

The Environmental Semiotics of Virtual Worlds: Reading the 'Splash Aquatics' Store in *Second Life*

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*Nature myths have been described in a number of contemporary media texts, both overtly and through connotation. Media like multiuser virtual environments (MUVES) offer a critical challenge because they at times approach an immersive, felt realism that seems to transcend symbolism itself. Readers of these texts inhabit the space in a more compelling manner (in a phenomenological sense) than one's identification or engagement with a novel or movie. Because of the way this kind of virtual space inhabits a liminal space between real and not-real; material and embodied, yet completely constructed and artificial; it's especially interesting to see how other-than-human life and ecosystems are represented here. A common sight in *Second Life* is a kind of idyll, a natural-seeming area most often in the form of a forest through which avatars might stroll hand-in-hand or simply gaze upon, much as the 19th-century Romantics sought visual experiences of the Sublime. If we take such texts on their own terms, Nature is valuable and restorative. But the text also reinscribes a binary between "natural" and "civilized" areas, and the spaces are promoted (on search engines) as, primarily, places to relax and unwind. In other words, as a place for human consumption. Resistive readings are possible, and the paper describes several of these based on a close reading of several prominent *Second Life* constructions, concluding with a formative critical methodology for 'reading' virtual reality.*

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Introduction

The role played by ideologies about the natural world is a crucial one, as they both shape and reflect our interaction with the biological systems that sustain us. As Bruno Latour (2004) points out, postmodern questions about ontological re-

ality take on an additional urgency when one is dealing with climate change, food supply and environmental justice issues, to mention just a few pressing concerns. Embedded ideologies of Nature have been identified in a number of contemporary media texts, such

as documentary video (DeLuca 1999) and computer games (Opel and Smith 2004). Such texts contain both narrative and symbolic elements that serve to re-inscribe ideologies of Nature, both overtly and implicitly. Popular versions of virtual reality, from computer games to multiuser virtual environments like *Second Life*, offer glimpses into our conscious and unconscious understanding of Nature, including our relationships to natural systems, which finds expression in ecocentric or anthropocentric valuations of elements of the natural world.¹

Yet, multiuser virtual environments such as *Second Life* (hereinafter 'SL') offer a critical challenge not faced with other media, because the texts they present approach an immersive, felt realism that seems to transcend symbolism itself. Virtual worlds, in which computer graphics are pushed to their maximum extent to depict a believable, ontologically real place, exist in a liminal state between observed-from-without and experienced-from-within; they are in some sense like photographs and movies, in that they are experienced on a screen by a viewer seated in a chair, but they are also designed to draw the user into an immersive engagement that is analogous to the embodied experience of walking through a museum exhibit or nature trail—or the wilderness itself.

Even so, these seemingly real, three-dimensional landscapes filled with plants and trees waving in a

digital wind, are but representations that index ideas about what is essentially real in the physical world. Even when an attempt is made to depict components of the (real) natural world with scientific accuracy, these ideas are informed by ideology. These explicit, overt simulacra of virtual worlds may help us unpack our texts to discover what else we are naturalizing in our cultural materials. They may indeed help us to foreground and problematize the chain of signification that tends to remain hidden in such 'real' constructions as parks, museums, and even 'wilderness' (itself a problematic cultural construct).

Virtual Nature, Past and Present

Before one can identify 'virtual nature' it is necessary to explicate the term nature itself, as used in this paper. There is no perfectly clear-cut delineation of the natural world from the human one, and no unproblematic conception of nature itself. As environmental scholars such as William Cronon (1995) and Roderick Nash (2001) have detailed in separate works, the concept of nature has a complex history that has included, at various times:

- a raw, dangerous, uncivilized place;
- an unspoiled realm of the Sublime, untainted by human contact;
- a support system and resource upon which human civilization

is built;

- a place of spiritual restoration and scenic beauty; and
- a place apart from and, ultimately, unknowable from within human culture.

Each of these interrelated conceptions arises from particular human ideologies and cultural milieu, and each has both advantages and disadvantages that can become apparent when the conception is put into practice via human behavior. For example, 'nature-as-resource' can lead to a process of commodification that results in the depletion of critical natural resources, while 'nature-as-aesthetic' can result in a valuation of the scenic appeal of a natural system that ignores the less picturesque but essential elements that make it work. For the purposes of this paper, however, 'nature' will be defined in a fairly simple way: those elements of the material world that are not human-constructed and are visible at the macroscopic level, including plants, animals, bodies of water, and landforms.

In some ways, immersive virtual worlds are not new. In their 2002 essay in *Philosophy and Geography*, Stewart and Nicholls describe English gardens of the 19th Century as an early manifestation of 'virtual reality.' Unlike orderly geometric gardens, these attempted to simulate wild Nature, though always adding 'improvements' for the human eye through ordered paths, views,

and scenes. These orderings reflected then-current Romantic rejections of rationalism embodied in the concept of the Sublime: an almost overwhelming sense of terror, awe, and beauty felt in the presence of grand natural scenery and events. The gardens were also intended to convey a nationalistic and cultural 'Englishness' to the viewer, and were therefore "a complex mingling of the virtual and the real—neither simulacrum nor reality" (Stewart and Nicholls 2002).

Stewart and Nicholls describe the way the English garden arose following the emergence of the 'Grand Tour', a journey that began as a pedagogical tool for self-improvement, but which evolved into an experience of subjective pleasure, through encounter with the Sublime. Among many others, Thoreau justified this form of travel as a reconnection with 'the Wild'; a complex notion that is as much conceptual as it is concrete. According to Stewart and Nicholls, Thoreau described it as a kind of virtual world that can be carried in one's head, even in the middle of a crowded city (Stewart and Nicholls 2002, 90). Travelers experienced the Wild and the Sublime on their journeys and then sought to bring these experiences home, to re-experience these 'natural encounters' through both landscape painting and gardens. A closely related essay by Patin (1999) describes the way visitor areas and tour routes in American national parks tie the

constructed experience of Nature to current political and cultural themes. He finds that park designers use techniques of display not unlike those found in museums to connect natural wonders with American exceptionalism and other nationalistic concerns and values.

These works lay the ground for relating real-world depictions and constructions of Nature to their underlying ideologies. They remind us that people will create landforms, plants, and animals in virtual worlds, too, in ways that tend to depict Nature in a culturally significant manner. They can also be used as a starting point to understanding how a virtual construction, such as a tropical island in SL, might be read by users who are experiencing that island as a subjectively real place, populated by subjectively real people. "Nature" is thus problematized, no matter how "natural" it looks in actual or virtual reality, and can be treated as a kind of rhetoric.

Semiotics of the Visual

Parks, gardens, museums, and their virtual counterparts are dominated by the visual mode of experience, despite the important role of embodiment mentioned earlier. For Jones (2006), they are "virtual worlds of light" because they are primarily experienced through screen technologies. Both he and Book (2003) see this emphasis on the visual as primarily due to limitations in technology that have not yet engaged the

other senses as completely, though they note that it is also rooted in a Western, Cartesian epistemic that valorizes what is perceived visually (Jones 2006, 6). While the visual component is dynamic and always-changing, it is unlike a film because the view is 'random access' as described in the next section. Although the virtual constructions are meant to index three-dimensional spaces, the focus on vision means that the experience is often a series of views and most objects are also designed to be experienced visually. Roland Barthes' work in the semiotics of imagery provides a methodological approach to read these constructions and one of the goals of this analysis is to determine the utility of applying Barthes' semiotics in this context.²

In his explication of the way photographic images work, Barthes begins with the notion of the "press photograph", which, like many museological and virtual-world depictions of Nature, is offered as a direct recording of reality, not as 'art' or artifice. Barthes calls it "a message without a code." He argues that this purely denotative, literal 'light drawing' does not *signify* its subject matter (as words do) but is a direct analogue of it (Barthes 1977, 17-18). Again, this foregrounds the assumption that the visual is Truth, and that what is seen is objective. He calls this form of representation "*continuous and uncoded*", as against the discrete and coded na-

ture of language (Barthes 1977, 17). This is not to suggest that there is no cultural code present in images (such as a national flag waving in the wind or a mother nursing a child), but that the visual code operates separately from the uncoded presumption of direct analogy that is experienced first. In a virtual world, this would be the visually presented spaces and objects that one has the impression of moving through and among.

A second level of signification he calls 'connotation': the culturally-derived meanings that are suggested by what is depicted. To a certain degree, Barthes argues, the perceived analogic connection between image and what it depicts is so powerful as to nearly overwhelm any second-order meaning:

Of all the structures of information, the photograph appears as the only one that is exclusively constituted and occupied by a 'denoted' message, a message that totally exhausts its mode of existence (Barthes 1977, 18).

This is not to say that no further reading of the photograph is possible. Because it is "an object that has been worked on, chosen, constructed, treated according to professional, aesthetic or ideological norms which are so many factors of connotation" its potential for further signification is readily seen (Barthes 1977, 19). Furthermore, the photo-

graph is not simply perceived but is read against a "traditional stock of signs" present in the culture of the reader (Barthes 1977, 19).

Barthes refers to the two ('analogic/denotative' and 'cultural/connotative') as the basis of a "photographic paradox" because there are two messages, the second of which develops not against the coded nature of linguistic denotation but against the realistic imperative of the continuous, uncoded representation of reality that we perceived the photograph to be (Barthes 1977, 19). As a result, the connotation can appear to be grounded in ontological reality as well.

Much like Walter Benjamin, Barthes adds another layer of meaning by asserting that photographs are always accompanied by linguistic captions of some sort. It is clear that such is the case with the labels on museum exhibits or the printed guidebooks that accompany many landscape gardens. Virtual-world environments include 'captions' in the form of descriptions in search results, signage, welcome notices, land titles, and even the titles of objects that appear when the user's cursor hovers over them. As Barthes puts it, the text "loads" the image with meaning, anchoring it and reducing ambiguity (Barthes 1977, 26-17). As Barthes puts it, the text "loads" the image with meaning, anchoring it and reducing ambiguity (Barthes 1977, 26-27).

We can thus consider Barthes'

work as providing three levels of meaning when examining a virtual construction: its 'photorealistic' continuous, uncoded meaning; the culturally coded, connotative meanings attached to visual symbols (e.g. as the image of a polar bear might signify climate change), and textual codings in the ekphrasis.³ A reading of these three levels can then help unpack the meaning of a given virtual construction. In particular, his notion of uncoded, continuous representation helps us approach the seemingly-real as is found in virtual reality.

In many ways, an environment like SL subscribes to the myth of photorealism described by both Barthes and Sturken & Cartwright (2009). The photograph implies an ontological truth about its referent—that it really existed at some point in time, and that the camera and object were both co-present (Barthes described this as the *punctum*: the poignancy of an image that evokes the fleeting mortality of its subject). SL seems driven by this myth, through continued efforts toward improving the photorealism in the software itself, as well as through user innovations in the development of realistic virtual objects. Though its graphics may seem primitive compared to those of gaming systems, SL continues to strive towards a photorealistic presentation of whatever is being depicted.⁴

In many, if not most cases, SL constructions are simulacra, be-

cause the things 'represented' have no real-world referent except in the most general way. For example, housing and shopping areas look much like their often generically constructed real-life counterparts. Yet it is clear that virtual animals can convey the emotional impact of a photograph and evoke a sense of continuous uncoded reality. The most compelling SL animals are fully three-dimensional and include scripted behaviors that can strongly evoke a sense of life and agency, especially when an embedded script makes the virtual animal react to an avatar's presence, or includes random processes that mimic the behavioral variety of a living organism.

While SL is mainly a visual text, it is also a spatial one, apprehended as a more or less real, three-dimensional space—from shopping mall to forest primeval, space station, or mystical elvish realm. This 'felt' spatiality and a kind of random-access navigation (see below) are part of the way SL generates its immersive realism. Due to the way this kind of virtual space surfs a liminal space between real and not-real—material and embodied, yet completely constructed and artificial—it is especially interesting to see how other-than-human life and ecosystems are depicted here.

The need for a certain amount of naturalism is recognized at a foundational level in the software itself, which generates a world of sun and moon, winds, gravity, realistic water,

and even chirping birds. Many of the user-builders (who create most of the islands, cities, objects, and avatars in this world) have gone to great lengths to create photorealistic plants that sway in the wind, or scripted 3-D animals that move and respond to other virtual actors, resulting in a large catalog of 'natural objects' with which to build one's own virtual wildlife refuge, eco-fantasy, or parkland.

Sampling *Second Life*: The 'Splash Aquatics' Store

As stated, the audience's visual field is almost completely unconstrained in SL. This freedom stands in sharp contrast to a film, or even most computer games. With unconstrained camera angles, one can view any scene from any direction and users can even turn on and off various rendered components, reducing the view to its underlying 'wireframe' structure if they desire. In fact, in most locations there is no set narrative sequence or defined 'walkthrough,' making it challenging to identify what Raymond Williams (1974), referring to television viewing, characterizes as the *experiential flow* of the viewer. Is the store experienced as a whole? In parts, over time? As a quick visit? What happens during the visit? What role do other avatars play in the interpretation of what is seen? What real-life distractions (from email alerts to the dinner bell) occur during the consumption of this virtual construc-

tion and provide a kind of frame or context for the experience?

Still, many locations in SL provide a teleportation entry location and pathways for avatars to follow, allowing one to make reasonable assumptions about what constitutes the typical core user experience of a region or parcel of land. Even here, while readers may be guided by pathways, trails, and signage just as in the real world, SL allows one to easily bypass the intended path. The physical path taken by the avatar becomes a kind of counter-reading or counter-narrative. This can be thought of as a kind of resistive rearticulation in the sense that Antonio Gramsci (2009) describes; a way of pushing back against the hegemonic narrative of the ordered pathway. It also calls to mind Henry Jenkins' (2004) argument that readers construct texts themselves rather than passively consuming them.

For these reasons, the description that follows is only one approximation of the experienced text. For this analysis I have selected a prominent location that foregrounds the natural world: the *Splash Aquatics* store on Gooruembalchi, a region in the 'mainland' of SL.⁵ *Splash Aquatics*⁶ is owned by a SL builder named Keikou Splash, who, like many SL users, remains anonymous in terms of his real-life identity. His creations - primarily aquatic creatures of all types, all based on real-world animals rather than fantasy models - are some of the bet-

ter-known and respected 'nature works' in SL and frequently appear on islands created by government agencies and environmental NGOs. In this brief reading of the Splash Aquatics store, I describe the continuous 'reality' of the build (Barthes' analogic interpretation), unpack the connotations of the (apparently three-dimensional) image-objects encountered, and identify their textual captions.

To begin, given the store's location within the miscellany and clutter of the SL 'mainland,' most visitors are likely to discover it through the SL search tool and arrive via teleport. This places the avatar on a large wooden deck facing a wall containing a guestbook tool and a photo gallery of satisfied customers with their purchases. From the standpoint of the avatar, one must turn around in order to see the rest of the store, much of which, while out of doors, is highly organized and parceled in the manner of a plant nursery or zoo, laid out along a terraced hillside. To the left, there is a display of fountains, an outdoor movie theatre, and a stairway leading uphill to more displays. To the right, a series of terraces with water features lead uphill to a futuristic glass structure that appears to be the original store building.

The display area to the left is dominated by animated fountains. Some of these are in a highly artificial context, a sterile (one can almost smell the chlorine) rectilinear

pool surrounded by wood decking, while others are situated more organically, in a pond that contains rocks and animated koi. One end of this pond is dominated by a natural-looking waterfall that splashes over rocks and generates spray. In stark contrast, the artificial pond is paired with a second, smaller pond that contains miniature radio controlled boats that the user can control—a curious kind of miniature-within-miniature. An outdoor cinema allows the visitor to select and show video clips and still images of real-world undersea life in natural contexts. Presumably, this serves to suggest ways in which the store's products might be deployed in SL. Other than the prominent 'Cinema' label, this section has no explicit ekphrasis.

Beyond the cinema, one ascends a stairway to a series of terraces featuring more fountains, a variety of 'sculpted ponds' (*sculpting* here refers to a method for creating more organic-looking virtual objects), a 'river kit,' and 'sculpted waterfalls.' Many include naturalistic water plants and are stocked with fish. Each water feature is labeled with descriptive signage. Beyond this is a building containing all manner of diving gear that can be purchased and worn by the avatar; everything from colorful sport-diver suits to technical deep-sea equipment, even including dive computers that simulate the monitoring of time, depth, and remaining air. Ekphrasis in this section focuses on details about the

simulated functionality of the technical devices displayed.

The path continues from here, but for the purposes of description we will return to the starting point in order to pick up the other path available to the arriving visitor. Back at the teleportation point, if the avatar turns right, she crosses an arched footbridge over water that contains lily pads and realistic swimming ducks, both available for purchase. As elsewhere, the water is framed by both organic and artificial surrounds (a pond vs. a boardwalk-lined pool, the latter reinforcing an anthropocentric view). The grouping of ducks and water plants suggests a city park more than a wild place, and the visually dominant displays for purchasing ducks and puffins caption the scene.

On the next level up is a highly realistic swimming pool, complete with tiled lining, situated across the path from a 'click to rez' display showing versions of small fountains and water features, of the type one might place in a courtyard, patio, or backyard garden⁶. Up another level, a sign points off towards "scuba, beavers, penguins, seagulls". This trail, which eventually reaches the scuba-gear building described above, takes the user past a naturalistic waterfall (with conveniently placed picnic table) to a walkway that passes half-a-dozen clear hemispheres several meters in diameter, resembling giant snow globes. These are referred to as

'habi-domes' and are each labeled and themed with a different ecological niche: arctic penguins, volcanic mud pots, beaver dams, seagrass beds, soaring seagulls, and an underwater cave.

Returning from the habi-dome trail, the visitor again sees the futuristic and glass-walled structure at the highest point of land on the property. This is much like a traditional store, with shelving and display cases; or perhaps an aquarium store, with its rows of fish tanks. Some of the items are even obviously designed to be placed in a virtual aquarium, such as miniature lighthouses and bubbling treasure chests. One notable item is a 'fish dispenser' that looks like a giant gumball machine. Exiting the store, the avatar can explore an extensive fishing pond area, using virtual tackle to catch scripted fish in one of the more popular game-like fishing systems in SL that reward users with points and prizes.

The last area to be examined here is probably the heart of Splash Aquatics: below a platform where submersible vehicles are available for purchase, a deep-sea exhibition/habitat/vending area lies inside a building that is camouflaged with the same textures used to cover the 'ground' (it is not clear why this is not rendered as a more traditional structure like the aquarium building at the top of the hill). Within, the avatar can walk past informative displays, 'touch-please' tanks,

and aquaria, much like such real-life places as Sea World or the Florida Aquarium. One can click a sign to have her avatar pose inside a huge set of shark jaws, view a small display that explains and criticizes the controversial real-life practice of ‘finning’ sharks, or examine displays with links to environmental groups that have a presence within SL.

At the end of the hall, a sign invites the user to click it and thereby teleport into a tunnel. This puts the avatar in a glass tube that runs along the floor of a giant undersea display. The habitat is highly detailed, featuring a wide variety of swimming and crawling sea life, as well as coral heads, rock caves, and waving kelp. The display mimics the ‘shark encounter’ type of spectacular display in real-world aquaria. One can explore the same undersea display by dropping through a “Dive Hole” elsewhere in the store, presumably while wearing dive gear purchased at the store.

Analysis and Discussion

The three levels of representation examined here—continuous/uncoded, connotative, and ekphrastic—provide a useful means of unpacking the experience that is Splash Aquatics and gaining insight into the way this visual and spatial environment may be read by visitors during a visit. At the textual level, we find a more traditional rhetorical reading possible by examining the ekphrasis attached to the store’s virtual

components, and this reading yields messages that both commodify nature and, almost simultaneously, yield ecocentric meanings. As noted, Barthes sees the textual labels as anchoring the image’s meaning, and the framings provided by text about cost, functionality, and technical details would seem to reinforce a technocentric and commodified reading, quite at odds with the more ecocentric aim of Splash Aquatics. It’s worth noting that Barthes’ explanation of the function of captions refers to explicit ones, whereas in SL some ekphrasis is ‘hidden’ on initial view and only visible when the user takes the additional step of hovering the mouse cursor over an object or clicking on it. This surely modifies the operation of the text, but in ways that are unclear at this level of analysis.

Two of the most prominent examples of the store’s explicitly ecocentric worldview are the real-world videos in the cinema and the displays inside the deep-sea exhibit. Both anchor the virtual world to environmental concerns of the physical one. The ‘habi-domes’ provide a similar educational purpose by highlighting systematic interdependencies at the heart of scientific understandings of Nature, though they (and the pond ‘kits’) run the risk of oversimplifying the complexities and indeterminate edges of ecosystems by presenting them in neat packages with clear boundaries. From a marketing standpoint, of course, the ‘habi-

domes' clearly imply that one ought to "buy the complete set!", and the embedded ekphrasis in hover-text descriptions of price, prim count, and other prosaic information reinforces the sense of nature as commodity. Clearly, a store such as this needs text captions, so the presence of these 'price tags' here is not as jarring as it would be in, say, a secluded tropical beach or a woodland riparian environment, where products from Splash Aquatics might be deployed by customers. A closer examination of such relatively ekphrasis-free islands would be a useful complement to the current study, because Barthes' theory implies that the less anchored significations of such constructions would allow more varied readings.

It is important to keep in mind that, even though this is a visual, screen-generated technology, the ability to view in all directions and the feeling of embodied presence generated by the user's avatar give what one sees ontological weight, enhancing the *punctum* of the virtual construction. "You are there" in a subjectively convincing way, looking at solid objects, not pictures. Thus it would seem that at the level of continuous and analogic representation of reality, Barthes' approach demystifies the felt realism and immersivity of this rather convincing simulation through his explanation of the continuous, uncoded nature of the press photograph. While the unreality of SL may seem obvious in the con-

text of still-evolving photorealism, further refinements in virtual worlds and parallel technologies like mixed or augmented reality will continue to challenge our ability to step outside the stream of analogic representation when presented with phenomenally convincing simulations. This is an important distinction that emerges from virtual reality as rhetorical system and is not accounted for through Barthes' method. While a press photograph is always *experienced* qua photograph, no matter its seeming analogic 'truth,' multiuser virtual environments are designed to efface the presence of mediation. The experience is thus even more reality-continuous than any photograph. I am not experiencing an image or replica of a forest, but I am – virtually, that is, in all important ways – directly experiencing a forest.

At the same time, however, Barthes' focus on the analogic and continuous nature of representation helps us see that the experience of the virtual environment is (like the photograph) fundamentally non-representational. This approach opens up a window into understanding a liminal space between the literally present and the signified as both function rhetorically. SL does indeed have a kind of life of its own, at least from the point of view of those who 'reside' there, and this is an absolutely essential component of the experience that Barthes' approach enables us to take into account.

The non-symbolic analogous

representation just described subtly blends with connotations, and here, Barthes' connection of the visual with the cultural code, which he refers to in this context as "myth," is clearly useful (Barthes 1977, 30). There is a continual repetition, through connotation, of the notion that Nature is a commodity for purchase and use by humans. While it might be argued that this is, after all, a store (and most SL builds are meant to be shared and consumed by users), one can easily imagine alternatives; perhaps a pathway down a tunnel of woods, or the entrance to a cave, that might foreground wildness without sacrificing allure. Instead, the visitor arrives at the photo wall showing customers with their purchased 'pets.' About half of the customer photos depict their purchases deployed in an artificial context, such as a koi pond or aquarium, reinforcing an anthropocentric reading. Guestbook comments (which warrant a separate analysis) suggest that visitors are as much impressed by the aesthetic and realistic feeling of the store, as by the quality of its products and services. It would be interesting to compare these to comments from a straightforward virtual pet store to see if more emotional readings occur there.

Aesthetic pleasure is also connoted by the fountain/waterfall area: historical associations of fountains with parks and palaces and the sublime grandeur of a water-

fall that would be entirely in place in a landscape painting. Labels anchor and reinforce this: *Grand Spray Fountain, Triple Spray Ring, Large Natural Waterfall With Sound Effects*, etc. The fish in the ponds are koi, a highly cultivated and ornamental species. The natural waterfall is accompanied by a picnic table for human observers. While this admixture of 'natural' and 'artificial' environments might connote that humans share with the natural world a love of and need for healthy aquatic places, it also may blur the distinction between constructed and naturally-occurring aquatic environments, suggesting that the latter are equally able to be manipulated.

In several places there is a kind of mixed mediation and layering of simulacra. This can be found in the cinema (where one finds VR avatars sitting down to watch real-world video), the aquarium ornaments in the store, and the 'shark encounter' tunnels in the large tank at the end. These blur the lines between SL and real-world things that are yet not real, in the sense that they are constructed and fictional objects for human consumption. Rather than expose the virtual world as similarly artificial, they seem to constitute a kind of rhetoric of virtual realism, connoting that SL constructions are at least as valid as the simulacra that exist in physical space.

The dive shop takes this a step further by suggesting that aquatic environments in SL are real enough

that one's avatar needs this equipment to explore them safely (even though the need to breathe is not built into SL, the world contains no intrinsic 'health' component as is found in most computer games and so avatars cannot 'die'). The purchase and wearing of scuba gear further connotes a literally immersive suspension of disbelief, wherein the user accepts the reality of the simulated world. The connotation of SL as 'real-marine-environment', is reinforced by the placement of screenshots of underwater places in the virtual world - not real-world imagery as seen in the cinema display.⁷

As a side note, perhaps the most jarring element of the whole store is the fishing area, since it depicts the often problematic practice of harvesting fish for sport as just another commodified entertainment, on par with ecosystems and bodies of water. One wonders how the eco-centric shopper reads this. Does it break the illusion of realism?

Conclusion

Barthes reminds us that image connotations are often masked as literal depiction of reality, when in fact they contain the hidden rules and conventions that comprise the myths of a particular group. In the case of Splash Aquatics in *Second Life*, I argue that these myths are those of a contemporary Western society that sees Nature from an anthropocentric perspective that

valorizes visual aesthetics. That is not to say that the store's displays fail to depict nature realistically. The animals are not anthropomorphic cartoons, nor are they limited to or even chiefly charismatic macro-fauna (such as dolphins and panda bears), but have obviously been designed to reflect real-world life-forms and the habitats they live in.

Yet they are all framed within visual rhetorics of display that evoke familiar, commodified and entertainment-oriented forms (such as Sea World), and thereby inherit the corporate politics of what Susan Davis calls "spectacular nature" (Davis 1997, 15) In her critique of that theme park, Davis notes that visitors are encouraged to think that by consuming a corporate product they are discharging their responsibility to take environmental action. She argues that the scientific and educational functions of Sea World are minimal in comparison to this spectacle of commodified atonement (Davis 1997, 30). For this reason, it seems reasonable to expect that many visitors to Splash Aquatics believe their activities are more environmentally friendly than they actually are, a phenomenon similar to 'greenwashing' whereby consumption is made to appear sustainable.

As noted, it is challenging to isolate the impact of a particular text within a virtual world, or even to isolate 'the' flow of experience that constitutes the text to be analyzed.

Thus, while this walkthrough of Splash Aquatics attempts to reconstruct a typical user experience, it is only one approximation. Despite its limitations, Barthes' approach allows one to identify the ontological weight of the virtual world and the way its rhetoric operates through connotation and ekphrasis. While case studies such as this one can provide insight, future inquiry should also include the development of systematic ways to sample multiuser virtual environments. For example, geographic sampling methods might be incorporated, though given the irregular dispersal of builds in SL, more factors must be considered, such as avatar traffic, associations with real-world organizations and other linkages, proximity to popular locations, mainland versus privately owned estate, "themes" (such as the steampunk regions of Caledon), and so on. It is also clear that scholarship on constructed spaces like monuments and museums should be brought to bear on virtual worlds because senses beyond the visual are part of the experience and will doubtless play a greater role in the future because of developments in haptic technology and the blended realism of augmented reality, to name just two ways the real-virtual divide will continue to be blurred.

It is unknown how Splash Aquatics informs subsequent use. There is no guarantee that its calling-forth of the natural world will result in biologically sustainable or environmen-

tally beneficial meanings when the store's wares are deployed on customer lands. They will likely often end up being used to create a forest idyll for avatars to gaze upon—one through which they can stroll, hand-in-hand, much like the English gardens described by Stewart and Nicholls, experiencing the Sublime at a safe and comfortable remove. In fact, 'natural' spaces in SL tend to be promoted on search engines as primarily places to relax and unwind—in other words, as places for human consumption. One area for future inquiry would be to gain a better understanding of just how users encounter "natural places" in SL. How often do users deliberately seek these out? How are the sites labeled and framed in search engines and publicity? How does this differ from more incidental exposure to virtual nature?

The anthropocentric view of Nature as tourist destination shares with conservationist and wise-use philosophies a view of Nature as in the service of humankind, rather than a more ecocentric view that might value a forest for its own sake. Anthropocentric readings can ignore underlying systems in peril. To cite but one real-life example, the Gulf of Mexico may still look beautiful at sunset a year after the BP oil disaster, but that tells us nothing about the health of the marine ecosystem below the surface, where chemical dispersants have removed the oil from view at the risk of embedding

it more deeply into the food chain. A commodified and aesthetized virtual nature in SL simply reinscribes the problematic view.

On the other hand, the economics of SL mean that users can appreciate substantial texts that have no overt commercial purpose, resisting the tendency towards universal commodification that underlies the capitalist economy. Because land in SL is costly, a large tract devoted to a realistic natural setting, filled with items purchased from Splash Aquatics, speaks to a certain valuing of the “natural” especially when there is no obvious anthropomorphic orientation to the build (such as pathways, scenic overlooks and the like) because it could have been devoted to more potentially lucrative virtual stores and rentals. In other words, nature preserves are ecocentric by their very existence—again, whether real or virtual. Furthermore, virtual “preserves” can even provide a surrogate for those unable to directly experience this kind of setting, allowing them to perhaps better understand the role the natural world plays in our existence.

Thus it seems fruitful for subsequent critical inquiry to examine some of the ways Splash Aquatics or other virtual nature products are deployed outside the frame of a store. Will commodification and anthropocentrism still prevail there? Or does the deployment suggest an ecocentric view? And how do the intentions of the authors of these vir-

tual natures interact with the readings of visitors?

Despite their unreality, virtual worlds convey a sense of ontological realism, primarily through their visual elements but also through space, sound, and movement; components that are not captured by this exploratory Barthesian reading of the store. Even though current virtual worlds like SL are heavily visual, to fully understand their rhetorical power it will be necessary to look more closely at the role of embodiment and examine how ‘real’ three-dimensional constructs like theme parks, museums or architecture signify their naturalness. For example, how is the rhetoric of a visual field changed when one can, in effect, walk around inside it, or even become part of it? How do size and distance, mass and texture, and varying levels of activity modify the visual experience? To what extent does an avatar cause the user to psychologically participate in a virtual forest as if he or she were really there? Future research can bring the semiotics of spatiality and kinesics to bear, among other approaches. And again it will be critical to explore the way multiple readings circulate and articulate.

Finally, Barthes’ work yields incomplete analysis in this case because, unlike a photograph, SL is a social space. The presence of other avatars and their behavior in relationship to the rest of the virtual world provides an immediate social

reification of what is experienced. The virtual world is always subject to a community experience that will frame any reading. Furthermore, SL constructions are both message and public sphere, not isolated, individualistic consumer events often critiqued in the case of television or surfing the Web. The builder of Splash Aquatics seems to love and respect nature for itself, and it becomes not simply a store but a sharable space wherein a certain respect for nature can be experienced in a socially reinforcing context. That is, the experience can include interaction with other avatars, whether they might be cultural critics, travel-industry representatives, or consumerist cheerleaders. The consumption becomes a social event rather than a solitary one; Sturken and Cartwright posit SL as an example of the way “simulated spaces have become normalized in particular social contexts” in the postmodern society (Sturken and Cartwright 2009, 337). Further investigation of the interaction that goes on among users can help understand the ways people negotiate meanings in such ontologically liminal spaces.

Thus it seems probable that the engaging and convincing *punctum* of Splash Aquatics arises not simply from a visual depiction of reality, but also from things like the realistic scripted moving water and the lifelike movements of the animals, the presence of sonic features such as bird calls and splashes, the felt

three-dimensionality of the space (including the role of proxemics, for example), and the social validation of its realness that emerges from the presence of other avatars. Even so, Barthes’ three-level model of visual meaning may provide a root structure for analytical tools because of the continuing dominance of the visual in Western culture, even as virtual worlds are bringing something new to the media mix.

Endnotes

¹ *Second Life* is a multiuser virtual environment: a persistent three-dimensional “place” populated by objects and models that represent both fantasy and real-world phenomena, including animated “avatars” representing and controlled by users. The spaces and avatars are highly customizable through coding, modeling, graphic design -- or the purchase of virtual goods and services developed by other users, who retain intellectual property rights over the fruits of their labor (within the limits of a world whose entire existence is proprietary). Much of the virtual environment is user-created, and a great deal of activity (and real-world financial transactions) entails customization of avatars and spaces through coding, modeling, and graphic design, as well as the sale of products and services related to these activities.

² Barthes is certainly not the only approach possible. For example, some of the “museological rhetorics” identified by Carole Blair, Victoria Gallagher and others are worth exploring, as are rhetorics of film. Application of these and other perspectives will be explored and

critiqued in other works by this author.

³ I use the term in its broadest sense of 'caption' or textual description of an image, which does not simply label the image but provides a framework for its interpretation.

⁴ One of the most dramatic recent examples of this is the introduction of "avatar physics" (gravity-influenced breasts, bellies, and buttocks) in 2011. See Au (2011).

⁵ The websites at <http://primperfect-blog.wordpress.com/2008/02/23/371/> and <http://secondstuff.wordpress.com/2009/03/22/> include photos and descriptions of Splash Aquatics that can help the non-SL-user visualize the store. As of this writing, the store itself may be visited in SL at <http://slurl.com/secondlife/Gooruembalchi/153/202/64/>.

⁶ Disclaimer: The author owns several Splash Aquatics products himself.

⁷ The role of scientific simulation and education in SL is beyond the scope of this analysis, but has been addressed in previous research. See, for example, Clark (2011).

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