

Queasy Posthumanism
Hylozoic Ground

CARY WOLFE

1 Terri Peters, "Philip Beesley Envisions an Architecture that Breathes and Grows," *Mark* 21 (August-September 2009), p. 201.

2 Peters 2009, pp. 200–201.

3 Tim McKeough, "This Art Bites," *Wired* (November 2007), p. 134.

4 See, for example, Daniel Dennett, *Consciousness Explained* (Boston, 1991).

Hylozoic Ground, the remarkable work realized by Philip Beesley in collaboration with engineer Rob Gorbet, is visually arresting—a diaphonous testimony to the union of function and form; an uncanny melding of the biomorphic and the high tech. Viewers have described it variously as breathtaking, fragile, reverential, magical, and symphonic. 'Queasiness' is a sensation that Beesley has associated with the work; but as with the action painting that he cites as one of his influences, we might well ask what sorts of 'queasiness' lurk beneath Hylozoic Ground's stunning formal surface.¹

Part of this feeling, no doubt, is not just the experience of being in an enveloping space of extraordinary dimensional depth and texture, but in one that moves peristaltically, at once synchronous and asynchronous with the viewer's own actions. As Beesley puts it, "It's an immersive environment, it's about being inside something, not being on top of it and owning it, but being swallowed by it, with a sense of vertigo." "Once you enter the room," journalist Terri Peters observes, "you can only hope it's friendly."² What is intriguing to me here is the sense of *exposure* that seems to accompany our experience of Hylozoic Ground; a sense that, for artist and viewer alike, can border on a feeling of fascination and even empathy mixed with a vague atmosphere of menace. "It has a lot of hunger," Beesley observes; and in fact, one reviewer, Tim McKeough, characterizes the piece as a "predator." "It treats you much like any wild animal would treat a human," Beesley observes; "You're its food."³

Indexed here is a fact crucial to both the phenomenological and conceptual torque of Hylozoic Ground: the fact of our own embodiment, of being a living body in space and time, one for whom stakes are involved in location, movement, proximity, and proprioception. Following closely on the heels of this fact is a question that the work is bound to provoke: if we have and are a body, is it possible to say the same of the probing, swallowing, pulsing thing that surrounds us in Hylozoic Ground? Indeed, one might even say that in the case of the artwork, the gap between *having* a body and *being* a body is minimal; for that very reason this work is even more suggestively resonant with contemporary attempts, such as those in certain strains of cognitive science, to de-ontologize the question of subjectivity and instead think of it functionally and materially.⁴ To raise such questions is simply to make the point that the issue of embodiment, which seems so natural, so straightforward, turns out to be more complicated than one might think at first blush.

But why would such a question ever arise about a meshwork of acrylic tiles, monofilaments, and microprocessors in the first place? What gives us the sense that we are not in the presence of a ‘thing’—an object—but rather surrounded by something that’s alive, something that fascinates and unsettles precisely because it seems to have its own animus, its own agenda? Here, it seems to me, Hylozoic Ground generates another kind of ‘queasiness’ or vertigo—the vertigo associated with what is now being called ‘posthumanism’: the need to move beyond the comforting philosophical categories and certitudes of the humanism we have inherited from the Renaissance and the Enlightenment, to a more nuanced and complex vocabulary that allows us to deftly process the imbrication and enfolding of bodies, machines, codes, discourses, and spaces that we increasingly encounter in our own historical moment—and in Hylozoic Ground.

Systems theory, one of the more powerful and ambitious theoretical approaches associated with posthumanism, appears to be of some help here, particularly because it deploys the same explanatory principles across what, in humanism, are considered ontologically discrete domains: subject versus object, culture versus nature, human versus animal, organic versus mechanical. From its very origins at the Macy Conferences in New York in 1942, systems theory (or cybernetics, as it was originally called) was interested in using the same theoretical model, centered on positive and negative feedback loops, to explain phenomena as diverse as governors on steam engines, thermoregulation in warm-blooded animals, neurophysiological changes in the human brain, and targeting systems in anti-aircraft weaponry.⁵ Examples of the developing systems theory can be found in the work of figures such as Norbert Wiener, Warren McCulloch, Claude Shannon, Gregory Bateson, and others. “When we talk about the processes of civilization, or evaluate human behavior, human organization, or any biological system,” Bateson writes in a seminal essay, “we are concerned with self-corrective systems. Basically these systems are always *conservative* of something” (emphasis added)—in the sense of conserving a homeostatic norm, baseline, or setpoint.⁶

In Bateson’s view, there are four fundamental, minimal characteristics of any system, be it biological, mechanical, or social: First, that the system operates according to *differences*, deviations from a norm, baseline, or rule—say, the set point of a thermostat, or the optimal body temperature of a species

5 For an overview, see Steve Joshua Heims, *Constructing a Social Science for Postwar America: The Cybernetics Group 1946–1953* (Cambridge, 1993).

6 Gregory Bateson, *Steps to an Ecology of Mind* (New York, 1972), p. 429.

7 Bateson 1972, p. 429.

8 Bateson 1972, p. 429.

9 Bateson 1972, p. 429.

of warm-blooded animal. Second, that a system is composed of “closed loops or networks of pathways along which differences and transforms of differences shall be transmitted”⁷ so that they can be processed by the system as information. Third, that “many events in the system shall be energized by the respondent part rather than by impact from the triggering part”;⁸ a fact neatly demonstrated on the terrain of the visual system by the famous parallax effect, which demonstrates how the visual system doesn’t simply process input such as wavelengths of light in a linear fashion, but actively and dynamically constructs the visual field in response to visual stimuli. Fourth, that systems “show self-correctiveness in the direction of homeostasis and/or in the direction of runaway”—that is to say, in the direction of either negative feedback or positive feedback.⁹ (For the former, think of thermoregulation in warm-blooded animals, or cruise control in an automobile; for the latter, think of how coughing in response to an irritated throat only increases the irritation, or how drinking bottled water to avoid the contaminants caused by the very processes used to advertise, package, and ship bottled water only makes the problem worse.)

In the rudiments of systems theory, we have the basic conceptual tools to begin to explain how Hylozoic Ground uses some of the same principles and processes that constitute us as viewers to generate its uncanny effects: it processes differences generated by the location and movement of the viewer’s body. That it does so via non-linear feedback loops creates the impression of something far more sensitive and nuanced than a crude stimulus-response mechanism. In systems theory, the traditional distinctions between subject and object, culture and nature, spirit and matter, and so on are now replaced by system theory’s fundamental distinction, between system and environment.

This distinction is not fixed to a particular substance but is *analytical*—that is to say, it is not ontological but functional. We become part of the environment for the system that is Hylozoic Ground; the artwork is at the same time part of *our* environment, and we are coupled together in a loop of reciprocal exchange which need not be—indeed, *cannot* be—representational. I think this is something close to what Beesley is driving at when he suggests that he wants to develop “a stance in an intertwined world that moves beyond closed systems.... In terms of figure-ground relationships the figures I compose are riddled with the ground.”¹⁰ To phrase

this in systems theory parlance, the system is riddled with the environment, and vice versa, since both are co-implicated and co-specified as part of the same loop of interactive exchange. Bateson suggests that the basic unit is not “organism versus environment” but “organism-in-its-environment.” The relationship between system and environment, you might say, is hyphenated.¹¹

However, we need to supplement and extend these ‘first-order’ systems theory models with important refinements from later, ‘second-order’ systems theorists such as Humberto Maturana, Francisco Varela, and Niklas Luhmann to make headway on an age old conundrum: are systems open or closed? If they are open, how do they maintain their integrity and reproduce themselves? If they are closed, how do they interact effectively and adaptively with their environment? The answer, according to Maturana and Varela, is that autopoietic systems—systems that are capable of reproducing the elements that constitute the system itself—are *both*. Autopoietic systems are open in terms of their *structure*—the material nature of their elements and how they are affected by the laws of physics and chemistry, energy flows, and the like; but they are closed in terms of their *organization*—the self-referential, highly selective logic that they use to filter and process environmental complexity.

As Maturana and Varela write of the nervous system:

The operational closure of the nervous system tells us that it does not operate according to either of the two extremes: it is neither representational nor solipsistic. It is not solipsistic, because as part of the nervous system’s organism, it participates in the interactions of the nervous system with its environment. These interactions continuously trigger in it the structural changes that modulate its dynamics of states.... Nor is it representational, for in each interaction it is the nervous system’s structural state that specifies what perturbations are possible and what changes trigger them.¹²

What this means is that the environment, the ‘outside,’ is always already the outside *of* a particular inside, since what can be recognized as a perturbation or stimulus for a system depends (and this seems commonsensical enough) upon the system’s own qualities and capacities, what Niklas Luhmann calls the “self-reference” of the system.¹³ This is probably

10 Philip Beesley et al., *Kinetic Architectures & Geotextile Installations*, Riverside Architectural Press (Cambridge, 2010), p. 20.

11 Gregory Bateson, *Steps to an Ecology of Mind* (New York, 1972), p. 429.

12 Humberto Maturana and Francisco J. Varela, *The Tree of Knowledge: The Biological Roots of Human Understanding*, rev. ed., trans. Robert Paolucci (Boston, 1992), p. 169.

13 Niklas Luhmann, “The Cognitive Program of Constructivism and a Reality that Remains Unknown,” in *Selforganization: Portrait of a Scientific Revolution*, ed. Wolfgang Krohn et al. (Dordrecht, 1990), p.76.

14 For Nagel's classic essay and an interesting commentary on some of its assumptions, see Douglas Hofstadter and Daniel Dennett, *The Mind's I: Fantasies and Reflections on Self and Soul* (New York, 2001).

easiest to understand when we think of the neurophysiological differences between different forms of animal life and how they perceive the world—a fact that led to a famous set of reflections and ruminations by philosopher Thomas Nagel in his essay “What Is It Like to Be a Bat?”¹⁴

15 Bateson 1972, p. 429.

One of the more salient consequences that flow from this line of reasoning is that any observation of the world is *non-representational* because the observed phenomenon is not grasped but is rather generated—brought into intelligibility—by the particular biological and perceptual mechanisms of the observer, and also in the case of human beings, by the conceptual schemata and knowledge-making codes we use to describe what we experience. As Bateson is fond of saying, “*The map is not the territory.*”¹⁵ This means, in turn, that space is always already virtual; a space inhabited by different autopoietic observers, with different modes of embodiment and different organizing schemata, is by definition *virtual* space—not ‘unreal,’ but rather ‘multi-dimensional,’ and, for that very reason, all the *more* real because it is replete with multiple possibilities for different modes of perception, experience, and engagement. Just as crucially, this means by definition that since our knowledge and experience of the world is selective and contingent on our organization, the price we pay for our knowledge is a fundamental non-knowledge of whatever is excluded by our modes of perception and our conceptual coordinates. As Luhmann puts it in a Zen-like moment, “Reality is what one does not perceive when one perceives it.”¹⁶

16 Luhmann 1990, p. 76.

Such a vantage point helps us more robustly describe our experience of Hylozoic Ground as well as some of its fascinating conceptual fallout. From this vantage we can see that strictly speaking, the work doesn't respond to ‘us’ at all. Rather, its collector barbs, trapping burrs, and reservoirs for artificial organic materials gather information (differences) generated by our presence in the room, but do so discretely, not with a search image of ‘us.’ The ‘us’ reflects our way of being in the world, and so our feelings toward the work—of fear, of fascination, even of empathy—make perfect sense and are therefore not wrong.

Our experience of Hylozoic Ground and its apparent aliveness may feel uncanny; but what is *really* uncanny is not that it is almost like us in its aliveness, but rather that we are like *it* in our self-referential, non-representational

relationship to a world that we then *later* Platonize and naturalize through language, custom, ideology, and habit. The work of art certainly exists for us, in a human world. But what is dramatized here is that not all worlds are human—or, to put it in different terms, that the world is actively and very selectively constructed, and not simply given.

This bears directly on how Hylozoic Ground deploys a stunning visual surface and a compositional, formal harmony as a kind of lure to achieve something else altogether. The piece embeds visuality within the multi-dimensional space of embodiment, in which sight is no longer equated with the viewer's position of mastery, but is simply part of a larger animal sensorium which may not be all that reliable in helping us to read our situation in the instance at hand. And for that very reason unsettling: 'queasy'; Is it going to pet me? Is it going to eat me? Does it know the difference? If it knows I'm here, how and what does it 'know'?

The contrast here between Hylozoic Ground and your standard display of animatronics virtuosity is instructive. In the former, nothing is hidden, and yet, in an important sense, everything is. In the latter, everything is hidden and yet, in a sense, nothing is. To wit: in Hylozoic Ground, the engineering apparatus is more or less in full view. Yet, what is not visible—and, as Luhmann might say, not visible *in principle*—is what the piece is up to, what its agenda might be, what kinds of emergent behaviors its recursive relations with us might generate. In traditional animatronics, the engineering and the mechanics are meticulously hidden, but only to produce a visible mimesis of a reality—one might even say an ideology—that we already know all too well. A favorite example I recall from my childhood is a visit to the Hall of Presidents at Disney World, Florida. Once one gets the trick and has the "Aha!" moment, the world gets redoubled: "Wow, even *machines* think the way we do!"

On the other hand, Hylozoic Ground tempts us, even invites us, to encounter the piece within the frame of art imitating life; but when we do so, we find a rather uncanny twist on a familiar theme: the imitation does not follow the representational ratio and visibility of life; as we know it, but rather the *invisibility* of other ways of being in the world that are extracted as the price of our own ways of knowing and being: "Reality is what one does not perceive when one perceives it." This refers not just to the bat's sense

of echolocation or the bloodhound's sense of smell, but also the exquisite sensitivity of a machine to our presence even before we know we've arrived. Those other ways of being might know us in ways that we cannot know and master. Might make us, in a word, 'queasy.'

To put it this way is to sharpen the difference between a certain spectatorial relation to art marked by an identifiably humanist rendering of visuality, and a more radical experience of 'spatialization' that is dependent on our own contingent embodiment—and on what that embodiment can and cannot see. Organizing the visual and perceptual field around the fixed point of the eye as sole agent of *logos* and *ratio* is a tradition with a genealogy that runs from the Renaissance theory of perspective, through Sigmund Freud's parsing of the sensorium in its evolution from animal and olfactory to human and visual, through Sartre's analysis of the Look, and finally to Foucault's work on the Panopticon. Instead, we find here what Jacques Derrida has called the "ruin" of vision.¹⁷ What is unseen in Hylozoic Ground is unseen not because it is hidden from view but rather because as Derrida would say, it is heterogeneous to the visual as the philosophical tradition conceives it. As Derrida puts it in an interview, "It is within a certain experience of spacing, of space, that resistance to philosophical authority can be produced."¹⁸ Space, for the very reasons we have been examining, is not "essentially mastered by the look." "Space isn't only the visible," Derrida argues; "the invisible, for me, is not simply the opposite of vision."¹⁹

However, we need to remember that for Derrida, "space" doesn't just refer to a multi-dimensional, virtual perceptual field shared by different observers; it also refers to the fundamental logic of 'spacing' by which any 'difference that makes a difference'—any information—may come into being. For Derrida, "space" refers to any and all *codes*.²⁰ In a sense, Derrida is simply radicalizing the realization of first-order systems theory announced in essays such as Bateson's "Form, Substance, and Difference." After noting that "The map is not the territory," and that "What gets onto the map, in fact, is "*difference*," Bateson asks,

But what is a difference? A difference is a very peculiar and obscure concept. It is certainly not a thing or an event. This piece of paper is different from the wood of this lectern. There are many differences between them—of color, texture, shape, etc. But if we start to ask about the localization of

17 Jacques Derrida, *Memoirs of the Blind*, trans. Pascale-Anne Brault and Michael Naas (Chicago, 1993), pp. 65–70. For a broader discussion of the question of visuality in relation to posthumanism, see Cary Wolfe, *What Is Posthumanism?* (Minneapolis, 2010), in particular Chapters 5–8 and 11.

18 Jacques Derrida, with Peter Brunette and David Wills, "The Spatial Arts: An Interview with Jacques Derrida," in *Deconstruction and the Visual Arts*, eds. Peter Brunette and David Wills (Cambridge, 1994), p. 10.

19 Derrida 1994, p. 24.

20 For a cross-mapping of deconstruction and systems theory on precisely this point, see Cary Wolfe, *What Is Posthumanism?* (Minneapolis, 2010), Chapter 1.

those differences, we get into trouble. Obviously the difference between the paper and the wood is not in the paper; it is obviously not in the wood; it is obviously not in the space between them.... A difference, then is an abstract matter.²¹

In other words, it is a matter of spacing—in this case, the spacing of two elements, which cannot occupy the same place at the same time, between which the abstract relation emerges. Most radically of all, and most directly to the point of how we think about Hylozoic Ground, that spacing doesn't just apply to human language, or human codes. It is the fundamental structuring principle of the 'programs' that traverse the difference between human and non-human life forms, but further—and more radically—the difference between the organic and the mechanical.²² "Instead of having recourse to the concepts that habitually serve to distinguish man from other living beings," Derrida writes, "the notion of *program*" denotes a movement of "difference" and "spacing" that "goes far beyond the possibilities of the 'intentional consciousness.'" ²³

What this means is that the concept of 'life' is radically denaturalized—not in the sense that it is divorced from its material substrate, but that it returns us to a broader examination of what forms of embodiment can give rise to the recursive relations of structural coupling on which emergent interactions depend. The conceptual momentum thus pushes in two opposite but intimately related directions: On the one hand, expanding the definition of 'subjectivity' outward, toward new forms of embodiment—that may or may not be carbon based life forms. On the other, pushing the notions of code, system, and program from the technical to the domain of the living, but more pointedly to the domain of the human.

In this context, the goal (if not quite yet the reality) of Hylozoic Ground appears to be that it might not just seem alive but in some sense *be* alive. As Beesley suggests, "It is safe in the known territory of robotics, but the liquids add an element that is both nurturing and rather creepy." The metabolic liquids that fill the work's bladders and its hydroscopic islands absorb, digest, and release information and matter within the system. "These material exchanges," Beesley continues, "are conceived as the first stages of dependent interactions where living functions might take root within the matrix".²⁴ On the other hand, we don't need to wait for

21 Gregory Bateson, *Steps to an Ecology of Mind* (New York, 1972).

22 Jacques Derrida and Elisabeth Roudinesco, *For What Tomorrow: A Dialogue*, trans. Jeff Fort (Stanford, 2004), p. 63.

23 Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore, 1976), p. 84.

24 Terri Peters, "Philip Beesley Envisions an Architecture that Breathes and Grows," *Mark* 21 (August-September 2009), p. 201.

Hylozoic Ground to come alive to understand the full force of the post-humanist reframing of the question of life that this work brings to the fore: whatever we are, we come to be that way by submitting to a fundamentally prosthetic relation between us and the external. Paradoxically, these radically inhuman and nonorganic programs, codes, and archives are the medium through which we can fully realize who we are—but only by becoming something we are not. In this light, the uncanny effect of Hylozoic Ground is that rather than confronting us with the question, "Is it alive?", it confronts instead with the dawning realization, "Are we?"