

HOW VIDEO GAMES MADE ME BIOPHILIC

written by Guest Contributor | February 12, 2021



All how-I-came-to-love-nature stories begin with childhood, so here we go to the 90s.

I was the sort of kid with galactic dolphin posters, and I was the sort of kid who loved point-and-click adventure games. In the summers, when I visited my grandparents, I trekked through the brisk, darkly chromatic forests of the Pacific Northwest, where my uncle took me whalewatching on Puget Sound. The rest of the time I lived in the suburbs and, when parents allowed, played the adventure games on my computer. *King's Quest*, *Monkey Island*, that sort of thing. So one day my dad saw an adventure game called *Ecoquest*, starring a dolphin, and he bought it for me.

Ecoquest, like *Fern Gully* and *Captain Planet* other better-remembered environmentalist media of the 90s, was a magical piece of pure propaganda. It's about a young boy named Adam whose father, Dr. Greene, is an ecologist (and yes, I said his name was Dr. Greene). Dr. Greene has taken in a dolphin for rehabilitation: the opening sequence shows the cartoon dolphin swimming through the ocean in search of something, and the lilt of the music tips into an ominous chord as he careens into a floating piece of fisherman's net and is caught in a writhing cluster of tattered and filthy plastic. (As you may imagine this opening sequence left my young self breathless and clutching her dolphin necklace.)

Adam befriends the dolphin, who is staying in the rehabilitation pool next to his father's office, by feeding and swimming with him, which the player achieves through patient clicking on various toys and pieces of food. Eventually you find a frisbee, and Adam can throw it to the dolphin. When he does, the dolphin leaps into the air, yelling "I've caught it!" and revealing he can speak human. And with that important feature of children's play, the animal guide, properly discovered, the adventure began.

The course of events I uncovered will not surprise you. The dolphin is searching for the blue whale Cetus, King of Undersea Eluria, who has been pinned (forgive the spoiler) by a harpoon. His kingdom is suffering the effects of pollution in his absence. So Adam dons scuba gear-- just how he

talks to the dolphin and the undersea creatures with a mouthpiece is never quite addressed; you tend to go along with these things, in video games, where the interactivity justifies its own rules— and follows the dolphin into the water to join the Elurians in their struggle.

The puzzles are sometimes cryptic, but I didn't find them difficult, exactly. I solved riddles with an oracle fish, I took care of the problems of many a hapless crustacean NPC with pollution problems, I eventually battled a Big Bad Manta Ray (crazed by pollution, of course, like any good 90s environmentalist-propaganda foe). Along the way, I cleaned oilspills, picked up the ubiquitous human trash, and mediated disputes between manatees and man, all for a point or two on the game's progress bar and the pleasure of seeing the story unfold.

But it was not the puzzle design but the tone of the game that resonated with me. The world of the game is enchanted. Now, the game does have many of the slapstick features you associate with children's media. The dolphin-companion is a cornucopia of marvelously awful puns (such as telling Adam he "looks a little eel" after cleaning up some oil off a coral). But the slapstick is paired with backdrops of surpassing beauty. Down in Eluria's lovely blue deepwater nest shapely coral formations in red and pink, darting yellow fish, and ancient ruins, including a colossal Ozymandias of a severed head — his cheek tilted against some seaweed, housing a shy glowfish in his ear.

I found other, more menacing scenes at the bottom of an oil rig, where I found the wreckage of a yellow submarine, and elsewhere a pirate's skeleton. The game did not hesitate to be strange and resonant and everywhere, in ways both explicit in the narrative and implicit in the environment I explored, guided my eye to the effects of human influence on the sea. Some of it was a benign influence: the ruins and even the submarine struck me as haunted, artifacts isolated from their function in human society and thoughtlessly discarded, but now just part of the landscape as a home for fish and coral.

Perhaps it's my nostalgia, but I think the pixel art of those adventure games has a very distinctive and powerful aesthetic: located somewhere between pointillism and post-impressionism, fragmented at the edges, and therefore endlessly evocative. Paired with animation and strong sound design, the suggestiveness of pixel art can become multisensory. As Adam swims through the undersea kingdom, the movement of the landscape and the sound effect accents makes the world of the game feel as tactile as a surprise touch. Toward the end of the story, there is a scene where Adam enters a toxic cave. When you enter, the cave is pitch-black: the synthmusic hits minor keys. In the corner, there is a florescent-green glow trickling through the water. As a player you have never seen that sort of superbright neon in the game's color palate. The choice of color is a narratorial alarm. You know it's a powerful, dangerous substance, that it doesn't belong in that cave with living creatures, and as Adam kicks his fins through the water he seems not only merely wary but sluggish— blunted by this exposure to toxicity. There is escalating dread as Adam finds a toxic suit and dons it. When Adam reaches the end of the cave and finds the barrels of toxic waste, you feel the slickness and wrongness of the oilspill, the sickly and heavy way it moves through the water. You feel disgust at the way it coats and spreads the

length of the ocean floor. The waste is clearly dangerous: to Adam, to his dolphin friend, and to the ocean he wants to protect. All three.

Replaying the game on a lark as an adult, I remembered exactly where to go. The game is not difficult, but I knew all of the puzzle solutions and scenes by heart. I found these scenes were as bonedeeep familiar to me as the park trails of Burien, Washington, where my grandparents used to live and which I can still revive from deep memory with astonishing detail: the crisp wet air and the sun and the trees and the bending of the trails through the contours of the forest. The favorite of these trails led down to a beach where I would skip smooth blue pebbles out in the water – looking out, of course, for dolphins, and imagining pixelated sea-kingdoms far beneath the ripples I made with my throw.

The fervor of the 90s environmentalist media is expressed in my memory best as the affirmation stickers I covered all over my holographic orca pencil box – *Reduce Reuse Recycle! Earth Day Every Day! Save the Ozone! Save the Whales! Save the Rainforest!* But after the 90s public interest in the environment plummeted. According to Gallup polls, from the decades of 1990-2010, there was a great drop in environmental concern, and it was virtually no one's political priority, including those of us who were 90s kids. Now in 2020, we are finally back on the upswing because of climate concerns, but it wasn't always so: for about two decades, people simply forgot about the environment.

So perhaps it haunts more than just me; perhaps it haunts other 90s kids: just how much impact, if any, did it have, the environmentalist propaganda we loved? The *Captain Planets* and the *Ecoquests*? What happened? There is some evidence that some of those 90s talking points were just resolved. The hole in the ozone layer was patched up; the whales are holding fast against extinction for now, after interventions. But most were not – the rainforest, for instance, remains in grave danger; the ocean is in worse shape than ever – and here we are, fighting climate and conservation battles that would have been much better to fight back then, if not much earlier. The fact of the matter is that environmentalist concern tanked in popularity just as the effects of the pro-environmentalist children's media should have crescendoed. That is, when we 90s kids reached adulthood.

And yet here I am. I never forgot about the environmental crisis, even as I was paralyzed to do anything about it for many years, beyond vexed research and posting about it on social media. That has changed as the climate issue has gained momentum and, thanks to activists, the path toward doing something for the environment seems clearer (for instance: the advent of the Green New Deal, the Dakota Pipeline protests and other tireless work by indigenous people, the rise of organizations like Extinction Rebellion and the Environmental Voter Project, and the explosion of activity from Citizen's Climate Lobby and the Sunrise Movement, which I wish I'd known about ages ago). But while I volunteer, I'm hardly an ideal or archetypal icon of a naturelover – I don't camp often, I don't garden or birdwatch, I don't have pets, I'm interested in the science only in the most casual layman's sense, and I haven't done much as an activist until the last few years. Mostly, I have loved nature through stories: as the backdrop for my brothers and I as we roadtripped to see the mountains of Colorado and Utah, as canoeing on Lake

Washington with my uncle, as the setting for excursions and adventures with friends, through the poetry and metaphors of Wordsworth and Keats, and – I cannot help but believe – through video games. First *Ecoquest*, but then *Secret of Mana*, the Final Fantasies, *Shadow of the Colossus*. When I think of nature, I automatically think, in part, of these games.

So something about the question of *Ecoquest* has always seemed essential to me. A few years ago, during my M.F.A., I was in the throes of anxiety over writing and climate disaster – wondering, basically, if I should spend so much time trying to write stories when there was so much environmental work to be done and so many lives at stake. I finally set myself to the task of researching the sociology of nature-themed media and whether environmentalist stories help us understand the environmental crisis we're in. What I hoped was, yes: environmentalist media creates some kind of urgency and understanding.

And what I found after hours and hours and hours of research was just: no. They do not. It's currently fashionable to muddle the classic distinction between humans and nature in some environmental circles; for centuries in the West, we've thought of humans and nature as distinct, and that sort of distinction is seen as naïve. Don't animals adapt to city living? Don't humans rely on nature to live? And aren't humans, by definition, part of nature? Well and good. A simple, persuasive example of this argument, and why it might be important for environmentalist causes, can be found in Wendell Berry's landmark essay "Getting Along with Nature." But research by sociologist Oliver Pergams and Patricia A. Zaradic shows that when it comes to how we chose to spend our time, time with nature and time spent with media are, in a purely pragmatic and sociological way, genuinely at odds ("Videophilia: implications for childhood development and conservation," 2007). Perhaps it seems moralistic, but it's truth: time spent with artificial screens like phones and computers and video games have simply replaced time spent with nature in a palpable, quantifiable, infographable manner (and according to an email conversation I had with Pergams, this is a consensus in the field). But within the framework of how humans *thinking of themselves as part of nature* is itself developed, there are a few things to consider: one, that many humans have no connection to nonhuman life at all, and thus "man being a part of nature" is not something that is affectively felt by them – it's not experienced as true, in other words; and two, that human activities like video games have a detrimental affect on the ability of humans to create such a connection. In short, "humans are part of nature" has become a cliché that, when it comes to appreciation and support for nonhuman life and conservation and biodiversity, doesn't make sense. Because modern humans, at least, often don't *think of themselves* as part of nature.

A case study can be found in studies in the human response to virtual nature landscapes. A great deal has been said and studied about the soothing effects of virtual nature, such as the pixelated ocean depths in *Ecoquest*, and in many meaningful respects it seems that experiences in virtual nature provoke exactly the same psychological benefits that time in nature does: soothed nervous systems and more pronounced well-being, as author Sue Thomas has documented in her book on the topic. Supporting the idea that man is part of

nature, and therefore manmade objects are natural objects, the manmade nature simulations you find in games are experienced very closely to the real thing. However, according to Pergams and Zaradic, virtual nature seems to do nothing to help humans appreciate, and connect to, actual nonhuman life. Virtual nature “tends to sensationalize nature’s hazards and habitats,” which has the dual effect of making normal experiences with nature, which are “not particularly hazardous nor momentarily spectacular” (unlike saving an underwater kingdom from the horrors of pollution) an offputting combination of dangerous (because the threats are overplayed) and lackluster (because nature lacks the oversaturated gloss of a simulation, especially a gamified one). This is supported by evidence which suggests that while simulated nature experiences do increase support for our national park system— support for natural places of spectacular, sightseeing beauty, in other words, the sort of places that would be the backdrop to an epic video game— they decrease crucial support for the preservation of local natural areas, which look less sensational and important by comparison. And in terms of the problem of environmental devastation, your local ecosystem is where that real work of conservation and climate mitigation lies. In a study conducted in Indonesia by P. Nilan and G.R. Wibawanto, concern for the local environment was a key indicator of actual, tangible, real-world activism (“‘Becoming’ an environmentalist in Indonesia,” 2015). Appreciation for virtual nature, in other words, doesn’t have anything to do with appreciation for actual nature, and in fact gives us a skewed understanding of how we should value it. Without real nature access, we only think of it in terms of how exciting and spectacular it is to our utterly solipsistic sensibilities.

So what *does* work to generate a connection between human and nonhuman life? It turns out affinity for nature and having a pro-environment set of political and ethical values – two slightly different metrics – have been tracked to some degree in the study of biophilia. Biophilia is the magnificent biologist E.O. Wilson’s word for “an innate tendency to focus on life or lifelike processes.” No one quite knows if biophilia exists, but the evidence, in the form of various easily-conditioned human aversions (such as a phobia for snakes) or fascinations (such as a persistent, and perhaps evolutionary, human preference for our native savanna habitat over other options) seems persuasive. Biophilia must be what Stephen Kellert calls “weak learning”: that is, it has a genetic component, but is learned or unlearned according to formative experiences (“Biophilia,” *Encyclopedia of Ecology*, 2008). We aren’t born with biophilia so much as born with *potential for it*. And according to studies on the impact of affinity toward nature by Müller, Kals, and Pansa, biophilia has a direct impact on pro-environmental behavior (“Adolescents’ emotional affinity toward nature: A cross-sectional study,” 2009).

According to Stephen Kellert, the three sorts of formative nature experiences that might cultivate biophilia are vicarious ones (simulations such as virtual nature environments), indirect ones (structured activities such as zoos, nature walks or outdoor hobbies), and direct, unmediated play in nature (it doesn’t have to be a daily thing – just a feature of your life, as with my summers in Seattle). The first two can be helpful, *but only unmediated play in nature*, coupled with a peer group and family that values nonhuman

life, can ensure the development of biophilia (Kellert, "Experiencing Nature: Affective, Cognitive, and Evaluative Development in Children," 2002). (The community ethics aspect is essential. In studies of rural vs urban kids, the urban kids with environmentalist families sometimes showed more biophilia than rural kids without them, despite the rural kids' greater nature access. In a study by E. Ahmetoglu, rural kids had a bit of a leg up due to that nature access, but this did not necessarily translate into pro-environmental behavior or beliefs without the values of the community reinforcing it. ("The contributions of familial and environmental factors to children's connection with nature and outdoor activities," 2019).)

So how do you know biophilia has been cultivated? Returning back to that "man is part of nature" axiom to give it due, it seems that at least in a way, Wendell Berry is right after all: research by Aziz, et al suggests the key *is* "connectivity" ("Children's direct and indirect experiences with nature and their connectedness to nature," 2019). You see yourself reflected in nature, an actor and participant in natural life as nature is an actor and participant in yours. So biophilia is not just upholding nonhuman life as intrinsically valuable— though that is key. It is also *actively and creatively* recognizing that humans and nature as part of the same interconnected ecosystem. This is the clichéd message of all of that propaganda as well as all those contemporary writers and thinkers, but it is, in the end, the truth, at least in a fashion. And to me, this sets to rest the distinction or lack of distinction between humans and nature. Saying that humans and nature are distinct makes sense, because in our world, that's experientially felt: those of us who weren't lucky enough to have nature access are simply going to see, feel and act on that distinction, and nonhuman life just won't be instinctively important or relevant to us. Disconnection *is* real because in modern society, *it's felt*. And it will be felt even more if the extinction rate of nonhuman species continues to escalate and we encounter nature less and less.

But the goal *can be* a sense of connectivity. "Man is part of nature" is correct too, not as a self-evident axiom that merely plays with the dictionary definition of what nature is, but as an aspiration that needs to be *made true*. Humans *can be* part of nature and think of themselves accordingly.

So. What does this mean for a society where biophilia isn't guaranteed? I think the obvious fact is that if you get both things – unstructured, unmediated nature access, and family who cares— that often means privilege. Many families are preoccupied with terrible invectives of survival, like money and food; on top of that, as wilderness disappears, fewer and fewer families have unmediated nature access. Privilege was my middle-class situation. I had a mother who cared very much about the environment and although visits to Seattle and other parks were infrequent, I did have this unmediated, unstructured time in nature Kellert talks about in my summer treks. So *Ecoquest* was a side note to my sense of connection with nature: and who knows whether I would have tolerated the moralizing story or gameplay if I hadn't had a biophilic childhood already?

And here, I think we need to return to the effects of video games and fully

consider the power they, and other media, have over our attention. While we may have an “innate tendency” toward fascination with life and lifelike objects, video games, with their progress bars that ring a little Pavlovian bell every time you pick up trash from the simulated undersea floor, are what N. Kardaras calls “digital pharmakeia” in his book *Glow Kids*: a dopamine-elevating stimulant, not more powerful than drugs of their own accord but with a unique quality of repetitiveness. The rapidfire of dopamine hits that video games generate means addiction. (This is why, I think, games can be intensely addictive, but not even good or fun. I’m skeptical that most players even enjoy the repetitive, clichéd World of Warcraft after the novelty’s worn off, but you could populate a small nation with its players in its heyday.) The sensorial immersiveness of games— which is, I think, their great artistic promise, the keystone element that separates them from other multisensory mediums such as film— seals you off from the implied dynamics of the outside world and replaces it with a contained, artificial system designed, in part, to play off of your dopamine system like a harp. The overall effect of “unmediated natural play” on your average person is no less powerful than video games in the long run, but digital pharmakeia is more immediate. You are not extrinsically rewarded for picking up trash with a bell. You are not extrinsically rewarded for exploring your natural surroundings with the exciting continuation of a quest to save the sea. You have to settle for engaging with the alien ineffability of nonhuman life. And that’s just *slow*. Ask any hiker or camper about the boredom involved. Nature can be boring without that simulated gloss! And while there is plenty to say about the meditative value of boredom— on a pragmatic level, purely ethical pragmatic, can it *compete* with digital pharmakeia? Probably not.

I acknowledge all of this. But I want to reframe the question. And here I return to my own experiences to demonstrate.

Did I choose games over nature? I never had that choice. Most of the time I lived, as many kids do, far from any real biodiversity. Most of the time I wasn’t in Seattle but in the depths of a suburb in Texas whose circling layers of houses formed concentric rings against it. I played on the glaring concrete of a cul-de-sac and in manicured backyards. The roads were named, in the fine traditions of pastoral suburban kitsch, after the sort of things developers tear down to create their house farms: Pecan Grove and Pleasant Shade and Fernglade. And I was privileged to live there and even more privileged to have my summer escapes. Many children know about pollution not as the enemy of the Cetus the whale-king but as the thing actually clogging their throats. Step one is to make sure that all children have the privilege of caring about nature at all.

But this situation of mine was and common. Even if more children had these privileges, as the wilderness continues to disappear, it will become more and more common. Nature will become less and less relevant to daily lives, more and more abstracted as we see virtual nature far more often than the real thing. That virtual nature, to judge by this research, may alleviate some of the psychological problems we’ll develop as a species cut off from the surrounding world. But it won’t wake up our latent biophilia and won’t condition us to care.

So was *Ecoquest* incidental? Despite all of this, I don't think so. I can't help but think of *Ecoquest* as part of my how-I-came-to-love-nature story. And I think this is why: *Ecoquest* demanded action.

Rather than allowing you to settle into your role as lord and saviour of Eluria, anointed by the oraclefish, beloved by talking sea creatures, *Ecoquest* never lets you forget that pollution is really happening. In other words, it has a moral. It points you back to what you must do in the real world.

I'm sure some would say too much of one. Over-the-top moralizing, yes, to reward kids for picking up trash and for knowing dolphin facts and for reading encyclopedia entries about the species you encounter (as you do in the sequel). Over-the-top moralizing, yes, to give young Adam the sidequest of reconciling his manatee friend to a clueless fisherman whose boat-propellers are injuring him when he goes up to the surface of the water to breathe. Over-the-top moralizing to guide you to a cave of toxic waste and, by manipulating the music and the artwork and the gameplay, make a kid feel disgusted by it, and afraid. But *Ecoquest* never felt for a moment like playing an escapist video game, or even a game with stunning nature vistas like *Skyrim* or *Flower*. Those games have given me profound aesthetic pleasure and are, of course, much more notable artistic accomplishments in the history of games. But consistent with the videophilia research, nothing about their shimmering, plasticine, technicolor landscapes has ever made me want to be in nature or to help mend the human relationship with it. Playing *Ecoquest*, by contrast, had intention. It gave you a calling.

It did this on every front: that calling is embedded into its design. The gameplay rewards ethical, cooperative behavior, both for its own sake (like picking up trash) and for a higher purpose (stopping pollution). The soundtrack and artwork encourage exploration, mystery, and love of natural beauty. The storyline, emphasizing *connectivity*, intertwines Adams' fate, the fate of his dolphin friend, the fate of the sea kingdom, and the fate of humans such that one cannot be separated from the other. Like the biophilic connection between humans and nature, the connection between the game and nature was not taken for granted by the game designers but *actively forged*.

Even in a more liberated world, many children will have the same upbringing I had: an instinctive love of nature, but an upbringing with only sporadic access to it, once a year if anything. They will, meanwhile, have plenty of access to media of all kinds. A skilfully-crafted game with elegant art and music, enjoyable slapstick, and engaging gameplay, and a constant call to go out into the world and pick up trash and recycle and think about the endangered species and care about local wildlife, can help them remember what's important in the meanwhile. A game can make those abstracted realities present and engaging, if the groundwork for a biophilic connection has been laid already. A game can accomplish this when it does not treat saving an ocean kingdom as a simple kids' fantasy but as a fable to help you know how to live.

When I returned to Seahurst Beach after a year of playing *Ecoquest*, I remember getting out of the car and trudging toward the ocean. Staring at the

water I remembered the unheimlich impact of the toxic waste scene– the real-world fact that deep down in the ocean somewhere, barrels of sludge were poisoning the water for pods of potential dolphin-friends. Play on the driftwood, along the water, and up the forest creek was changed: punster animal guides led me through mazes of driftwood and shells, pushed me to look up species of crabs in my field guides, helped me fight epic battles with pollution-monsters. And even now, memories of play on the beach and forest and creek are intertwined with those pixelated memories. It was, I think, a form of true connection: in a symbiotic loop, the game pointed me back to nature and vice-versa. When it comes to love of media and love of nature, one should always work in service to the other, but the goal, I believe, can be the same.

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