Journal of
•Virtual Worlds Research

Assembled 2015

February 2015
Volume 8 No. 1
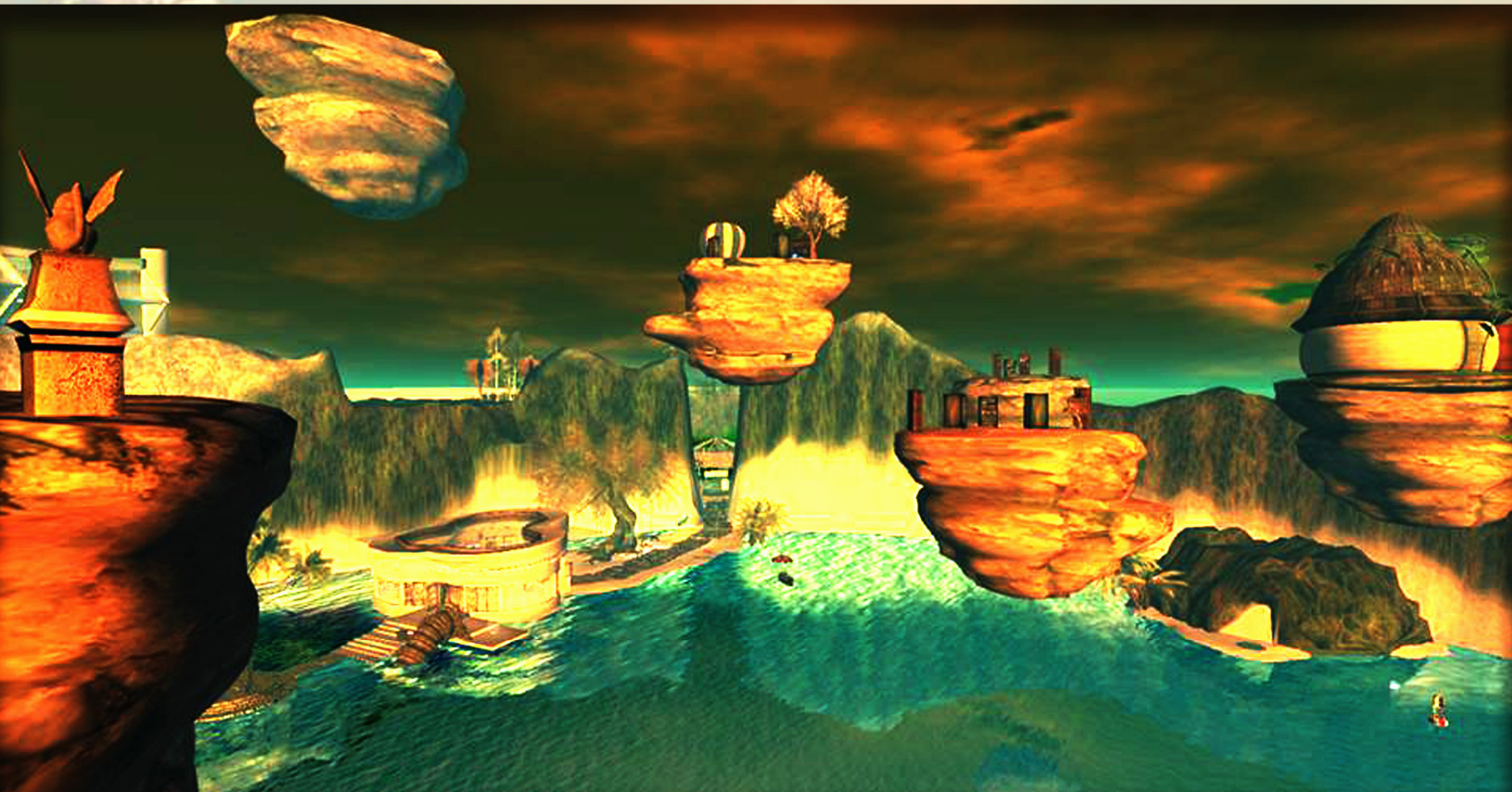
From: Alexandria - A Virtual Repository of Knowledge

Volume 8, Number 1
Assembled 2015
February 2015

From Voxel Vistas: Place-Making in *Minecraft*

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Abstract

The concept of place informs much of human meaning-making in both space and time. This paper seeks to bridge gaps between the literature on place and research on video games and virtual worlds by finding points of intersection between each field. I analyze the immensely successful independently-developed video game *Minecraft* through my own experience and an analysis of gameplay videos uploaded to YouTube. The game serves as an ideal framework within which to study place-making due to three core qualities that illuminate intersections in place and video game/virtual worlds literature: (a) alteration/change, (b) proximity, and (c) conflict/cooperation. I problematize dichotomies between "actual" and "virtual" versions of reality as well as "physical" and "social" constructions of place. Through this study, I use *Minecraft* as an example of the consistency of human place-making across environments, whether digital or physical.

1. Introduction

The concept of place informs much of human meaning-making in both space and time. Place as a concept is not limited to application in traditional, physical environments. Indeed, many video games and virtual worlds can be understood as having their own distinct place-ness. However, to date there have been limited attempts to unite the study of place in physical and digital worlds despite the potential such connections may hold for helping build an understanding of the commonalities between physical and digital places.

This paper seeks to bridge gaps between the literature on place and the literature on video games/virtual worlds by looking for points of intersection between each field. Specifically, I analyze the immensely successful independently-developed video game *Minecraft* to find similarities between the process of place-making across physical and digital environments. I argue that video games can provide useful frameworks within which to study place, and that *Minecraft* is an ideal example of such a framework. I find that this is due to three core qualities that exemplify place-making in *Minecraft* and highlight intersections between the place and video game/virtual world literatures: (a) alteration/change, (b) proximity, and (c) conflict/cooperation.

I begin by problematizing the intuitive but unproductive dichotomy between "actual" and "virtual" worlds before bringing together perspectives from the ongoing debate in place literature over the relative importance of physical landscape versus social construction to place-making. I then expand on these debates by exploring the connections between available literature on place as well as video games and virtual worlds. Finally, I synthesize key points of intersection through my case study of *Minecraft's* form and gameplay. Through this study, I seek to use *Minecraft* as an example of the consistency of human place-making across environments, whether digital or physical.

2. The Problems

In order to study the place-ness of a video game such as *Minecraft* and use it as a framework within which to study the role of place-making, some core challenges for such an approach must be addressed. There are two primary bifurcations that pose barriers to such a study: (a) The common conceptual division between the "reality" of the physical as opposed to the "unreality" of the virtual, and (b) the debate within place studies over the relative importance of landscape or social construction as the core mediating factor in place-making. Traditional overemphasis on these differences impedes the ability to conceive of places in a sufficiently robust manner. I argue that places (be they environmentally mediated or mediated by computers) are fundamentally real because of both the physical interactions between people and places and the social interactions among people in places. The purpose of this section is to dissolve these dichotomies to facilitate a unification of academic literature leading to a productive case study.

2.1 Actual vs. Virtual

Speaking of computer-mediated worlds as "virtual" differentiates them from worlds that are deemed to be less virtual (and thus more real). This boundary can be necessary in many cases and is often appropriate for placing "virtual worlds" in context. However, in a study on place-making an overemphasis on the virtuality of video game worlds can be a barrier to understanding. Andy Miah (2000) in particular strongly resists a rigid conception of digital worlds as virtually unreal. Even "virtual reality" technologies that imply an intended unification of virtual and real spaces through hardware mediation (Steuer, 1992) often underscore the common conceptual rift between virtual and real. For

example, Gillath et al.'s (2008) study on social psychological interactions between people using virtual reality technology deals with virtual reality thoughtfully, but unfortunately reinforces a conception of virtual worlds as unreal, stating that they "[surround] people in an artificial environment" (p. 260). For Miah (2000), "to argue that cyberspace is a created, artificial environment, begs the question as to whether anything at all that takes place in cyberspace is real" (p. 219).

Cultural geographers Ash and Gallacher (2011) specifically focus on video game worlds and use spatial terms to problematize the bifurcation between actuality and virtuality. Helpfully, they situate video games as real phenomena by using place-based terminology such as "geography," "place," and "landscape" (p. 355). These terms illuminate cultural qualities that inform the ways video games contribute to world-making in material ways. Throughout, Ash and Gallacher complicate the apparent rift between virtual and actual, arguing that "'virtual' worlds do not sit alongside the 'real' world; they are themselves 'real' worlds, which are brought into being through material practices and technologies" (p. 358). Such material practices often take the form of social interactions that are mediated by technology, but Miah (2000) argues that "unquestionably, it seems that virtual interactions are real, they take place between real people" (p. 220). As I work through the literature on place and video games below, I maintain that video game worlds exist as real environments due to the key interactions among players as well as between players and environments. Because of their dual representational and presentational nature, video games can afford a glimpse into the way humans relate to the Earth and possibly a picture of how we wish it was different, as Chang (2011) finds:

> *Ecocritical play, should we attempt it, would recognize that to play is always in some way to inhabit, and in acknowledging the ecomimetic properties of games as environmental texts, we might begin to erode the oft-posited but little-experienced divisions between the real and the virtual, the ecological and the literary, the visual and the textual. (p. 78)*

2.2   Physical vs. Social

While place itself often seems like a common-sense concept, the specific properties and requirements of places are often elusive. We know that places matter to us as sites of meaning, but the way they become important and their necessary implications are not always clear. For purposes of clarification, the key aspects of place formation might be simplified as involving both the physical environment and the social activities that happen within those environments. Stedman (2003) notes what he perceives as a possible overemphasis within place literature on the role of the social in place attachment. He resists the tendency he sees in place scholarship to understate the importance of the effects of physical environment on the process of this attachment (p. 673). Stedman reinforces this importance in an empirical exploration of multiple implicit models of landscape and place through a study of individual attachment to place in Vilas County in Wisconsin, a county with a "lake-rich landscape" and ongoing development along the shores of those lakes (Stedman, 2003, p. 675). He finds that a model of meanings is the best fit to explain the importance of landscape to personal attachment to place, and notes the inherent instability of these meanings. Changes in physical landscape itself can have sizable impacts on how a person relates to that place, as "sense of place is vulnerable to changes in place meanings. The physical landscape may change to such a degree that preferred meanings become untenable or are maintained only through active effort" (Stedman, 2003, p. 683).

In relation to Stedman's earlier piece, Kyle and Chick (2007) reaffirm the importance of social construction to sense of place through their study of meanings generated in experiences with place. The study is undertaken through photo-elicitation ethnography of fair attendees in Centre County, PA. They find that meaning is generated cooperatively through collective experience and shared narratives, rituals,

and traditions. Here, symbolic interactionism forms the backbone to Kyle and Chick's understanding of the process of social construction and place-making, to which "the role played by informants' primary reference group—a social world consisting of family and close friends" was key (Kyle and Chick, 2007, p. 221). Throughout, the role of the physical environment is stated as much less important to this study, but they propose that this may not be the case in all situations. The importance of social worlds and physical environment may vary depending on context and conditions, but Kyle and Chick directly defend the role of social construction and offer additional current evidence for it. For example, they found that proximate living arrangements in recreational contexts positively impact the generation of meaning related to those experiences. Moreover, they argue that this often occurs in very iterative forms, such as the return to a family campsite over the course of many years, which adds measurably to the value of co-constructed meaning in place. Through their study, Kyle and Chick (2007) reaffirm the importance of social interaction to the roles places play in human lives.

3. Intersections Between Place and Video Game Literatures

As discussed, social interaction and landscape are jointly important to the role of place-making. Similarly, when discussing place within video game worlds, it is essential to be mindful of the particular qualities of natural and digital environments without using either to delegitimize the other. For example, video game developer and philosopher Ian Bogost (2011) describes the mediating effects of transit systems on perceptions of space. For Bogost, increasingly rapid forms of transportation subtract from the fullness of place experience. By contrast, he finds that "video games tend to offer continuous rather than discontinuous space that must be traversed deliberately and actively" (p. 48). Furthermore, he expresses the usefulness of video game worlds for providing necessary unfamiliar spaces within which to personally negotiate place, especially when those spaces are experienced through the methodical act of walking between points (Bogost, 2011, pp. 49-50). In this way, Bogost does important work to distinguish between experiences of place in physical and digital domains.

3.1   Identity/Proximity

Adopting a different approach, Messinger et al.'s (2009) work treats video game worlds as place-centric. They list "place" in their taxonomy of virtual worlds and find that compared to other media, video games in particular "commonly involve variation on the place element" (p. 207). In addition to their clarifying work on virtual worlds, Messinger et al.'s findings also reinforce the link between virtual worlds and real worlds, as players' environments often approximate those outside the game, and the way players design their "avatars" (in-game manifestations) often approximates their own bodies while improving on them somewhat (p. 223). In one study (Jin, 2009), players that designed idealistic avatars for themselves found the game to be more interactive but less immersive than those who designed more realistic avatars. Avatars have important implications for players in game environments. Doyle (2012) speaks of avatar-mediated experience in spatial terms, and Preston (2012) relates spatiality to both interactivity and immersion, finding that "when a player knows one's own location in the game space and is oriented to its horizontal openness…presence may emerge through crossmodal translation of visual and kinesthetic experience" (p. 164). Here, sense of self appears to be closely connected to the place-ness of the video game.

Huang, Shen, and Contractor (2013) expand beyond the individual and explore the impact of space on groups within digital networks. They note that while geographical distance is an important factor that informs social interaction, some research has begun to shift focus more toward temporal proximity as an indicator for the likelihood of social interactions (p. 971). For example, if players are in the same time

zone they may be more likely to interact with each other than players who live in time zones with greater temporal gaps between them. Their study underscored the importance of spatial and temporal proximity in digital game networks. Similarly, Lomanowska and Guitton (2012) performed an intriguing study on the spatial distribution of player avatars throughout the virtual world of *Second Life*. They note that the closer players are to each other, the more intimate their text chatting options become. People in *Second Life* tend to "adjust their spatial location in relation to others, either by isolating themselves, or in the vast majority of cases, by seeking the presence of others" (p. 322). Additionally, they found that when more player avatars are present, players come within a closer range of each other. This is in contrast to the result a random arrangement of avatars would predict, as in practice more than 75% of avatars stay close enough to intimately "whisper" (Lomanowska & Guitton, 2012, p. 322). Hull, Lam, and Vigo (1994) argue that icons in place serve to mediate one's sense of self in the context of place and others. Similarly, the representation of self *as* an avatar highlights negotiations of place in terms of self-identification in public spaces, and thus reinforces social construction as an important process for place-making, even in digital worlds.

3.2   Change/Alteration

Physical construction (or deconstruction) can be similarly significant, as changes to place are key for meaning-making within them. In video games, place aspects are strongly influenced by human alterations, and Newman (2013) describes manipulation and alteration of gameworlds as key processes for the enhancement of believability and immersion. These negotiations of reality in digital places can contribute to the creation of meaning around the world itself as a character. However, place changes can impact meaning even when the individual is not in control. As Stedman (2006) focused on the challenges that landscape changes pose for preferred meanings in natural places, Willox et al. (2012) found that changes to Earth's climate can have great impacts on sense-of-place. However, they also found that even the negative impacts of environmental changes do not necessarily supersede connections to the land. While the impact of physical changes may be lessened by maintaining place names (Nash, Lewis, & Griffin, 2009,, a sense of place can thus be retained despite changes. But to what degree does alteration itself serve to *promote* place-making?

Place-making is strongly connected with emotions, and Brown and Perkins (1992, as cited in Schweizer, Davis, & Thompson, 2013) discuss how environments and people tend to change in tandem, as place attachments "are nurtured through continuing series of events that reaffirm humans' relations with their environment" (p. 45). Transience itself can accelerate the process of place attachment (Relph, 1976, p. 30), and similarly, migration facilitates place-making through environmental attunement, especially migrations away from overly built environments (Ward & van Vuuren, 2013). While they acknowledge the importance of creative place re-making in metropolises, Ward and van Vuuren posit that migration to more natural environments can provide opportunities for the construction of imagined physical places. These can be just as significant as metropolises, as they inspire "symbolic forms of cultural innovation and self-expression that are grounded in and maintained by environmental values" (2013, p. 66).

While migration entails a long-term shift in location, video games provide spaces for players to sample short-term forays into other places and cultures. Miller (2007) examines how the *Grand Theft Auto* video games provide an experience of simultaneous transgression and safety, offering "a simulacrum of the ultimate tourist experience, that of passing as a native and gaining access to the gritty 'real life' of one's destination. But by figuring the player as a tourist, [the games also preserve] a layer of distance from the avatar's thuggish activities" (p. 409). There is other sparse but enthusiastic research on

tourism within video games. Simon (2006) relates immersion to tourism, and argues that "the age of virtual world tourism has arrived" (p. 62), while Book (2003, as cited in Poremba, 2007) describes the practice of photography within games as similar to how people catalog moments outside games. Scholarship on tourism in physical spaces is much more established and delivers a range of evaluations on its impact. Spurlock (2009) applauds food-centered advocacy tourism due to its focus on embodied connections with farms as places of sustenance. However, Alderman, Benjamin, and Schneider (2012) discuss the constructive (while problematic) potential of tourism in places where a mediated sense of place construction in a television show is transposed on a non-mediated community. Amsden, Stedman, and Kruger (2011) also examine communities and explore the impact of tourism dependency on sense of place. They find that it can have both positive and negative effects as it harmonizes or conflicts with a locality's identity.

3.3   Conflict/Cooperation

Conflict itself often serves as a mediating factor in how people come to collectively understand and make meaning out of place (Pierce, Martin, & Murphy, 2011). Furthermore, Peluso and Watts (2001) clearly state the connection between places and conflict through violence. They see "violence as a site-specific phenomenon rooted in local histories and social relations yet connected to larger processes of material transformation and power relations" (p. 5). Here, they focus on accumulation of resources, access to and control over resources, and actors that emerge from social relations. Whether obvious or not, conflict is at the heart of nearly all games (Siitonen, 2014), and "turns a simple challenge…into something much more engaging" (p. 166). Siitonen describes several forms of conflict in games, from tensions between gamers and the designed or unintended challenges of a game environment itself to intended or emergent conflicts among people within videogame places. He finds conflict to be deeply connected with meaning, especially within social interaction, as "games do not exist in a vacuum, but are rather intertwined with other aspects of human life in all possible ways" (2014, p. 171).

On the other hand, social interactions between people in video games can often be cooperative, given the right conditions. Alahuhta, Nordbäck, Sivunen, and Surakka (2014) discuss the potential virtual worlds have for encouraging creativity within geographically dispersed teams, and propose that due to the affordances of the medium, virtual worlds are particularly effective systems for supporting team creativity. Tate, Hansberger, Potter and Wickler (2014) determine that presence within virtual spaces positively mediates intelligent interaction and thus collaborative potential (p. 8). One specific collaborative tool developed by other researchers is the video game *Trails Forward*, which Bell-Gawne, Stenerson, Shapiro, and Squire (2013) describe as a means of engaging environmental policy concepts in interactive ways. In *Trails Forward*, players work together to co-manage limited resources to the benefit of each other and the environment. This reinforces the necessity of social cooperation between individuals to positively impact the environment and presents a perspective on place which privileges the social interactions that affect places. This reinforces Chang's emphasis on the importance of meticulously crafted landscapes of environments created within games. Furthermore, it elucidates the ability for players to learn about each other and their surroundings through gameplay.

Importantly, place in video games can fulfill pedagogical purposes. Kurt Squire (2011) explores how teachers use video games to personally relate seemingly untenable concepts to students through an emphasis on location. For Squire, the representation of places through games can provide opportunities for students to deal with issues and ideas that may otherwise be conceptually inaccessible. Hutchison (2007) also notes the educational possibilities video games have for students and finds that the pedagogy

of place is an inherent quality of games. He notes their tendency to promote a player's deep engagement through sensory stimuli. The sensory experience of place situates education as an embodied endeavor, and Jarmon (2009) speaks of the pedagogical nature of virtual co-presence as an enhancement to learning through the experience of being in space with others simultaneously. However, the future of educational games may be very contingent on what sorts of games get made and how effectively people choose to use them for such purposes (Ferdig, 2014).

3.4   Summary

Intersections between video game/virtual world research and the literature on place are numerous. Each body of literature has substantial contributions to offer the other, and by bridging these gaps, established ways of being in place can be more fully understood even as new ways may be imagined. The wide array of perspectives and approaches reviewed underscore the joint importance of the physicality of places in tandem with their socially constructed nature. Many scholars highlight the very real nature of video games and the interactions that occur within them. I have used these insights to explore the role of change and alteration for place-making, perceptions of space, tourism in games, conflict and cooperation, and games' educational potential. When taken together, these themes provide ample opportunities for interrogating place-making within a specific video game for the purpose of contributing to knowledge of human/place interactions.

4. Case Study: Mojang's *Minecraft*

As many examples in the literature suggest, there is untapped potential for specifically studying place-making in video games. The place-based, embodied explorations of specific digital environments allow place to be studied more readily than it may be in natural environments. Through the medium's resistance to the unproductive dichotomy between what is "real" and "virtual," video games provide opportunities for a renewed understanding of how places function (or at least how they are expected to). Furthermore, the interactive nature of video games opens analytical possibilities that would not be available otherwise, such as examining the impact of rapid changes to the environment or characterizing conflicts more readily. Thus, video games provide controlled, focused environments that may allow for a detailed demonstration of place in readily accessible ways. Below, I describe the enormously successful video game *Minecraft* and analyze place-making within it to illustrate and apply key points of intersection between literature on place and video game/virtual world studies.

4.1   Background

In 2009, a little-known Swedish video game developer named Markus "Notch" Persson began development on an experimental digital world he simply called "cave game." The simple interactive simulation featured a large blocky world that was riddled with holes. Eventually, Notch named the program *Minecraft* and included gameplay elements that focused on adding and removing blocks from the world. As interest in the game grew, Notch continued to develop it and add new content. On December 23, 2009 his company Mojang began to sell the game online in its changing state. Development on *Minecraft* is still ongoing as the game's playerbase continues to grow, and today it is one of the best-selling video games of all time, having amassed more than 64 million sales across platforms (including personal computers; Apple, Android, and Microsoft mobile platforms; Microsoft's Xbox consoles; and Sony's Playstation consoles). In late 2014, Mojang was sold to Microsoft for $2.5 billion (Hill, 2014).

At the time of the deal's announcement, Microsoft's press release characterized the game's playerbase as "loyal, with nearly 90 percent of paid customers on the PC having signed in within the past 12 months" (Microsoft, 2014). The game has also been well-received critically, and was the focus of many articles in the popular games press long before the game even exited the in-progress beta phase of development. Upon the milestone release of version 1.0 on November 18, 2011, publications began to officially review the game. Reviews score the PC and console versions of the game highly, but the mobile version significantly lower (interestingly, the mobile version is the single highest-selling platform for *Minecraft*, with 30 million sales to date). Online review aggregators GameRankings.com (2015) and Metacritic.com (2015) score the game as 93% positively reviewed on PC and between 80-90% on consoles, but only 53% positive on mobile.

4.2   Environmental characteristics

Minecraft is a video game set within a three-dimensional pixelated grid. Both the form and function of the game are informed by its reliance on this structure. While the landscape of most video game worlds are created from pixel-based textures draped over modeled polygons of varying complexity, in *Minecraft* the pixels form square textures that make up the sides of cubic "voxels" (essentially, three-dimensional pixels). These voxels are the fundamental building blocks of the *Minecraft* world, and are the least divisible part of every hill, river, valley, mountain, plain, chasm, and ocean. The virtual voxel blocks (be they cubes of dirt, rock, water, sand, or a large number of other materials) are each one cubic meter in size. This results in a radical volumetric quantization of physical landscape. Whereas natural environments are comprised of fundamental particles (bounded in space and time) so small as to be indistinguishable and the myriad of potential forms they comprise are innumerable and unique, in *Minecraft* things are more limited. Here, a mountain (or a castle or even the sky itself) is essentially no more than a collection of rigid cubes. Consequently a high degree of spatial resolution is lost in comparison to the world outside the game. However, at an appropriate scale the form of a landscape or construction project becomes more nuanced and relatable.

4.3   Analysis

My study of *Minecraft* is an applied analysis of the game's content as well as its social gameplay. I have drawn on my own experiences with the game that began during its "beta" phase of development in early 2011. My hundreds of hours of time in *Minecraft* consist of (in order of time spent from greatest to least) single-player mode, private multiplayer servers, and public multiplayer servers. To supplement my less extensive experience with multiplayer servers and also explore the social aspects of multiplayer from an external perspective, I have analyzed the public videos of *Minecraft* players, most notably those of a famous collective of *Minecraft* gamers: the members of the exclusive *Mindcrack* server. For many on the server *Minecraft* is a career, and their regular interactions are supported by online communities that view their commentated gameplay videos on YouTube and Twitch.tv as well as by another fan server open to the public. To a lesser extent, the dedicated *Mindcrack* wiki and subreddit have provided context and inspiration for my approach, but as the intent of this study is to establish the place-ness of *Minecraft's* virtual world, the multiplayer examples I use focus on Mindcrackers' interactions with each other in *Minecraft* itself, as broadcast through their gameplay videos. Where the experiences of Mindcrackers are not sufficient, I have included additional examples from other popular video series as well as public servers.

4.4   Themes

4.4.1   Alteration/Change

In *Minecraft,* terrain generates procedurally. Upon the creation of a new virtual world, a computer algorithm is fed a randomized string of numbers (a "seed"). The generation of the terrain uses that seed as a base point of reference, and due to the way the algorithm is designed, if any two worlds are generated with the same seed, their initial layout will be exactly the same. Any subsequent changes made to the landscape of a generated world will affect that local world only and not impact the generation of other worlds from the same seed. This leads to a point of interest: The ability for players to alter their virtual environment. Initially, this takes the form of simple actions such as hitting a tree several times until the blocks it is comprised of fall away from the others in the world and can then be picked up and placed again.

As the gameplay advances with sufficient patience and experimentation, players may go so far as to construct giant voxel-based cathedrals or even level entire blocky mountains. But constraints on this level of freedom do exist. In *Minecraft*, the sky is literally the limit, as the "build height" (or level beyond which players cannot place any more blocks) has a hard limit of 256 blocks up. This limitation is mitigated somewhat by the nearly infinite limits of the horizontal size of the world. Indeed, there is no particular reason why a player could not travel in one direction far longer than they could on the surface of the Earth and still not reach their starting position. Unlike Earth's surface, the *Minecraft* world is flat and theoretically infinite. Practical limits to the size of the world do exist (such as computer hard drive space and precision errors in the game's code at great distances), but even with these taken into account the total usable area of a world in Minecraft surpasses that of Earth.

While the immensity of the game world might make efforts to extensively traverse the landscape seem futile, Notch himself provided an impetus for extreme travel when he blogged about the presence of "Far Lands" that were 12,000 in-game kilometers away from where players enter the world. He described this range as increasingly buggy and difficult to traverse and described the lands as having distinct "mystery and charisma" (2011). One *Mindcrack* YouTuber named "kurtjmac" became interested in the area and decided to start a single-player video series in which he would make continual progress toward the Far Lands by walking. The series is called "Far Lands or Bust" and continues today, hundreds of episodes later. For kurtjmac, the journey is a way to experience the beauty of the game's landscape while simultaneously raising money for charity by treating the series as a walkathon (kurtjmac, 2014). kurtjmac's experience reiterates the place-ness of *Minecraft's* world and Bogost's argument that in-game walking can reconnect the player to the world through a mostly lost form of long-distance travel. Such experiences in *Minecraft* show the importance of spatial changes over time, and that important meaning-making can occur through the negotiation of landscape changes as part of a journey.

In *Minecraft*, as in the view of place that Stedman (2003) sets forth, change can influence sense of place even more directly through the involved process of moving blocks to transform the physical landscape of the world and repurpose it for sites of industry, commerce, exploration, danger, excitement, play, and community. Just as alterations to a mountain range may disrupt certain senses of place even while opening up possibilities for new ones, so do revisions to *Minecraft's* landscape of cubes allow for the simultaneous destruction of old and creation of new places. In this sense, despite the game's apparent rigidity, place is a fluid phenomenon, always in flux, always being altered and made anew. A sense of place in the virtual world is also often formed within the community interactions that occur within that landscape, analogous to those that Kyle and Chick (2007) studied. Players on the *Mindcrack*

server often work together to transform space into impressive works of architecture. In these situations, individuals come together to interact and share over time, returning to the same locations to tap natural resources or to meet at sites of shared importance to engage in trade or assist with construction projects.

In *Minecraft,* the act of changing the world is necessary at a far more notable scale than in non-virtual communities. The rigidity of a world comprised of such oversized, non-divisible cubic units dictates that each individual action changes the world on a substantial scale. Furthermore, change itself is a key component of the virtual experience. Perhaps one reason for this is the inherent compulsion to accomplish things in the worlds of video games. This, coupled with the relatively low stakes involved in changing digital places and the relative lack of limits on physically impossible feats and structures, likely contributes to radical changes in the digital place. Moreover, in *Minecraft* little action can be taken without influencing place and the key mechanics of the game (mining and crafting, as exemplified in its title) substantiate the practice of converting an environment's raw materials into monuments of human ingenuity. These cyclical acts of destruction and creation are hard-wired into *Minecraft's* code and mirrored in the social practices of its community. But by perpetuating such caricatured and hyperbolic depictions of human-place interaction, they also magnify the nature of terrestrial practices in place taken up by people on Earth.

It is important to note one particular example of meaning- and place-making that relies on a resistance to environmental alteration. YouTuber "Phedran" is the curator of a collection of modifications (mods) for *Minecraft* that she calls *Life in the Woods*. These mods are provided together to encourage more purposeful attention to the in-game environment while seeking to preserve the tranquility of those environments. On her website, Phedran describes *Life in the Woods* as "all about exploration, simple living, self-sufficiency, creative expression and veganism; a *Minecraft* love letter to the writings of Henry D. Thoreau. The focus is on exploring, foraging, manual farming, hand crafting, and living in harmony with nature" (Phedran). In her own YouTube series set within the mod pack, Phedran seeks a subsistence-based game experience, choosing not to kill animals for food and building her modest shelters from locally sourced materials that she herself harvests. She does explore, but tries to do so with as little impact on her surroundings as possible. Phedran's choices in *Life in the Woods* as well as the values she seeks to encourage in others' gameplay through her description of the modpack emphasize the intrinsic value of digital place and a desire to minimize the necessary impacts one can have upon the places they inhabit, even if those places are found in video games.

In various ways, *Minecraft* players come to negotiate place in part through interaction with the game world itself and the landscapes that comprise it. This can take the form of voyages that emphasize the spatio-temporal changes in landscape through travel, direct modification of the landscape's building blocks for purposes of resource extraction or construction, or even resistance to modification and common abuses of landscapes coupled with a focus on environmental attunement and well-being. These various strategies for approaching the game all enable unique ways of being-in-the-game and embodying the place-ness of *Minecraft's* world.

4.4.2   Proximity

Even though *Minecraft* players are often separated from each other across the globe, the many players on the *Mindcrack* server come together regularly in *Minecraft's* space to participate in shared projects and events. Through the several iterations of their server world, they have tended to first establish a central hub of interaction near where players first arrive in the game when they log in. This "spawn town" grows with time, and sprawls across the landscape as the number of construction projects accumulate. The sprawl roughly approximates familiar urban sprawl in cities on Earth, and defines

Mindcrack as an urbanizing group. However, not everyone stays near the hub, and due to the flexibility of the gamespace, many maintain multiple residences in order to have the option to be solitary or social at any given time.

While many players have secondary residences a long distance from the urban center, *Mindcrack* has developed an ad-hoc tradition that often brings players to one another's bases: pranking. This practice started naturally when a few members decided to surprise each other with small inconveniences like hiding some resources or leaving large amounts of materials within their residences that then had to be cleaned out. The pranks tend to be good-natured and not destructive, but often prompt revenge pranks that can lead to lighthearted rivalries where two members will prank each other back and forth. The transit required to participate in the prank wars links players' locations across the server world, as they often need to travel to acquire resources to use for the prank, then to the target's residence to perform the prank, and then also back to their point of origin. In this way, the constant pranking serves as a way to maintain dynamic interaction between players, help the server members generate content (they often record videos about perpetrating or discovering the pranks), and remind players of their connections to each other in digital space.

Mindcrackers' ingenuity also leads them to invent and develop new ways of using in-game systems and share these with their viewers. In one case, they used the *Mumble* add-on to augment the game. *Mumble* is an unofficial add-on that allows all players on a *Minecraft* server to hear each other's voices (assuming they have a microphone and are talking), but only if the players are within a certain radius of each other. As users get closer to each other in virtual space, the volume of their voices becomes louder. *Mumble* incorporates a system that employs "positional sound" to compute these dynamic volume differences and take advantage of the properties of stereo audio. For example, if one player's avatar passes to the left of a stationary player while talking, the voice of the first player will get louder in the left side of the second player's headphones, and then fade out gradually as the moving player gets further away. The positional properties of players' voices assists in situating themselves spatially to one another, despite most often not being in the same geographical location outside of the game.

Interestingly, Mindcrackers do interact beyond the game as well. Over several years, many of the server's members have travelled to established gaming conventions or organized "meetups" when they happen to be close to each other outside of the game. When coming together at gaming conventions, Mindcrackers will often participate in public panels where they will answer moderated and audience questions. The tone of these panels is often lighthearted and friendly, indicating a strong rapport between members of the server. As can be seen in a recent example of such a panel (MindCrackNetwork, 2015), these exchanges can be quite loose as the members of the server exhibit a high degree of familiarity and comfort with one another (though they only rarely meet in person). This suggests that the social connections built through in-game proximity and familiarity may transfer well beyond the game itself, back into physical domains. Importantly, these events are key for bringing the server members and their fans into a common physical space, a step beyond the temporal proximity fans may experience when they watch the members' videos.

The importance of spatial proximity among those who inhabit virtual worlds is reinforced by collective construction projects among Mindcrackers as well as the use of *Mumble* for events in *Minecraft*. These practices demonstrate an engaged willingness to approximate the role of place-based interaction within virtual spaces as well. In this respect, players apparently seek to make *Minecraft's* digital worlds behave more like the physical world. Also, the preference for proximity indicates a close relationship between the approximation of voice and social interaction. Furthermore, the social

interactions server members have between each other as well as their fans at gaming conventions suggest that their digital place-based connections feed back into the physical spaces that they come together within.

4.4.3   Conflict/Cooperation

The place-making role of conflict within *Minecraft* communities may be best demonstrated through the popularization of one particular type of gameplay on multiplayer servers: Last-man-standing competitions. These lighthearted organized events are mini-games of sorts, another way to interact within *Minecraft*. From *Ultra Hardcore* (the challenging series of battles organized on the *Mindcrack* server), to those on larger public servers such as *Minecraft Hunger Games* (named for the successful book and film series that shares the same format), to similar "Survival Games" on *The Hive* public server, to ad-hoc fights organized across hundreds of smaller servers, last-man-standing competitions serve as a key substantiation of the important role conflict plays for negotiating place meanings.

On public servers, these lighthearted conflicts usually take the following form: All players begin in the center of a relatively small arena and must wait until the game begins. Then they have a limited time to disperse and collect equipment (such as swords, bows, or armor) and provisions before they become vulnerable to the attacks of others. Once the round begins in earnest, players must try to strategically attack their opponents while avoiding incoming attacks from others. One by one, players are dispatched until only one remains, who is then declared the winner. Then participants have the option to begin another game if they wish. It is important to note that there are no particular penalties for failing in these challenges. Players usually use equipment instanced on the server instead of materials they have acquired in their own private instances of the game. For public server competitions such as these, rounds usually last less than 30 minutes.

The organized competitions among *Mindcrack* members are somewhat more structured, with a set number of players (significantly fewer than on a public server, and all of whom know one another) gathering in a shared digital space before a series of commands spreads them throughout the game world. Then they must gather equipment and provisions from the environment as fast as possible, because they start the game with no materials. Once they feel confident enough, players may roam the landscape looking for each other. When they find another player, action-packed duels break out until one is defeated. Due to much larger environments and fewer players than on public server versions of this game type, the *Mindcrack* version usually takes much more time, and can extend several hours until there is only one player remaining.

Through the conflicts and trials they experience in these competitions, Mindcrackers often hone the way they most prefer to inhabit *Minecraft*: Some find they are better at combat specifically and so they spend their time traversing the game's terrain while hunting for others to defeat. Others play more strategically and hole up for hours, amassing an inventory of equipment before setting out and trying to ensnare their competition. While these conflicts always occur in fun as a form of play, they nonetheless illustrate the ways players make tangible sense of a digital world. Perhaps most tellingly, the use of conflict to create a sense of place mirrors the way inevitable conflicts in the world outside the game inexorably shift understandings of place.

Furthermore, players often partake in other competitions with strangers on public servers such as *The Hive*. This server provides several different games to play within *Minecraft*, many of them conflict-based. For example, "Cowboys and Indians" provides a digital place within which to playfully negotiate conflicts over land control. In this game mode, players are separated into teams. One team plays as

Native Americans while the other as cowboys. The goal is to capture the leader of the other team, similar to "capture the flag" but with a player *as* the flag and the inclusion of several combat abilities. Another team-based gamemode on *The Hive* is "Hide and Seek," in which players are either "hiders" who must blend into their environment or "seekers" who must expose the hiders. In either case, the challenge of interrogating the environment amplifies the immanence of the game world, as the arena's landscape must be closely inspected to either find an ideal hiding spot or to find a player who does not match their environment. It is worth noting that these two game types approximate common children's games that are not mediated digitally. These digital games have place-making practices in common with the childhood game "Cowboys and Indians" within which children can negotiate the imagined conflicts between natives and immigrants in early North American history (and simultaneously learn control and dominance behaviors). "Hide and Seek" is also a common social game for children, and gives them reason to explore the mundane places of their everyday lives in order to discover new aspects of these places while using the environment itself as a competitive tool.

Competition is not the only way that players can negotiate space collectively, though. As mentioned in the previous section, multiplayer activity on *Minecraft* servers often takes the form of collaboration, usually centered on specific projects. The members of *Mindcrack* and other servers are often very helpful and seek to assist each other. For example, after kurtjmac (2014) despaired in one gameplay video about the lack of progress he was making on a very large construction project, another member of the server donated a large amount of resources they had collected so that kurtjmac could continue with the build. Similarly, kurtjmac in turn collaborated with the server leader "Guude" on a statue of kurtjmac's avatar. This was part of a server-wide effort led by Guude to create each server member's avatar as a statue in a shared area of the server. Through this project, Guude collaborated with each member of *Mindcrack* and recorded a video with them reflecting on the history of their shared experiences within the server world. These activities contribute to a strong sense of community-building and collective ownership of the server world, providing opportunities for shared understandings of social space. These examples bring proximity and alteration together through social collaboration as a confluence of core processes key to place-making in *Minecraft*.

4.5   Summary

In light of comparisons between the physical and digital, it is evident that place is important to people and that it remains important across domains. While at times this may be problematic because similar complications and issues that arise in digital worlds can signal their pervasiveness beyond the game, these similarities may also be indicative of the consistency of human experiences, regardless of mediating platform. However, these platforms disclose the qualities of human interactions with and within space to varying degrees. Where other media may obscure place issues, the necessary active involvement of video game players through the alteration and change of their spatially situated environments grounds them in place. By playing alongside others, people in video games reaffirm the role of proximity to place-making as well. Finally, these social interactions often manifest as either conflict or cooperation within the game, and these interactions firmly establish gaming activities as building, maintaining, and challenging place meanings. Furthermore, by providing focused and constrained arenas of environmental presentation, specific video game places such as *Minecraft* serve as ideal frameworks within which to interrogate the role of place in society.

5. Conclusion

This study has argued that the video game world of *Minecraft* features physical and social places that, while digital, are no less real or meaningful than those outside the game. Furthermore, the material ways that humans interact within digital systems affirm video games' importance as a means of explicating held assumptions about the implicit role of place as connected with being. Because of this, attention should be paid to video games for what we may learn beyond the scope of their particular environments as well. To this end, the work of Donal Carbaugh on the value of listening in the context of place proves invaluable. Carbaugh's 1999 piece "Just Listen": "Listening" and Landscape Among the Blackfeet" underscores the importance of attention to one's physical, temporal, social, cultural, historical, and internal environment and describes the role listening plays in coming to terms with an understanding of the underlying ambient milieu that intentional perception can penetrate. Carbaugh calls listening "practice," and states that "in this practice of 'listening,' an activity and place become intimately entwined" (p. 257). To shift Carbaugh's perspective slightly, one may argue that activity and place are actually always entwined, but that the relationship between them becomes more intimate and meaningful the more listening is employed as practice. This perspective assists in challenging the dichotomy of "real" and "unreal" places.

In *Minecraft*, the essential parts of the digital experience consist of alteration/change, proximity, and conflict/cooperation. By changing (or refusing to change) their environment, players actively create meaning while they build and excavate. These meanings are socially reinforced through proximity when players interact together within online server worlds, a practice that is sometimes supported through the *Mumble* add-on that further blurs the lines between the actual and the virtual. To further substantiate the validity of their presence in the virtual space, *Minecraft* players often partake in large organized conflicts that, while playful, establish their roles in place. However, players often choose to collaborate with each other on projects as well. Taken together, these key aspects of *Minecraft* gameplay confirm important place-based experiences even within an environment mediated by machines.

Humans have a tendency to fill all places, both physical and digital, with their actions. As we do, these actions re-define place itself as we try to understand it even while living within it. This underscores the need to attend closely to the places we make use of throughout life so that we may make note of the implications our actions have. If (as Ash and Gallacher attested in 2011) the "virtual" worlds of video games are just as "actual" as physical worlds, it follows that the activities people undertake through video games such as *Minecraft* are also entwined with the places they inhabit in them. These actions and the meanings they facilitate are informed by the social aspects of lived experience, which in turn are influenced by the physical environment, even as the interactions and the landscape mobilize and transform each other. All is entwined, and all this is wrapped up in and may potentially be unwrapped by the practice of listening. If the *Mumble* add-on is any indication, video gamers are already engaging in such practices. For the uninitiated, through a focus on place-making in video games, the role of place in natural environments may well be better known.

6. Acknowledgements

References

Alahuhta, P., Nordbäck, E., Sivunen, A., & Surakka, T. (2014). Fostering team creativity in virtual worlds. *Journal of Virtual Worlds Research, 7*(3), 1-22. https://journals.tdl.org/jvwr/index.php/jvwr/article/view/7062

Alderman, D. H., Benjamin, S. K., & Schneider, P. P. (2012). Transforming Mount Airy into Mayberry: Film-induced tourism as place-making. *Southeastern Geographer, 52*(2), 212–239. http://dx.doi.org/10.1353/sgo.2012.0016

Amsden, B. L., Stedman, R. C., & Kruger, L. E. (2011). The creation and maintenance of sense of place in a tourism-dependent community. *Leisure Sciences, 33*(1), 32–51. http://dx.doi.org/10.1080/01490400.2011.533105

Ash, J., & Gallacher, L. A. (2011). Cultural geography and videogames. *Geography Compass, 5*(6), 351-368. http://dx.doi.org/10.1111/j.1749-8198.2011.00427.x

Bell-Gawne, K., Stenerson, M., Shapiro, B., & Squire, K. (2013). Meaningful play: The intersection of video games and environmental policy. *World Future Review, 5*(3), 244-250. http://dx.doi.org/10.1177/1946756713497472

Carbaugh, D. (1999). "Just listen": "Listening" and landscape among the Blackfeet. *Western Journal of Communication, 63*(3), 250. http://dx.doi.org/10.1080/1057031990937464

Chang, A. Y. (2011). Games as environmental texts. *Qui Parle: Critical Humanities and Social Sciences, 19*(2), 57-84. Retrieved from http://muse.jhu.edu/journals/qui_parle/v019/19.2.chang.html

Doyle, D. (2012). Transitional spaces: Consciousness, the imagination, and the avatar-mediated experience. In J. Gackenbach (Ed.), *Video game play and consciousness* (pp. 143-170). New York, NY: Nova.

Ferdig, R. E. (2014). Education. In M. J. P. Wolf & B. Perron (Eds.), *The Routledge companion to video game studies* (pp. 317-323). New York, NY: Routledge.

GameRankings.com. (2015). *Minecraft*. [Review aggregator]. Retrieved from http://www.gamerankings.com/pc/606524-minecraft/index.html

Gillath, O., McCall, C., Shaver, P. R., & Blascovich, J. (2008). What can virtual reality teach us about prosocial tendencies in real and virtual environments? *Media Psychology, 11*(2), 259–282. http://dx.doi.org/10.1080/15213260801906489

Hill, O. (2014, Sept. 25). *Yes, we're being bought by Microsoft*. [Web log]. Retrieved from https://mojang.com/2014/09/yes-were-being-bought-by-microsoft/

Huang, Y., Shen, C., & Contractor, N. S. (2013). Distance matters: Exploring proximity and homophily in virtual world networks. *Decision Support Systems, 55*(4), 969. http://dx.doi.org/10.1016/j.dss.2013.01.006

Hull IV, R. B., Lam, M., & Vigo, G. (1994). Place identity: Symbols of self in the urban fabric. *Landscape and Urban Planning, 28*(2–3), 109–120. http://dx.doi.org/10.1016/0169-2046(94)90001-9

Hutchison, D. (2007). Video games and the pedagogy of place. *Social Studies, 98*(1), 35-40. http://dx.doi.org/10.3200/TSSS.98.1.35-40

Jarmon, L. (2009). An ecology of embodied interaction: Pedagogy and homo virtualis. *Journal of Virtual Worlds Research, 2*(1), 3-9. https://journals.tdl.org/jvwr/index.php/jvwr/article/viewArticle/624

Jin, S.-A. A. (2009). Avatars mirroring the actual self versus projecting the ideal self: The effects of self-priming on interactivity and immersion in an exergame, *Wii Fit*. *CyberPsychology & Behavior, 12*(6), 761–765. http://dx.doi.org/10.1089/cpb.2009.0130

Kyle, G., & Chick, G. (2007). The social construction of a sense of place. *Leisure Sciences, 29*(3), 209-225. http://dx.doi.org/10.1080/01490400701257922

kurtjmac. (2014). Far Lands or bust! [Website]. Retrieved from http://farlandsorbust.com/about.html

Lomanowska, A. M., & Guitton, M. J. (2012). Spatial proximity to others determines how humans inhabit virtual worlds. *Computers in Human Behavior, 28*(2), 318. http://dx.doi.org/10.1016/j.chb.2011.09.015

Messinger, P. R., Stroulia, E., Lyons, K., Bone, M., Niu, R. H., Smirnov, K., & Perelgut, S. (2009). Virtual worlds - Past, present, and future: New directions in social computing. *Decision Support Systems, 47*(3), 204-228. http://dx.doi.org/10.1016/j.dss.2009.02.014

Metacritic.com. (2015). *Minecraft*. [Review aggregator]. Retrieved from http://www.metacritic.com/game/pc/minecraft

Miah, A. (2000). Virtually nothing: Re-evaluating the significance of cyberspace. *Leisure Studies, 19*(3), 211–225. http://dx.doi.org/10.1080/02614360050023099

Microsoft. (2014). *Minecraft to join Microsoft*. [Press release]. Retrieved from http://news.microsoft.com/2014/09/15/minecraft-to-join-microsoft/

Miller, K. (2007). Jacking the dial: Radio, race, and place in "Grand Theft Auto." *Ethnomusicology, 51*(3), 402-438. http://www.jstor.org/stable/20174544

MindCrackNetwork. (2015, Jan. 26). PAX South 2015 – Mindcrack panel [Online video]. Retrieved from https://www.youtube.com/watch?v=V2TGalWmg18

Nash, N., Lewis, A., & Griffin, C. (2010). "Not in our front garden:" Land use conflict, spatial meaning and the politics of naming place. *Journal of Community & Applied Social Psychology, 20*(1), 44–56. http://dx.doi.org/10.1002/casp.1013

Newman, J. (2013). *Videogames* (2nd ed.). New York, NY: Routledge.

Peluso, N. L., & Watts, M. (2001). Violent environments. In N. L. Peluso & M. Watts (Eds.), *Violent environments* (pp. 3-38). Ithaca, NY: Cornell University Press.

Persson, M. (2011). *Minecraft* [Computer software]. Stockholm, Sweden: Mojang AB. Retrieved from http://minecraft.net

Persson, M. (2011, Mar. 9). *Terrain generation, part 1* [Web log post]. Retrieved from http://notch.tumblr.com/post/3746989361/terrain-generation-part-1

Phedran. (n.d.) *Life in the woods*. [Game modification]. Retrieved from http://phedran.com/LifeInTheWoods

Pierce, J., Martin, D. G., & Murphy, J. T. (2011). Relational place-making: The networked politics of place. *Transactions of the Institute of British Geographers*, *36*(1), 54-70. http://dx.doi.org/10.1111/j.1475-5661.2010.00411.x

Poremba, C. (2007). Point and shoot: Remediating photography in gamespace. *Games and Culture, 2*(1), 49–58. http://dx.doi.org/10.1177/1555412006295397

Preston, J. M. (2012). Absorbed in video game play: From immersion to the development of consciousness. In J. Gackenbach (Ed.), *Video game play and consciousness* (pp. 143-170). New York, NY: Nova.

Relph, E. C. (1976). *Place and placelessness*. London: Pion.

Schweizer, S., Davis, S., & Thompson, J. L. (2013). Changing the conversation about climate change: A theoretical framework for place-based climate change engagement. *Environmental Communication, 7*(1), 42–62. http://dx.doi.org/10.1080/17524032.2012.753634

Simon, B. (2006). Beyond cyberspatial flaneurie on the analytic potential of living with digital games. *Games and Culture, 1*(1), 62–67. http://dx.doi.org/10.1177/1555412005281789

Spurlock, C. M. (2009). Performing and sustaining (agri)culture and place: The cultivation of environmental subjectivity on the Piedmont Farm Tour. *Text and Performance Quarterly, 29*(1), 5–21. http://dx.doi.org/10.1080/10462930802514305

Siitonen, M. (2014). Conflict. In M. J. P. Wolf & B. Perron (Eds.), *The Routledge companion to video game studies* (pp. 166-172). New York, NY: Routledge.

Squire, K. (2011). *Video games and learning: Teaching and participatory culture in the digital age*. New York, NY: Teachers College Press.

Stedman, R. C. (2003). Is it really just a social construction?: The contribution of the physical environment to sense of place. *Society & Natural Resources, 16*(8), 671-685. http://dx.doi.org/10.1080/08941920309189

Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. *Journal of Communication, 42*(4), 73-93.

Tate, A., Hansberger, J. T., Potter, S., & Wickler, G. (2014). Virtual collaboration spaces: Bringing presence to distributed collaboration. *Journal of Virtual Worlds Research, 7*(2), 1-14. https://journals.tdl.org/jvwr/index.php/jvwr/article/view/7090

Willox, A. C., Harper, S. L., Ford, J. D., Landman, K., Houle, K., & Edge, V. L. (2012). "From this place and of this place:" Climate change, sense of place, and health in Nunatsiavut, Canada. *Social Science & Medicine, 75*(3), 538–547. http://dx.doi.org/10.1016/j.socscimed.2012.03.043