

NON-HUMANS AS MEANING-MAKERS: ELIZABETH AS A CO-DESIGNER of *BIOSHOCK INFINITE*

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Who participates in the Community of Practice¹ of the design of digital technology? Cultural studies scholars traditionally focus on human elements as the key actants and meaning-makers in the design of technology. Even Actor-Network Theory, which attributes causal power to non-human material objects, stops short of crediting objects with interpretive power and meaning-making ability. However, recent theoretical approaches coming out of Speculative Realism, New Materialism, and Non-Human Ethnography are posing challenges to this anthropocentric model of meaning-making.²

Anthropologist Eduardo Kohn argues that humans are not the only beings capable of cognizing and interpreting the world; that, in fact, all living things are able to interpret the world, create a sense of their place in it, and come to an understanding of it. All living beings can make meaning, and all living beings possess an ontology. Furthermore, Kohn argues that all living beings can engage in semiotic construction. For Kohn, construction of the world is brought about by a negotiation of meaning between cognizing persons, or "selves." However, "selves" are not exclusively human:

Wherever there are "living thoughts" there is also a "self." "Self," at its most basic level, is a product of semiosis. It is the locus--however rudimentary and ephemeral--of a living dynamic by which signs come to represent the world around them to a "someone" who emerges as such as a result of this process. The world is thus "animate." "We" are not the only kind of *we*.³

Kohn thus posits that all living things, from humans to cats to plants, interpret the world. Their interpretation of the world makes them an active causal participant of the world, but also creates an awareness of separation from the world, the locus of the self. For Kohn, all living beings undergo this process of interpretation and "self"-making,

¹ Wenger, E. (2000) *Communities of Practice: Learning, Meaning, and Identity*. Cambridge University Press

² For further discussion, see Jane Bennett's *Vibrant Matter: A Political Ecology of Things* (2010), Karen Barad's *Meeting the Universe Halfway: The Entanglement of Matter and Meaning* (2007), and Peter Gratton's *Speculative Realism: Problems and Prospects* (2014)

³ Kohn, E. (2013). *How Forests Think: Toward and Anthropology Beyond the Human*. University of California Press. Page 16

although not necessarily linguistically, as humans do. The interpretive system of meaning-making can be as "rudimentary" as an antelope recognizing some form of danger inherent in the tiger lurking in the bushes, or as "ephemeral" as the *Ophrys apifera*--the "bee orchid"--a plant whose flowers evolved to take the shape and coloring of a long-extinct female bee in order to lure long-extinct male bees to pollinate it.⁴

If non-human life can engage in interpretation of the world, and therefore contribute to meaning-making, can things? Can computers and digital objects? Ian Bogost argues that they can, and that social scientists and philosophers need to devote more analytical effort towards understanding object experience, particularly the experiences of computer objects. More specifically, Bogost argues for a post-postmodern model of object inquiry, where due respect is given to the relationships and interpretations of the world aside from those with humans that objects undergo:

To be sure, computers often *do* entail human experience and perception. The human operator views words and images rendered on a display, applies physical forces to a mouse, seats memory chips into motherboard sockets. But not always. Indeed, for the computer to operate at all *for us* first requires a wealth of interactions to take place *for itself*. As operators or engineers, we may be able to describe how such objects and assemblages *work*. But what do they *experience*? What's their proper phenomenology? In short, what is it like to be a thing?⁵

Bogost's concept of "alien phenomenology" claims that objects interpret the world and have phenomenological experiences, although these experiences may be quite different than human ones. These phenomenological and interpretive processes can impact humans, but they are not reducible to their impact on humans. This analytic framework can be applied to cultural studies of the creation of digital art to reveal the meaning-making ability of hardware and software. Digital design discourse shows us the effects of the interpretation and experiences of the world that computers and software have on the design process, and reveals their role in the design Community of Practice.

In the following excerpt, *Bioshock Infinite* lead developer Ken Levine discusses the frustrations of building and working with Elizabeth, the player's in-game AI, even as he and his team at Irrational Games were creating her:

[Making *Bioshock Infinite* is] not an experience I would want to go through again... There are days that I wouldn't want wake up and go to work because there were things that were so hard to figure out... Times that Elizabeth would be walking into walls. Literally, for months and months and months she was just... "Where's Elizabeth? She disappeared. She fell through the ground. She walked through a wall. She's coming up to you and staring at you creepily. She's missing her marks. She's

⁴ Munroe, R. XKCD: "Bee Orchid" (<http://xkcd.com/1259/>) Last accessed 3/22/2014

⁵ Bogost, I. (2012) *Alien Phenomenology, or, What It's Like to Be a Thing*. University of Minnesota Press, Minneapolis, MN

interacting with the wrong thing." Remember the shark in *Jaws*? All those classic stories. She was our shark in *Jaws*.⁶

Apparently Elizabeth, as helpful a co-player as she is, was a pretty lousy co-worker. The "shark in *Jaws*" reference is alluding to the now-legendary stories of how difficult the mechanical shark used in *Jaws* was to work with and act alongside; it would constantly break or "misbehave." Yet the shark was also a major character in the film; the cast and crew had no choice but to work with him. Elizabeth is of similar importance to *Bioshock Infinite*.

Elizabeth is a "self" in this excerpt, even for the team that designed her. She misbehaves. She generates and provokes emotional responses. She does not act upon markers in the game world that were designed for her to act upon. She stares creepily at you. She's a *she*. Elizabeth, like all technology, is socially constructed, both in the classic sense of the term--designers construct her as a person--and in the literal sense of the term--she was built by a community of people. But once she is constructed, she exists independently of us. She has properties and powers derived via those properties to resist both the game programmers who are building her as well as impact the gameworld alongside players. She also has an emergent personality, one that exists as an amalgamation of the properties of Elizabeth's dialogue in the script written by Levine, her voice as acted by Courtnee Draper, her scripted in-game actions developed by the Irrational programming team, and her actual in-game decision making and interactions during both consumer gameplay and design playtesting, as partially impacted by the hardware that runs her AI.

Yet while Elizabeth is *dependent upon* these persons, objects, and processes for her origin and, in some cases, her continued existence, she is not *reducible to* them. To leverage Latour's concept of irreductionism, Elizabeth is a new whole that emerges from the interplay of these other objects.⁷ She is a part of the game world of *Bioshock Infinite*, and yet also interprets and makes meaning of the game world and the human player's role in it. She is a designed object, but also participated in the process of her own design by nature of her actions and interpretations of the becoming game world. In short, she was both a causal actant within and a meaning-making member of the Community of Practice developing *Bioshock Infinite*.

Of course, Elizabeth is exhausted by neither the human experiences of her, nor by the collaborative human design of her. Elizabeth is not just aesthetic human experience, she is also a being of light and code; a body of nonhuman communities of practice. She is a series of classes and variables, all of which compose her, but do not define her totality. To borrow from Ian Bogost's version of Speculative flat ontology, there is never an essential or complete definition of Elizabeth. The human-computer play session that actualizes *Bioshock's* written code, the individual classes and scripts that contribute to that body of code, the wavelengths of light that travel from the screen, and the cosplaying and fanfiction cultures that surround her can be said to "be"

⁶ Quote taken from an interview conducted by Kevin VanOrd from "The Break Room," published on Youtube by Gamespot on March 20, 2013. The interview is titled "We Can Kill the Industry With Cynicism - Ken Levine - Bioshock" Last accessed March 3, 2014 at (<http://www.youtube.com/watch?v=JwsjALh2vYA>)

⁷ Latour, B. (1988) *The Pasteurization of France*. Cambridge, MA Harvard Press

Elizabeth. Elizabeth's creative agency-as well as her being-is manifesting intra-actively among all the rhizomatic flows of her world. She plays the game with humans, yes, but she also overheats hard drives, flickers light in monitors, disturbs photons in the air, and genders non-sexual machines.