quests are merely a guide to begin the conversation. As explained in Chapters 3 and 4, a key tenet of ANT is to "follow the actors." That is, start with some guiding questions, then branch off into questions based on what the respondent says. For example, if the participant notes that she really loves the avatar's weapon, I might ask a question about why that weapon is so special. If she were to say that it was dropped from a really difficult boss in a dungeon run with her guild, I might ask the participant to tell me about the boss and why it was difficult, about her guild, about running dungeons in general, and about how she tends to equip her avatar with gear.

Hi! <introduce myself and engage in a bit of banter to establish an initial familiarity>

I'm going to tell you a little bit about the project and what I'll be asking you to do. This project is part of my PhD research on how people think and feel about their avatars. There will be **three parts to the project** – this first interview, another interview where I'd like to go into Azeroth and play with you, and then possibly some follow-up emails if I need some clarification on anything we talked about. About a week after the second interview when I have reviewed all of our conversations and made sure I don't have any further questions is when I'll send your **game card codes.**

This interview will be **audio recorded** – before we go any further I'd like to make sure this is all right with you. All of the recordings will be edited to make sure your **identity is protected** and that nobody other than me will be able to connect what you say with your avatar name.

<confirm agreement>

Then we'll go ahead with this interview. The purpose of our conversation today is to help me understand your experiences in *WoW* and how you think and feel about your avatar. We'll spend an hour or two going through some questions but really my job today is to listen. **You're the boss** - I encourage you to tell me stories you think are relevant even if I don't ask a specific question about them – you have total freedom to talk about whatever you want to talk about whether it's related to the question or not.

Please treat this as a **conversation** instead of as a formal interview, as I'll probably tell some stories myself, interrupt you if I don't understand something, and go with the flow of the conversation.

1. You listed in your initial survey that you started playing in __<month/year>__. How did you get started in the game? What got you playing in the first place?
2. You also listed that <avatar name> is your favorite avatar. Can you tell me about him/her? What's the story with that avatar? Why is it your favorite?

3. I see that <avatar name> is a <gender, race, class>. Why did you choose to create a character with that combination? Why a <race>? Why a <gender>? Why a <class>?
    a. How about his/her faction? Why did you choose Horde/Alliance?
    b. And what about his/her name? Where did that come from?
    c. How does <avatar name> compare to your other avatars?
4. So where is <avatar name>'s place in the world of WoW? When you picture him/her, where do you see him/her?
    a. Rephrasing: If he/she could talk, where would his/her favorite place be?
    b. Rephrasing: Where do you tend to spend the most time when you play <avatar name>?
5. How important is it that <avatar name> look a certain way?
    a. If relevant: I noticed that <avatar name> has some of his/her gear transmogrified. Why did you choose to do that? Why did you pick that particular gear for his/her new look?
6. Is there something that <avatar name> always has in his/her bags?
7. How important is <avatar name>'s guild?
    a. What role do you or your avatar play in the guild?
8. How does <avatar name> come out in your everyday life? Or how are dimensions of your offline life injected into <avatar name>'s persona in WoW?
    a. How does <avatar name> express who you are in the game and outside of the game?
    b. Are there times where you think about your avatar when you're not playing? Tell me about those.
    c. Are there times you mention him/her in places outside the game? Tell me about those.
9. How do you think others view you based on your avatar?
10. Was there ever a time that you felt like you mattered in the game, in the big picture?
11. What do you wish WoW would let you do with <avatar name> that it doesn't?
    a. What's frustrating to you about creating WoW toons?
    b. If you could change something about <avatar name> what would it be?
12. If you could take one spell or ability from your avatar and have it in real life, which one would it be?
13. How would you feel if you couldn't log into <avatar name> tomorrow?
14. What does your avatar means to you?
15. Is there anything you'd like to add about anything we talked about today? Any other thoughts?

For participants who are not especially talkative, I returned to their web survey responses and asked the following questions:

16. You mentioned in your survey that you <think this way *or* feel this way> about <avatar name>. Please tell me more about that.
    a. Probe: Did you always think/feel that way?
17. In your survey survey you mentioned a story about <avatar name> and <story plot> … can you tell me more about that?

a. Probe: Why was that event important to you?

Interview 2 Question Guide (Voice and Gameplay)

The following questions are merely a guide to begin the conversation during the course of the play session (the second interview). A key tenet of ANT is to "follow the actors." That is, start with some guiding questions, then branch off into questions based on what the respondent says. For example, if the participant notes that she really loves the avatar's weapon, I might ask a question about why that weapon is so special. If she were to say that it was dropped from a really difficult boss in a dungeon run with her guild, I might ask the participant to tell me about the boss and why it was difficult, about her guild, about running dungeons in general, and about how she tends to equip her avatar with gear.

Hi, again! <engage in a bit of banter to re-establish familiarity>

Great, so as a reminder, here's what you can expect. I'm going to ask you to pick something for us to do in WoW, and our conversation will be recorded and my screen will be recorded. You can tell me anything you'd like to about things inside and outside of *WoW* that might be important to how you feel about your avatar. About a week after this interview when I have reviewed all of our conversations and made sure I don't have any further questions is when I'll send your game card codes.

Before we go any further I'd like to make sure you're comfortable with the screen and audio recording. All of the recordings will be edited to make sure your identity is protected and that nobody other than me will be able to connect what you say with your avatar name. Is all of this – the recording and anonymity efforts – all right with you? If it's not you're welcome to stop participating in the study.

<confirm agreement>
Great, then let's get started. What would you like to do in WoW today?
<activity is selected; the player and I prepare for the activity>
Largely, this topics of discussion are driven by what happens during gameplay. However, make sure to address these topics over the course of conversation. If any aren't covered, address them while wrapping up the interview.
1. Why did you pick this activity for us to do today?
2. What do you like about it?
3. How often do you do it, and who do you do it with?
4. Do you do it on all your avatars or just this one? Why?
5. What process did you go through to prepare your avatar for this type of activity?
    a. What was that like?
6. What was your favorite <quest/dungeon/battleground/raid … depending on the activity they pick>, and why was it your favorite?
7. How did you feel in Cataclysm – when the Shattering happened?
8. So where does <Avatar name> fit in the story of WoW? In the lore?
9. During the game, what NPCs do you remember fondly? Or not-so-fondly?

10. How do you feel when your avatar dies?
11. What kind of computer do you play on?
        a. What add-ons do you tend to use?
        b. Do you change the interface based on which avatar you're playing?
12. What do you think of WoW culture in general?
13. Is there anything about the game that you would change if you could?
        a. Anything about the digital world?
        b. Anything about your avatar?
14. How would you describe yourself as a player?
        a. How do you think your avatar reflects that?
        b. Is <avatar name> a "he/him/she/her" or is <avatar name> an "I/me" or an "it"?
15. What keeps you playing WoW?

Depending on their ability/comfort to answer this question in the first interview:
16. In the last interview I asked you what your avatar means to you, and were going to think about it

For everyone:
17. Is there anything else you'd like to add about anything we talked about this interview or last interview?

Wrap up with a thank you, invitation to e-mail with further thoughts, and note they can expect their game card compensation within a week.