

**CARTOGRAPHY, PLACE, AND IDENTITY IN VIDEO GAMES**

*Ruminations on video games as visual representations of space and identity.*

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In *Maps of the Imagination: The Writer As Cartographer*, Peter Turchi writes:

*An enormous amount of popular art, or entertainment, asks us to inhabit its world in order to escape from our own. More ambitious art invites us to inhabit its world but also see around it and beyond it—to see our own world through it.*<sup>1</sup>

Beyond traditional media of literary, fine, and performing arts, so too does Turchi's 'popular art' include video games—an often unexamined medium of expression. To differentiate themselves from other nonphysical "spaces" we might inhabit, such as literary spaces (as in Turchi's *Maps of the Imagination*) and worlds in cinema or other visual art, video game worlds use a blend of immersive visuals and interactivity. They also introduce uniquely game-derived and digital problems, such as discretized spaces and fixed boundaries to explorable areas. It is in the recognition of the video game medium and engagement with the play schemes within the game that the player can both play the game as an object in the real world while placing him or herself into the game world. The immersive player experience is a product of the interplay of external action and stimuli with internal game identity—a meshing of the game world and our own.

Before I go any further, let me lay out some definitions and clarifications on my range of discussion. Michael Nitsche's 2008 book, *Video Game Spaces: Image, Play, and Structure in 3D Game Worlds* will be referenced frequently as "Nitsche's book", simply. This essay mirrors and builds off of many of his proposed ideas, theories, and references. Nitsche lays out five "analytical planes" to video game spaces: *rule-based space*, defined by the programmed computer of the video game system; *mediated space*, or the purely visual presentation of a video game, the "image plane"; *fictional space*, or the imagined

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<sup>1</sup> Peter Turchi, *Maps of the Imagination: The Writer as Cartographer* (San Antonio: Trinity University Press, 2004), 67.

narrative world in the player's head; *play space*, or the physical area with the player, video game system; and *social space*, the "game space of other players."<sup>2</sup> In this essay I concern myself largely with the *mediated space* and *fictional space*—that is, the visual representation of the game world and how a player mentally constructs it. My final clarification is that of which games I want to denote when slinging around the term "video game"—namely, those that allow for an inhabitable places (whether in 2D or 3D). Nitsche, again, clarifies this in Chapter 12: "The game world [of *Pac-Man* or *Tetris* or otherwise] remains spatial but lacks the quality of a place. [This] does decrease the spatial and place-like significance the game world can achieve for the player."<sup>3</sup> By separating games that have *place* (that can be identified and explored in some way) from those with *space* (virtually all video games), we rule out a variety of mostly arcade-style games.<sup>4</sup> I emphasize video game worlds with spatially explorable, identity-defining, and interactive spaces—video games with "place."

Playing a video game is thus the reading of a cartographic object. At a purely visual level, many games contain mapping within them; games in almost any genre include in-game maps to the in-game environment. This "mini-map" (as they are frequently called) is only one layer of mapping among many: the mini-map lays out the cartography of the environment the character/player can explore, and that environment itself is a map for the possible functions and actions the player can make in the game space. Extending this further, the array of functions in the gamespace is a map to the

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<sup>2</sup> Michael Nitsche, *Video Game Spaces: Image, Play, and Structure in 3D Game Worlds* (Cambridge: MIT Press, 2008), 15-16.

<sup>3</sup> Ibid, 201.

<sup>4</sup> These include digital Scrabble, PopCap's *Bejeweled*, the *Guitar Hero* series (disregarding background visuals), and more.

computer-level code activity, a map (in the isomorphic sense) to the physical exchange of electrons at the circuit level. Each level in a video game—the topical visual level, the functional space, the code space, the electron space—is a map to the layer below it, in the sense that it helps clarify and reflect meaning of the more complex underlying structure. This is analogous to how, say, a topographic map simplifies and helps convey information about the world or landscape it depicts. Graphics are a method to give the player more intuitive understanding of how to play the game; they simplify the complex circuitry and code into recognizable, interpretable functional spaces and game spaces. When playing a game, the space and features visually conveyed to the player depict the player's options in the game environment—this is what I mean by the graphics being a map of the game's "function space." Once acquainted with the environment and control scheme, game visuals tell the player where his or her in-game avatar can move, or what tools are applicable in a given situation—just as the GUI<sup>5</sup> dictates what a user can do with a computer once the user knows what to look for and how to use a keyboard and mouse.<sup>6</sup> Having "folders" on a computer gives a skeuomorphic way of manipulating computer documents, and so too do graphical choices in video games. The depiction of a gun, for example, makes it clear that the player can "shoot" as a way of interacting with the game world. This conversion of gameplay functions into interpretable visual signs and inhabitable gamespace is an act of mapping; maps illuminate possible spaces and methods for "travel."

A natural understanding of in-game space runs into problems when the edges of the gamespace are pushed; video game worlds are unique because their omissions, blanks,

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<sup>5</sup> "Graphical User Interface"

<sup>6</sup> Nitsche, *Video Game Spaces*, 34.

and areas beyond their edges exist by virtue of the limiting medium rather than limited knowledge or accessibility. Take, for example, a standard video game device in which the world has built-in edges to limit player movement, an example of which we can see in Square Enix's 2008 DS game *Final Fantasy Tactics Advance A2*.<sup>7</sup>



Figure 1: Screenshot of *Final Fantasy Tactics Advance A2*. Image from <http://ds.gamespy.com/nintendo-ds/final-fantasy-tactics-a2-fuuketsu-no-guurimore/789530p2.html>.

In Fig. 1 you can see that beyond some landscape elements—trees, a giant tree stump, some small mounds—there is a hard edge and an abstract colorscape. Characters are not able to go beyond the edge of the field. The edges of video game maps, the kind seen in Fig. 1, are not quite the 'silences' that J.B. Harley describes in *The New Nature of Maps*. While they are "an active human performance"<sup>8</sup> in that the game designer consciously chose to place the edges where they exist, the nature of video games recognizes these blank "borderlands" as neither intentional withholding of information nor ignorance of uncharted territory (as in regular maps). They are, instead, voids in which no information

<sup>7</sup> A take-turn strategy game in which the player directs a "clan" of characters through a protagonist through a variety of battles to progress the narrative.

<sup>8</sup> Bernard P. Dauenhauer, *Silence: the Phenomenon and Its Ontological Significance* (Bloomington: Indiana University Press, 1980), 4.

exists to interpret or misinterpret—there is simply nothing beyond the edges yet to explore. While many games might imply the existence of more landscape beyond their edges (or the player might imagine them), it doesn't actually exist in the sense that there is no physical manifestation of anything, even at the level of electrons and circuits. Whereas "real" maps enjoy the fact that "the Earth itself was never blank,"<sup>9</sup> in video games, there are literal blanks where no territory exists.

What the player sees visually is thus exactly what exists in the representative space—there are no "hidden" visuals. Normal, non-game maps are used to depict spaces that exist in reality—they display information corresponding to a certain sliver of our 3D universe that the viewer could, in theory, experience himself or herself. Video game worlds act both as map, or reference to the territory, and, often, as the territory itself. Take, for instance, the 2001 Nintendo GameBoy Advance Release *Advance Wars*<sup>10</sup>. In it, the player views the game maps from an overhead view, as seen in Fig. 2.



Figure 2: Screenshot of *Advance Wars*. Image from [http://www.videogamer.com/gba/advance\\_wars\\_2/screenshot-3.html](http://www.videogamer.com/gba/advance_wars_2/screenshot-3.html).

<sup>9</sup> Turchi, *Maps of the Imagination*, 29.

<sup>10</sup> A take-turn warfare strategy game in which the player acts as a commander for various in-game units, such as tanks, platoons, and fighter jets.

To the player, this looks like a map he or she might be familiar with—the standardized icons for mountains, cities, and forests create a legend the likes of which are regularly found on normal maps. In these legends, each icon implies more; every "forest" icon of two trees actually represents a lush wood with its own territory and life. But at the "zoomed-out" perspective of warfare, those details are left out for easier reading of the landscape as it applies to the map-reader.

Except that this is not true in the gamespace. Each discretized, standardized icon of landscape is exactly what it is and nothing more—there is no way to explore that lush forest; it does not exist in any way except in the player's imagination. The map *is* the territory. And, as discussed earlier, the visual game landscape is a map to the functionality of the gamespace. Thus, the in-game landscape, a map of itself, is inherently linked to the actions the player is allowed to make within it. In contrast to the real world, in which only the laws of physics limit actions in any given space, the digital graphical representations and player input methods (controller or keyboard) inherently restrict the player's choices and ability to act in the world. In attempt to compress a universe into a playable, digital form, the game designer must combine the world with a representation of itself and inhibit somehow the player's ability to interact with their environment.

Compression is inherent in digital media (or any representational media, really), and, similarly to the omissions at space edges, present in video games in a way that changes the player experience. Imagine that things in the real world have  $(X,Y,Z)$  coordinates to describe their position, or an exact timescale they can be placed on. The numerical values to describe these positions in space-time would require nearly infinite decimal places (in your given choice of unit). The real world's level of fidelity is simply

too fine to simulate in a computer that exists at the same scale,<sup>11</sup> unless the simulation is the world itself. This approaches what Borges describes in *On Exactitude in Science*, wherein he imagines a map of the landscape is to scale with the landscape, and the existences of the two blend together.



Figure 3: XKCD Webcomic 1204, 26 April 2013, illustrating the gray area around when computerized models will approach fidelity of the real world. Image from <http://xkcd.com/1204/>.

When represented, digitally or otherwise, objects must be compressed, and compression comes through recognition of homogeneity, standardization, and simplifying mechanisms. This is very clear in cartography—a legend is inherently a method to strip unique detail from specific locations in order to standardize their representation. Monmonier writes:

*Cartographers themselves introduce uncertainty when they digitize lines, interpolate a surface from point data, or reduce map scale in order to squeeze a map into a markedly smaller format. Each of these processes is a form of modeling...*<sup>12</sup>

<sup>11</sup> I almost stated "the level of fidelity is infinite," but this is technically not true. There is evidence that our "real world" is a digital simulation, and some physical limits are the results of computer data thresholds. For an approachable introduction to this, read <http://www.technologyreview.com/view/429561/the-measurement-that-would-reveal-the-universe-as-a-computer-simulation/>

<sup>12</sup> Mark Monmonier, "Cartography: uncertainty, interventions, and dynamic display," *Progress in Human Geography* 30 (2006): 375.



It is the space lying between the discretized units of digital space, and the details within the folds of the homogenized representative icons, that make real spaces irreproducible absolutely. Human players, however, searching for an intuitive continuousness and seamless spatial experience, "fill in" the gaps in video game spaces, just as they do in cinema spaces, literary spaces, and representational maps themselves. The game entrusts players to imagine a cohesive space out of the limited information it can provide.

Just as a typical paper map can be read as an information-bearing series of lines, colors, and words, so too can a video game be thought of simply as a player's responses to discretized colored pixels on a screen. Maps can simply be "tools that can be used to explore and present spatial data"<sup>13</sup> in these digital bits. Yet when we discuss both paper maps and spatial video games, we talk of being in the spaces they are meant to represent—we place ourselves in an imagined world created by these the displays of information. Players inhabit the space on screen through avatars—"Video games encourage you to identify rather than sympathize—That's me! you say, not I feel for him."<sup>14</sup> This sense of identity *in* the space depicted, which work with avatar protagonists or non-identifiable playable characters,<sup>15</sup> set video games apart from other space-conveying media. Anecdotally, one does not say, "*I* ran through the rooftops chasing an international diamond thief" after watching, say, the latest in the *James Bond* film franchise. Likewise, when we discuss a novel, we talk about the characters' actions rather than our own as seen through the provided narrative. I credit this disembodiment to the

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<sup>13</sup> Jon Corbett and Kevin Wade, "Player Perspective: Using Computer Game Engines for 3D Cartography," *cartographica* 40 (2005): 113.

<sup>14</sup> "Cave Painting," *n+1*, 23 April 2010, accessed May 7, 2013, <http://nplusonemag.com/cave-painting>.

<sup>15</sup> Nitsche, *Video Game Spaces*, 88.

lack of player understanding and control of the space. Norberg-Schulz lays out a framework for why this is, saying, "[the player's] identity depends on his belonging to places,"<sup>16</sup> and that "belonging" is an orientation in the gamespace—an orientation that requires both visual input and player manipulability.<sup>17</sup> Movies, which do provide visuals (unlike literature, aside from picture books), limit the audience's experience to the cinematographer's choices rather than their own ability to navigate the space. Films thus provide less visual stimuli to facilitate in-media embodiment, versus the self-directed and controllable exploration in video games. (Although a video game without controls would simply be a movie, the visuals still represent the main channel through which the game environment is understood.) Non-interactive cinema-esque "cutscenes" in video games can actually inhibit a feeling of immersion or identity by disconnecting the audience from the interactive game layer.<sup>18</sup> If the player has a sense of being inside the gamespace, then they must exhibit a kind of embodiment—a sense of self and place—within that gamespace too.<sup>19</sup> (When I say *identity*, embodiment is largely what I mean—an association of self to something in the game world.) It is through the interactive and visual environment that the player gains a sense of agency and identity in the gamespace.

The first method by which video games facilitate in-game identity is in giving the player control and agency. A normal, non-gimmicky video game follows a formula: the player looks at a screen and puts in controls via some kind of controller (or, in the case of

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<sup>16</sup> Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzoli, 1980), 6.

<sup>17</sup> Nitsche, *Video Game Spaces*, 192

<sup>18</sup> Sheila C. Murphy, "'Live in your World, Play in Ours': The Spaces of Video Game Identity," *Journal of Visual Culture* 3 (2004): 232.

<sup>19</sup> James Paul Gee, "Video Games and Embodiment," *Games and Culture* 3 (2008): 253-263.

computer video games, a keyboard and mouse). The ability to kinesthetically manipulate (and, depending on the controller, receive feedback such as vibrations) the video game space affects how immersed a player feels and sets games apart from non-manipulatable media such as books, art, and movies. For one, it enhances the visual comprehension, as "spatial skills may be improved by interactivity."<sup>20</sup> The visual and tactile interaction work together to establish a sense of self, Murphy explains: "a video game's controls become essential to players' experience of a game and their ability to identify with the avatar they are operating."<sup>21</sup> Through use of the game's control scheme, the player familiarizes him or herself with the visual gamespace as well as the function space of the game; a player's understanding of space and agency is shaped by their interaction with the game world<sup>22</sup>. Video game designers, in comparison to authors, artists, cinematographers, and more, give their audience agency in navigating the spaces they have conceived through the provided control scheme. They allow for a participatory audience—one who will establish his or her own rules for the space, within the framework of the hardware and software. However structured the game, the player forms a localized sense of self in an environment, through the bits of the designer's imagined world they can experience and manipulate.<sup>23</sup> This happens with time and skill, just as one learns to read a map, and getting better at reading the map of the gamespace often corresponds to a better playing of the game.<sup>24</sup> One example comes to mind for me in Nintendo's 2001 GameCube release

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<sup>20</sup> Glenn Gordon Smith, Dan Majchrzak, Shelley Hayes, and Jack Drobisz, "Computer Games versus Maps before Reading Stories: Priming Readers' Situation Models," *Educational Technology & Society* 14 (2011): 160.

<sup>21</sup> Murphy, "Live in Your World," 231.

<sup>22</sup> Nitsche, *Video Game Spaces*, 159.

<sup>23</sup> Lev Manovich, *The Language of New Media* (Cambridge: MIT Press, 2002), 257.

<sup>24</sup> Nitsche, *Video Game Spaces*, 36.

*The Legend of Zelda: Wind Waker*,<sup>25</sup> wherein one of the in-game tasks requires the player to travel to certain specified islands within a time limit. The player can only complete the task within the provided time if he or she has intimate knowledge of the location of the islands in the game world and the shortcuts possible—there is not enough time to refer to the in-game map. With experience, the player develops more intuition with the playable possibilities in the gamespace, just as I could navigate a familiar room with my eyes closed.

Beyond the control scheme, the graphical display in video games is inherent to how we understand and embody ourselves within them. Even in high-fantasy or abstracted games, when provided an environment a player will be able to create a sense of self: "space is a supporting factor to bind the player into the game universe."<sup>26</sup> Other types of non-video games also cannot provide the immersive environment that video games can because of their lack of visuals—something as rich in fantasy narrative as *Dungeons and Dragons*<sup>27</sup> still relies on the player, largely, to imaginatively picture their character and the spaces. So too do older, non-visual video games, as articulated in an article in *The Guardian* by Keith Stuart.<sup>28</sup> While he argues that the imagination necessary in older videogames or tabletop games makes for a more immersive experience, I side

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<sup>25</sup> An action/adventure game navigated through a consistent avatar in an overworld made up of numerous small islands, each with their own landscape and dungeons.

<sup>26</sup> Nitsche, *Video Game Spaces*, 36.

<sup>27</sup> "DnD" is a tabletop role-playing game in which players manipulate figurines in imagined or sculpted miniature landscapes to tell free-form narratives.

<sup>28</sup> Keith Stuart "The lost art of video game cartography," *The Guardian*, 19 October 2010, accessed May 7 2013, <http://www.guardian.co.uk/technology/gamesblog/2010/oct/19/mapping-video-games>.

with the fact that "humans can take in the most information visually,"<sup>29</sup> lending video games to be the more wholly immersive medium through visual space. Technological improvements in graphics over time have expanded a designer's options in what and how they can depict his or her imagined worlds—recent games for the computer or platforms like Sony PS3 and Microsoft Xbox 360 can look barely distinguishable from real life. Game designers might chose to eschew a realistic, complex rendering of space, however, and instead create a 2D or simpler stylized world. While added detail or "accuracy" to real life might improve the "overall *feeling* [or familiarity] of the country,"<sup>30</sup> it is easy to dismiss realistic graphics as requisite for identity given the mass associations of self in non-realistic games (present in much of the literature cited in this essay). A choice of sparser or non-realistic visuals will only change the player's interaction with and feel of the space, rather than their ability to identity within it.

If the interface—visual and kinesthetic—frames how the player interprets video game spaces, how does he or she act within it? New media scholar Lev Manovich writes:

*The dominance of spatial exploration in games exemplifies the classical American mythology in which the individual discovers his identity and builds character by moving through space.*<sup>31</sup>

Gamespace exploration, itself a manifestation of player agency, is the way to individually experience a place and thus create an identity for a player. Exploration is an idea inherent in the creation and interpretation of cartography—it is the "feeling out" of a landscape, the spatialization and understanding of information. 'Exploration' as an action is an

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<sup>29</sup> Murphy, "Live in Your World," 234.

<sup>30</sup> John Noble Wilford, *The Mapmakers* (New York: Vintage Books, 2001), 470.

<sup>31</sup> Manovich, *Language of New Media*, 271.

widely used tool in video games, to spur creative play, engross the player, and structure the narrative. Turchi explains this:

*A common premise of [video] games is that they show the player only a very limited portion of physical 'space' at any one time. The key to success is [...] to find your way through the game's landscape, which is revealed only in fragments, creating mystery and suspense.<sup>32</sup>*

Video game environments are always broken into areas—either by edges, seen earlier in *Final Fantasy Tactics Advance A2*; impassable mountains, oceans, and other scenery; or a device I'll call "game fog." This is a tactic wherein the area around the protagonist (or the player's territory) is clearly viewable, but anything beyond is blurred, darkened, or otherwise covered.



Figure 4: *Advance Wars: Dual Strike* (sequel to *Advance Wars*) screenshot, highlighting the in-game "fog of war" to blur out enemy-dominated territory. Image from <http://lparchive.org/Advance-Wars-Dual-Strike/Update%2007/>.

*Advance Wars* uses this, making enemy territory darkened so that the player cannot see enemy tanks until they come within range of their own. This device splinters the game into areas of what the player can see at once, rather than through more concrete boundaries.

<sup>32</sup> Turchi, *Maps of the Imagination*, 106.

As Turchi describes, a successful game player is able to connect and navigate these broken up bits of landscape when exploring—I posit that they do so with the help of a consistent in-game identity that exists in all of the splintered game spaces. Namco's 2003 GameCube release *Tales of Symphonia*<sup>33</sup> allows me to illustrate the cohesion of place and identity amongst interplay of varied game spaces. Much of the game is navigated via an avatar (representing the player's party of travelers) walking around an overworld, in which the avatar is not to scale with the surrounding mountains and forests.



Figure 5: An oversized avatar is visible in the *Tales of Symphonia* overworld. Image from <http://www.gamespot.com/forums/topic/26132067>.

If the avatar touches a representational depiction of a city, dungeon, or other specific area, the game will switch into a corresponding area to scale with the avatar (still representational of a party of characters). This could be a city, with the boundaries defined by buildings the player cannot enter, or a dungeon with rocky walls to limit the extent of player exploration. If, in either overworld or city/dungeon/etcetera, the avatar physically runs into a monster avatar, the player enters a battlefield zone. In this view, all

<sup>33</sup> A single or multiplayer role-playing game in which the protagonist, Lloyd, is a consistent party member while other characters enter or leave throughout the plot.

members of the player's party (and the monster's party) are visible in a nondescript, flat battlefield. The background graphics within the battle zone reflect the territory of the avatar at the time of running into the enemy party.<sup>34</sup> In this arena, the player(s) are free to control their individual characters and move about the battlefield to defeat the monsters. *Tales of Symphonia* is only one example of the possible interplay between play zones when navigating territory; interactive mixes of them are present in nearly any video game. Across these jumps of scale, perspective, and interaction, the player stays engaged and understanding. Murphy explains why:

*One can begin an action or motion in third person perspective and toggle between third person and first person point-of-view at will. [...] Whichever perspective gamers choose, they still remain in control of an avatar's actions and movements throughout much of the game.*<sup>35</sup>

The interplay between visual with interactive engagement in the game world is what permits for a cohesive in-game identity. When visual jumps occur, the control scheme keeps their engagement; when in cutscene, the consistent visuals provide seamless narration. With his or her continuous identity in visuals and controls, a player is able to draw an unbroken thread between the fragmented game areas.

Games capitalize on the differences between depictions of places to encourage exploration (and other mechanisms) in gameplay. Just as Harley explains how a map is "never neutral,"<sup>36</sup> virtually all video game environments are meant to spur some kind of game play or use of the space. By catalyzing this action, games make clear that "rather than being narrated to, the player herself has to perform actions to move the narrative

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<sup>34</sup> E.g. if the player enters a battle while his or her avatar is in a forest, the background image in the arena will be woodsy.

<sup>35</sup> Murphy, "Live in Your World," 227.

<sup>36</sup> J.B. Harley, *The New Nature of Maps* (Baltimore: The Johns Hopkins University Press, 2001), 46.



forward."<sup>37</sup> The overworld in *Tales of Symphonia* is blotted out around the horizon, both because the player's computer or console cannot physically render the entirety of it at a processing level, but also to entice the player to walk a little further and uncover the unseen landscape beyond. "Omissions [...] provoke the imagination"<sup>38</sup> in addition to encouraging exploration or conquest.<sup>39</sup> The battlefield areas in *Tales of Symphonia* strip away all geographic features except the players and their opponents, to make it clear that the battle between them is the goal. James Paul Gee summarizes acutely, saying the "virtual world is designed to be attuned to [the] goals [of a virtual character]. [...] You, the player, act in the game as if the goals of your surrogate are your goals."<sup>40</sup> Games are designed to encourage certain kinds of behavior to progress the game or otherwise fit the game designer's goal through in-game characters—and in doing so they encourage player embodiment and involvement in the game world.

Like in other media designed for consumption, a video game environment is created *for* someone (i.e. the player) *by* someone else; gamespaces are not naturally occurring phenomena the way landscapes on earth are. As such, despite this placement of self in a video game world, like one does with a real world map, there remains recognition that it is an imaginary space. In other words, players enter gamespaces with a suspension of disbelief. One example of this is the Marc Owens' project "Avatar Machine,"<sup>41</sup> through which he investigates how the removal from recognition of the "real world" might make players take less responsibility for their actions. Distance from the

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<sup>37</sup> Manovich, *Language of New Media*, 247.

<sup>38</sup> Turchi, *Maps of the Imagination*, 47.

<sup>39</sup> Ibid, 33.

<sup>40</sup> Gee, "Video Games and Embodiment," 258.

<sup>41</sup> "Avatar Machine, Marc Owens, 2008," accessed May 7 2013, <http://www.moma.org/interactives/exhibitions/2011/talktome/objects/146230/>.

real world also manifests itself in an aspect video game maps share with mental cinema and literary maps: the ability to depict non-real spaces (either those that do not or cannot exist physically). Consider, for comparison, the impossible cinema space of Kubrick's *The Shining*.<sup>42</sup> Because the viewer only participates in the world through provided slivers of film, the camerawork places the participant in a space that cannot actually exist. This also happens in Mark Z. Danielewski's *House of Leaves*—in which the Navidsons' house is described as having larger interior dimensions than exterior.<sup>43</sup> Video games make liberal use of spaces that couldn't exist physically: even a game as simple as the 1979 Atari *Asteroids* allows the player to exit one side of the screen and reenter on the opposite end—not possible unless the game takes place on a elliptic plane. *The Legend of Zelda: Wind Waker* also makes use of this in one of the final dungeons, in which any number of doors led the character to the same place in a disorienting labyrinth. Yet to the player this is not a spatially (or philosophically) disorienting event in the game, it is simply a puzzle to navigate. The player accepts how the gamespace is provided to them—contradictory spaces, fragmented chunks, non-realistic graphics, and all—without question due to their realization of it as an imaginary, man-made world.

In a similar vein, players recognize that they can experience the same space differently; mental maps or understanding of video game worlds are treated with the same subjectivity of any space. For a non-video game example, see the variety in details and locations recorded in the multiple maps of Manhattan in Becky Cooper's *Mapping*

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<sup>42</sup> "Film Psychology THE SHINING," 19 July 2011, accessed 7 May 2013, <http://www.youtube.com/watch?v=0sUIxXCCFWw>.

<sup>43</sup> *House of Leaves* is also fascinating for its use of unconventional layout and typography to give the reader a more intuitive sense of the spaces described. An exploration of typographic senses of place is, however, best left for another essay.

*Manhattan: A Love Story in Maps*—despite all included maps being of the same place. This idea in video games became evident to me in a conversation with a friend about the home island (that is, the one on which the game begins) in *Wind Waker*. I couldn't recall the official name so I said "Pikmin Island," referencing the 2001 Nintendo GameCube release *Pikmin*. Immediately after saying this, I realized this was a term used between my brother and I, because the birds-eye outline of the island is shaped like the protagonist in *Pikmin*, Captian Olimar. I had formed my own nomenclature of the space based on my previous experience—shared with my brother. Although my friend and I were talking of the same digital space (one he called "home island"), my method of defining the space was unique to my internal definition of the island and was thus met with quizzical looks and further explanation. (For the record, the name of the island is "Windfall Island".) A similar argument is found in *Video Games, Identity, and the Constellation of Information*.<sup>44</sup> Through the results of study participants being asked to illustrate their resources for their game environment (all in Blizzard's 2004 *World of Warcraft*<sup>45</sup>), we establish that they all have different perceptions of themselves and the game environment that depend on their own approach to gaming and out-of-game influences. They fit into different realms of the game world: some focus on individual leveling-up, some focus on the social aspects, others on resource trading, etcetera. And these choices for identity establishing and orientating in the game are affected by external factors, such as *World of Warcraft* forums, guidebooks, family, friends, or other games they play. Players' game

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<sup>44</sup> Crystle Martin, "Video Games, Identity, and the Constellation of Information," *Bulletin of Science, Technology & Society* 32 (2012): 384-392.

<sup>45</sup> A "Massively Multiplayer Online Role Playing Game," or MMORPG, in which the player inhabits one character in an enormous online world, through which he or she interacts with other players to battle enemies and trade resources.

identities and experiences become fluidly intertwined with not only their methods of gameplay, but also their out-of-game identities and actions.

Video games deal with space, place, maps, viewpoint, and audience identity in their own unique way. They hold their own on the spectrum of cartographic media devices in their participants' methods of understanding and navigating the imagined worlds of the game designers. In video game spaces, players establish personal identities through a mesh of visuals, interactive control, and player agency. They learn how to "fill the gaps" in the digital world through individual interpolation and the formation of a cohesive in-game identity. It is through the digital universes of video games that we find human methods for organizing, understanding, and exploring spaces—all the while placing ourselves within them.