

Please note that the arguments from this chapter have been further developed in my monograph *Player Vs. Monster* (MIT Press, 2023).

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12

# Monsters by the numbers

## Controlling monstrosity in video games

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“This game is an atrocity,” a middle-aged woman says in a T.V. ad entitled *Your Mom Hates Dead Space 2*.<sup>1</sup> She is one of the two hundred “moms” selected for fake focus testing sessions, during which they were shown some of the most disturbing and violent scenes from the 2011 survival horror game. All of them feature *necromorphs*, grotesque monsters made out of recombined parts of human corpses. “Moms” scream when a monster jumps into view. When asked about their opinions of the game, they find the footage—which includes impalement and vomiting—disgusting. They wonder “why anybody would make something like this.” They “hate it.”<sup>2</sup>

The ad was a part of a more elaborate marketing campaign for *Dead Space 2*. Marketing an M-rated title as something gamers’ mothers will hate, the campaign was rather predictably criticized for its reliance on gender and generational stereotypes. While concentrating on these issues, the critics have overlooked an even more important instance of manipulation. The women are not *playing* the game; they are merely spectators. They are not allowed to face the monsters in the same way their supposed “sons” are—with a plasma cutter, javelin gun, or grenades. Without gameplay experience, their disgust and lack of understanding is much more pronounced.

The players, on the contrary, do know why somebody would make something like this. Much of the pleasure of the game stems from the interaction with the monsters—one of the reviewers notes that the “limb-shredding

precision of the plasma cutter is wonderful.”<sup>3</sup> As the players progress through the game, they discover strategies that will help them defeat the *necromorphs*. Rather than celebrating gore, the descriptions of monsters on the *Dead Space* wiki pages resemble systematic zoological accounts:

The act of strategically removing the limbs from the creatures is dubbed “Strategic Dismemberment” by the *Dead Space* game team. Each creature has its own strategies when it comes to dismemberment: some creatures will simply die after enough limbs have been removed, some creatures will die instantly if a specific limb is cut off, while some creatures will become even more of a threat if shot in the wrong place.<sup>4</sup>

Whereas the “moms” see (or are made to see) the monsters as scary, gooey abominations, the strategizing player sees them as challenges—as targets that follow certain rules, and that can be taken apart using a suitable method.

The players’ view represents a kind monstrosity that is specific to the medium of video games. Although video game monsters may *look like* the ones we know from genre films, they also move and act within simulated worlds, following the rules laid out by game designers. Driven by a constant demand for action and challenge, video games present us with monsters that can be analyzed and defeated. The medium’s computational and procedural nature makes monstrosity fit into *databases* and *algorithms*.<sup>5</sup>

This is not an isolated process; in the twenty-first century, more and more aspects of our lives and cultures are being digitized and ordered into databases, allowing for more efficient control over information flows as well as movement and actions of individuals. Deleuze describes these changes as a shift to *societies of control*, characterized by numerical evaluations and computing.<sup>6</sup> As video games are from the ground up designed to be controlled, they are a testing ground for the logic of the new societies; according to Galloway, they are “allegories for our contemporary life under the protocological network of continuous *informatic control*.”<sup>7</sup> Video game monsters, therefore, exemplify the way in which societies of control deal with and take advantage of enmity, threat, and challenge.

The reactions of “moms,” on the other hand, represent traditional understandings of monstrosity based on the monsters’ transgressive qualities. Carroll defines the monster as “any being not believed to exist now according to contemporary science.”<sup>8</sup> In his view, monsters are impure, because they transgress the categories and rules we use to understand the world around us.<sup>9</sup> The *necromorphs*, for example, provoke the emotions of “disgust” or “awe,”<sup>10</sup> because they are both alive *and* dead and they are both one *and* many. They represent a fantastic, non-existent biology.



**FIGURE 12.1** *Shooting necromorphs in Dead Space 2.* © 2011 Electronic Arts, Inc.

Kristeva approaches horror using the concept of the *abject*, arguing that the cause of abjection is “what disturbs identity, system, order. What does not respect borders, positions, rules. The in-between, the ambiguous, the composite.”<sup>11</sup> She distinguishes the *abject* from an *object*—the former is not “definable,” it is not “an ob-ject facing me, which I name or imagine.”<sup>12</sup>

Video games, however, make the player face the monsters. They do become objects of the player’s actions; their rules are clearly defined and ready to be scrutinized. What we are witnessing is a major shift in our conceptualization of monstrosity. The logic of informatic control has now colonized even the things we fear: our monsters, previously deemed to be inscrutable and abject.

This chapter argues that video games, the major new media form that has broken into the mainstream in the twenty-first century, produce and propagate a new type of monstrosity which follows the principles of informatic control. In order to understand this new monstrosity, we must go beyond visual and narrative analysis of the creatures and investigate them as objects of play and interaction, embedded within the designed systems of video games.

This new monstrosity is shaped by the fundamental features of video games. Video games are *rule-based* phenomena and their rules are encoded in the games’ software. This makes the new monstrosity knowable and unambiguous. Video games emphasize *action* and its effects in the game worlds. Their monsters therefore become targets of the player’s agency and are defeatable. Video games include elements

of both *free-form play* and *pre-designed challenges*. While the former renders monstrosity manageable and controllable, the latter turns the monsters into problems or puzzles that have their solutions. In the following sections, I will examine the effects of these features on video game monstrosity and investigate how this new monstrosity relates to the conditions of the societies of control.

## Rule-based: The origins of video game monsters

The first feature of the new type of monstrosity actually predates computers. Rules were one of the defining features of games investigated by the pioneers of the study of games in the mid-twentieth century. Already in 1959, Caillois pointed out that the “orderly” and “spectacular” nature of games is at the expense of mystery, secrecy, and doubt— notions that we traditionally connect with monstrosity:

Without doubt, secrecy, mystery, and even travesty can be transformed into play activity, but it must be immediately pointed out that this transformation is necessarily to the detriment of the secret and mysterious, which play exposes, publishes, and somehow *expends*. In a word, play tends to remove the very nature of the mysterious.<sup>13</sup>

By turning monsters into objects of play, the game dispels their mystery. But could this not be said about monster narratives, too? How are games, in this respect, different from traditional linear media?

Literature is able to keep the secrets concealed thanks to *indeterminacy*, most famously conceptualized by Iser. According to Iser’s theory of literary reception, the reader concretizes an image of a fictional world based on the clues she is given in the text<sup>14</sup>; the image is however perpetually incomplete.<sup>15</sup> This indeterminacy allows for a blurred and contradictory portrayal of monstrosity. Consider the following (non-)description of a monster by H. P. Lovecraft:

The Thing cannot be described—there is no language for such abysses of shrieking and immemorial lunacy, such eldritch contradictions of all matter, force, and cosmic order.<sup>16</sup>

While widely used in fiction,<sup>17</sup> indeterminacy cannot be utilized within the rule systems of games.

Juul theorizes games as hybrids of *rules* and *fiction*. The rules define what is possible in the fictional game spaces, including the actions of the player character and the monsters, while the fiction part contains background narratives, images, dialogs, and other pre-designed content. Taking *Dragon Age: Origins*, a role-playing video game with relatively transparent rules, as an example, I contend that while the fiction is likewise indeterminate—we cannot know every detail of the dragon–human relationships in the fictional world of the game—the rules are complete, clear-cut, unambiguous, and apply to all players. Juul sums this up by saying that rules are *real*, while fictions are not.<sup>18</sup> Whereas the killing of a dragon by an elf mage is a fictional event, subtracting hit points<sup>19</sup> from a variable in a data array assigned to a “dragon” is a real event. The rules that govern the behavior of video game monsters are thus indeed knowable—if not always known—by the player.

Monsters that obey the rules have been around longer than video games. Their precursors can be found in medieval bestiaries, in which fantastic creatures were described similarly to the *necromorphs* on the *Dead Space* wiki: the mantichore “is a beast found in India, with a triple row of teeth, the face of a man, and grey eyes ...; it stings like a scorpion and has a hissing voice. It is a powerful jumper, and it delights in eating human flesh.”<sup>20</sup> Medieval bestiaries were also predecessors of informatic control—they catalogued both real and fictional monsters and re-interpreted them as allegories of Christian morals.<sup>21</sup>

It does not come as a surprise that the “monster manuals” of the early role-playing games were made to resemble these medieval bestiaries, only with more precise figures. In the original *Dungeons & Dragons* pen-and-paper role-playing game’s *Monster Manual*, the dragon—a monster laden with centuries’ worth of meanings and interpretations—is described using a table of numbers. We can learn that a green dragon has a “breath weapon” that can create a 5” x 4” cloud of “chlorine gas,” has seven to nine hit dice and a 55 percent chance of being able to talk.<sup>22</sup> The monster manual is, in fact, monstrosity squeezed into a database.

Whereas medieval bestiaries attempted to situate unknown creatures within what was the known system of nature, games like *Dungeons & Dragons* created simulated natures of their own and populated them with creatures that followed their artificial laws and conditions. This is even more pronounced in video games, where rules are encoded in software and the referee—the computer—is consistent and unrelenting. The rules that uphold video games are based on logical operations and numerical representation. Video game monsters therefore cannot be contradictory or blurred—the medium renders monstrosity knowable and objective.

## Action and challenge: Motivation for elimination

Before I start analyzing video game monsters, it is important to identify their function in the video game medium. I have already stated that video game monsters become objects of the player's actions.<sup>23</sup> Video games are in fact a cultural form that presupposes action; they are an "action-based medium."<sup>24</sup> As *agency*—the "satisfying power to take meaningful action and see the results of our decisions and choices"<sup>25</sup>—is one of the main draws of games and other virtual environments, it comes as no surprise that so many games are built around destruction, which is a striking example of agency.

Monsters, however, are not static targets. The player is supposed to beat, outsmart, or otherwise overcome them using her logical or motor skills—challenge being one of the most basic and widespread design elements of video games.<sup>26</sup> A steady rhythm of incoming challenges contributes to the experience of *flow*,<sup>27</sup> a psychological concept revered by many game designers.<sup>28</sup>

Games have used monsters to challenge the player since the early arcade titles like *Space Invaders*.<sup>29</sup> Design-wise, they have certain advantages over computer-controlled human enemies. While the latter<sup>30</sup> may be expected to behave according to the current notions of what is "realistic," monster enemies allow for more freedom. They can relentlessly follow simple rules like the aliens from *Space Invaders*, or provide elaborate challenges like the *necromorphs*. Using monsters as foes also alleviates concerns about morality of in-game action,<sup>31</sup> because killing non-humans is likely to be considered less morally questionable than killing people.<sup>32</sup>

The player has a range of motivations to eliminate monsters. It allows her to progress in the game, accomplish its missions, and eventually beat it. In games like *Dragon Age: Origins*, the player is also rewarded by experience points (XP)—which can be used to improve the character's "stats" (such as strength) or "skills"—or loot, that may include in-game money or equipment that improves the character's chances in upcoming battles. In the process, the monster is transformed into in-game capital. When more capital is required, the player may turn to the practice of *farming*—accumulating XP and loot by means such as fighting unchallenging monsters.<sup>33</sup> Given how much this activity resembles work, it is no wonder that in multi-player games, *gold farming* has become a job for thousands of people in the developing countries who sell in-game capital for real money.<sup>34</sup>

Elimination of monsters can also earn the player trophies recognized outside of the game. Some of these involve completing arbitrary challenges unrelated to the game's primary goals. In the zombie survival game *Dead*

*Island*, one can for instance receive a trophy called “Hack & slash” for “killing 250 zombies using edged melee weapons.”<sup>35</sup> The trophy is then published on the player’s public gamer profile for other players to see, turning the achievement into *gaming capital*.<sup>36</sup>

In this section, I have explored how video games’ focus on action and its effects shapes their new brand of monstrosity. In order to maintain the level of challenge, games tend to provide a continuous influx of identical monsters.<sup>37</sup> Video game monstrosity is conquerable and can be processed into in-game or out-of-game profit. In this respect, video games mirror the inner workings of contemporary corporations, in which “challenges” and “contests” allow for dynamic evaluation of individual performances.<sup>38</sup>

## Emergence: Experimenting with monsters

Besides being challenges and opportunities for action, video game monsters become objects of play.<sup>39</sup> To cut through the web of meanings associated with the word *play*, I will once again rely on Caillois, who differentiated between two modes<sup>40</sup> of play: *paidia*, which involves spontaneous improvisation and “primitive joy in destruction and upset,” and *ludus*, which involves “reaching a solution” of an “arbitrarily designed problem.”<sup>41</sup>

The concept of *paidia* is essential to so-called *sandbox* games, in which the player can experiment with the game world without having to follow a strict narrative. The design of such games takes advantage of the principle of *emergence*. In the language of game analysis, emergence is the process in which a number of relatively simple rules combine to produce game events or chains of events unforeseen by the player and the developer.<sup>42</sup>

An example of emergence is the swarming behavior typical for one of the most famous monsters that blindly follows simple rules (or *a* rule)—the zombie.<sup>43</sup> Zombies continue to be among the video games’ most favorite monsters, as is evident from mainstream titles like *Dead Rising*,<sup>44</sup> *Dead Island*,<sup>45</sup> and *Left 4 Dead*,<sup>46</sup> all released within the last decade, and their existing or planned sequels.

Swarming has been traditionally seen as monstrous<sup>47</sup>; the non-localized anti-individualistic swarm defies our notions of sovereignty and has been used as a “metaphor for the opposite of Western liberal democracies.”<sup>48</sup> But while this emergent behavior has been considered threatening because it can slip out of control, zombie games are all about *performing* crowd control—or, better, *horde* control. In *Left 4 Dead*, the following tactic is recommended to fight the zombies:

If you know where a Horde is coming from, throw the Molotov at a choke point between the Horde and your teammates. Try to throw the Molotov just as they reach the choke point in order to increase the likelihood of burning the entire Horde before the flames expire.<sup>49</sup>

As is the case with emergence-based games in general, much of the pleasure of zombie games resides in the exploration of what can be done. Zombies can be lured into a trap and set on fire; to stop them from approaching, one can shoot their legs off. In *Dead Rising 2*, a game that borders on parody, they become objects of over-the-top experiments in violence. The main character can kill them using various improvised weapons including a *heliblade*, a combination of a toy helicopter and a machete. Given the zombies' slow movements<sup>50</sup> and softness of flesh, the effects of the player's agency are spectacularly vivid. The destruction of zombies' anatomy tends to be simulated in great detail—limbs are cut off; heads explode. *Dead Island* boasts that “layers of muscle and meat” are rendered beneath each foe, enabling for realistic “slicing and dicing” effects.<sup>51</sup>

Whereas the narratives of zombie games often tackle the biological and personal horrors of a zombie infection, zombies themselves become objects of play and experimentation; the “joy of destruction and upset” dominates the gameplay.<sup>52</sup> It is telling that George A. Romero described the more carefree and action-packed remake of his *Dawn of the Dead*, which featured many creative ways of killing zombies, as “more of a video game.”<sup>53</sup>

To sum up my arguments in this section, zombie games play with the tension between emergence and control. But while the two seem to be fundamentally opposed, Galloway and Thacker argue that global networks brought forth a “new alliance between *control* and *emergence*,” enabled by the protocol, which allows for distributed, non-hierarchical control.<sup>54</sup> Typical video game zombies represent emergence that is designed for the joy of control and agency, enabled by the underlying rules. In emergence-based video games, monsters become playthings.

## Algorithm: The monster as a puzzle

While the *paidia* principle turns monsters into objects of player experimentation, *ludus* turns them into pre-designed challenges. In the introduction, I argued that traditional conceptualizations of monstrosity saw monsters as strange and unfathomable; as epistemological challenges. This section will focus on bosses—monsters that strive to retain some of this challenge by



requiring the player to defeat them in new and unique ways. I will show that even these follow the logic of informatic control.

Bosses, like other monsters, are driven by algorithms that are contained within the rule systems of the games and encoded in software.<sup>55</sup> However, they are usually tougher, unique within the game, and exhibit more complex behavior. The player is expected to grasp their algorithms, discover their weak spots, and avoid their special attacks. Consider the following description of *Ganon*, a boar-like demon and the final boss of 1986's massively influential title *The Legend of Zelda*<sup>56</sup>:

Ganon will attack while invisible. Avoid his fireballs and swing the Magical Sword at where he appears to be. While many believe his movement pattern is random, close observation of his fireball's starting positions will reveal semi-circular, counter-clockwise patterns, which shift when a circuit is completed. [The main character] must use this to his advantage when predicting where Ganon will next be positioned. After he is hit a few times, he will turn red and be paralyzed. [The character] must shoot him with a Silver Arrow to finish him off.<sup>57</sup>

*Ganon* is a prototypical boss: He has special attacks (fireballs), special abilities (invisibility), and a weakness (vulnerability to silver arrows). As the player is learning of these, she is identifying the rational rules behind the seemingly "random" patterns of behavior and designing a strategy to defeat the monster.<sup>58</sup>

Similar puzzle-like boss monsters feature in contemporary action games. In the recent tongue-in-cheek action game *Shadows of the Damned*,<sup>59</sup> the game's main character—a demon hunter—eliminates one of the bosses, a horseman demon named George Reed, in the following manner: First, he must avoid Reed's attacks and wait for his horse to excrete horseshit that emanates an aura of darkness. The darkness reveals a weak spot on Reed's back, which is made visible. When Garcia shoots the spot, the horse rears, exposing another weak spot that has to be penetrated. This procedure has to be repeated several times before Reed dismounts from the horse and eats it, marking a beginning of the next phase of a multi-part boss battle.

While unique within the individual title, the algorithms of boss monsters tend to follow design conventions. In her close reading of the action game *Castlevania: Symphony of the Night*,<sup>60</sup> Fernández-Vara finds that Dracula, the game's main villain, has, on the level of rules, nothing to do with either Stoker's nor Lugosi's vampires—rather, that he is a stereotypical video game boss:

He does not bite or suck blood, he avoids contact with our hero, and throws fireballs, summons fire spirits and thunder whenever he opens his cape. ... Fighting Dracula follows a stock videogame routine of hits and misses and of summoning powers.<sup>61</sup>

While bosses receive special treatment from game designers, their behavior tends to follow the "video game routine," which consists of elements suitable for easy computational implementation. They let themselves be examined, revealing their weak spots, "telegraphing"<sup>62</sup> their special attacks and repeating their patterns of action. No matter whether the design of the monster's algorithms is creative or stereotypical, the player is expected to devise and perform a winning strategy. This strategy usually involves a carefully choreographed sequence of moves, adjusted in real time to react to the monster's actions.<sup>63</sup>

Unsurprisingly, the player's strategy itself resembles an algorithm. As Manovich puts it, "the similarity between the actions expected from the player and computer algorithms is too uncanny to be dismissed."<sup>64</sup> As opposed to traditional monstrosity, which was considered unintelligible, video game bosses can be defeated if the player discovers and internalizes their algorithms. Both the monster and the player are eventually subject to the algorithmic logic.

It is therefore possible even for the unique bosses to be *figured out* and, in Caillois's words, "published."<sup>65</sup> Like the author of the *Ganon* article cited above, the player can literally publish the solution on a wiki page and share it with others. The temporarily unknown then becomes knowledge, neatly organized in the form of a database.<sup>66</sup> Monstrosity is under (informatic) control.

## Conclusion

Traditionally, monsters were taken to represent "tokens of fracture within the human psyche"; they were supposed to be "unnatural, transgressive, obscene, contradictory, heterogeneous, mad."<sup>67</sup> Video games, however, make us think that we can indeed *know our enemy*. Monstrosity is now under the control of the empowered player. Although video game monsters are still made to *look* disgusting or awe-inspiring, their behaviors are dictated by algorithms that can be analyzed and described. They are slain by the hundreds and turned into rewards and mementoes of players' efforts and skills. Metaphorically speaking, they are ready to be "strategically dismembered," just like *Dead Space 2's* *necromorphs*.

This is due to both the numerical nature of the medium, and the principles of play it follows. According to Galloway and Thacker, games are:

[...] training tools for life inside the protocological network, where flexibility, systemic problem solving, quick reflexes, and indeed play itself are as highly valued and commodified as sitting still and hushing up were for the disciplinary societies of modernity.<sup>68</sup>

If video games are indeed training grounds for our lives in control societies, they teach us that even monstrosity, formerly relegated to the fringes of human experience, can be made visible and manipulable. In video games, like in surveillance systems, the hidden is to be revealed and the dangerous is to be eliminated.<sup>69</sup> This should concern cultural critics more than video game violence and the “disgusting” monsters.

Galloway and Thacker argue that games should be investigated not as “a liberation from the systems of production and exchange,” but as “the very pillars that prop those systems up.”<sup>70</sup> Being allegories of the societies of control, they do in many respects mirror their all-encompassing logic, under which the unknown must be conquered.

At the same time, I believe that they also provide opportunities to question this logic, although these have been largely untapped.<sup>71</sup> The allegory does not necessarily have to be *in agreement* with the values of the society of control. As the player learns about the rules and algorithms of the game, she may realize that the real foe—the actual monster—is the game itself; the game that makes us kill all these beasts in exchange for the promise of achievement and fun. But before the medium can address the monstrous in a way that does not reduce it to cannon fodder, game designers, players, and critics must realize how deeply entrenched in the logic of the twenty-first century informatic control video game monstrosity is.

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## Notes

- 1 *Your Mom Hates Dead Space 2* (Electronic Arts, 2011) <http://www.youtube.com/watch?v=nKkPFDEiC6Q&feature=relmfu>
- 2 *Your Mom Hates Dead Space 2 Behind-the-Scenes* (Electronic Arts, 2011), <http://www.youtube.com/watch?v=jri8LFci4xQ&feature=relmfu>
- 3 Jim Sterling, "Review: Dead Space 2," *Destructoid*, January 24, 2011, <http://www.destructoid.com/review-dead-space-2-192306.phtml/>
- 4 "Necromorphs," *The Dead Space Wiki*, n.d., <http://deadspace.wikia.com/wiki/Necromorphs/>
- 5 According to Manovich, computer programming reduces the world "to two kinds of software objects which are complementary to each other: data structures and algorithms." Lev Manovich, *The Language of New Media* (Cambridge, MA: The MIT Press, 2001), 223.
- 6 Gilles Deleuze, "Postscript on the Societies of Control," *October* 59, Winter (1992): 3–7.
- 7 Alexander R. Galloway, *Gaming: Essays on Algorithmic Culture* (Minneapolis: University of Minnesota Press, 2006), 106. Italics mine.
- 8 Noël Carroll, *The Philosophy of Horror, or, Paradoxes of the Heart* (New York: Routledge, 1990), 27–8.
- 9 Carroll, *The Philosophy of Horror*.
- 10 Timothy K. Beal, *Religion and its monsters* (New York: Routledge, 2002), 7.
- 11 Julia Kristeva, *Powers of Horror: An Essay on Abjection* (New York: Columbia University Press, 1982), 4.
- 12 *Ibid.*, 1.
- 13 Roger Caillois, "The Definition of Play and The Classification of Games," in *The Game Design Reader: a Rules of Play Anthology*, (ed.) Katie Salen and Eric Zimmerman (Cambridge, MA: The MIT Press, 2006), 124.
- 14 Wolfgang Iser, "Indeterminacy and the Reader's Response in Prose Fiction," in *Aspects of Narrative*, (ed.) J. Hillis Miller (New York: Columbia University Press, 1971).
- 15 Lubomír Doležel, *Heterocosmica: Fiction and Possible Worlds* (Baltimore: Johns Hopkins University Press, 1998).
- 16 H. P. Lovecraft, *Tales of H.P. Lovecraft*, (ed.) Joyce Carol Oates (New York: HarperPerennial, 2007).
- 17 Indeterminacy is also present, perhaps to a lesser extent, in film. In *Night of the Living Dead*, we receive plenty of visual information about zombies, but we can only see them from several viewpoints, selected by cinematography and montage.
- 18 Jesper Juul, *Half-real: Video Games Between Real Rules and Fictional Worlds* (Cambridge, MA: The MIT Press, 2005).

- 19** *Hit points* are a numerical representation of health condition, for both player characters and monsters.
- 20** Debra Hassig, *Medieval Bestiaries: Text, Image, Ideology* (Cambridge: Cambridge University Press, 1995), 121.
- 21** Hassig, *Medieval Bestiaries*.
- 22** Gary Gygax and Dave Arneson, *Dungeon & Dragons Volume 2: Monsters & Treasure* (Lake Geneva, WI: Tactical Studies Rules, 1974).
- 23** *Actions* include more than the button-mashing frenzy of “action” games. Moving units or characters around the battlefields of strategy and role-playing games is also action.
- 24** Galloway, *Gaming*, 3.
- 25** Janet Murray, *Hamlet on the Holodeck: the Future of Narrative in Cyberspace* (Cambridge, MA: The MIT Press, 1998), 126.
- 26** The pervasiveness of challenge has been criticized by some independent game designers, including the Belgian studio *Tale of Tales*, known for their meditative titles such as *Graveyard*. See Auriea Harvey and Michaël Samyn, “Over Games,” *Tale of Tales*, 2010, <http://www.tale-of-tales.com/tales/OverGames.html>
- 27** Mihály Csíkszentmihályi, *Flow: The Psychology of Optimal Experience* (New York: HarperPerennial, 2008).
- 28** Raph Koster, *A Theory of Fun for Game Design* (Scottsdale, AZ: Paraglyph Press, 2005).
- 29** Taito, *Space Invaders*, Arcade (Taito, 1978).
- 30** Human enemies in games—especially action games—are quite often on the verge of becoming monstrous themselves; to be able to “play by the rules” of the genre, they carry guns and other devices that give them superhuman powers.
- 31** For more about video games and ethics, see Jaroslav Švelch, “The Good, the Bad, and the Player: The Challenges to Moral Engagement in Single-Player Avatar-Based Video Games,” in *Ethics and Game Design: Teaching Values Through Play*, ed. Karen Schrier and David Gibson (Hershey, PA: Information Science Reference, 2010), 52–68; Miguel Sicart, *The Ethics of Computer Games* (Cambridge, MA: The MIT Press, 2009).
- 32** In some versions of the 1997 vehicular combat game *Carmageddon*, pedestrians were replaced by zombies (and red blood by green blood) to appease rating agencies. “Pedestrian,” *Carmageddon Wiki*, n.d., <http://carmageddon.wikia.com/wiki/Pedestrian/>
- 33** While the term originated in the multiplayer environment, it has expanded into the domain of single-player games. It is an umbrella term for a number of activities; killing low-level monsters is sometimes called *hunting*. See Richard Heeks, “Current Analysis and Future Research Agenda on ‘Gold Farming’: Real-World Production in Developing Countries for the Virtual Economies of Online Games,” *Development Informatics: Working Paper Series*, no. 32 (2008), [http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/documents/di\\_wp32.pdf](http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/documents/di_wp32.pdf)

- 34 Ibid.
- 35 Techland, *Dead Island*, PlayStation 3 (Deep Silver, 2011).
- 36 For more about achievements, see Mikael Jakobsson, "The Achievement Machine: Understanding Xbox 360 Achievements in Gaming Practices," *Game Studies* 11, no. 1 (2011), <http://gamestudies.org/1101/articles/jakobsson/>. The concept of *gaming capital* was introduced by Consalvo, who defined it as a complex of "knowledge, experience, and positioning" of a particular player, which is recognized by the wider subculture: Mia Consalvo, *Cheating: Gaining Advantage in Videogames* (Cambridge, MA: The MIT Press, 2009).
- 37 This is now also possible in film, thanks to CGI. The monstrosity brought about by CGI is actually very similar to video game monstrosity, mainly due to their shared tendency to make monsters visible and spectacular.
- 38 Deleuze, "Postscript on the Societies of Control," 4.
- 39 In this chapter, I use the word *game* to describe the artifact and the word *play* to describe the activity.
- 40 Video games utilize both of these modes. Although they are not mutually exclusive, games tend to favor one of them.
- 41 Caillois, "The Definition of Play and The Classification of Games," 141–2.
- 42 The foremost examples of games based on emergence are simulation games such as *SimCity* or *The Sims*. See: Juul, *Half-real*.
- 43 Already popular in horror film, zombies easily crossed over into the video game medium. This is not surprising given that already the early zombie films, such as *Night of the Living Dead*, had exhibited a strong focus on emergence—they were video games waiting to happen. In Romero's 1968 film, one zombie is scary but can be easily avoided, but when dozens of them mob a country house, the emergent results are horrifying. Classic zombie films focus on the efforts of men and women who are defending themselves against a zombie onslaught, imminent and relentless as if driven by unstoppable computer algorithms. See George A. Romero, *Night of the Living Dead*, 1968.
- 44 Capcom, *Dead Rising*, Xbox 360 (Capcom, 2006).
- 45 Techland, *Dead Island*.
- 46 Valve Corporation, *Left 4 Dead*, PC (Valve Corporation, 2008).
- 47 Carroll, *The Philosophy of Horror*.
- 48 Alexander R. Galloway and Eugene Thacker, *The Exploit: A Theory of Networks* (Minneapolis: University of Minnesota Press, 2007), 114.
- 49 "Molotov," *The Left 4 Dead Wiki*, n.d., <http://left4dead.wikia.com/wiki/Molotov/>
- 50 While *Dead Rising's* zombies are slow, *Left 4 Dead's* are fast; *Dead Island* has both slow and fast ones.
- 51 Josh, "Dead Island Announcement Trailer (Xbox 360, PS3, PC)," February 17, 2011, <http://www.videogamesblogger.com/2011/02/17/dead-island-announcement-trailer-xbox-360-ps3-pc.htm/>

- 52** Although not finished yet, the independent zombie survival simulation *Project Zomboid* offers another take on the zombie apocalypse, aiming to simulate its societal effects, such as “starvation, illness, loneliness, depression, alcoholism, drug addiction, suicide, insanity, trust issues.” Similarly, the game mod *DayZ* (unofficial expansion of the *Arma II* army simulation game) is a complex simulation of individual survival in a zombie-infested landscape. As opposed to mainstream zombie games, it does not avoid frustrating the player. Indie Stone Studios, *Project Zomboid*, PC, 2012; Dean Hall, *DayZ*, PC (Bohemia Interactive, 2012).
- 53** Simon Pegg, “Simon Pegg Interviews George A Romero,” *Time Out London*, September 8, 2005, <http://www.timeout.com/film/news/631/>
- 54** Galloway and Thacker, *The Exploit: A Theory of Networks*, 22. Italics mine.
- 55** While artificial intelligence is slowly but steadily gaining ground in game design, most monsters continue to follow arbitrary sets of rules designed for a desired level of difficulty. For more about AI in games, see Michael Mateas, “Expressive AI: Games and Artificial Intelligence” (presented at the Level Up: Digital Games Research Conference, Utrecht, 2003), <http://users.soe.ucsc.edu/~michaelm/publications/mateas-digra2003.pdf/>
- 56** Nintendo, *The Legend of Zelda*, Nintendo Entertainment System (Nintendo, 1987).
- 57** “Ganon,” *Zelda Wiki*, n.d., <http://www.zeldawiki.org/Ganon/>
- 58** There may be more than one winning strategy. Also, the player does not necessarily proceed by way of rational reasoning. Rather often, players try to defeat the monster in a trial-and-error fashion.
- 59** Grasshopper Manufacture, *Shadows of the Damned*, PlayStation 3 (Electronic Arts, 2011).
- 60** This is in fact one of the many games to feature the character of Dracula. Konami, *Castlevania: Symphony of the Night*, Sony PlayStation (Konami, 1997).
- 61** Clara Fernández-Vara, “Dracula Defanged: Empowering the Player in *Castlevania: Symphony of the Night*,” *Loading 4*, no. 6 (2010): 8.
- 62** A term used in the video game slang to describe the signal a monster gives when it is about to attack.
- 63** Encounters with boss monsters resemble Bollywood dance sequences—they take place in closed-off spaces and they need to be well choreographed and performed.
- 64** Manovich, *The Language of New Media*, 222.
- 65** Caillois, “The Definition of Play and The Classification of Games,” 124.
- 66** Before the *wiki*, this information was published in gaming press and on dedicated websites. See Consalvo, *Cheating*.
- 67** Richard Kearney, *Strangers, Gods, and Monsters: Interpreting Otherness* (London and New York: Routledge, 2002), 4–5.
- 68** Galloway and Thacker, *The Exploit: A Theory of Networks*, 115.

- 69** For further discussion of informatic control and surveillance, see Galloway and Thacker, *The Exploit: A Theory of Networks*; Mark Andrejevic, *iSpy: Surveillance and Power in the Interactive Era* (Lawrence, KS: University Press of Kansas, 2007).
- 70** Galloway and Thacker, *The Exploit: A Theory of Networks*, 115.
- 71** There are already a number of games that challenge typical video game monstrosity. The horror adventure game *Amnesia: The Dark Descent* obscures the monsters by making them virtually unbeatable. As the main character becomes “insane” when looking at a monster, the game dissuades the player from getting close to them, let alone examining them. The critically acclaimed game *Shadow of the Colossus* questions the ethics of monster-slaying. At the beginning, a mysterious voice promises its protagonist that after destroying 16 huge monsters—colossi—in a deserted fantastic land, his dead love will come back to life. The colossi, however, are not portrayed as evil, but as wonderful and solitary forces of nature. There are also no other foes in the game besides the colossi, which breaks the convention of the constant flow of challenge and makes the game a series of majestic boss battles. The colossi can be defeated as typical puzzle-monsters, with the twist of the hero being able to climb their towering bodies. His victories are, however, presented in a decidedly non-heroic way. As he keeps killing the colossi, his appearance deteriorates and he ultimately becomes a pale shadow of his former self. His—and the player’s—urge to kill monsters is questioned and it becomes clear that he had been tricked by the voice, just like the player had been tricked by the game. Frictional Games, *Amnesia: The Dark Descent*, PC (Frictional Games, 2010); Team Ico, *Shadow of the Colossus*, Sony Playstation 2 (Sony Computer Entertainment, 2005).