Respawn

Milburn, Colin

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At this point, it may seem perverse to venture a theory of green gaming—to utter the word “green” in the context of video games. After all, the video-game industry right now would seem to be a significant factor, a prime suspect, in the intensification of certain environmental problems, especially those associated with the worldwide production and disposal of consumer electronics. If we understand the video game, broadly speaking, as a particular assemblage of hardware and software, a medium that depends not only on the production of powerful computational devices but also on the expansion of the energy economy that enables these devices to operate, we therefore cannot speak of the video game without also conjuring a vocabulary of pollution, carbon footprints, greenhouse effects, habitat depletion, extinction: in short, the volatile language of environmental risk.

Let us briefly consider the scope of these problems, the penumbra of environmental hazard that surrounds the video game, from cradle to grave and beyond. The engineering of game hardware relies on scarce resources, including critical metals caught up in far-reaching geopolitical conflicts. For instance, the metallic ore columbite-tantalite, or coltan, is required for making the capacitors of many common electronic devices, such as mobile phones, DVD players, computers, and video-game consoles. Mined in several different countries—Australia, Brazil, Canada, China, Ethiopia, and the Democratic Republic of Congo, among others—coltan ore is processed into tantalum powder and then sold to high-tech developers all over the
world. As consumer appetites for all manner of electronic gadgets have been steadily growing in recent decades, the industrial market for tantalum has likewise kept pace. It is a matter of concern, to say the least.

The Second Congo War, for example, fueled in part by the mineral resources of central Africa, highlighted some of the unforeseen dangers related to digital technologies. A few commentators, not mincing any words, have even described the sprawling violence in Congo between 1998 and 2003 as the “PlayStation War.”2 The worldwide launch of the Sony PlayStation 2 in 2000 required the rapid production of a vast number of capacitors. But Sony could not meet the astonishing demand for its machine, due to an apparent shortage of tantalum on the open market. Thanks to the dot-com boom and the explosive growth of the mobile phone industry in the 1990s, much of the available coltan supply was already locked up in long-term contracts with other companies by the time Sony began to manufacture the new gaming console. The price of tantalum powder skyrocketed. In response, coltan mining in the rebel-occupied eastern region of Congo escalated for several years, helping to finance the invading forces from Rwanda and Uganda. Since then, coltan mining has continued to support armed conflicts in the region, even as some Congolese have come to see the ore as symbolic of their country’s crucial function in the digital age.3 Among the various human costs of the coltan operations, prisoners-of-war and children have been forced to work in the mines. As the former British Member of Parliament Oona King put it, “Kids in Congo were being sent down mines to die so that kids in Europe and America could kill imaginary aliens in their living rooms.”4

To address the mounting public unease about “blood coltan,” Sony announced that it long ago stopped acquiring any tantalum from illegal Congolese sources. However, it seems unlikely that the quantity of PlayStation 2 and later PlayStation 3 units distributed around the world could have been produced without some percentage of tantalum derived from black-market coltan, despite Sony’s best efforts to document the supply chain.5 Considering the complex international networks of transportation, processing, and brokerage that constitute the coltan trade, the number of intermediaries involved from the time ore comes out of the ground to the time tantalum powder and wires arrive at a manufacturing facility, global tech corporations are not always able to verify the specific source of these components, the origin of each atom of tantalum—and meanwhile, everyone else remains completely mystified.6

Whether in conflict zones or in more peaceful regions, the ecological impacts of coltan mining and other practices of resource extraction are
extensive, including the devastation of wildlife habitats due to deforestation, surface stripping, and erosion, as well as the pollution of water sources with runoff from the mines. Polluted water sources can cause negative effects all along the food chain. In some mining regions, there are further threats to wildlife. For example, in the Democratic Republic of the Congo, coltan miners have moved into protected nature reserves and national parks, not only disrupting habitats but also hunting animals in the area. The miners and the militia groups, far removed from their normal food supplies, often eat the local bushmeat—including endangered elephants and gorillas. Coltan regions have suffered a ruinous depopulation of several species, such as the Grauer’s gorilla. According to a report on the coltan boom published by the Dian Fossey Gorilla Fund and the Born Free Foundation, “The magnificent Grauer’s gorilla will become the first great ape to be driven to extinction—a victim of war, human greed and high technology.”

The problems don’t stop there. At the opposite end of the product life cycle, things look just as bleak. More and more gaming consoles, mobile devices, and computers are discarded as e-waste each year. Dumped into landfills or shipped on container barges to countries with less-than-stringent disposal regulations, they are often piled up in colossal heaps—sometimes set on fire, becoming infernos of plastic and metal—releasing toxic chemicals into the soil, the oceans, and the atmosphere.

So throwing them away entails some dire risks, it seems. Yet video games present environmental challenges even while they are being used, even while they are still loved and wanted by their players. For instance, the proliferation of powerful console systems and high-performance PCs around the world puts additional demands on existing electrical infrastructures. The energy consumed by these legions of gaming machines is enormous—and getting worse. By all measures, video games leave a sizable carbon footprint.

A 2007 Greenpeace machinima video called Clash of the Consoles emphasizes the scale of these issues. In the video, three iconic game characters—Mario (Nintendo), Master Chief (Microsoft), and Kratos (Sony)—confront the hazards posed by the manufacture and disposal of game consoles: “Three great heroes of the video game universe come together to battle the worst threat their world has ever known. Themselves.” Kratos, star of the God of War series, scoffs at a PS3 unit in his hands: “How’s one little box so dangerous? I’m here to battle, I’m the friggin’ God of War!” The narrator responds: “One console may not sound like a threat, but try sixty million.” The heroes now tremble as they face an enormous crumbling mountain of consoles (fig. 6.1). It begins to topple as the heroes dash off, in search of a better solu-
tion: “With no safe way to dispose of or recycle these toxic video game systems, the only way these heroes can survive is to race for the greenest video game console ever.” Yet even as Mario, Master Chief, and Kratos catch a glimpse of a glowing green console off in the distance, racing through a wasted landscape in pursuit of this chimera, the towering heap of discarded machines comes crashing down, rocking the earth while their backs are turned.

In this light, the term *green gaming* would appear oxymoronic, a mystification of its own material context. But even in this light, we might still consider how gaming might cultivate, provoke, or engender a cultural politics of green.10 This is not simply a question of whether game manufacturers might continue to improve the environmental profiles of their products—which they no doubt can and perhaps will, even as more and more devices are produced. Rather, it is a question of whether gaming can create the conditions of ecological awareness necessary to address environmental risk, as well as the risk that gaming itself represents—the perils of technogenic life.

A number of video-game developers have experimented with green gaming: the possibility that games (a game, any game) might contribute to green

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**Figure 6.1. Clash of the Consoles**: Kratos, Master Chief, and Mario face the tower of discarded gaming machines. Greenpeace, 2007.
politics, engaging players to recognize the precarious situation of our planet, and perhaps even providing the cognitive resources for actually doing something about it. Games with ecological themes have existed since the early days of the medium, to be sure. But green gaming would designate a specific form of gameplay and a narrative genre that posits the environment under threat, a conjectural state of imminent crisis, and tenders gaming itself as a meaningful response. Greening, in other words, as an affordance of gaming. By animating what the sociologist Ulrich Beck has described as “the anticipation of catastrophe,” vivifying the potential consequences of everyday pollution, wilderness depletion, and high-tech consumerism, these games would become sites of green action in themselves, digital laboratories for remediating ecological and geopolitical risks in advance.11

From a cynical perspective, the existence of such games might seem to be a simple case of greenwashing, something like a public relations effort to absolve the video-game industry and video-game players from whatever degree of responsibility they might have for the problems of e-waste, strip mining, carbon emissions, and so forth. But more optimistically, these games may contain in themselves the potential for change, or at least for hope. In this regard, we might consider three distinct modes of green gaming, each featuring different capacities for promoting ecological thought: the games of environmental discipline, the games of environmental control, and the games of environmental responsibility.

**Discipline**

Although the historian and philosopher Michel Foucault situated the societies of discipline in the eighteenth and nineteenth centuries, formal elements of disciplinary society still persist, especially in the politics of securitization that have become ever more pronounced in recent years. Foucault described the societies of discipline as characterized by a conceptual infrastructure—an episteme—configured as a grid: a series of enclosures, both material and discursive, for shaping social organization, knowledge making, and the production of individual subjectivity. A logic of containment, manifested in specific institutions and architectural spaces, began to emerge or take on new determinate forms in the modern era: the clinic, the public school, the army barracks, the factory, and the prison. Disciplinary society formulates specific types of subjects, that is, subject positions created and reinforced by the bureaucratic organization of social order. Among these, of course, is the criminal as a type of person: abnormal, deviant, outside the social order,
and yet also a category into which any normal person could risk sliding. Hence, the necessity of constant self-policing and self-surveillance. Foucault describes this condition of self-policing as the carceral function of modern society, the internalization of panoptic power: “He who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power; he makes them play spontaneously upon himself; he inscribes in himself the power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection.”

A majority of the video games that address issues of environmental risk and crisis operate through the carceral function, for they typically situate environmental hazards under the category of criminal behavior. Crimes against nature. These games ask the player to occupy two roles simultaneously, acting as the policing agent who discovers and confronts some illicit activity, which appears therefore as the source of all environmental risk, and simultaneously self-policing against the risk of falling into the category of eco-criminal. For example, in Sonic the Hedgehog, developed for the Sega Genesis/Mega Drive in 1991, the valiant hedgehog is pitted against the evil technologist, Dr. Robotnik, who is depicted as a gross polluter. Similarly, the 1993 Sega Genesis game Awesome Possum . . . Kicks Dr. Machino’s Butt features an intrepid possum who tidies up the wilderness by recycling discarded bottles (“I’m gonna clean up this world yet!”) while thwarting the industrial aspirations of the wicked Dr. Machino and his army of contaminating robots. In the 1992 Sega Genesis game Ecco the Dolphin, the courageous cetacean faces off against aliens from outer space. These aliens plunder the oceans, sucking up all the sea life in a totally unsustainable way, and only Ecco can stop them. Likewise, the teenage heroes of the episodic 2008 PC game Eco Warriors must battle an invading force of necrobots. Controlled by the sinister Ecomafia, the necrobots dump illegal nuclear waste and other hazardous materials all over Italy. After defeating the toxic bots, the team of eco warriors dutifully recycles their metallic remains.

While the Manichean structure of these games perhaps speaks for itself, pitting ecological crusaders and virtuous animals against evil others—overfishing aliens, dastardly polluters, poisonous machines—it is worth noting how frequently the games of environmental discipline portray the eco-criminal as somehow beyond nature: inhuman, inorganic, not of this earth. By repudiating the eco-criminal, these games would tacitly immunize the game-playing subject against the risk of falling into the space of abjection.

The operations of environmental discipline even become the plotline of the 2002 game Super Mario Sunshine, developed for the Nintendo Game
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Cube. Mario, Princess Peach, and a few other friends from the Mushroom Kingdom go for a holiday on the Isle Delfino. This island country has the shape of a dolphin—a familiar icon of environmentalist thought—and its energy infrastructure is driven by “Shine Sprites,” creatures of solar power. When Mario and the gang arrive, they immediately discover that the island has been contaminated with glowing toxic waste. Slicks of “icky, paint-like goop,” pools of acidic sludge, and splashes of graffiti are everywhere (fig. 6.2). The horrible pollution has driven away the Shine Sprites, and the island is now falling into darkness. The islanders have seen a shadowy figure resembling Mario at the scene of each crime.

The police arrest Mario, accusing him of befouling the island. He is abruptly put on trial: “The accused is charged with polluting our beautiful home, and yes, threatening our very way of life.” To the islanders, Mario represents a danger to the environment (“our beautiful home”) and the social order (“our very way of life”), and he is not even allowed to defend his innocence (fig. 6.3). At this moment, the game represents the democratic system in a state of exception: the extralegal suspension of the law in the name of public good, the failure of rules and procedures when the law faces an enemy of the nation, an enemy of natural order. On the evidence of his appearance alone, Mario is sentenced to clean up the island. The rest of the game involves Mario washing up the mess and trying to redeem his reputation. He eventually discovers that the son of his archnemesis Bowser is

Figure 6.2. Super Mario Sunshine: Mario and friends observe the spreading pollution on the Isle Delfino. Nintendo, 2002.
the real culprit, having disguised himself as Mario in order to frame him. Eventually, Mario trounces the monstrous Bowser and Bowser Jr., restores ecological purity to Isle Delfino, and returns to the status of hero, no longer tainted by association with the sinister shadow-Mario, the eco-criminal.  

*Super Mario Sunshine* casts the eco-criminal as outside the natural and social orders: a figure who undermines society precisely by contaminating the environment. At the same time, in representing the act of environmental defacement through a parodic narrative of executive power and the legal system, it underscores the worry that anyone might blunder into eco-crime, that anyone might inadvertently find themselves on the dark side. Hero and villain are thus represented as mirror images of each other. In this game, the legal system is incapable of securing true justice without the intervention of a virtuous plumber who actively polices against his shadow self. It presents a startling literalization of Foucault’s carceral logic. Like other games of environmental discipline, it depicts environmental risk as the result of illicit behavior—a deviancy that likewise threatens the interiority of the good citizen-subject, the good gamer, who therefore must be self-disciplined. Such games body forth an obligatory vigilantism, a form of policing in excess of the law: constant vigilance against pollution and the perils of self-pollution.

And yet, insofar as games like *Super Mario Sunshine* pivot on Manichean narratives, where mistaken identity might blur the distinction between hero and villain for a short while but never ultimately disrupt the sense in which the hero-avatar must stand for the forces of nature against the unnatural
forces of desecration—where truth and justice are all sorted out correctly in the end—they ultimately affirm the game-playing subject as virtuous, clean, and nonpolluting. Though there may be danger of becoming a polluter, or at least charged as one, the ecological condition of the game player remains pure and disciplined.

In this respect, we might question the extent to which the games of environmental discipline could ever achieve an effective green politics. They prescribe normative behavior, a proper relation to the environment. They lay down the law. Yet any eco-crime they might commit themselves—as accessories to e-waste or toxic pollution, for example—is excused by their own narrative apparatus. This narrative organization positions the origin of environmental risk beyond the zone of playability, that is to say, outside the player's zone of responsibility. By conjuring eco-crime as irredeemably other and beyond legality, these games, in order to remain playable, must suspend the very laws that they have themselves posited. They must insist on a state of exception to their own green logic: eco-crime is not a crime if it is, as they say, just a game.

Control

In his short essay “Postscript on the Societies of Control,” the philosopher Gilles Deleuze argued that the disciplinary formations of the modern era have been eroding away since the middle of the twentieth century, replaced by mechanisms of control:

We are in a generalized crisis in relation to all the environments of enclosure—prison, hospital, factory, school, family. . . . It’s only a matter of administering their last rites and of keeping people employed until the installation of the new forces knocking at the door. These are the societies of control, which are in the process of replacing disciplinary societies. . . . [T]he different control mechanisms are inseparable variations, forming a system of variable geometry the language of which is numerical (which doesn't necessarily mean binary). Enclosures are molds, distinct castings, but controls are a modulation, like a self-deforming cast that will continuously change from one moment to the other, or like a sieve whose mesh will transmute from point to point.15

As we note in Deleuze’s language of numerical systems and modulations, he saw the societies of control constituted under a general compliance to feedback regulation, that is, the logic of cybernetics, classically described as
the science of control and communication.¹⁶ Deleuze understood postmodern societies to operate through feedback control rather than disciplinary power. The individual is no longer contained in a specific subject position or architectural space, normal only to the degree of avoiding abnormality, but rather distributed among other elements of the social system, transformed as statistical data, algorithmic models, risk calculations, and online passwords. The individual, according to Deleuze, becomes “dividual”: an assemblage of components each subject to the regulatory mechanisms of control, whose prototype is the thermostat.

The thermostat keeps environmental conditions in dynamic equilibrium, oscillating around a fixed temperature. If the temperature in a house gets too cold, this information becomes input for the thermostat, which triggers the heater to warm things up; if this output now overshoots the set point, the information is once again input for the thermostat to turn the heater off or trigger the air conditioner, and so forth. A feedback cycle with no surveillance necessary, no sovereign or disciplinary power: it is autonomous, coordinated by the dumb mechanism.

Cybernetic logic informs popular discourse, everyday thought, as much as the fields of science and engineering. Even the sciences of environmental systems—from evolutionary ecology to geoengineering—draw on a cybernetic vocabulary to comprehend the circulations and transformations of matter, energy, and information across different scales.¹⁷ And this is why so many video games, in addressing environmental risk, explicitly thematize processes and practices of feedback control. By locating environmental risk in the feedback loops between ecosystems, technological infrastructures, and the routines of everyday life, such games often present themselves as models of regulatory governance. They simulate the operations of sociotechnical networks so as to train players to better inhabit such systems and administer them from the inside. Procedures of cybernetic management and informatic coordination inflect the narratives as well as the ludic mechanisms of these games, manifested in the playing. As Alexander Galloway has written: “Video games are allegories for our contemporary life under the protocological network of continuous informatic control. In fact, the more emancipating games seem to be as a medium, substituting activity for passivity or a branching narrative for a linear one, the more they are in fact hiding the fundamental social transformation into informatics that has affected the globe during recent decades.”¹⁸

The imagination of control has certainly inspired a surge of energy-awareness games, including *The Energy Balance, Energy Hog, Energyville,*...
Stop the Guzzler!, Power Planets, and CityOne. These games feature interactive simulations of petroculture, focusing on the electrical infrastructures of industrialized nations, the habits and demands of high-tech consumers, and the vampiric nature of domestic appliances. For example, in the 2010 Nickelodeon game PowerHouse, players are tasked with reducing the energy consumption of various rooms in a private home to more environmentally friendly levels: “This house has some major energy usage issues. But you can solve them, if you figure out where energy is being wasted. . . . Be creative! Stay strong! You have the power to save power!” The game’s instructions make it clear that behavioral modification is the goal. In playing the game, we learn how to live more efficiently and save the world in the process: “Get every room’s power meter in the green, and you and the planet are both winners!” It is, essentially, a game that turns the player into a thermostat (fig. 6.4).

In 2006, Magnus Bang and his colleagues at the Interactive Institute in Sweden designed a similar game, also called The PowerHouse. It involves managing a household of seven people, trying to keep all of them happy while also balancing resource usage to achieve a more sustainable lifestyle.
It deliberately implements aspects of games like *The Sims* to motivate the player to keep playing, to learn the rules (the only viable solutions to energy reduction are those already programmed into the software) by spending more and more time at the computer: “Operant conditioning is a crucial component in almost every computer game. In the PowerHouse, we have applied different kinds of conditioning. Sound and visual effects attuned to the target group [teenage gamers] have been implemented to motivate users to stay at the computer. . . . The player also gets direct feedback in terms of bonus points immediately after executing a correct behavior in the game, for example when the microwave is used instead of the ordinary electrical oven. Naturally, the goal is to encourage players and direct them to perform the right actions.”¹⁹

In asking players to optimize the domestic environment, discovering the rules of “correct behavior” and “right actions,” *The PowerHouse* also narrates their subordination to the algorithm, oscillating within the parameters of better and worse choices. Programmed feedback and operant conditioning are part of the story, crucial to the winning experience. The game features a Big Brother figure, modeled after a TV game-show host, who watches over things and gives advice about how to proceed. Following the host’s advice leads to rewards; ignoring it leads to less desirable outcomes. The player is in charge of the characters in the household, but success in the game means learning how to align the actions of characters with the advice of the host, who represents the rules of the energy economy, that is, the rules of the algorithm itself. Like other games in this genre, *The PowerHouse* persuades players to recognize, on the one hand, the cybernetic conditions of their own domestic spaces, and on the other hand, the possibility of a set of green practices that might modulate homeostatic conditions. It assiduously foregrounds our functionality as consumers in existing systems of energy production and distribution, vast networks that we engage only as end users, adapting ourselves to the infrastructure in order to make it work more efficiently.

The decentralized regulatory mechanisms of these energy networks are made yet further evident in a prototype game created by Bang and colleagues called *PowerAgent*:

The person playing *PowerAgent* has the role of a secret agent, and the mobile phone is the main agent tool. Via the phone, the boss, the mysterious Mr. Q, gives the player special missions to save the planet from the energy crisis. . . . [Each mission] contains a suggestion on how to act in order to be energy efficient in the upcoming real-world task,
and it also holds information on how to influence family members. . . .

Typical missions include (1) adjusting the heating in the house, (2) washing clothes, (3) cooking food, (4) switching off all stand-by appliances, and (5) minimizing the total household energy use for a day. . . .

The mobile phone is connected to special equipment in the home that measures the use of electricity and heat water during the missions. In this way, it is possible for us to provide feedback on the success of the missions and reinforce behaviors that are appropriate from the standpoint of energy conservation.20

*PowerAgent* draws attention to the ways in which power—in all its forms—now operates through self-regulating modalities. They are self-contained: the outside is already inside, an object defined by the program. Even the boss is nowhere but inside the mobile phone—indeed, the boss is the mobile phone (fig. 6.5). The figure of social authority (boss, governor) appears as a terminal of the information network, a node in the computational architecture. What *PowerAgent* makes perfectly clear is the degree to which we are embedded in systems of control; we are mere accessories, invisible facilitators, *secret agents* of the power grid. We may be given specific tasks to improve functionality, or to keep things calibrated, but we are not ever outside—no more and no less than the boss. Our actions—the success of our missions, the reinforcement of our behaviors—may perturb the system, which eventually adjusts itself around the perturbation, resetting to new parameters, but they do not affect the formal dimensions of the system itself.

There is no outside imaginable in the games of environmental control. Unlike the games of environmental discipline, which establish a space of criminality beyond their own playable standards of virtue, the games of environmental control body forth the conditions described by Deleuze, which culminate in the “conception of a control mechanism, giving the position of any element within an open environment at any given instant (whether animal in a reserve or human in a corporation, as with an electronic collar).”21

Players of such games concede to the rules of the algorithm and, in some cases, automated systems of surveillance. To play *PowerAgent*, for example, you must install “special equipment in the home.” Likewise, the 2011 *Power House* game developed by Stanford University, Kuma Games, and Seriosity required players to register their home utility SmartMeter and sign an informed-consent agreement, allowing the game to access information from their monthly utility bills. The energy-usage data became the basis for the self-deforming and reforming gameplay experience.22
Such games function according to logistics of infrastructure that cannot—or at least, this is how the societies of control perceive themselves—be radically changed, hacked, or reconfigured. They can only be modulated. This becomes especially clear in games such as SimCity, Tropico, and Alpha Centauri, which offer simulations of city planning or planetary engineering. These so-called god games, which empower players to decide specific elements of socio-ecological existence—for instance, whether to use coal, nuclear, or solar energy—actually lay bare the structural limits on meaningful change under existing regimes of technoculture, even as we are given more and more choices for clean energy and efficient technologies. Each of these games allows modification of certain features or parameters as the simulation progresses, but the system (the simcity or simplanet) presents itself as self-adjusting to these choices, running out the effects of any given alteration without impacting the nature of the algorithm as such, the programmed rules of possibility. Even the 2013 version of SimCity, for example, which emphasizes the ecological consequences of industrial development and the benefits of alternate energy sources, nevertheless concedes to prevailing logistics of infrastructure, the path dependencies of inherited sociotechnical systems. As one player complains, “The new SimCity [only] allows people to create car-dependent 1950s-style developments: 1) No subways; 2) No bicycle
infrastructure; 3) No mixed-use development to encourage walkability; 4) The allowed density of development is tied to the size of the road, which makes no sense. It’s great that SimCity allows people to see the impact of pollution on their Sims, but in terms of urban planning ideas, the new SimCity is stuck in 1950 suburban sprawl mode.”

Tweak the parameters, yes, but not the system itself. Greener, yes, but not quite green.

Responsibility
In contrast to the games of discipline and control, there are the games of environmental responsibility. These games do not correspond to an established form of social or epistemic organization. After all, societies of responsibility do not actually exist. Not yet, anyway. They remain conjectural. But this mode of green gaming would render responsibility as a technopolitical disposition, an emergent capacity. In her book When Species Meet, the historian of science Donna Haraway writes, “Response, of course, grows with the capacity to respond, that is, responsibility. Such a capacity can be shaped only in and for multidirectional relationships, in which always more than one responsive entity is in the process of becoming. . . . Responders are themselves co-constituted in the responding.”

The games of environmental responsibility animate our capacity to respond, to affect and be affected, to engage with others: other species, other people, and the otherness of our own planet. These games attend to their own involvement in the networks of the energy economy, while also drawing attention to players’ culpability in enjoying media technologies that pose so many risks to the environment. So they represent a kind of counter-gaming, gaming turned against itself. They rely on a certain subtlety, a certain faith in the power of irony. But their self-critical interventions are intensified by the interactive qualities of video games as a medium. Immersive engagement, which is to say, playing, heightens these ironies in ways that render responsibility palpable—shaped by systems of control, to be sure, and yet immanently transformable, open to the possibility that things could be otherwise.

A notable example is the game Tasty Planet, developed in 2006 for Mac, Windows, and Linux by the Canadian company Dingo Games and then later ported over to smartphones and touchscreen tablets. In this game, the player takes the role of an out-of-control nanotechnology blob—a gray goo. Originally invented as a bathroom cleaner, the goo proves to have unintended consequences (fig. 6.6). Indeed, it begins to devour the world. Tasty Planet
is a game about consumption. The point is to consume everything onscreen, absorb it, grow larger. The more the goo consumes, the more it can consume. The larger the goo, the larger the objects of its delectation. In the first levels, it can only eat molecules and microbes, but it soon progresses to higher organisms, cities, entire ecosystems, eventually growing so large that it can eat Earth itself, all the planets in the solar system, and ultimately, the fabric of spacetime as such.

The game presents an allegory of technological consumerism and the environmental impacts of our cultural appetites, the desire to guzzle more and more resources in order to grow, develop, expand: a neoliberal fantasy turned nightmare. The opening comic strip of the game presents the gray goo, our avatar protagonist, as the product of technoscience gone wrong. A laboratory experiment to develop a more efficient way of cleaning our private, domestic environment ends up destroying the common, planetary environment. It is unleashed upon the world though an act of industrial misconduct: the scientists, realizing that their invention has gone out of control, simply flush it down the drain. The allegorical elements are further sharpened in the sequel, *Tasty Planet 2: Back for Seconds*, in which the gray goo, prior to eating the whole planet, travels back in time. The bulk of the sequel
is spent consuming dinosaurs and other prehistoric flora and fauna, fossilized remains of ancient biology now turned into energy supply for the ravenous goo (fig. 6.7). So it is a fairly straightforward commentary on petroculture, our fossil-fuel dependencies that mobilize greater and greater levels of planetary exploitation.

The fun of the game is in the exuberance of consumption, the glee of eating everything in sight. The goo makes expressions of delight (“Yummy!”), and happy music plays in the background. We guide the goo along its path of destruction—and in this regard, in playing as the ravenous consumer, the game forces us to recognize our own responsibility. The goo can do nothing unless the player maneuvers it. So every act of consumption is caused directly by the player, even though there is no other choice if one wants to play. It also addresses our accountability as gamers—consumers of this video game, any video game—insofar as the goo is a figuration of the game itself: a high-tech medium of consumption, a playable technology taking over more and more of the world.

Online discussions of the Tasty Planet games among enthusiastic players frequently register an inherent ambivalence, namely, the fact that having
fun with these games means taking responsibility for the destruction of the planet. The discourse of the players, self-conflicted and vacillating, indicates how interacting with the goo, responding to its insatiable behavior as it responds to commands, shapes a capacity for responsiveness and critical reflection. In these conversations, expressions of pleasure appear alongside discomfort, even grief. For example, one player writes, “The cat-eating levels are among my favorites, because the sad meowing cracks me up.” But another writes, “I feel so guilty for eating the cats!” Indeed, consuming companion animals seems to upset a number of players: “i hate eating cats =(“; “i have this empty feeling inside me after absorbing the cat D:”; and so on. Such mixed feelings of pleasure and remorse extend to other species featured in the games, as well, including dinosaurs: “I made Rex chase his tail how adorable but after 20 seconds i ate him sad.”

Players often express more concern for the nonhuman animals in Tasty Planet than the humans. According to one, “i felt worse eating the cats then i did people.” And another: “I felt a little bad when eating those dogs and cats. But the several dozen police cars? meh.” Yet others find the task of eating the policemen and their vehicles the most disturbing aspect: “At first it was fun eating all the little insects and animals, then it got kinda disturbing eating the police and cars, and finally it got epic when you were able to eat up all the planets in our solar system. Great game!” Reacting to the “disturbing” manner in which the game puts us outside the rule of law, this particular player nevertheless finds delight in the epic scale of the goo’s crimes against nature. It is, of course, the nature of the game: “This game rocks. Where else do you eat the world?” Or: “It’s easy, addictive, but also has an end. So it’s not completely life-consuming (just world-consuming). Fun!”

Many players seem especially keen to discuss the meanings of the final levels, where the goo must consume the planets in our solar system and then the whole universe. Some pretend to be awkwardly apologetic: “Sorry guys, but I . . . Eh ate the Earth.” Or: “I felt bad for Pluto, as humans claimed it was not a planet anymore, so I tried to keep from eating it. One slip in my concentration, and I accidentally ate Pluto. I then imploded. I still feel bad for eating Pluto.” The performance of emotional response is often a way of addressing and acknowledging the metaphorical aspects of these games: “And that kids is why we don’t let untrained individuals experiment with the balance of nature . . . oh, never mind, we still do that.” Or: “cat eat mice, dog eat cat, blob eat everything and that’s the food chain any questions yeah is it true yes because as we are speaking a blob is eating our planet.” Some see the Tasty Planet games as commenting directly on scientific
responsibility: “unforturately the young scientists do not acknowledge that their series of actions can turn into such a catoshophy [catastrophe].” Or: “Well, Mr Scientist, it seems that your experiment went horribly right. It did clean the Earth . . . From everything, but it cleaned the Earth. Just as planned?” Others see it as addressing even larger issues: “A good metaphor about capitalism. The more you grow, the more you want, no matter how many people under you you have to destroy, easily forgetting that you came from the streets in the beginning, and you had to eat shit and rats. At the end, Capitalism destroys the Earth.”

To avoid this outcome, the only solution is to refuse to play by the rules, or to opt out entirely: “i quit before he ate the earth. So the goo did not eat the earth! i made history there!” Another gamer, identifying with the goo, tries to behave responsibly—and loses the game: “I spared Earth just so they [the earthlings] would see me as their defender. They made me and thus it was my responsibility to show my gratitude. . . . [F]inally, after minutes of temptation to eat Earth, [I] devour Jupiter. Then I imploded. Nice, feel-good game!” The sarcasm here foregrounds the double bind of the game (to win is to lose, to lose is to win) and its affective force.

In elevating environmental responsibility to the level of both theme and practice, Tasty Planet produces a communal field of affect—a complex of pleasure, humor, and discomfort. It brings players together, even in anonymity, to contemplate and work through what they have done: a common response, a responsive to the common and its precarity. The game cultivates an ironic sense of accountability for the fate of Earth and its creatures by ludicrously amplifying the pleasures of destruction. Responsibility emerges in responding to the game, recognizing the lethal dimensions of having a good time. And so, for some players, the real game becomes how to play otherwise.

Turning to Ratchet & Clank, developed for the PlayStation 2 by the American company Insomniac Games in 2002, we see a similar enactment of environmental responsibility. The setup for this game involves an ecological criminal, Chairman Drek, leader of the Blarg. After orchestrating the pollution and overpopulation of his own planet for the sake of corporate profit, Drek now intends to consume other planets:

My race, the Blarg, have a small problem. Our planet has become so polluted, overpopulated, and poisonous that we are no longer able to dwell here. But I, Chairman Drek, have a solution. We are constructing a pristine new world using the choicest planetary components available. So, what does this mean to you, you might ask? Using highly
sophisticated technology, which you couldn't possibly understand, we will be extracting a large portion of your planet and adding it to our new one. Unfortunately, this change in mass will cause your planet to spin out of control and drift into the sun where it will explode into a flaming ball of gas, but, of course, sacrifices must be made. Thank you for your co-operation.

While the narrative is presented in terms of heroes and villains, *Ratchet & Clank*’s apparatus of gameplay resists the immunizing structure of the games of environmental discipline. For in order to combat Drek, the Blarg, and their corporate robots, our hero-avatar Ratchet (a lombax) and his companion Clank (a robot) must acquire weapons. To do so, they must acquire money. After acquiring the money—and much of the game is about collecting money—Ratchet and Clank can only spend the money at shops owned and maintained by the company Gadgetron. Gadgetron holds a monopoly on all technologies in the galaxy, including pharmaceuticals, domestic appliances, urban transport services, and computational systems. Gadgetron is also, perhaps even primarily, a munitions manufacturer. Part of the fun involves purchasing bigger and crazier weapons from Gadgetron, each with its own hyperbolic function: holocannons, glove bombs, chickenators, et cetera.

At one stage of the game, Ratchet and Clank get to visit the factory planet of Gadgetron—a completely technological world. By this point, however, we have already witnessed the vastness of Gadgetron’s empire, distributed across inhabited and undeveloped planets alike. We have visited the planet where the Blarg are refining minerals needed to produce their technologies, filling the atmosphere with poison gas. We have been to other planets where they are dumping toxic waste. We have seen them eradicating indigenous populations. We have even explored the Blarg warships themselves. In every single location, financially benefiting from all the environmental destruction and the war economy, there is Gadgetron (fig. 6.8).

This PlayStation game therefore foregrounds the tangle of financial markets, military forces, and natural resources like coltan and other materials (figured in the game as the mineral ore “Raritanium”) involved in systems of high-tech innovation. At the center of it all, the intrepid consumer-warrior—namely, the player guiding Ratchet in transaction after transaction, purchasing new weapon after new weapon—engages in a continuous process of technological upgrade that sustains the mystifications of the military-industrial complex, along with its environmental hazards.
To play the game, to win, requires participating in the fictive economy. Like the games of control, *Ratchet & Clank* shows how the dividual subject is enmeshed in techno-economic networks, systems of global capital and transnational militarism. But this game also insists on our responsibility in playing in these systems, enabling them to prosper by devoting our labor—our playbor—to the economic infrastructure.31

*Ratchet & Clank* makes us work inside the systems of control and also on the fringes, playing in the junk, the detritus, and the spoiled remains of once-thriving planets. But these wasted worlds also serve to mark the edges of the techno-economic network, the threshold of other zones still beyond reach. By attending to our player agency, our role in enabling such systems to exist and endure—even though, or rather because it is the condition of playing the game—*Ratchet & Clank* makes responsibility manifest. In doing so, it denaturalizes the path dependencies of existing technologies and economies. It exposes the material foundations of the present and suggests that, as much as our playbor practices and consumer desires may support the status quo, they could instead be turned to other efforts. Indeed, the variety of planets that we visit in the course of the game, the developed and the undeveloped,

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the wild and the tamed, the sustainable and the unsustainable, serve as vivid reminders that another world is always possible, even in the here and now.

*Shadow of the Colossus*, a PlayStation 2 game developed in 2005 by the Japanese company Team Ico, further illustrates this point. In *Shadow of the Colossus*, we play as the wanderer, a young man venturing into a strange land. His desire: to resurrect a dead maiden, Mono, sacrificed for some unknown purpose back in his own country (“She was sacrificed for she has a cursed fate”). He steals a magical sword—so he is marked from the outset as a criminal—and he travels to this land where he knows he might bargain with the god Dormin to bring the young woman, his love, back to life. The price of this bargain: to kill the sixteen colossi, gigantic beasts that seem to be manifestations of the environments in which they live—and indeed, when we slay them, they deteriorate into earth, stone, and mulch. As we wander the land searching for each colossus, it becomes clear that this is a world that has moved on. There are few animals at all—the occasional bird and lizard are the only vertebrates visible in this world—and while there are trees and grasses, most are dead, barren, or wasting. There are ruins of an old human civilization here, traces of another age. But now remain only the colossi, and the whole purpose of the game is to slaughter them (fig. 6.9).

*Figure 6.9. Shadow of the Colossus: The wanderer slays the second colossus. Team Ico, 2005. Remastered in HD for the PS3, Bluepoint Games and Team Ico, 2011.*
With each death, Dormin—a god of inky darkness, oil, and shadow—grows more powerful. The colossi each contain a portion of this god’s essence. When they die, geysers of black fluid and smoke erupt from their vast corpses, and the wanderer’s body absorbs these organic energies. After the final colossus is killed, Dormin at last becomes capable of possessing the wanderer’s body, indicating how the wanderer has all along operated as an agent of this god whose dominion relies on extermination and extinction. Dormin is a figure of pure consuming power, taking far more energy and living essence than it returns to the world.

It is profoundly sad game, but a beautiful one. Many players comment on their discomfort with it, the evident narrative of environmental despoliation, and the difficulty of playing a character who ruthlessly destroys rare and wondrous creatures, not because he is malicious, but because he wants to save Mono, his love—which is to say, in order to play this game at all. To play the game means we must kill, and these deaths are our responsibility. As players of the wanderer, we are directly answerable for the extinction of the colossi. For example, one player has written,

When I traversed these long stretches of scenery and the world, uninterrupted, I felt a greater sense of wonder and amazement; at the same time, I started questioning myself and the protagonist’s journey. I was in doubt of myself. . . . Every Colossus battle is unique in itself. Each holds its own personality, and some are completely harmless and docile. Which only comes back to reinforce the question of the morality of killing them. . . . My character, the very person I was playing, was the insinuator. I felt like a hunter of sorts, killing not out of necessity for my survival, but for the sake of my selfish goals and means.32

This is a common sentiment among players: intense remorse and, consequently, an active questioning of the meaning of the game. As one player posted, “I feel so bad killing the Colossi :( They are so innocent looking. (Some of them).”33 Another responded, “Yeah some of them are just there just chilling and you stabbing them to death. Some of them are bit more hostile but if you look at the whole picture its no more than an animal being invaded would do, you’re trying to bother them they defend. I wonder if the development team had this in mind and focused on making it feel wrong to kill them, or just happened. Probably it was intentional.”34

As we see here, affective response to Shadow of the Colossus provokes deeper interrogations into the game’s meanings, the intentions of the gamemakers,
and whether it matters or not if meaning is intentional. In the elaborate fan discussions of this game, we see a kind of devotion emerge: a devotion to the game and its artistry, to the emotional experience that it provokes, and to the colossi themselves, their meanings, and the need for other players to be aware of these meanings even as the colossi pass from this world.

The sense of devotion is intensified for many players by a particular gameplay feature: the wanderer’s horse, Agro. The wanderer relies on Agro to carry him over great distances, to take him into battle with the colossi—and, at a pivotal moment in the game, to sacrifice himself. Players likewise develop a haptic and emotional relationship with Agro, in that maneuvering the horse with the PlayStation controller is a process of coaxing and constant care. It becomes the condition for love: a commitment to the nonhuman other, the algorithm that comes to stand for the nonhuman as such. As one player writes,

It’s no secret that I love Shadow of the Colossus. That game was an incredible experience for me, and I will never forget it. When I think about love being conveyed in a video game, I think about Shadow of the Colossus. Agro is your trusty steed throughout the journey. He carries you wherever you need to go, as far as he can. As I played the game, I came to care deeply about Agro.

This connection that you have to Agro is facilitated by the game’s controls. When you are riding Agro you use the X button to kick your heels and go forward and use the left analog stick to steer left or right. What this scheme does is it make you connect with Agro the way you would a real horse.

You, the player, have to form a physical connection to Agro. Shadow of the Colossus forces you to communicate with the controller in much the same way that Wander must communicate with Agro. He’s your only companion in this strange, harsh land, and you need him. You need him to survive. I grew to love Agro. I could feel Wander’s love for Agro, and I could feel Agro’s love for Wander. I hope to never forget.35

The durable relationship with the horse that grows through playing Shadow of the Colossus concretizes various thematic dimensions of the game. The trans-species connection between the wanderer and Agro reproduces at a narrative level the technogenic connection between the human player and the gaming system. In this way, it highlights the profound sacrifices made in service to
Dormin, in the name of love—a love not only for Mono or Agro but also for the game itself (“I love Shadow of the Colossus”)—and our responsibility as players to the worlds in which we play:

It is as the hero rides his horse to the final colossus’ lair that the game begins to reveal its true genius. The hero is riding Agro across a bridge across a ravine when, suddenly, the ancient stone structure begins the crumble. In a desperate attempt to save her rider, the horse throws Wander to the other side before falling into the depths of the chasm. Years ago, when I had first watched Wander lean over the cliff edge and scream in despair, I honestly set my controller onto the floor and cried. Although my reaction to it is no longer as strong, the scene still touches me in some way whenever I replay it, even today.

I don’t think that Agro’s act of sacrifice would have been as meaningful if Shadow were retold in any other medium. Games offer the player a different perspective, as a participant, in the world in which a story is told compared to films or novels, which can only offer the perspective of an observer. By the end of the game, I, as the player, had developed a relationship with Agro similar to Wander’s. I had spent as much time riding her across the Forbidden Land as he had, and when she sacrificed herself, his cry of anguish was very much my own.

Wander, after suffering the loss of his horse, goes on to slay the final colossus. Upon doing so he returns to the temple, his body possessed by Dormin and sporting two small horns protruding from his head. . . . Despite having used Wander for its own purposes, Dormin keeps his word and restores Mono back to life. At the same moment, Agro limps into the shrine with a broken leg, alive but unable to ever run again. The game ends with them finding the infant in the temple, an ending that had left me with an incredible feeling of remorse. After all, I did not merely observe the story’s events unfold, I was responsible for them. I was the one who killed the colossi, revived Dormin, crippled my horse, destroyed my body, reduced myself to a child, and left my love stranded in an uninhabited land for the rest of her life. . . .

It is a game about desperate love, self-sacrifice, tragic mistakes, and the friendship between a young man and his horse. For me, Shadow of the Colossus represents everything that games could be.36

With the sense of what games could be—what they could be but are not quite yet, namely, instruments to improve the world rather than injure it—
some players of *Shadow of the Colossus* come to realize that they simply cannot keep playing as if nothing had changed. For these players, to take the game seriously means acknowledging their own complicity—and refusing any longer to play by the rules, before it is too late: “I want the colossi to live, as the beautiful giants they are. The game sits on my shelf because I have no desire to stab these animal gods to death anymore, as they seem so harmless when left to themselves. I let them live by not playing, as little bits of code, unchanged.”37 No longer content to simply play along, these players feel compelled to take a stand:

I continued killing colossi but as my blade pierced through their flesh I began to feel a morsel of guilt and pain. These magnificent beasts intended me no harm, yet I murdered each in cold blood. I quickly brushed the thought aside. I mustn’t lose focus. I’m doing this for Mono, the one I love. . . . Agro and I headed toward the sixteenth and final colossus. A bridge was all that stood between us and the colossus. Agro sauntered across the bridge, but halfway across the rope snapped. The bridge began to give way, I snapped the reigns but Agro was already in full sprint. I knew we weren’t quick enough to make it to the end. I prepared myself for the fall. The memories of the colossi flashed before my eyes. I felt sorry that I had killed them. Were they not creatures too? Do they not have a right to live as much as I or even Mono did? Agro reached the edge of the bridge, but it was too late. There wasn’t enough momentum to keep us from falling.

I felt a thrust my back. Agro used the last of his energy to fling me onto land. Agro fell into the canyon sacrificing his life so that I may live. I tumbled onto gravel and rocks, which scraped against my skin. I lay there for two or three minutes before I had the muscle to get up. I stood and looked over the edge of the canyon. Agro was nowhere to be found, the river had swept him away. Sadness filled me inside and I wept.

The final colossus stood a few hundred meters before me but I had no will to go on. Death and destruction was all that surrounded me. Everything I loved was taken from me and in return I sought justice by killing innocent beings. My selfishness and pride caused so much pain. It did not feel right to continue my journey any further. Dormin had told me from the beginning that the price for Mono’s life would be great. I did not know that the price would be my own soul and my human-
ity. *What does it profit a man to gain the whole world and lose his soul?*

I could go no further; this was the end. I turned off my PS2 and TV.38

In the various experiences recorded by players of *Shadow of the Colossus*, as with other games of responsibility, we see emerging, in fits and starts, as a desire for a different game, a gaming of the game. It is an opening of ecological awareness and a responsibility to act responsibly, not merely through techniques of discipline or control, not merely through heroic feats or virtuous activism, but rather through the capacity of games to touch us, to move us, and to awaken our empathy.