

Endless Supply? An Ecocritical Perspective on Crafting and Resources in *Minecraft*

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Nearly twenty years ago, the technology think tank known as The Progress & Freedom Foundation published “Cyberspace and the American Dream,” their claim on the parcel of Knowledge Age frontier. As described in the now defunct organization’s *Magna Carta*, early prospectors of the wealth to be had in an economy founded on immaterial, information-based goods nonetheless relied on the language of Nature and ecological themes for describing their motivations. The authors of this libertarian manifesto evoke a distinctly American rhetoric fueled by notions of exploration, discovery, and of conquest to perpetuate an ideology of Third Wave dominion over the “digital frontier.” Another branch of American philosophy, however, is positioned as counteractive to this utilitarian view.

Although their preservationist tenets might seem familiar, ecocriticism has only recently transcended literary origins to attract multidisciplinary regard and participation. Ecocritics such as Camilo Gomides have urged an expansion of scope to accommodate other art forms, such as film, worth examining from an ecological standpoint. While not ignoring the earnest efforts of conservationist gaming such as the University of Cambridge’s *Games for Nature* to develop games that teach environmentally sound practices, little ecologically-grounded theory has approached popular computer gaming or explored how virtual worlds perpetuate the hegemonization of natural utilitarianism. This is perhaps due to the limited recognition, in most computer games, of the environment as a delineating border, a limiting construct, or simply another means for electronic artists to showcase their creativity.

When employed by game designers, Nature is most likely rendered as a degeneration of the dominant technology – as the intrusive rust and decay. On the rare occasion when distinguished prominently as an interactive entity within these digital

playgrounds, Nature is typically portrayed as a malevolent force to be defeated (often as a result of humanity's trifling). While this trend certainly continues, both casual and serious gamers are increasingly being offered games that rely on a virtual industrialism based on the extraction and repurposing of raw materials. This digital reduction of Nature as a tool necessary only for the survival and success of the player evokes the mythicized early American pioneer, exploring the unknown in search of resources that will ensure survival or wealth. Given the temporal condition of the digital, how do we employ Ecocritical concerns towards the preservation of the environment as well as the overarching concerns for subsequent generations?

### ***Minecraft***

Drifting into consciousness, the first shapes you discern are the towering trees, swathed in leafy vines, overlooking a sandy shoreline that surrounds a small pool. Following the recently risen sun, the only means of coordinating your direction, you meander around the sloping rock-lined hills and grassy pastures populated by grazing sheep bleating curiously at your sudden appearance. While the serenity is calming, the sun – now halfway along its daytime trek – piques an anxiety regarding what the ensuing nightfall might bring. Looking about, the only materials with which a shelter might be constructed is the wood from the plentiful trees and so you stockpile a variety of birch and oak planks before setting the foundation of a small shelter at the top of a stony spire overlooking a river-fed canyon.

Placing the final roof slats with the final rays of the sun, you scan the dimming landscape and realize how fortunate you were to have received that earlier survivalist

impulse: from the foot of the mountain to as far as you can see, ghastly undead figures, hissing four-legged monstrosities, and nightmarish black giants scour the grounds before you. As you descend the ladder into your shelter, you recognize that you will need more than four wooden walls and a roof to survive this hostile wilderness. Morning displaces the midnight haunts as suddenly as they appeared and you immediately pack your newly fashioned wooden sword, pickaxe, and shovel and head off to find better resources...

So begins the player of Markus Persson's wildly popular computer game *Minecraft*, a work remarkable not only for its top position in the genre of "sandbox" games but also as a model of success for independent developers. Released to the public in 2009, Mojang's *Minecraft* is played across the globe, having recently approached the landmark 5-millionth unit sold. Playing the game in single-person mode positions the isolated player within an implicitly endless ecology constructed of 8-bit rendered materials; survival and success within a world of near-limitless freedom demands that the land be excavated, harvested, and exploited for material goods. In a digital realm where players are motivated by exploration and this utilitarian harnessing of the landscape's natural resources, *Minecraft* provides an ideal platform for application of an Ecocritical criteria.

Attempting to harness ecologically-grounded sensitivities, this paper examines *Minecraft* as the epitome of a computer game genre that necessitates crafting as the primary economic expression of time and resource management. After this analysis has been procured, the ecological attitudes derived from *Minecraft* may be compared to other popular computer games that utilize the same resource-based economy such as Blizzard's multiplayer *World of Warcraft* and Zynga's social games *Farmville* and *Castleville*. Once this

criteria of eco-utilitarianism is spotlighted within these virtual worlds, further research into these implications and whether the player's relationship with Nature – real and digital – may proceed.

Having surpassed the public scolding by anemic punditry, computer game studies are now able to turn multidisciplinary attentions towards a more substantive agenda. Scholarship is heartily expounding on the stimulating modes of meaning-making that are occurring within the myriad of genres that populate an expansive catalog of game titles and platforms. One area which has received this attention has been the economic structures that develop within some of these virtual worlds. Displaying all the sophistication, savvy, and dynamism of real-world economies, these systems of production, labor, and cost are often player driven.

What all of these games have in common is that they regard natural resources (often including people) as instruments of player progress. Big name titles such as those in the *Mass Effect* series, where the off-world mining of resources is necessary to augment abilities, the depletion of Nature on a planetary scale is reduced to needs for personal gain. One of the more popular tropes incorporated into computer games and their economies is that of crafting – fashioning items that the character may use or sell for virtual (although sometimes real) money. In many online multiplayer role-playing games such as Blizzard's *World of Warcraft* and Sony Online Entertainment's *Star Wars Galaxies*, crafting items earns the player skill points creating another goal to accomplish within the game. Crafting is also a central mode of socializing in most of Zynga's popular Facebook-based games like *Castleville* and *Farmville* where resources are culled from one's social circle.

In *Synthetic Worlds*, economist and game scholar Edward Castronova summates the standard economic model as one that creates “choice under scarcity” (177). In his discussion of computer game economics, he describes the composition of *fun* virtual economies through a list of qualities. Two of the eight categories he lists are explicit in crafting: *consumption and acquisition* as well as *creation* (177-179). There is fun, Castronova claims, in “making a choice under scarcity” and to enjoy the “accumulation of an empire of objects” (177). However, where there is no scarcity, what choice is there? What consideration is there for the sources of these objects?

Virtual economic health – like that in the real world – is often advanced without regard for any sort of digital ecology. In most games, endless crafting materials may be extracted from an infinite supply of sources: another goblin will reappear after the one recently killed has surrendered its spoils; entire herds offering their pelts are always over the next hill; there’s never a shortage of crops growing in an infinitely perfect ecosystem. While it is understood that personal computers capable of adequately rendering entire ecosystems for the sake of entertainment are a far way off, most popular games have failed to address the natural imbalance that occurs when too much is sacrificed for human/player progress. There is no remorse when the player reduces the planet to a husk in *Mass Effect 2*; macros in *Star Wars Galaxies* take advantage of endless resources found at popular mineral hotspots resulting in hordes of “grinding” players that mirror the sprawl of mechanized harvesting farms found across every virtual planet.

Very little attention has been paid to the interaction of players with the virtual ecology. For the most part, the environments in many games are nothing more than background textures or a chance for game developers to flex some graphics muscle. Alenda

Chang illustrated how computer games situate the “environment to background scenery, relying on stereotyped landscapes, and predicating player success on extraction and use of natural resources” (58). Despite this earnest assertion, however, little ecologically grounded theory has approached how virtual worlds perpetuate this ideology of natural libertarianism. While scholarship has occasionally examined the ideological structures that mold digital landscapes into rhetorical constructs, my initial research has yet to turn up any investigation into player’s attitude towards nature. As academia begins to recognize game studies as warranting critique of a literary vein, perhaps we should continue addressing ecological issues with the lenses Clary and Chang prescribe.

Although their preservationist tenets might seem familiar, environmentalist scholars have only recently transcended literary origins to attract multidisciplinary regard and participation. Ecocritics such as Camilo Gomides have prompted this expansion of scope to accommodate other art forms worth examining from an ecological standpoint (Gomides 13). Aside from enjoying a surge in respectability, this strand of critical scholarship is similar to computer game studies in that it evades definitive explanation. In literary circles, Ecocriticism has flourished and diversified, producing a myriad of perspectives including ecofeminism and eco-Marxism (Garrard). Cheryll Glotfelty, as referred to early in Greg Garrard’s reader *Ecocriticism*, offers the simplest explanation of her field as “the study of the relationship between literature and the physical environment” (Glotfelty 1996: xix: qtd. in Garrard 3).

Considering the many issues that concern portions of the public, the occasional release of a game harboring an explicit conservationist statement is not surprising. More often than not, however, the limited scope of these games renders the game as an

ineffective means of persuading players to change their real-world attitudes towards Nature. Exceptions such as Red Redemption's *Fate of the World*, created from collaboration with several large conservationist and humanitarian agencies, create an experience where the player might develop an appreciation for the complexity of the many decisions that must be made. These politically motivated games often have an extremely steep learning curve and players often discard the game after failing to surpass a seemingly no-win situation.

Finding a game that fosters "natural resources stewardship" is considerably difficult, according to Amy Clary, who discusses the environmental costs of technology. Clary envisions that someday environmentally conscious gaming be "modeled on ecocritical reading practices (110). Several years after Clary posits this, a promising game hit the independent games market. Perhaps the most compelling example of player-environmental interaction, Mojang's *Minecraft* embeds the player in an ecological relationship. Playing any of the game's modes, which include Multiplayer, Creative, Survival and "Hardcore" options, positions the isolated player within an implicitly endless ecology constructed of 8-bit rendered materials. In the latter two options, success within this world of near-limitless freedom demands that the land be explored, excavated, harvested, for material goods<sup>1</sup>. In a digital realm where players are motivated by exploration and this utilitarian harnessing of the landscape's natural resources, *Minecraft* provides an ideal platform for application of an Ecocritical analysis.

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<sup>1</sup> I limit my focus of this paper to single player "Survival" mode as multiplayer servers feature a vast array of player-made modifications. Much of what is addressed is, however, present on multiplayer as well. Another mode of *Minecraft* is the Creative mode, the ultimate "sandbox" experience where the player begins the game with unlimited materials to build anything imaginable.



***Minecraft***

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with 25 million registered users (minecraftforum.net). Recognized as a model for marketing practices, Persson and his development team Mojang have expanded their flagship product to multiple computer platforms and handheld devices.

Underneath the simple, retrograded appearance of *Minecraft's* facade resides a programmatically robust weather system rarely seen even in high-end computer gaming. Encapsulated in the virtual ecology is an accurate lunar/solar cycle, precipitation that promotes growth, and plants that produce seeds when harvested. Sod that is deposited into the ground sprouts grass shortly after and seeds instantaneously mature with an application of the bone meal created from ground skeleton bones. This ecological system, however, is predicated on the ability of the player to utilize these materials – the strategies in *Minecraft* as in many games based on resource management – and procure a viable resource management system enabling the player to accomplish certain goals.

As the sun dips below the *Minecraft* horizon, romantic pastoral views of the idyll are engulfed in the shadows of an Old World Wilderness teeming with Others whose motivations are to either kill the player and/or destroy his prosperity. Most indicative of an ideology of empirical conquest are these other inhabitants of the *Minecraft* world. Several types of creatures wander the catacombs and darkened terrains of the world – most notably the green, four-legged “Creepers,” whose signature *hsssssss* is shortly followed by a self-destructing explosion that takes out a large portion of the surrounding material. Other notable denizens are the mysterious Ender Men, ebony giants whose ability to teleport great distances catches careless players off guard. Amidst the rest of the mob types, including zombies, skeletons, and spiders, these two stand out due to the destructive nature of their existence in the *Minecraft* ecology.

Aside from their willingness to kill the player, they are also infamous for their tendencies to destroy ( Creeper) or trifle with (Ender Men) the player's progress and creative efforts. While forcing the player to restart from the game's point of origination, the most heinous inconvenience that these ambassadors of the *Minecraft* wilderness impose is upon the player's property. A wandering Creeper can take out the cornerstone foundation of a well-constructed palace that took days to engineer, gather materials and build; Ender Men display little respect for private property when rearranging random blocks from castle structures. Ecocritics such as Garrard make the distinction between this hostile environment devoid of human settlement and the more benevolent Wilderness in which New World perspectives find solace and unity with Nature (66-70).

Given *Minecraft's* seemingly limited freedom (bedrock is the impenetrable foundation of the world), this particular virtual world would seem to resonate well with pioneering Western notions and libertarian beliefs in imminent domain. As the vastness is only occupied by livestock to be butchered, undead to be defeated, and residents of xenophobic villages, the landscape seems primed for unfettered exploration and development. Villages, added in during the final "pre-release" beta stage, are particularly interesting from a development standpoint and embody sophisticated micro-ecologies in themselves. According to the *Minecraft* Wiki, a socially constructed and regimented depository of information relevant to the game, villagers display survivalist behaviors and actually mate and spawn until the population reaches one-third the number of doors that exist in the village.

This impressive form of population control alludes to the consideration developers have had in recent iterations of the game for the ecological rhetoric of *Minecraft*. There is

little doubt that Persson devoted a great deal of attention to creating a naturally vibrant environment in *Minecraft*. Once describing the process of building the game as “chaotic and organic from the start,” his work interprets an appreciation for natural disorder (Persson 30). Because this concern ends programmatically with the villagers’ behavior, conservationism is again isolated into another element of virtual tourism.

Despite being unable to surpass the limitations of the technology and provide a virtual bionetwork comparable to that of the real, *Minecraft* nonetheless offers a simplified ecosystem through which the player can develop an understanding of natural cycles. Players are fully capable of enacting in a quasi-ecosystem whose functionality is limited to replanting fauna. However, as the game maintains the popular tropes of progress and goal acquisition through resource utilization as well as conquest of the environment and the aboriginal creatures, there is likely a disconnect between ideology and praxis. Due to this overtone, actions such as forest replenishment that might be interpreted as conservationist may occur more from either the player’s desire for resource consolidation for later harvest or simple aesthetics.

Greg Garrard refers to Aldo Leopold’s discussion of an ethical relationship with the land and his conclusion of *A Sand County Almanac* in which he describes a code of conduct that is irrelevant to the player of *Minecraft*. In the player’s world, there is never a need to achieve a biotic cohabitation with the elements and natural resources upon which he depends. For Leopold, what love would the player have for these utilities?

Certainly not the soil, which we are sending helter-skelter downriver. Certainly not the waters, which we assume have no function except to turn turbines, float barges, and carry off sewage.

Certainly not the plants, of which we exterminate whole communities without batting an eye. Certainly not the animals, of which we have already extirpated many of the largest and most beautiful species. (241)

With every update, *Minecraft* seems to be constantly working towards a more robust ecology and the algorithms of environmental conduct grow more complex. Developer attention to the cyclic patterns of weather and natural regrowth is apparent. Given that one of the more impressive qualities of *Minecraft*'s design is the reliable environment, convincing behaviors (artificial intelligence) of the inhabitants, and ecological physics displayed by the variety of flora, it should be problematic from an ecocritical perspective that the player may wantonly exploit the environment not only for the sake of survival but for accumulation of resources and the development of those resources to procure those more valuable. Unlike popular games from any genre – social, multiplayer, first person shooter etc. – the environment is not a textural background but the primary relationship with the player. Although monsters must be defeated, villagers and other interesting characters may be encountered, it is the immersive environment with which the player becomes most intimate. This relationship presents the game as a unique opportunity to explore the role of the natural in digital realms.

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