

## Digital Nature: *Uru* and the Representation of Wilderness in Computer Games

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The desert is intense. The parched red earth bakes under the relentless glare of the afternoon sun. Thirsty-looking clumps of sage, too squat and sere to cast much shadow, dot the dry, cracked land. On the barbed wire fence is a sign, sunbleached and wind-scoured, that reads "No Trespassing" and "New Mexico." A rusty Airstream trailer blends into the unforgiving landscape like the shell of a desert tortoise. Two oases of shade beckon: one under the awning of the vintage Airstream, another cast by a distant red rock butte. I head toward the butte, eager to explore its alluringly steep slopes and jagged profile. I climb up the slope and realize that it is not a butte at all but the entrance to a sort of canyon, a cleft, with a seductive assortment of shapes and shade inside it. I take another step and ... the whole world dissolves into unintelligible polygons of color. All I see is chaos, and try as I might, I can't get back to the desert.

Such are the frustrations of playing *Uru: Ages Beyond Myst* (Cyan Worlds, 2003) on a computer that barely meets the game's minimum system requirements. Reviewer Darryl Vassar writes, "*Uru* will make even the beefiest video card sweat at the highest detail settings..." ("Incomparable beauty" section: para. 4). I had hoped that by turning the game's graphics settings down to the bare-bones level, my processor, video card, and memory would be sufficient to the task, but they were not. As a result of my technological inferiority, I was barred from *Uru's* landscapes, at least temporarily.

My expulsion from the digital garden was particularly disappointing as it was the allure of these landscapes that first drew me to *Uru* and its prequels, *Myst* (Cyan, 1993), *Riven* (Cyan, 1997), and *Myst III Exile* (Presto Studios, 2001). While the *Myst* games contain engaging plots and diverting puzzles for players to solve, much of the pleasure in playing the games stems from their beautifully-rendered graphics. Vassar describes *Uru's* landscapes as "so gorgeous and meticulously realized that they border on the porno-

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graphic" ("Incomparable beauty" section: para. 4). Indeed, *Uru's* landscapes do encourage a kind of hedonistic reveling in the seductive beauty of the graphics and distract one from the cerebral stimulation provided by the game's puzzles. Just as our treatment of pornography points to the complex role of sex in U.S. culture, the thirst for glorious digitally-rendered computer game landscapes marks U.S. culture's preoccupation with wilderness and technology. The increasing dependence in the U.S. on ever-evolving, resource-depleting computers is at odds with the nation's valorization of wilderness and need for a healthy environment. This essay will examine the significance of computer game landscapes to a society grappling with its relationship to technology and the natural world. Through its reading of *Uru*, this essay will also explore the relationship between global environmental degradation and representations of wilderness in contemporary U.S. computer games.

The end of the twentieth century and the start of the twenty-first have seen large-scale changes in the global environment. Writers such as Rachel Carson, Bill McKibben, and Carolyn Merchant have sounded the alarm over pesticides, ozone-depleting gasses, toxic waste and other threats to the natural world posed by industrial technology. As McKibben suggests, these changes affect us every day, to the point where we must suspect even the coolest rain and the freshest wind of being tainted, of being poor simulations of the "natural" rain and wind of our fantasies.

These threats to the global environment affect American cultural existence as well as humanity's physical existence. As Frederick Jackson Turner, Leo Marx, and many others have observed, the idea of wilderness has long been central to U. S. national identity. In *Wilderness and the American Mind*, Roderick Nash writes, "As a historical document wilderness has meaning to any nation, but Americans claimed an especially intimate relationship to the wild" (260). Much of the U. S.'s special intimacy with wilderness stems from the enduring myths and legends of the American frontier<sup>1</sup>. In *The Frontier in American History*, Frederick Jackson Turner asserts that the character of American democracy was shaped by the experiences of pioneer Americans on the western frontier. He writes, "...the fundamental assumptions of the American people [...] have all been shaped by this experience of democracy on its westward march" (264). Turner's so-called "frontier hypothesis" has been roundly criticized over the years for, among other things, its blindness to the genocide of Native Americans that accompanied westward expansion. However, his romantic belief that the cheap, fertile, western frontierland that was readily available to poor and working-class easterners "promoted individualism, economic equality, freedom to rise, democracy," (259) still pervades representations of wild land in U. S. popular culture.

Despite the fact that the U.S. Census Bureau declared the U.S. frontier officially closed in 1890, and that the remaining wild land in the U. S. becomes increasingly threatened and fragile every year, the idea of wilderness remains an integral part of a U. S. national

identity. The centrality of wilderness in U. S. culture is reflected in the popularity of computer games featuring inviting, idyllic landscapes, as well as in more traditional genres such as nature writing and landscape painting. The acclaim garnered by landscape-rich games such as Microsoft's *Dungeon Siege* (2002), nature writing such as that by Pulitzer Prize-winner Annie Dillard, and nature paintings such as those in Walter Inglis Anderson's recent Smithsonian exhibition points to the ongoing desire for representations of the natural world in popular culture.

Given America's history as a nation shaped by the wild lands of the frontier, *Uru's* partial setting in New Mexico is significant. *Uru's* beginning and ending sequences, which depict a large, rugged, and nearly empty landscape, evoke images of the U. S. frontier. The continued cultural power of the frontier contributes to America's fascination with representations of wilderness. By preceding rich fantasy landscapes with a nod to the frontierlands of the American West, *Uru* feeds America's nostalgia for the frontier. The New Mexico landscape is a reminder of the U.S.'s identity as a wilderness nation whose exploration and settlement was motivated by the notion of manifest destiny. Players of *Uru* indulge their own exploratory impulses by walking through the desert and into the cleft, where the fantasy worlds begin. But, of course, the fantasy worlds have already begun. The game's New Mexico landscape conjures up ideas of the "Wild West" and a rugged American wilderness – ideas that have more to do with fantasy than with the material condition of land in the U.S.

New Mexico, in addition to its associations with America's Western frontier, is also home to many Native American archeological sites. The game's partial setting in present-day New Mexico allows it to link its plot to the perceived mystery and exoticism of present-day Native Americans and the remnants of their long-vanished ancestors. In exploring the worlds of *Uru*, players come across the ruins of a civilization. The vanished inhabitants are called the D'ni. Players also find evidence of a group of people known as the D'ni Restoration Council, or DRC, who are working to save the ruins of the D'ni civilization. Exploring, restoring, and interpreting ruins left by ancient civilizations also happens to be the job of another group of people in non-digital New Mexico: archeologists and park rangers working at Chaco Culture National Historic Park, Gila Cliff Dwellings, Petroglyph, or Aztec Ruins National Monuments, or any of New Mexico's other archeological sites. *Uru's* reference to the Native Americans of the Southwest is further evidenced by the name of *Uru's* fictive ancient people. "D'ni" is only one vowel sound away from "Diné," the name by which members of the Navajo Nation refer to themselves. By locating the fictive D'ni in the ground beneath the present-day Diné, *Uru* capitalizes on stereotypes of Native Americans as primitive, mysterious, and exotic by endowing the fictive D'ni with those same qualities. From the stick-figure pictographs and petroglyphs scattered about the rocks to the frayed textile scraps painted with stylized handprints, the aesthetics of the artifacts left by the D'ni are consistent with stereotypical depictions of Native Americans of the Southwest.<sup>2</sup>

*Uru's* version of New Mexico leaves out one prominent feature of the Indian Country landscape: strip mines. Since the 1960s, the Navajo and Hopi in New Mexico and Arizona have endured the strip mining of their lands for coal (Zinn 519). In 1948, uranium mines were opened, and air and water pollution from tailings and radon gas were added to the list of degradations suffered by the people and their landscape (Matthiessen 296). *Uru's* digital portrayal of the New Mexico desert is infused with stereotypical Native American mystery, but ignores the ugly reality of resource extraction, in much the same way as stereotypes of Native American culture romanticize or ignore the material hardships of reservation life.

Moreover, coal and uranium are both used to produce electricity. In his book *Indian Country*, Peter Matthiessen writes, "Excepting the Great Wall of China, the smoke plume of the Four Corners plant near Farmington (just one component of 'the largest energy-generating power grid in the world,' transmitting electricity through an ugly web of lines and towers as far away as Texas and southern California) was the only man-made phenomenon observed by the astronauts in 1966" (295). The fact that the Navajo country near Farmington, New Mexico has been polluted by the process of converting natural resources to electricity, which in turn powers the computers on which *Uru* is produced and played, means that in a sense, the game's lovely electronic New Mexico exists because of the material landscape's degradation. Pressing a power switch brings *Uru's* stunning desert images to the computer screen, but the production of that power fouls the air of the Four Corners high desert.

While the representations of New Mexico are both lovely and problematic, *Uru's* fantasy worlds provide an opportunity to consider the broader implications of seductive digitally-rendered landscapes. The game's fantasy landscapes celebrate an ideal wilderness, complete with flora and fauna that are found nowhere on earth. Unlike works of nature writing, which react to global environmental degradation by closely examining local natural phenomena, fictive digital landscapes such as those in *Uru* offer a diversion from pressing environmental ills by allowing gamers to retreat from the realities of air pollution and global warming into idyllic worlds untouched by the harshness of industrialization. As N. Katherine Hayles writes, "...there are those who choose simulation and are all too happy to leave nature behind" (411).

Computer game landscapes and other technological simulations of nature have been roundly criticized, as Mark Slouka does in *War of the Worlds: Cyberspace and the High-Tech Assault on Reality*, for distracting people from the problems facing our material landscapes. The significance of games' popularity, however, goes beyond escapism. For one thing, it is nearly impossible to choose nature and leave simulation behind. In his essay "Beyond Nature/Writing: Virtual Landscapes Online, in Print, and in 'Real Life,'" H. Lewis Ulman suggests that virtual landscapes can serve as models for our treatment of material ones. In exploring this idea,

Ulman points out that many material landscapes, such as signposted national parks and suburban back yards teeming with exotic plants, are also virtual simulations of nature (348). The breakdown of the distinction between “virtual” and “material” landscapes allows a consideration of the connections between computer game scenery and material, non-digital, nature.

Ulman sees in digital landscapes an opportunity to practice ethical relationships with the material landscapes around us, in that digital simulations of landscapes foreground the expectations we have of material landscapes, and help shape our ways of relating to the natural world. Ulman writes, “If our virtual models...are leading us into unhealthy relationships with our environment, then we need to change those models, not fantasize about abandoning virtuality” (355). The question is how to use game landscapes to help us meet the challenges of environmental stewardship, without letting appealing and accessible digital simulations distract us from material landscapes.

There are many possibilities for nurturing healthy and ethical relationships between our material environment and our virtual simulations. These possibilities exist in part because, as Ulman astutely observes, our material and virtual environments are not easily separable. Just as Ulman recognizes that suburban backyards are non-digital virtual landscapes, William Cronon argues that wilderness itself is a simulation which “...hides its unnaturalness behind a mask that is all the more beguiling because it seems so natural” (69). Cronon celebrates wilderness and its non-human inhabitants while recognizing that even the wildest material landscapes are shaped by human actions and desires. Similarly, Carl Talbot writes that wilderness “... serves the role...of a refuge for the sufferers of over-exposure to capitalist society, and from the outset has been stage-managed to meet these requirements” (325). The contemporary U. S. is awash in material landscapes that have been altered and manipulated to the point where they may also be considered virtual. If it is impossible to separate the virtual from the material, it makes sense to try and bring our digital virtual landscapes in line with conservationist beliefs.

One way to do this is to develop conservation-themed computer games that teach natural resources stewardship in much the same way that *Sim City* (1989) instructs gamers in a certain model of town planning. I can imagine the game now: it would have lots of exquisitely-rendered land formations, breathtakingly colorful plants, and subtle sounds of insects buzzing through computer speakers. In short, it would look a lot like *Uru* and the other *Myst* games. And there’s the rub: chances are, it would demand the same, if not greater, system requirements. Those increased requirements would motivate consumers to buy the most up-to-date computers, and old machines would likely end up in landfills.

When computer game landscapes beckon in all their digital splendor, it is easy to forget the resources and infrastructure necessary for the production, consumption, and disposal of America’s computers. The hefty system requirements demanded by games

with impressive digital landscapes problematize the using of such games to model conservation practices. In order to be able to keep up with the demands of the latest games, one has to continually upgrade various computer components, or else periodically replace the computer itself. The ever-accelerating planned obsolescence of computers and computer components has grave material consequences for the global environment.

A recent study by the United Nations University offers some sobering statistics on the manufacture and disposal of computers. According to the *U.N. News Service*, the study reports that 240 kilograms (nearly 530 pounds) of fossil fuels are used to make a desktop computer, roughly ten times the weight of the computer itself ("Computer" para. 2). This resource usage is in sharp contrast to other home appliances, says the *U.N. News Service*, which notes that "computer manufacturing is much more materials-intensive than making a car or refrigerator, which need only one or two times their weight in fossil fuels" (para. 3). The *U.N. News Service* reports the study's finding that the manufacture of a computer and monitor also consumes 22 kilograms (nearly 49 pounds) of chemicals and 1500 kilograms of water (para 2).

Most of the resources used to make a desktop computer are wasted when it becomes obsolete. The Silicon Valley Toxics Coalition (SVTC) reports that obsolete computers "...have been used, reused, and stored – and will then be either recycled or tossed out with the trash and subsequently landfilled by trash collectors" (para. 6). Once in the landfill, a used computer leaches lead, mercury, and other heavy metals into the environment. The SVTC asserts that "the 315 million computers that became obsolete between 1997 and 2004 contain a total of more than 1.2 billion pounds of lead" (para. 14).

The U.S. government and U.S. computer companies have been slow to address the problems of used computer disposal in part because much of the U.S.'s electronics waste is exported to Asia. SinoCast China reports that "...the U.S. does not recycle 50% to 80% of U.S.-made electronic wastes a year, it ships them to countries in Asia..." ("China" para. 1). National Public Radio's Jacki Lyden and Allison Aubrey report that once in Asia, the computers are dismantled by poor people who sell the metal parts to recycling facilities. In the course of dismantling computers, workers are exposed to the heavy metals in the computers, and waste from the process pollutes whole villages. Most of the U.S.'s exported electronics waste ends up in China, where, according to the *Financial Times*, 80 percent of the children in the town of Guiyu suffer "...respiratory diseases and skin diseases due to pollution from electronic trash" ("Imported" para. 1). Given the convenience and relatively low cost of exporting used computers rather than safely disposing of them at home, it is not surprising that the U.S. refuses to ratify the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. Written under the purview of the United Nations Environment Program, the Basel Convention advocates controlling and minimizing the production of toxic waste, and contains strict rules governing its export.

The problems posed by disposing of used computers are compounded by the rate at which computers are discarded. Ian Sample of *The Guardian* quotes Eric Williams, co-author of the U.N. University study, as saying that whereas consumers keep refrigerators for fifteen years, they throw computers away after three years (para. 14). This is not because computers break down or stop functioning after a few years, but because consumers want to constantly upgrade their machines in order to better surf the internet, copy music CDs, or play computer games. Given the toxic realities of disposing of obsolete computers, it seems both greedy and reckless to demand that consumers constantly upgrade their equipment in order to play games like *Uru*.

One conclusion that could be drawn from the grim material consequences of computer manufacturing and disposal is that virtual landscapes come at the cost of material ones, as when playing *Uru* contributes to the poisoning of children in China, and strip mining in New Mexico. Jean Baudrillard writes of the "...murderous capacity of images, murderers of the real" (10), and describes simulation as starting from "...the sign as reversion and death sentence of every reference" (11). In the Baudrillardian sense, the landscapes in computer games directly contribute to the demise of their material referents. The distinction between virtual and material landscapes breaks down. A computer-generated landscape that exists because a material landscape was destroyed to produce it has as much an impact on the material world as does an axe or a steamshovel.

The material impact on the environment of graphically-sophisticated games complicates the potential of such games to model environmental stewardship. Indeed, given the environmental ravages caused by electronics waste, it seems counterintuitive to look to electronic games to promote an ethics of environmental stewardship. Certainly, environmentally-responsible gamers might choose to forgo the pleasure of playing the latest, most graphically-demanding games, or of viewing *Uru* on a sophisticated flat-screen monitor if such sacrifices would save an older computer or monitor from the landfill. Such sacrifices would ameliorate the problem, but they would not change the fact that contemporary U. S. life is increasingly dependent on environmentally taxing technologies of all kinds. How, then, can computer games do anything but make our environmental problems worse?

A consideration of game reviewer Darryl Vassar's description of the landscapes in *Uru* as "border[ing] on the pornographic" may help clarify the relationship between computer-game landscapes and the natural world. Pornography and digital landscapes commodify sex and wilderness, respectively, yet their significance goes beyond profit-making. The demand for fantasy images of bodies and landscapes is not inherently problematic; on the contrary, it points to a fascination with biological systems that can be life-affirming. Inherent in such fantasy images is, however, a twofold risk: they have the potential to distract consumers from the material conditions of the people and places they represent, and they also

have the power to influence those material conditions. The challenge for environmentalist gamers is to reconcile enthusiasm for digital images with advocacy for material landscapes. Pro-pornography feminists such as Susie Bright, Carolee Schneemann, and the staff of the venerable lesbian feminist pornographic journal *On Our Backs* successfully negotiate those risks by producing their own images and using them to foreground women's oppression.

Similarly, environmentalist gamers can enjoy digital landscapes while remaining passionately committed to healthy material landscapes and ecosystems. Instead of simply calling for an end to computer-generated landscapes in order to preserve the health of material ones, or using virtual landscapes to model desirable relationships with the natural world, as Ulman suggests, environmentalist gamers can demand that computer manufacturers extend the usable lifespans of their machines and hold them responsible for safely recycling and disposing of obsolete computers.

Perhaps even more crucial to reconciling landscape-rich games with stewardship of the material environment is the development of environmentalist gaming practices. Playing electronic games with attention to their representations of and impact on the natural world is the key to preserving our allegiance to material landscapes. Environmentalist gaming practices can be modeled on ecocritical reading practices. In her introduction to *The Ecocriticism Reader*, Cheryll Glotfelty defines ecocriticism as "...the study of the relationship between literature and the physical environment" (xviii). Becoming aware of the relationships between electronic games and the material landscapes they represent can short-circuit the games' tendencies to divert our attention from pressing environmental threats. Henry Harrington and John Tallmadge write in *Reading Under the Sign of Nature: New Essays in Ecocriticism*, "Like feminism, ecocriticism is really less a method than an attitude, an angle of vision, and a mode of critique" (ix). An environmentalist gamer who may not be able to program and produce his or her own electronic landscape can, however, shape his or her own "attitude...angle of vision, and...mode of critique" (ix) so that his or her gaming experiences are informed by environmentalism.

Critical environmentalist gaming practices may also help us deal with other technologies that have become central to contemporary U. S. life. The two-pronged challenge faced by the environmentalist gamer—to minimize games' material impact on the environment by reducing and dealing responsibly with electronics waste, and to think critically about the relationship of digital landscapes to material ones—applies to contemporary life more broadly. In order to preserve a life-sustaining environment we must consider ways to minimize the negative environmental impacts of contemporary technologies, and think about the impact of technology on our relationships with the natural world. Developing an environmentally sound approach to electronic games can help us do the same with the other technologies on which we have come to depend. In this sense, it is not the content of electronic games that needs to be brought into line with environmentalist ethics, but

rather our way of responding to them. Rethinking our responsibilities as players of landscape-rich electronic games can help us yoke our desire for glorious digital landscapes with stewardship of our equally glorious material environment.

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## Notes

<sup>1</sup>The term “America” is used here to describe the United States in recognition of the fact that the American frontier did not belong to any state until fairly late in the country’s history, and so describing the frontier as part of the “United States” does not accurately describe the situation. The use of “America” in this essay is not intended as national chauvinism or to suggest that Canada, Mexico, and the countries of Central and South America are not also Americas in their own right.

<sup>2</sup>The game itself shares its name with the Uru Indians of Bolivia, which suggests that it exploits the exoticization of all indigenous peoples, and not just the Diné and the other indigenous peoples of the southwestern U. S.

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