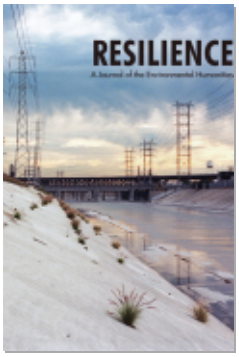
“Live in Your World, Play in Ours”: Video Games, Critical Play, and the Environmental Humanities



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Video Games, Critical Play, and the Environmental Humanities

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The simulation has been running for ten years now, and its predictions are dire: its image of the distant future is "a hellish nightmare of suffering and devastation."[1] The reports read like a script for a postapocalyptic science-fiction film:

> There are 3 remaining super nations in the year 3991 AD, each competing for the scant resources left on the planet after dozens of nuclear wars have rendered vast swaths of the world uninhabitable wastelands.
>
> The ice caps have melted over 20 times (somehow) due primarily to the many nuclear wars. As a result, every inch of land in the world that isn't a mountain is inundated swamp land, useless to farming. Most of which is irradiated anyway.
>
> As a result, big cities are a thing of the distant past. Roughly 90% of the world's population (at its peak 2000 years ago) has died either from nuclear annihilation or famine caused by the global warming that has left absolutely zero arable land to farm. Engineers . . . are always busy continuously building roads so that new armies can reach the front lines.[2]

The simulator petitions a community of experts to help him figure out if it is possible to end the war and reverse the environmental destruction. He makes his data public, hoping that the hive mind of the Internet can work out the problem and win the game on his behalf.[3] That's right: the simulation that predicted this horrific future is a video game called *Civilization II* for the home PC and the Sony PlayStation console.

The *Civilization* series, designed by gaming auteur Sid Meier, tasks players with nurturing and guiding a nation from prehistoric times into the modern age and beyond. The player makes decisions about everything from where to build their cities to what kind of system of government to employ, how to allocate tax funds to building projects and scientific research, and how to conduct military and diplomatic missions. The player's goal is to win out over competing civilizations by achieving one of two possible "ends of history": becoming the sole remaining civilization on the planet by conquering all neighbors through a combination of military force and espionage or becoming the first civilization to successfully send a spaceship to colonize a distant planet in the Alpha Centauri system. If neither condition is achieved before the year 2020, the player loses a game-winning bonus added to their score, and so, the game's designers assumed, the incentive to continue playing would be lost. However, a poster named Lycerius, on the Reddit message boards devoted to gaming, was curious about what would happen if the player carried on past the arbitrary end date of 2020 into the distant future. What would happen if the assumptions that were programmed into the game were allowed to play out for thousands of years? What arguments could the game's programming thus be said to be making about politics, environmental policy, and even moral philosophy? The results of this experiment captured the attention of the Redditors, who devoted an extremely popular (as of January 2014, it has received 12,053 more upvotes than downvotes) thread to resolving what they called "The Eternal War" and even wrote fan fictions set in the world he had accidentally spawned.[4] The thread was even featured in stories on high-profile gaming sites like *Kotaku* and *PC Gamer*.[5]

This essay purports to harness the fascination and imaginative pleasure that games like *Civilization* can create for use in the environmental humanities classroom. Kurt Squire writes that "today's gaming technologies . . . [which] allow for unprecedented player exploration and expression," enable digital games to provide players with opportunities for "creative problem solving and productive acts (e.g., creating art work, game mods, or using games as tools for modeling . . .)," meaning that they have enormous potential as pedagogical tools.[6]

In particular, scholars of the environmental humanities will find that the relationship between player and game is an accessible way to

illustrate the concept of the Anthropocene. One of the key insights that study of the environmental humanities enables is that "although we cast *nature* and *culture* as opposites, in fact they constantly mingle." Our concept of "nature"—that which we imagine to be a universal and timeless object that preexists human beings and that will endure after humanity is gone—is actually a cultural construct that varies from one society to another and changes over time.[7] Furthermore, the particular way in which a society constructs concepts like "nature" and "the environment" for itself across all types of discourse (literature, law, governmental policy, natural science, religion, activism, etc.) in turn affects the kinds of environmental interactions that the society imagines to be possible (or profitable). And in the age of the Anthropocene, these policies are exerting an influence on our planetary global system that rivals that of the most powerful geological forces. As Will Steffen and others write,

> The term Anthropocene suggests: (i) that the Earth is now moving out of its current geological epoch, called the Holocene and (ii) that human activity is largely responsible for this exit from the Holocene, that is, humankind has become a global geological force in its own right.[8]

Games can also provide students with an opportunity to contemplate the nonhuman turn in literary theory and philosophy by simulating what it might be like to experience the world as an animal or even an inorganic object. The nonhuman turn asks us to

> take society as a complex assemblage of human and nonhuman actors . . . changing our relations not only to other humans but to nonhumans as well. To extend our academic and critical concern to include nonhuman animals and the nonhuman environment, which had previously been excluded or ignored from critical or scholarly humanistic concern.[9]

This, in part, means rejecting "human exceptionalism, expressed most often in the form of conceptual or rhetorical dualisms that separate the human from the nonhuman—variously conceived as animals, plants, organisms, climatic systems, technologies, or ecosystems."[10]

James Paul Gee describes games as having the power to "set up a place or a perspective from which to think and interpret" and argues that "different characters/identities lead to different ways of looking at,

feeling about, and interacting with the (virtual) world."[11] In other words, video games are ideally suited for the environmental humanities classroom because they provide students with alternative environments and subjectivities to inhabit. Each game utilizes different mechanics to describe and model the relationship between the player-character and his or her environment, resulting in a different argument about the type of world we inhabit—or the one we might inhabit in the future.

What Makes a Game a Game?: Win Conditions, Strategies, and Procedural Rhetoric

The two things that separate a game from unstructured play are rules and win conditions. Depending on the win condition of a game, certain interactions might be rendered more or less desirable in that they make the player more or less likely to arrive at the dreaded "Game Over" endgame screen. To take a well-known and fairly obvious example, in the classic 1985 game *Super Mario Bros.* for the Nintendo Entertainment System, there are very few methods that players can use to interact with the game environment: they can walk, run, and jump to avoid obstacles like enemies, pits, spikes, and fireballs; stomp on the heads of vulnerable enemies to eliminate them; and occasionally shoot fireballs or achieve temporary invulnerability if they are lucky enough to find a power-up like a Fire Flower or a Star. Other potential actions like, say, attempting to reason with Mario's enemies are not available to the player because they are not encoded into the game's rules. This is an example of the software constraining what actions are possible. On the other hand, there are some actions that the player *may* choose to take but that are *discouraged* by the game's rules. For example, each stage of the game features a clock ticking down toward zero, providing an incentive to the player to move forward through the environment toward the end of the level. As the time ticks down, the background music speeds up, lending the proceedings a sense of urgency. When the clock runs out, Mario abruptly dies and the player has to start the level over again. Thus, although the player *may* stop and linger, to gaze at the colorful environment and watch the movement patterns of the various inhabitants of the Mushroom Kingdom or to listen to the happy-go-lucky theme music, they are strongly incentivized to constantly move forward lest they be punished by losing a life. In other words, although

the software does not *forbid* certain actions, it builds in features that discipline those actions, making them more difficult to imagine as authentic options. In *Super Mario Bros.*, relentless forward progression from left to right across the screen is an authentic option. Stopping to smell the roses is not.

In more complex games, these limitations and incentives form arguments. Ian Bogost describes such arguments as "procedural rhetoric," or the use of rules-based computation processes as a method of describing or analyzing a real-world system.[12] Kurt Squire writes,

> In these games, learning resembles a process of coming to understand a system, experimenting with multiple ways of being within that system, and then using that system for creative expression, usually enacted within communities of other players. The game structure is less about reproducing a particular way of thinking and more about creating spaces for knowledge creation and discovery.[13]

Video games are mediated worlds constructed from language—the algorithmic programming language used to build computer software. Through play, our students can experience how that language compels and instructs their movements through those environments, and they can compare how different descriptive rules create different incentives for them as actors in those worlds. Teachers in the environmental humanities can thus use games as a springboard to discuss how language systems mediate our reality.

Games Studies Primer: Narratology and Ludology

Games studies scholars are often described as falling into one of two camps: "the so-called 'ludologists' (those who study videogames as games before all else) and 'narratologists' . . . (people who think that all media are storytelling media first and foremost)."[14] In an environmental humanities classroom, it is important to keep both game mechanics and game narratives in mind. Narratives provide a context for player action, while game mechanics are a testing ground where players can try out strategies for success within their environment as defined by the game's win condition. In fact, storytelling in games is often "relegated . . . to primarily mechanical or environmental expression"—players see how the environment adapts in response to their actions and deduce infor-

mation about the world rather than having things explained to them via dialogue.[15] This is one of the reasons why games are so useful for teaching environmental thinking. They require that players listen to what the (simulated) world is telling them.

Video games teach students to detect, navigate, and manipulate systems, both those that represent and reflect our actual world and those that posit imagined alternative worlds. Students can learn to question how portrayals of nature are stylized visually, how they are positioned narratively, and how they are designed structurally and mechanically to guide the behavior of the player. From here it is but a short cognitive leap to get them thinking about how the construction of nature across a variety of discourses shapes both individual and institutional practices.

Gamification, Serious Games, Serious Play

This is not to say that any activity with gamelike features will be pedagogically useful. Instructors should be wary of "gamification," which is, as Ian Bogost colorfully wrote, "marketing bullshit, invented by consultants as a means to capture the wild, coveted beast that is videogames and to domesticate it for use in the grey, hopeless wasteland of big business" or politics or activism or education.[16] More specifically, Margaret Robertson argues that "what we're currently terming gamification is in fact the process of taking that thing that is least essential about games and representing it as the core of the experience."[17] These tacked-on features include reward mechanics like earning points or badges or being featured on competitive leaderboards.[18] Robertson posits the term "pointsifying" for this process, and John Ferrara writes that this fad actually expresses "a disdain for games, because it refuses to entertain the idea that 'Games themselves are valuable experiences.'"[19]

Rather than cynically exploiting gamelike elements to buy students' interests in the short term, many designers interested in the educational potential of the medium are creating serious games, full-on game experiences designed to convey a specific message. However, as Ferrara points out,

> One of the intrinsic risks of serious games is the temptation to prioritize the serious objectives of the designer above the player experience. We are told that serious games leverage the medium

> of gaming to be more engaging and effective than other media. But a serious game that fails to incorporate careful attention to player experience obviates the benefits of going to the trouble of making a game.[20]

In other words, "players are not invested in the designers' serious objectives" (hence the need to make a game to persuade them of the importance of an issue in the first place), but rather

> they are invested in playing the game. As a result, in games with poorly developed player experiences, the message is ineffective. Failure to design engaging player experiences is an intrinsic risk in the design of any serious game.[21]

As such, educators must be cautious about using games that preach to their players instead of allowing them to discover the game's argument during the course of play.

In fact, I argue that so-called "unserious" games (commercial games designed for entertainment purposes) are just as useful in the classroom as serious ones, if not more so. First, these games provide insight into the unconscious assumptions of our culture in a way that a "serious game made with an agenda" does not. Furthermore, students tend to feel less deliberately manipulated by these games qua games, and they retain more ownership over the ideas that they discover through play when they do not feel as though they were led to a particular conclusion by the nose. Finally, I believe it is useful to think of video games as an art form in their own right that we can learn from just as we learn from literature or poetry or more popular forms like film. A focus on serious games runs the risk of portraying "unserious" games as, well, unserious or unworthy of examination. I recommend that instructors couple "unserious" games with a process Mary Flanagan calls "critical play," a willingness to take any game on its own terms and to invest in examining it closely with an eye toward unraveling the arguments that unfold within the experience of its mechanics.[22]

The following games are especially well suited for use in the environmental humanities classroom because of their widespread availability and their low cost. None of them requires students to purchase a specialized gaming console; all of them can be played on a low-end personal computer or laptop such as students might be expected to have

access to in their dorm rooms or in college computer labs (no expensive top-of-the-line video and sound cards needed). Furthermore, none of the software featured here costs more than fifteen dollars to download (and some of it is free to play), which makes requiring students to purchase a personal copy no more onerous than asking them to buy a novel for a literature course.

Freeciv (1996) and *Sid Meier's Alpha Centauri* (1999)

Instructors across many disciplines who are interested in teaching with the *Civilization* series (described in detail above) have a great option in *FreeCiv*, a free-to-play, open-source clone of Sid Meier's *Civilization II*. The game can be played in both single-player (the player competes against civilizations run by the computer AI) and multiplayer (players compete against civilizations run by other human players) modes. Students might investigate how the social goals the game goads them to achieve (via "power-up" style rewards that can give their nation an edge over the others as well as the ultimate win conditions that all nations are encouraged to pursue) make it strategically useful to view the environment as a cache of resources to be exploited as efficiently as possible. Furthermore, as the game purports to be a model of the actual world, or of an actual world that could have existed if accidents of history had occurred differently (all the nations actually exist or existed; nearly all the military units, scientific advancements, and achievements a society can obtain over the course of its lifetime actually exist; you can even choose to play on a world map shaped like our own), the game seems to imply that this relationship of culture to nature is universal and inevitable. Since all the civilizations are motivated by the same end goals, or win conditions, the game makes it difficult for players to imagine alternate possibilities.

For this reason, I am partial to another *Civilization*-style game: *Sid Meier's Alpha Centauri*. Mechanically, this game functions very similarly to *Civilization II* and *Freeciv*. However, the game is set on a very different world: a colony recently founded on a planet orbiting a distant star. The game explains that on the long journey from Earth, the crew of a spaceship (it is implied that this is a ship launched by a winning civilization from the original game series) has split into factions with varying philosophies on the best way to construct a new society

on their new world, from the militaristic Spartan Federation to the religiously inclined Lord's Believers to the capitalists of Morgan Industries. There is even an explicitly environmentalist faction called Gaia's Stepdaughters (more on that name below), who seek to improve their nation's lot through a deeper connection to the spirit of the planet itself. By organizing the various competing factions in terms of governing philosophies instead of nation-states, the game encourages players to think about the possibility of there being multiple, culturally specific dispositions toward the husbandry of the alien environment. The game also includes new win conditions. Players can still win by military conquest, but they can also win through economic dominance; diplomatic consensus; and, most interestingly for the environmental humanities classroom, the dissolving of all human consciousnesses into the transcendent, sentient hive mind of the planet. These alternative end goals, made possible by the science-fictional setting of the game, highlight the transformative possibilities of speculative fictions to create new paradigms for thinking about the relationship between nature and culture.

These games also enable students to contemplate the interrelatedness of many different kinds of human conflicts, from colonization and geopolitics to the exploitation of the third world and the changes to the global environmental system that take place during the Anthropocene.[23] For example, oftentimes during the course of play, less wealthy nations and nations who find themselves targeted for acquisition by more powerful players will suffer disproportionately from the effects of pollution (because they do not have the resources to produce cleaner energy or to build recycling plants to handle waste) and radiation (if they are targeted by a civilization with access to nuclear weapons or if they are forced to rely on nuclear power plants that are liable to meltdown).

Don't Starve (2013)

If *Alpha Centarui* is about leading a civilization in its mission to colonize a hostile alien environment, *Don't Starve* is about a lone individual's quest for survival. The game puts the player into the shoes of Wilson, a "gentleman scientist" whose insatiable curiosity leads to him becoming imprisoned by demons on a mysterious, uninhabited island.

At the outset of the game, the player has no tools and little direction other than the warning that the coming nightfall is dangerous. The

Fig. 1. *Alpha Centauri*'s alien landscape enables players to imagine alternative relationships with their own planet. Screenshot by the author.

player must, through trial and error, figure out how to survive the many threats lurking in his new environment (starvation, aggressive wildlife, insanity brought by isolation and terror, and a mysterious monster that comes out at night and can only be kept at bay by the light of a fire) long enough to find all the parts Wilson needs to build a machine that can teleport him home. At first, the player is stuck gathering whatever is near to hand, fashioning torches and weapons out of sticks and rocks. Soon, however, Wilson creates enough tools that he can begin to reshape his environment to his own liking, building strongholds to protect himself from natural disasters and planting and farming resources at his convenience. Players will quickly learn that such reordering is necessary if they want to survive in the long term.

Don't Starve is an illustration of what Heidegger described as "enframing," or a philosophy through which "things may emerge as mere resources on call for our use when required, so that a living forest may show up as merely a 'standing reserve' of timber . . . , no longer trees even but just lumber-in-waiting, and even the mighty Rhine may be

disclosed as just a source of hydroelectric power."[24] Players who refuse to view their relationship to nature in this way are quickly killed off by one of the many threats Wilson faces. If one wishes to play successfully, one must learn to adopt the correct perspective: humanity is not only distinct from the world of nature; it is locked in an adversarial contest with nature, one that can only be won if man exploits the advantages granted to him by technology to bend the environment into something more suitable to his tastes.

Reus (2013)

Reus, on the other hand, illustrates a more ecocentric approach to man's relationship with the planet. The game casts the player in the role of the planet itself and not its human inhabitants. In this the title neatly encapsulates the Gaia hypothesis advanced by William Golding. The Gaia hypothesis describes the planet as

> a self-regulating system, analogous to a living organism. . . . Rather than merely being a rock in space with life clinging to it, the non-living parts of the planet are as much a part of the whole as the non-living heartwood of a living tree.
>
> . . .
>
> . . . A benign and wholly unconscious conspiracy of millions of species keeps Gaia alive and stable, although the specific organisms and processes have changed considerably during its history and may be expected to continue to do so.[25]

In such a system, humanity represents "a part of the body of the planet, just like germs and micro-organisms are part of our bodies."[26]

This reverses a tendency in modern Western culture to cast humanity as the most important figure in creation. Christopher Manes describes this cultural narrative as

> a complex skein of institutional and intellectual developments [that] have, in effect, created a fictionalized, or more accurately put, fraudulent version of the species *Homo sapiens*: the character "Man." . . . And this "Man" has become the sole subject, speaker, and rational sovereign of the natural order in the story told by humanism since the Renaissance.

Fig. 2. In *Don't Starve*, Wilson must bring order to his environment to survive. Screenshot by the author.

> Our representations of nature may have undergone a variety of important permutations since the Middle Ages, molding and conditioning our discourse about respecting or abusing the natural world. But the character of "Man" as the only creature with anything to say cuts across these developments and persists, even in the realm of environmental ethics.[27]

In *Reus*, however, "Man" is merely one of many characters in a planetary story, born from the combination of a number of important preexisting environmental factors. They are not the center of the universe or the only living thing that has value. Rather, the game posits that, as George Sessions writes of the deep ecological mindset, "the well-being and flourishing of human and non-human life on Earth have value in themselves (synonyms: intrinsic value, inherent worth)."[28] *Reus* models a worldview that

> is concerned with encouraging an egalitarian attitude on the part of humans not only toward all *members* of the ecosphere, but even toward all identifiable *entities* or *forms* in the ecosphere. Thus, this attitude is intended to extend, for example, to such entities (or forms) as rivers, landscapes, and even species and social systems considered in their own right.[29]

This view is born out through the game's mechanics, which emphasize interconnectedness and symbiosis. One advances through the game by creating complementary ecosystems in which people, animals, plants, and even minerals are arranged in mutually prosperous ways. Each element, be it human or no, has a kind of agency—they can be said to "desire" to be around certain kinds of neighbors with which they collaborate.[30] They evolve together to the benefit of all, according to a principle of "inter-relatedness" in which "what is actually involved is a genuine *intermingling* of parts of the ecosystem. There are no discrete entities,"[31] only systems that, when looked at as a whole, are far greater than the sum of their parts. In this way, *Reus* can be thought of as an expression of the nonhuman turn in philosophy. It allows players to contemplate what it might be like to experience the world through the nonhuman perspective of an animal, a plant, or even a rock or an ocean.

The game particularly rewards players for constructing diverse ecosystems across diverse biospheres. Successful players are rewarded

with an ever-expanding stable of creatures to deploy on their planet, which they can combine together via the game mechanic of symbiosis to achieve even greater high scores. The best high scores (and the most prosperous human settlements) are only achievable at very high levels of diversity and complexity. This game mechanic encourages players to see species diversity as a benefit to humanity (as opposed to, say, the mechanics of *Don't Starve*, which encourages players to standardize and homogenize the environment around them).

The game's aesthetics are similarly indicative of a deep ecological perspective. Each human society that arises on the planet has its own culture (its own economy, its own styles of architecture and fashion) that is influenced by the environment from which it springs. For example, a society that arises on the edge of an ocean will look fundamentally different from (and will harbor different goals than) a society from the grasslands or the mountains or the desert. This suggests that human civilizations can be thought of as natural developments and not endeavors that are separate from (or, indeed, opposed to) nature.

Conclusion

There remain dozens of games with pedagogical potential from the perspective of the environmental humanities scholar, from corporate CEO simulators like *Oiligarchy* (2008) to massively multiplayer online role-playing games (MMORPGs) like *Wakfu* (2012), in which it is possible for players to drive species of animals and plants to extinction if they kill them off at too fast a rate. Our students are in an excellent position to teach us about these games even as we teach them new ways to interpret them and to think about the systematic ways that they represent concepts like nature and culture through procedural rhetoric.

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Fig. 3. *Reus* invites players to strategize on behalf of an entire ecosystem. Screenshot by the author.

NOTES

1. Lycerius, "I've Been Playing the Same Game."
2. Lycerius, "I've Been Playing the Same Game."
3. Atherton, "From the Cradle of Civilization to the Grave of Empires."
4. Lycerius, "I've Been Playing the Same Game."
5. Cox, "Ten Years of *Civ II* Lock the World in Perpetual War"; Thursten, "Community Heroes."
6. Squire, "Open-Ended Video Games," 1–2. See also Bogost, *How to Do Things with Video Games*.
7. Turner, "Cultivating the American Garden," 69.
8. Steffen et al., "Anthropocene," 842.
9. Grusin, introduction.
10. Grusin, introduction.
11. Gee, *What Video Games Have to Teach Us*, 7.
12. Bogost, *Persuasive Games*.
13. Squire, "Open-Ended Video Games," 5.
14. Bissell and Ferrari, "On Videogame Criticism."
15. Bissell and Ferrari, "On Videogame Criticism."
16. Bogost, "Gamification Is Bullshit."
17. Robertson, "Can't Play, Won't Play."
18. Ferrara, "Games for Persuasion," 291.
19. Robertson, "Can't Play, Won't Play"; Ferrara, "Games for Persuasion," 291.
20. Ferrara, "Games for Persuasion," 290.
21. Ferrara, "Games for Persuasion," 291.
22. Flanagan, *Critical Play*.
23. See Peterson, Miller, and Fedokoro, "The Same River Twice," 43; Nordhaus and Shellenberger, introduction.
24. Garrard, *Ecocriticism*, 31.
25. Garrard, *Ecocriticism*, 173.
26. Evernden, "Beyond Ecology," 95.
27. Manes, "Nature and Silence," 21.
28. Sessions, *Deep Ecology for the Twenty-First Century*, 68.
29. Sessions, *Deep Ecology for the Twenty-First Century*, 270.
30. Lantour, "Agency at the Time of the Anthropocene," 13.
31. Evernden, "Beyond Ecology," 93.

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