

Ecomods: An Ecocritical Approach to Game Modification

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Abstract

As systems that model complex relationships, digital games encourage players to enact Morton's "ecological thought" through the actions players perform within the game world. Yet these representations, as Alenda Chang (2011) has noted, "commit at least one if not all of the following missteps in their realization of in-game environments: relegating environment to background scenery, relying on stereotyped landscapes, and predicating player success on extraction and use of natural resources" (58). In other words, the flora and fauna players find are often reduced to non-interactive set pieces, thereby stripping actions of the ecological and environmental impact they could have. Despite these problems, ecocritical approaches to digital games have sought to re-assert the significance of connections between game ecologies and their environmental representations by tracing cultural associations (Bianchi, Barton), and by investigating problems with materiality and waste (Apperley and Jayemanne). This essay builds on these approaches by considering "modding," short for "modifications," as an area for ecocritical intervention in the flattening of games' environmental representations. Specifically, this essay examines the thriving environmental modding communities around Bethesda Softworks' *The Elder Scrolls V: Skyrim*. Although some of the mods released for *Skyrim* emphasize visual enhancements, others re-connect players to the game's ecology and environment in meaningful ways.

Keywords: Digital games, mods, ecomedia, ecocriticism.

Resumen

Como los sistemas que modelan las relaciones complejas, los juegos digitales animan a los jugadores a restablecer el "pensamiento ecológico" de Morton por medio de las acciones que los jugadores llevan a cabo dentro del mundo del juego. Pero estas representaciones, como Alenda Chang (2011) comenta, "cometen al menos uno de los errores en sus realizaciones de los entornos dentro del juego: relegando al medio ambiente al escenario del fondo, dependiendo de paisajes estereotipados, y afirmando el éxito del jugador en la extracción y uso de recursos naturales" (58). En otras palabras, la flora y fauna que se encuentran los jugadores a menudo quedan reducidas a piezas establecidas no-interactivas, de esta forma desmontando de las acciones el impacto ecológico y medioambiental que podrían tener. A pesar de estos problemas, el enfoque ecocrítico a los juegos digitales ha buscado reafirmar la importancia de las conexiones entre las ecologías del juego y sus representaciones medioambientales trazando asociaciones culturales (Bianchi, Varton); e investigando los problemas sobre materialidad y basura (Apperley and Jayemanne). Este ensayo surge de estos enfoques considerando el "modding", abreviatura de "modificaciones", como una zona para intervención ecocrítica en la simplificación de las representaciones medioambientales de los juegos. En concreto, este ensayo examina las florecientes comunidades de *modding* medioambientales en torno a *The Elder Scrolls V: Skyrim* de Bethesda Softworks. Aunque algunos de los *mods* lanzados enfatizan las mejoras visuales, otros reconectan a los jugadores con la ecología y medioambiente del juego de formas significativas.

Palabras clave: Juegos digitales, mods, ecomedia, ecocrítica.

As ecocriticism branches out to a variety of media including comics and animation, television, and online social networks, scholars have also begun to address the environmental and ecological implications of digital games.¹ Digital games have been presented as media promoting an ecological consciousness grounded in action, identification, and empathy. In “Games as Environmental Texts,” Alenda Chang argues, “Games can offer a compelling way to reconcile a deep connection to nature and the nonhuman world with an equally important connection to technology and the virtual” (58), a sentiment shared by both Lauren Woolbright and Thaianne Oliveira in “Where the Wild Games are: Ecologies in Latin American Video Games.” Yet digital games have also been critiqued for a variety of environmental and ecological offenses, including problematic reductions of the environment to utilitarian and romantic views as well as the use of toxic and conflict minerals in their hardware.² This is demonstrated in Chang’s critique of “God games” such as *SimCity* and *Spore*, which give players “the power to design or modify the landscape, for example, through the terraforming capability” (60) shaping their relationship with the environment through rhetorics of control, mastery, and domination. And when game environments are given agency, that agency is often expressed in agonistic terms. Woolbright and Oliveira, for example, show that much of the conflict in digital games like *World of Warcraft* places the player in an antagonistic relationship with the environment (199). The in-game environment becomes a rival that must be conquered and tamed, an obstacle for players to vanquish in order to achieve their goals.

These criticisms of environmental representations within digital games raise a second, and equally pressing concern about the *ecologies* of digital games. While much gaming scholarship has addressed individual games or series of games, ecocritical work with games raises significant questions over the larger media ecologies in which games circulate and are produced. In *Best Before: Videogames, Supersession and Obsolescence*, James Newman documents how the digital game industry’s marketing and labor practices have rapidly accelerated deterioration of game hardware and software—contributing directly to electronic waste and wars over precious minerals used to build these technologies. Exploring why the industry has done little to preserve digital games and intervene in these practices, Newman remarks, “This, then, is an industry whose forward movement is almost wholly contingent on the denigration of its own present and past. Even where that past refuses to be silenced...it is reinvented and remade with its old, and only now apparent, deficiencies rectified” (75). Many digital games and digital game platforms are released into a media ecology driven by planned obsolescence. Here, these technologies “die young” so that publishers, companies, and

¹ See Veronica Vold’s “The Aesthetics of Environmental Equity in American Newspaper Strips” and Sean Cubitt’s *EcoMedia* for ecocritical discussions of comics and animation respectively. Sarina Pearson’s “New Zealand Reality Television: Hostile or Hospitable?” and John Parham’s *Green Media and Popular Culture* contain re-assessments of television as a site for ecocritical work. Aimei Yang’s “New media, Environmental NGOs, and Online-Based Collective Actions in China” explores the use of social media to raise awareness about environmental issues.

² See Melissa Bianchi’s “Rhetoric and Recapture: Theorizing Digital Game Ecologies Through EA’s *The Sims* Series” in *Green Letters* for a fuller account of these perspectives in digital games.

corporations can rush the next iteration to market and manufacture nostalgia that can be capitalized on later. In the last decade alone, several games and game series including Naughty Dog's *The Last of Us*, Nintendo's *Mario Kart 8*, and Bethesda Softworks' *The Elder Scrolls V: Skyrim* have seen remakes and "remasters" despite releasing only several years apart. Such re-releases increase the likelihood that many players will discard or dispose of their earlier editions, creating a significant amount of waste given the millions of copies sold per series. Moreover, certain companies have begun re-selling older digital content via hardware reproductions such as the NES Classic or the Atari Flashback, which re-package pre-existing software and hardware (as well as emulators, ISOs, and ROM files) in the form of an older gaming console/controller. These reproductions run afoul of many of the same problems that remasters create, decreasing the need to repair and preserve older hardware including more recent consoles such as the WiiU or PlayStation 3 on which players could purchase such titles digitally. The drive to outdate and update gaming software is thus a major contributing factor to the ecological impact of digital games, and it materializes Roger Caillois' claim that games, like play, are "an occasion of pure waste" as digital games and digital game platforms are rapidly translated from commodity into waste and back again (5).

While Newman's critique emphasizes the gaming industry's need to produce excess waste, Nick Dyer-Witheford and Greig de Peuter as well as Robert Mejia have addressed the material impact of video game production—in particular, the industry's widely documented use of conflict minerals as well as toxic acids and metals in video gaming hardware. In "Ecological Matters: Rethinking the 'Magic' of the Magic Circle," for example, Mejia challenges the idea that games are divorced from material consequences by describing the social and environmental harm caused by minerals used in Advanced Micro Devices' (AMD) computer and console graphics processing units (GPUs) and central processing units (CPUs). Mejia argues that the fantastic and "magical" spaces provided by games are not separate from and exist because of "The use of toxic chemicals, conflict minerals, and production of hazardous waste," which are "just some of the many ecological effects that undergird the video game and electronics industry" (182). Citing documentation from AMD and Intel that describes the use of tin, tantalum, tungsten, and gold in the manufacture of hardware as well as transistor and chip connections, Mejia explains that "These metals are considered potential conflict minerals as extraction of these resources have been linked to wars and political instability in the Democratic Republic of Congo (DRC), as this central African nation is 'richly endowed' with these resources" (180). Mejia also notes that recycling scrap metal and manufacturing electronics in countries lacking strict labor and environmental protection laws has proven fatal to workers and harmful to the environment.

Digital games' environmental representations and their media ecologies thus often mire ecocritical work with games in contradictions, or what John Parham, in *Green Media and Popular Culture*, describes as "moments of ecological clarity in otherwise deeply compromised texts" (20). Such contradictions are unavoidable even in seemingly ecologically sound games such as Nifflas' *Knytt Stories: The Machine*, which is a free to play 2D side-scrolling adventure game for the PC and Nintendo DS that boasts both

techno-critical rhetoric and environmentally conscious design.³ *Knytt Stories: The Machine* introduces its world and conflict through a series of images showing the in-game environment's transformation from a lush wilderness into a desolate wasteland. The root of this transformation, it explains, is a "machine that draws the life out of the planet." As Juni, players overcome the challenges that guard the machine by foraging the environment for abilities that allow them to increase their ability to jump, climb, and dodge. After navigating the maze-like environment and avoiding enemies that resemble microchips and shoot glowing balls of electricity, players eventually shut down the machine and restore the world to its former state.

Knytt Stories: The Machine's simplistic narrative and environmental representation comments directly on the problems of unchecked technology. More directly, the antagonistic machine provides a loose metaphor for the hardware players use to run and navigate the game. The inefficient and grandiose design of many digital games often requires performance-intensive computers that chew through a significant chunk of kilowatt-hours per year. In "Taming the Energy Use of Gaming Computers," Nathaniel Mills and Evan Mills estimate "the typical gaming computer (including display) to use approximately 1400kWh/year which is equivalent to the energy use of ten game consoles, six standard PCs, or three refrigerators. The more intensive user segments could easily consume double this central estimate" (321). Mills and Mills estimate that consumption rates will double by 2020 unless, they argue, energy efficient components become standard for computer gaming. But as *Knytt Stories: The Machine* demonstrates through its narrative as well as its coding, optimized hardware is just one solution to gaming's carbon footprint. The game is designed to consume a minimal amount of processing power when players run the game, showing that game design can have a hand in "shutting down the machine" by optimizing resources and coding to put less strain on computer hardware thus reducing the need for what Mills and Mills describe as "performance racecar" computers.

Although *Knytt Stories: The Machine's* innovative design addresses gaming's carbon footprint, as we turn to its ecology we encounter points of contradiction. To play, players must either purchase or access computer hardware including a keyboard, monitor, motherboard, power supply, CPU, and other components. These components are shipped in cardboard, plastic, and styrofoam packaging and consume carbon fuels to move from warehouse to consumer. Moreover, many of the minerals and metals used in computers are not ethically sourced and contribute to the ongoing problems described previously. Lastly, *Knytt Stories: The Machine* does not necessarily change players' other process-intensive computer habits. Running background communications and recording software to discuss and document gameplay, for example, may create as much of an impact as *Knytt Stories: The Machine's* less efficient counterparts. In other words, even eco-friendly games will be ensnared in larger, environmentally deleterious systems that resist any easy reading.

³ *Knytt Stories* is free to download from Niffas' website.

Ecocritics thus have several options with media like *Knytt Stories: The Machine*. They can, as many have done in the past, lament and attack these contradictions as signs that video games, like television before it, are irredeemably lost. Such an approach would comfortably retread the well-worn arguments of early environmentalists and ecocritics whose works are marked by both an aversion to popular media and what Parham describes as an eco-pessimism about the potential for popular media, categorizing much of it as “green-washing” in which representations of nature merely serve corporate interests, consumerism, and capitalism (xv). But perhaps ecocriticism might temporarily refrain from exiling digital games and instead, as Parham argues, understand and address contradictions as signs of the complex conditions and realities of environment under larger systems of capital. By foregrounding contradiction as an important component of media, ecocriticism can resist empty idealizations that obscure the ongoing “exploitation of the natural world” (Sandilands, qtd. in Parham 19).

Recognizing and resisting such idealizations also means acknowledging that while digital games face contradictions, like much ecomedia, they do not face them equally. As Woolbright and Oliveira have demonstrated, digital games consist of varied genres, communities, and subcultures that address ecological issues in diverse and complicated ways. Mods and the modding community, in particular, work to resolve (as well as perpetuate) the contradictions we encounter in games’ approaches to ecologies. Whereas players can only challenge problematic environmental rhetorics through creative and subversive play, modders actively introduce alternative content that re-writes (but also re-enforces) destructive and harmful representations. Moreover, the representations authored through mods illustrate the environmental effects of labor practices driven largely by economic activity.

To this end, I explore the effects of modding and modding culture on ecological representations in video games. I specifically focus on the relationship between the labor of modding and its environmental products in the digital world of Bethesda Softworks’ *The Elder Scrolls V: Skyrim*, a game widely acclaimed for its environmental representations. I argue that modding is a practice through which players can engage the problems of living in the Anthropocene—a contemporary moment of global human impact on other species and environments. In addition to promoting mastery and domination, modding also allows players to explore their needs and wants in a game environment and see how those desires directly affect the environments and species therein.

An Introduction to Mods

While the past decade has seen a steady rise in digital game “upgrades” through remasters and re-releases, scholars of fan-made media such as Henry Jenkins contend that officially sanctioned content is not alone in determining whether a game title is abandoned to the dustbin of history. Fan art, fan fiction, machinima, and other products of fan labor can qualify as “unofficial” post-release updates that extend the content of a digital game in significant ways either by adding new narrative dimensions or

suggesting alternative ways to play. “Mods,” another genre of fan-made media short for “modifications,” also present a popular avenue for players to extend the lifespan⁴ of a game by authoring their own content and distributing it to other players. In *Game Mods: Design, Theory and Criticism*, Erik Champion offers Greg Finch’s definition of mods: “user-made edits to PC videogames, the game equivalent of fan fiction. Traditionally free, they range from minor code changes to fix bugs or smoothen gameplay to ‘total conversions’—complete overhauls of art assets to form an entirely new experience” (12). Although the types of mods available will vary by game and genre, players often design mods that offer other players alternative cosmetic options (clothing, equipment, hair styles, etc.), expanded race and gender options, additional stages and environments, fine-tuned graphical updates, nuanced interface design, and a variety of new gameplay modes. As Rob Gallagher *et al.* note in “Who Wrote the Elder Scrolls?: Modders, Developers, and the Mythology of Bethesda Softworks,” players’ motivations for producing mods are equally as diverse, ranging from players who design mods that thematically and contextually match the game world and gameplay, to those who design mods for subversive play. Whereas many players have designed mods for *The Elder Scrolls V: Skyrim* that re-enforce the Tolkien-esque fantasy setting of the series through equipment or companions, “other players will try to add as many wackily incongruous elements into the gameworld as possible, running mods that turn the game’s dragons into WWE wrestlers or cause steam locomotives to rain from the sky” (38). Thus, modding is a way for players to add to the pre-existing content of a game world and a means to realize its latent possibilities. Mods also help to sustain various game worlds through player labor well after designers and publishers have moved on.

Modding taps into the hacktivist ethos that both Hector Postigo and Peter Christiansen respectively argue lies at the roots of such a practice. Specifically, Christiansen describes how *Spacewar!*, designed by Steve Russell and a group of self-proclaimed hackers at MIT in the 1960s, was one of the first instances of game modding. *Spacewar!* was created prior to the existence of a “gaming industry” and its commercial outlets such as Steam, Good Old Games, or GameStop to market and sell digital games. Instead, Russell and his colleagues invented their own distribution system, circulating the source code to *Spacewar!* across a pre-internet network environment to other players free of charge. Christiansen notes that Russell and other members of the MIT Tech Model Railroad Club believed in an open-source ethic that granted designers unlimited access to technology and information, and they put this belief into practice by inviting players to design different functions and inputs for the game (Christiansen 32). Eventually, *Spacewar!* would become the sum of its parts as various features were introduced through player modifications: “Pete Sampson [sic] added a program he

⁴ In *Game Mods: Design, Theory and Criticism*, Erik Champion explains that Peter Christiansen argues that *SpaceWar!* (1962) was the first game mod. Of course, there is debate over the first mod, Bogacs (2008) named the 1983 game *Load Runner* as the first game with a game editor, but he seemed to think *Ms. Pac-Man* was the first game mod, created in 1981 and released in 1982, was the first game mod. More recently, *ZZTT* (1991) was a text program with an editor which spawned many mods (Au, 2002). Au noted that by 1993 there was also a *Castle Smurfenstein*, a humorous mod of *Castle Wolfenstein*, where all the Nazis were replaced by smurfs” (13).

dubbed ‘Expensive Planetarium’ to generate stars for the background. Dan Edwards added functions for calculating gravity. Other hackers added a hyperspace button and even built primitive controllers out of scrounged parts” (32). Ultimately, the MIT Tech Model Railroad Club’s emphasis on hacking and open-source software not only inspired various modifications to the game controls and design, it also generated a broader ecosystem around *Spacewar!* that entangled various human and non-human agents (players, designers, networks, etc.), iterations of the game, and forms of labor.

Although *Spacewar!* clearly bears the trappings of space operas and sci fi novels (31), the media ecology that emerged around it may have also have shared a thematic relationship with the game. In *Twisty Little Passages*, Nick Montfort notes that *Zork*, a text adventure also designed at MIT, was influenced by and included the various tunnels, basements, and subbasements that wound through campus (101–102, 104). *Zork* was designed in and around these areas, and spatially the game shares many resemblances with its material environment. Similarly, *Spacewar!* navigated a wide ecology of players, equipment, and locations as its source code was distributed and modified around the country. This desire for exploration and inventive labor can be seen in both the game’s setting, space, as well as its gameplay which actively encourages players to creatively use forces in the environment to generate new strategies for winning the game. Similarly, the “hyperspace” feature, which instantly moves a player to another region of the map, draws on the elements of discovery and the unknown experienced by those continually finding new things to do and add to *Spacewar!* Playing *Spacewar!* serves as a metaphor for what Stephanie Boluk and Patrick LeMieux might describe as the surrounding “metagame” in which players collaborated (and, perhaps, competed) to modify and permanently etch their mod into the legacy of *Spacewar!*

Before delving into what contemporary modders are designing for video games, it is important to consider the ideologies and labor that drive the production of mods. Christiansen’s depiction of the *Spacewar!* mod scene, for example, emphasizes the productive aspects of the MIT Tech Model Railroad Club’s labor ethos, but it also exhibits many of the contemporary issues with labor practices including voluntary and uncompensated labor. In “Precarious Playbour: Modders and the Digital Games Industry,” Julian Kücklich describes this labor as “playbour” in which entertainment and labor are deeply entangled. Playbour encourages modders to view their labor as “leisure” lacking the significance of the “real” kinds of work they perform at their place of employment. Modding, in this model, is just another frivolous form of “play” to enjoy. At the same time, however, digital game companies capitalize on these fan-made products by either using them to market a game, design new features, or even develop entirely new games such as *Counter-Strike*. Kücklich explains that because playbour blends leisure with work it also allows the gaming industry to deny modders’ intellectual property rights and avoid having to pay employees what it can get for free from fans.⁵

⁵ Olli Sotamaa adds that “the game industry benefits from the perception that work in games industry is seen as a form of play [...] Addressing modding as an extension of play and therefore a voluntary and non-

Whereas the developers of *Spacewar!* benefitted from the security of developing their game within MIT, many contemporary modders are self-funded and self-trained designers who produce free content in order to get recognition and, potentially, recruitment from commercial developers. In “Game Modding, Prosumerism and Neoliberal Labor Practices,” Renyi Hong demonstrates how the allure of potentially working for a developer shapes both how players design and market their mods. Hong found that “interviewees engaged in the labor practices of marketing and customer relations management [...] Interviewees explained that marketing requires one to ‘think of your mod as a product’ and publicize it such that ‘people would come and search for your mod through all the other hundreds of mods out there.’” Facing the realities of an oversaturated mod market, content is catered to player tastes and modders create videos and websites to help advertise their mods to gain attention from various player communities and developers. And yet despite this labor ending up as a resource for gaming companies to readily exploit, Hong found that fans still endorse modders’ playbour. Gallagher *et al.* note that corporate figures like Bethesda’s Todd Howard, who began as a “fan, to bug tester on the CD-ROM version of Arena, to project leader on the three most recent Elder Scrolls games” (42), strive to market the narrative according to which, with enough passion and fandom, modders can, one day, land their dream job designing games professionally. Thus, modding is generally influenced by both utilitarian and romantic perspectives that conflate modders and their labor with a resource to both harness and exploit.

Yet to read all modders as free-agent “flexi” workers dismisses the potential nuances of their modding contributions. In particular, many modders design challenging and subversive content that critiques the systems of labor and capital that seek to absorb modding into the game industry. As Alexander Galloway explains, mods can repurpose game spaces into art objects or interventionist political objects that critique elements of the game itself or socio-cultural and political events disconnected from a game. Mods might also mark a crucial shift from official to player-owned and maintained distribution channels. Unlike the authenticated and narrow distribution of patches or DLC from company-controlled channels, mods emerge from and create a wide ecology of unofficial channels hosting chunks of game data. In this sense, then, the game data extends well beyond the confines of developer computers and draws together a larger community of agents acting on and radically changing the game. Additionally, some mods repurpose code and other media to both humorous and subversive ends, embodying a force of renewal and preservation for deserted and abandoned digital landscapes. Although such practices can and should be read in terms of exploitation, the production of mods also models ecological labor practice that renews, reuses, and recycles.

Finally, while we may be tempted to dismiss mods as acts of power and control over a game environment or game characters, they are contingent on and survive because of a larger ecosystem of human and nonhuman actors. For example, mods

profit-oriented activity helps to justify the contemporary economic structure in which companies can decrease their risks by transforming parts of the development tasks to the hobbyists.”

cannot function without a base game to which they are applied, nor can they exist without thoroughly maintained hubs for their curation and circulation. This means that like their designers, mods are somewhat precarious and vulnerable, threatened by both developers who may ban a mod or mod user if it violates a game's terms of service (TOS) as well as the hyper-obsolescence of games and gaming platforms. Mods depend and thrive entirely on a "healthy" ecosystem, yet most mods circulate in an ecosystem guided by the pressures of economic activity, giving them little recourse if that ecosystem is threatened by pressures from a variety of sources, including consumerism and capitalism. As I describe in the following section, the ecological and environmental representations that are often the product of such contradictory conditions make mods and modding an important site for ecocritical intervention and exploration.

Ecomods in *Skyrim*

In the previous section, I have attempted to point toward connections between digital games, modding, and media ecologies as well as various contradictions in modders' labor practices that dislodge modding from any singular interpretation. Rather than just providing "god-like" mastery, the previous examples attempt to connect modding and mods with tenuous ecologies invested in creating alternative networks between and among various elements of digital games. Yet despite these ecological possibilities, the forces of labor and capitalism encourage utilitarian and romantic depictions of both workers and nature that reproduce harmful ways of thinking and acting with the environment. However, as I show throughout this section, these mods are not indicative of modding as a whole. Modding, instead, continually re-imagines itself and its content, providing a site for re-envisioning games as both environmentally problematic and subversive. Although I open with environmentally reductive mods, I build toward mods that demonstrate these media can be sites where, as Dyer-Witheford and de Peuter explain, "multitudinous subjectivity" can emerge. My goal here is not to purify the more problematic aspects of modding (in fact, I contend these constructions offer players a way of de-familiarizing utilitarian and romantic view points), instead I hope to show that mods provide a site for discourse and debate over environmental and ecological issues.

Most of the mods I describe in this section were accessed through Nexusmods, a leading online hub hosting thousands of fan-produced mods to pre-existing digital games, for Bethesda Softworks' *The Elder Scrolls V: Skyrim* (*Skyrim*). I've selected both because of their popularity in the modding community as well as *Skyrim*'s emphasis on natural environments and nonhuman species. Many other games including *The Sims* series feature rich modding communities actively supported by the series' designers. However, I've avoided *The Sims* because most of the mods apply to human spaces and objects like clothing and furniture. *Minecraft*, on the other hand, is a game that also features a large modding community and foregrounds environmental representations and would make for a useful object of study. Yet *Skyrim* and *Minecraft* work in two very different directions with *Skyrim* largely pushing toward a romantic and pastoral

perspective, whereas *Minecraft* reflects the utilitarian. For this section, I've focused solely on *Skyrim* rather than both because many of the mods and the modding community for each game are shaped by the specific ways that each game invites players to relate to the in-game environment.

The Nexusmods *Skyrim* page features a variety of categories ranging from "armor" and "creatures," to "user interface" and "environment." The categories imply obvious partitions, but exploring the mods reveals significant overlap between categories such as environments and creatures appearing in the "Collectables, Treasure Hunts, and Puzzles" section. Similarly, the "environmental" section contains changes to in-game plants and animals as well as environments. Although blending categories presents intriguing potentials for ecocritical work, it also presents some significant issues. Specifically, in this section, players can find Kazoomie's "Birds and Flocks," which adds birds and bats to *Skyrim*'s oddly barren ecosystems. "Birds and Flocks" raises numerous questions for ecocritical studies beyond potentially reducing living creatures to flat props for players' visual enjoyment. *Skyrim* is a Tolkien-esque fantasy game populated by giant trolls, fearsome dragons, and strange deities. Although its visual design may appear "realistic," *Skyrim* has little interest in *realism*. Kazoomie's desire to add in "dozens and dozens more instances of birds that fly away when startled by either the player or another creature" should thus stand out as peculiar. The mod perhaps acknowledges an uncomfortable silence in the game, a longing for and attachment to the various feathered friends in this player's childhood or current life. It may also stem from nostalgia and romantic notions of ecologies in which birds are a defining symbol of the "natural." For whatever reason, Kazoomie's mod acknowledges the absence of birds and bird behaviors in a fantasy world and intends to resolve this gap in *Skyrim*'s ecology. Similarly, both "Ducks and Swans for *Skyrim*," by zero2900 and "Sea of Spirits" by SpikeDragonLord follow suit by introducing missing species into *Skyrim*'s waterways and oceans. Many of *Skyrim*'s rivers, streams, lakes, and oceans are uninhabited, functioning more as boundaries and borders than as ecological representations. By introducing new species into the game, these mods also intervene in the erasure of certain species from *Skyrim*'s ecology.

Although it might be tempting to read such mods as encouraging players to view the environment as a plaything, these mods are at the very least a response to the game confronting players with missing animal populations, and perhaps a degree of unease over *Skyrim*'s speciesist tendencies based on utilitarian needs and genre tropes. Recognizing these failures in the game's representation, the prior mods attempt to address this issue by replacing what has gone missing. Alternatively, MightyNINE's "Trashcans of *Skyrim*" attempts to engage problems of waste, waste removal, and waste storage by highlighting what was always there. In the description for "Trashcans of *Skyrim*," MightyNINE writes,

Tired of carrying around useless junk. Sick of filling up corners of your house, city or farm with clutter you will never use or sell? Waste Management of *Skyrim*, Inc is here to save the day! Simply place your unwanted trash in our conveniently placed trashcans found in every Hold Capital and forget about it. Our workers, quite possibly Falmer or even Dwemer, beneath the surface will silently remove your junk every 24 hours to our

custom and highly secret waste disposal site located in the south side of a northbound Mammoth.

Skyrim is notable for allowing players to collect and hoard a wide variety of nonessential items. Despite modeling excessive consumerism, the game contains little indication of waste or garbage. MightyNINE's mod therefore not only highlights how *Skyrim* completely ignores issues of waste, but it also hypothesizes how such an environmental concern would be handled. Using Falmer, a subaltern race of elves that live in the caves and outskirts of *Skyrim*, to clean these trashcans draws an uncomfortable analogy to the problems of electronic waste and recycling. Edward Burtynsky, through his photographs and collaboration with Jennifer Baichwal on a documentary of eWaste communities in China, notes that many of the recycled materials collected in America (and 50% of the world's computers) are taken to China where large communities work in extremely dangerous conditions to extract precious metals from various electronic components. Falmer reside in the ruins of the technologically advanced but now extinct Dwemer race, often seen dwelling in and brandishing many of their discarded technologies. Players learn that the Falmer are descended from Snow Elves who, facing extinction, were forced to accept servitude and consumed a poison that blinded and corrupted them. As a result, Falmer are extremely hostile and players who encounter them can only battle or flee, suggesting a troubling ethics toward humans living in eWaste communities. Moreover, the ironic use of "quite possibly" in MightyNINE's description speaks to broader ignorance about these issues (or, perhaps, the difficulty in understanding their complexity and vastness). Rather than simply reproducing the problems of consumerism and waste, modding provides a site to engage with and critique both the limits of *Skyrim*'s environmental representations as well as environmental issues beyond the game.

Nexusmods also offers a wide range of changes and additions to landscapes, weather, and possible interactions with the environment. A majority of these environmental mods, such as the "Vivid Landscapes" series for *Skyrim*, provide enhanced textures to mountains, tundras, cliffs, creeks, and other landscapes primarily affecting the appearance of *Skyrim*'s "natural environment." Texture mods aim to spruce up visuals that may look outdated or introduce new details to environmental models; however, such changes rhetorically suggest that the environment is a passive backdrop "less interface than canvas" (Chang 59) that merely serves as a technological benchmark. The designer of "Skyrim Realistic Weather Mod" makes this belief explicit while commenting that

I was always disappointed at how dark & colorless the weather was in Skyrim, AND in all of the weather mods. I understand that it's supposed to be cold & atmospheric, but that doesn't mean you need to make it extremely dark & gloomy; in my opinion. So I modified the weather myself; making the main-end-goal realism.

Although Quayvetocar2's mod is an impressive technical update, these comments (and the mod itself) display what Chang cites as an environmental relationship established primarily on human control and manipulation (60). Such appeals to "realism" in

environmental mod commentary are not uncommon and mistake visual fidelity as the marker of environmental reality—reducing environment to a drifting signifier attainable through multi-core processors and graphics cards. At the same time, however, Quayvetocar2’s comments indirectly acknowledge the role of technology and discourse in “coloring” (or lack thereof) the environment. By modding, Quayvetocar2 not only contests what they view as a problematic discourse, but also encounters the environment as always already manufactured.

Romantic environmental mods, like the Vivid series and Quayvetocar2’s mod, are extremely common on nexusmods. And many other mods exist to not only improve the appearance of the game environment, but also forcibly expand it by introducing clichéd landscapes and weather systems like “heavy rain” or “dense fog.” These kinds of mods have close connections to how *The Elder Scrolls* series invites players to relate to the game environment. In his “The Pastoral and the Sublime in *Elder Scrolls IV: Oblivion*,” Paul Martin remarks on how the game foregrounds the environmental beauty of Tamriel (the name of the continent on which the Elder Scrolls series takes place) and its contrast with the “demonically industrial oblivion” (Parham), a force attempting to invade Tamriel. Martin argues that Tamriel’s environment is reduced to the picturesque:

Tamriel, as a game environment, is not, as we have come to realize, the terrifyingly vast landscape promised in the game’s opening. It is, like Camoran’s paradise, merely a garden. It does not extend beyond the horizon but is bounded on all sides. It is not as you find it, but carefully arranged and ordered. It is not, like the wilderness, a sublime chaos, but, like the garden, a picturesque design.

Martin’s use of garden cues us to how *Skyrim*’s general representation of the environment may very much influence the kinds of mod content produced for it. Moreover, such a rendering of game space as “garden” is not unusual in game design. Jennifer DeWinter, in *Shigeru Miyamoto*, notes that Miyamoto thinks of his games as gardens (76); similarly, Derek Yu designer of the indie hit *Spelunky* and author of the self-reflective book *Spelunky* describes game design in terms of a garden. Citing Haruki Murakami, who explains that “If writing novels is like planting a forest, then writing short stories is more like planting a garden,” Yu responds that his Game Maker games, “were Murakami’s gardens: vibrant, intimate, and full of charm...I was eager to find my own little patch of fertile soil” (14). *Skyrim*, like *Oblivion*’s “natural” and unmodded state, toys with the same aesthetic pastoralism—one that is enhanced though both the action of installing mods and what the mods actually *do* to the game experience. Like a potted plant sequestered to a planter, these mods tend to function as pure décor, presenting opportunities for counter-readings but largely depicting the environment as a dwelling explicitly designed for and by humans.

Yet mods do present opportunities for presenting the environment as agent. Returning to the blended categories that open this section, we encounter opportunities for re-casting the environment as a “follower.” Followers in *Skyrim* are nonplayable characters that may join with and assist in the player’s travels. Alternatively, players can download the “Louis Cultivation Kit,” which allows players to grow their own follower by purchasing a seed at an in-game shop, planting it in soil, waiting several days, and

then “harvesting” the follower. This plant-human hybrid is a form of what Mel Y. Chen describes as “improper affiliation,” meaning associations between subjects and objects that do not ascribe to hegemonic ideologies or values (104). Not only does Louis subvert the typical logics of companionship in *Skyrim*, he emerges from the ground completely naked—a significant shift in the mod community which predominately features objectified and scantily clad women. Alternatively, LittleVienna’s “Spriggan Matron Follower” invites similar opportunities for kinship with and hybridization of the environment with in-game characters, allowing the player to join with a tree spirit that assists in their journey. In “Rhetoric and Recapture: Theorizing Digital Game Ecologies Through EA’s *The Sims* Series,” Melissa Bianchi argues that “PlantSims” in *The Sims* series, “tightly couple the human to the natural environment through their plant-like physiology, needs and interactions” (215).⁶ These followers, although much less complex than those modeled in *The Sims*, suggest a companionate role for the environment that offers an alternative to romantic or utilitarian relationships with nature.

Conclusion: Mod Ecologies

Although the previous section focused on mods as content that orchestrate alternative and unusual relationships with the ecosystem and environment represented in *Skyrim*, further studies might consider more “non-traditional” forms of mods. Although less frequent than one might hope, some digital games and game experiments have similarly explored the potential for nonhumans to modify game spaces. Hideo Kojima, designer of the popular *Metal Gear Solid* series, produced *Boktai* and *Boktai 2*, both of which include a photometric light sensor on the game cartridge that modifies gameplay depending on the amount of sunlight exposed to it. *Boktai*, like many digital games, moves beyond strictly visual or textual representation to present the environment through specific actions that players can perform. Unlike many games, however, the rules and representations within the game are affected by the presence of sunlight or darkness. *Boktai* features a hoard of vampires-like creatures called “Immortals” threatening mass extinction of all life and whose “unnatural-ness” is stressed throughout the game, especially in their description as beings “breaking the *natural* cycle of life and death [emphasis added].” The player must combat these creatures using various weapons including the “Gun Del Sol” and the “Pile Driver.” The Pile Driver is a large, immobile device used to purify Immortals and can only be used if sunlight is detected by the sensor mounted on the game cartridge. Similarly, the “Gun Del Sol” is used for close-range combat and can stun Immortals. Players can only use the gun if sunlight is detected, represented by a gauge that shows the level of sunlight detected by the sensor, and it depletes upon use. If no sunlight is available, the tone and experience of the game shift significantly. Players can no longer shoot and engage in

⁶ Bianchi describes “PlantSims” as “human-plant hybrids that have green skin and foliage for hair” (215).

combat, but must rely on the game's stealth mechanics for hiding from and dodging enemies.

In many ways, the *Boktai* series' inclusion of sunlight echoes many problematic perspectives of the environment. Much like *Minecraft* and *Skyrim*, both of which include representations of nonhuman animals, plant life, and minerals that players use as *resources*, both the Gun Del Sol and Pile Driver encourage players to think of sunlight as a product to be used and weaponized. Here we again encounter Hochman's scathing critique of media and culture industries damaging effects on animals and the environment. Solar energy becomes something to capitalize on, and much like the raw materials driving conflict and violence in the DRC, its presence drives violent conflict within the game. Yet *Boktai* can also be read as a counter to Louv's "last child in the woods" hypothesis, encouraging players to explore and engage with environments not normally addressed through digital games.

Ultimately, modding is a nuanced and complicated ecological activity that demands ongoing critical attention from both media ecology and ecomedia studies. Modding exceeds the in-game actions players perform, allowing them to design and subvert the ideological positions that games ask players to occupy. By stealing, repurposing, and preserving, modding resists the "total monetization of social relations" (187). Finally, mods allow players to imagine alternatives to worlds established on the consumption and destruction of natural environments.

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