

**PLACING THE GOLDEN SPIKE**  
**Landscapes of the Anthropocene**

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**Heather Davis**

Heather Davis is currently a postdoctoral fellow at the Institute for the Arts and Humanities at Pennsylvania State University. Her work traces the ethology of plastic and its links to petrocapi-talism. She completed her Ph.D. in the joint program in Communication at Concordia University in 2011 on the intersection of community-based art, relational subjectivity, and ecology. She has been a postdoctoral fellow in Women's Studies at Duke University and a visiting scholar in the Experimental Critical Theory Program at UCLA, the Aesthetics and Politics Program at the California Institute of the Arts, the Hemispheric Institute of Performance and Politics at NYU, and the Department of Women's and Gender Studies at Rutgers University. She is the editor of *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environment and Epistemology* (Open Humanities Press, forthcoming 2015) and *Desire/Change: Contemporary Feminist Art in Canada* (McGill-Queen's UP, forthcoming 2016). Her writing can be found at [heathermdavis.com](http://heathermdavis.com).

The plants appear in unlikely places. They grow up in cracks, in abandoned hallways. They grow slowly, almost imperceptibly. Their appearance is organic, but their touch uncanny. Yevgeniya Kaganovich's *grow* was conceived of as durational installations: the small plant-like sculptures grow over time. They are composed of plastic bags, and visitors are encouraged to leave their plastic bags in a receptacle to be added to the growth of the "plants." The mindless accumulation of plastic, pictured through the plastic bag, is here transformed into a kind of weed, spreading in a logic that evokes and mimics metabolization but heralds in a new kind of order. For unlike regular plastic plants, the plants of *grow* do not merely imitate. These are not the plants found in offices and homes that give the appearance of life, mimicking biology but without responsibility. Instead, *grow* plants embrace their own artificial materiality, creating a form of pseudo-life that operates within its own cycles rather than those determined by carbon, oxygen, water. These plants instead occupy the life cycles of the converted waste of the oil industry, and the corresponding difficult labor of recycling. This life-cycle is displayed through other works in the show. Steve Rowell documents the ecological transformation of the landscape of Texas in *Uncanny Sensing (TX Prototype)* by way of oil extraction, its bright flares emerging as the beacons of a solipsistic and near-sighted modernity. The birth of oil here illuminates plastic's origins while Marina Zurkow's *Landfill Club* creates a midden that carefully archives its disposal. Zurkow invites visitors to collect, sort and tag their own plastic debris, and to fill out a questionnaire that asks after the life-cycles of these eminently disposable goods. But in her performance, discarding plastic becomes at once intimate and archaeological: the life-worlds of the personal objects becoming figures for the future geologic records of humanity.

Plastic, and its accumulation, is one material that scientists are currently considering as a "golden spike" for the Anthropocene.<sup>1</sup> Plastic is a useful indicator, as all the plastic that has ever been created since its first appearance in 1907 (the date the first

synthetic polymer, Bakelite, was invented) is still somewhere on the planet. There is a clear division, in the geologic record, between the dates before plastic and after plastic. For plastic easily disperses, breaks apart, and we spend a huge amount of energy to contain plastic “elsewhere,” but plastic does not go away. It does not biodegrade. That is, it does not turn into something else. So all the plastic that has ever been made, from take-out containers to nylons to IV bags, is rapidly composing a new kind of geologic layer on the earth. Chemical engineer Anthony Andrady, a world expert on plastics, puts the lifespan of plastic at about one hundred thousand years—but no one really knows how long this new material will persist.<sup>2</sup> What is particularly interesting about this date is that it indicates an evolutionary movement, rather than something innate to the polymers themselves. In other words, the figure of ten or one hundred thousand years, what we sometimes name as the length of time it would take for plastic to biodegrade, is rather the projected evolutionary timespan for an organism to appear that can successfully metabolize plastic. There is some speculation that certain forms of bacteria can do this presently, under particular circumstances, but these organisms are not widespread and the results debated.<sup>3</sup> So, we wait for evolutionary time to catch up to the petrochemical industry.

In the meantime, plastic is recoating the surface of the earth, and as the earth is mainly composed of ocean, a significant amount of plastic waste finds its ways to the oceans.<sup>4</sup> Ocean plastic is found at every ocean depth, from the surface to the floor, where it is eaten by all kinds of organisms, from bacteria to whales to corals, even if it cannot be digested.<sup>5</sup> In these watery conditions, especially those beyond the reach of light, how long might it take for organisms to be able to unlock the vast sources of energy contained in plastic, metabolize them, and return the carbon dioxide and water back to the surrounding environment? We have no idea; although Andrady says that the plastic at the bottom of the ocean might exist “in perpetuity.” Regardless, the time scales of plastic are geologic, evolutionary. Plastic forces a kind of geologic thinking. Plastic’s geology is also expressed as a new form of rock. The Geological Society of America has approved the name *plastiglomerate* to describe a “hybrid” material resulting from the fusion of plastic debris with natural materials such as lava, wood, metal, sand, and marine corals. The “plastiglomerate” refers to an “indurated, multi-composite material made hard by agglutination of rock and molten plastic. This material is subdivided into an in situ type, in which plastic is adhered to rock outcrops, and a

clastic type, in which combinations of basalt, coral, shells, and local woody debris are cemented with grains of sand in a plastic matrix.”<sup>6</sup> Plastic becomes rock when it melts and then either attaches itself to other existing rock formations, or mixes with debris. Once hardened, the plastic will endure, literalizing its geologic status. Plastic, here, is literally becoming rock.

But there is a fundamental difference between rock—rock that is the foundation of the Earth—and plastic. When we point out the synthetic or “artificial” nature of something, what we are pointing to is the way in which it develops, emerges or is created irrespective of its surrounding environment. Plastic is not *of* this earth in the sense that the earth itself, particular sites, carry memories of the creatures and activities that have taken place on them. There is an infolding of geology, atmosphere and organism, one that mutually co-evolves and that carries with it certain memories and patterns of behavior, holding not only the memories of the *human* creatures that occupy or pass through a particular place, but also the memories of the other animals, plants, and geologies that also mutually (in)form that place. There is an infolding of knowledge through the circulation of matter and energy that passes through a place. A world develops with a particular organism, and the organism with the world. They mutually compose and become co-constitutive of each other. This is a kind of radical reciprocity from which an ethics of land emerges, as Jeanette Armstrong argues,<sup>7</sup> or in a similar vein what Dwayne Donald calls an “ethical relationality.”<sup>8</sup> These understandings of ethics articulate the ways in which the land demands of us a reciprocal engagement, one where we are forced to acknowledge our enmeshed and interdependent relations. The land itself calls us to develop an ethics of radical and reciprocal relationality.

The rapid proliferation of materials that have no relation to any particular place defies the logic of the earth itself, and the reciprocal and relational ethics that we are called upon to listen to. Even in geology, rocks bear traces, or an inscription, of their history, determining and being determined by the activities of the creatures that reside, pass through, live and die within particular environments. This sense of ecology, tied to a notion of place-making, is defied by a material such as plastic. There is no ‘local’ for plastic. Instead, plastic exists everywhere and anywhere. “Plastic,” as Amanda Boetzkes and Andrew Pendakis write in their provocative account of plastic’s relation to oil and art, “is always a ‘some’ or an ‘any,’ never a ‘this’ or a ‘that.’ It feels infinite because it sheds every trace of particularity, every index of a located space and time.”<sup>9</sup> It has no

birthplace, no evolutionary home, no relations to its surrounds. It has no *Umwelt*, or world that is made in a co-evolutionary fashion, in the sense that Jakob von Uexküll articulates.<sup>10</sup>

This is the reason that we are attracted to plastic. Aside from its practical applications, which are myriad, plastic rids us from our obligations to the earth, to place. Plastic emerges free of historical weight, seemingly light and endlessly transformable because of the fundamentally alienated quality of its being. In the 1950s, when plastic was first becoming integrated within, and in many ways, defining, commodity capitalism, "Plastic...was marketed as a substance that was not degraded by history or nature."<sup>11</sup> Plastic represented a shiny new world free of the demands of the earth, of death, and decay. Ridding ourselves of these demands seemed to promise a world of prosperity, through scientific control. Plastic has always been a thoroughly profit-driven material. Even when the category of what we now think of as plastics was still in formation, its nature was more "commercial than scientific," as Jeffrey Meikle argues in his illuminating and far-reaching cultural history, *American Plastic*.<sup>12</sup> And in order for plastic to be a commercial success, we needed to create a use for it, or as many uses as possible, and, for it to be infinitely disposable.

Plastic became synonymous with ephemerality, seeming to offer a substance without ontology precisely because of this manufactured disposability. This ontological problem is what is alluded to in its name: the ability to morph, be molded, or transform. Roland Barthes made this argument in 1957 in an essay entitled "Plastic" where he wrote, "more than a substance, plastic is the very idea of its infinite transformation; as its everyday name indicates, it is ubiquity made visible...it is less a thing than a trace of its movement."<sup>13</sup> Boetzkes and Pendakis echo this sentiment, they write that plastic defies ontological categories: "Indeed, plastic is less a substance than its antithesis, a paradigm in which substance is transformed into a way of being unmoored from the coordinates that stabilize presence and meaning."<sup>14</sup> The process of mooring oneself to the coordinates of presence and meaning, I would argue, is what it means to be earth-bound, to form and to be informed by enmeshed relations to mineral, animals, water, air, to processes of change, transformation, and metabolization. Plastic instead is a surface, that which, despite insinuating itself into the geologic layer, remains separated from the earth. Plastic is designed to be all surface, all the way through, with no variation, no history. We use it so widely because it can become anything, infinitely transformable

and manipulable to the wills and whims of human invention. Plastic removes itself from a standard ontological category because it, by design and of necessity, is universal. It becomes universal as it is abstracted from the earth. As Esther Leslie writes in a brilliant book on artifice, nature, and the chemical industry, "Time's dominion was to be cracked...through the accelerating power of chemical reaction—modern magic consists in the short-circuiting of natural process... In time, technology remakes times itself, removing it from natural rhythms to an abstract universal."<sup>15</sup> Plastic's materialization of the universal can also be seen as the perfect extension of the logic of petrocapi-talism. Michael Hardt, linking the relations of capital to plastic, says, "Accumulation is always against metabolism and against use. I mean the dream of the permanence of money, of an infinite ability to accumulate value without its degrading... The end point of accumulation, and specifically the accumulation of plastic, is the death of metabolism."<sup>16</sup> Plastic can be seen as a perfected materialization of this desire for *accumulation without metabolism*: it endlessly accumulates, spreading itself over the entire surface of the earth, throughout the oceans and embedded in the geologic strata while creating a sealant or barrier for breath, metabolism, chemical exchange.

Plastic cracks time. Compressed and recomposed, it exists outside of the cycles of life and death, an undead time that has an existence only akin to the geologic. Rather than assuming the slippage of an ontological category through the figure of plastic, perhaps it would be more productive to think of plastic as possessing a kind of geontology. This is the trick of plastic, appearing in its universalized materiality, it represents a stiff ontology, an ontological formation that seems to take itself too seriously, a stubborn being that refuses to go away. If we follow the life-cycle of plastic, it leads not to an ephemeral non-ontological force, but to an all too material and materialized set of implications for multiple beings, humans and nonhumans alike, in the world. As historian of science Bernadette Bensaude Vincent writes,

Our Plastic Age confronts the issue of duration. The ephemeral present of plastics is not just an instant detached from the past and the future. It is the tip of a heap of memory, the upper layer of many layers of the past that have resulted in crude oil stored in the depths of the soil and the sea. Plastics really belong to Bergson's (1946) duration; they cannot be abstracted from the heterogeneous and irreversible flux of becoming. The present is conditioned by the accumulated traces of the past, and the future

of the earth will bear the marks of our present. While the manufacture of plastics destroys the archives of life on the earth, its waste will constitute the archives of the twentieth century and beyond.<sup>17</sup>

The artists in this exhibition understand the dual logic of the archive expressed by Vincent: the archive as at once the past and future of our present age figured through the golden spike. By placing the spike, we are demarcating a break with the past, while heralding in a new kind of future, one whose geologic and biologic qualities will be radically different. The question remains how we might begin to compose an ethical relation to this future that increasingly refuses metabolization.

1. Andrew Revkin, "Researchers Propose Earth's 'Anthropocene' Age of Humans Began With Fallout and Plastics" *New York Times* (January 15, 2015) [http://dotearth.blogs.nytimes.com/2015/01/15/researchers-propose-earths-anthropocene-age-of-humans-began-with-fallout-and-plastics/?\\_r=0](http://dotearth.blogs.nytimes.com/2015/01/15/researchers-propose-earths-anthropocene-age-of-humans-began-with-fallout-and-plastics/?_r=0)

2. See Alan Weisman, "Polymers Are Forever." *Orion* 26, no. 3 (May-June 2007a): 16, [www.orionmagazine.org/index.php/articles/article/270/](http://www.orionmagazine.org/index.php/articles/article/270/).

3. Jun Yang, Yu Yang, Wei-Min Wu, Jiao Zhao, and Lei Jiang, "Evidence of Polyethylene Biodegradation by Bacterial Strains from the Guts of Plastic-Eating Waxworms." *Environmental Science and Technology* 48 (November 10, 2014): 13776-13784.

4. For a recent study on ocean plastics see Jenna R. Jambeck, Roland Geyer, Chris Wilcox, et. al. "Plastic waste inputs from land into the ocean" *Science* Vol. 347 Is. 6223 (13 February, 2015): 768-771.

5. For bacterial consumption of plastic see Zettler, Erik R., Tracy J. Mincer, and Linda A. Amaral-Zettler, "Life in the 'Plastisphere': Microbial Communities on Plastic Marine Debris" *Environmental Science and Technology* 47 (June 7, 2013): 7137-7146; for whale death linked to consuming plastic see Giles Tremlett, "Spanish sperm whale death linked to UK supermarket supplier's plastic" *The Guardian* (March 8, 2013) <http://www.theguardian.com/world/2013/mar/08/spain-sperm-whale-death-swallowed-plastic>; on a recent report of corals eating microplastics see Oliver Milman "Corals face 'slow starvation' from ingesting plastics pollution, experts find" *The Guardian* (24 February 2015) [http://www.theguardian.com/environment/2015/feb/25/corals-face-slow-starvation-from-ingesting-plastics-pollution-experts-find?CMP=share\\_btn\\_tw](http://www.theguardian.com/environment/2015/feb/25/corals-face-slow-starvation-from-ingesting-plastics-pollution-experts-find?CMP=share_btn_tw).

6. Corocan, Patricia, Charles J. Moore, and Kelly Jazvac, "An anthropogenic marker horizon in the future rock record" *GSA Today* (June 2014): 6.

7. Keynote Address, Association for Literature, Environment and Culture in Canada Conference (August 7, 2014).

8. Dwayne Donald, "Forts, Curriculum, and Ethical Relationality" in *Reconsidering Canadian Curriculum Studies: Provoking Historical, Present and Future Perspectives*, edited by Nicholas Ng-A-Fook and Jennifer Rottman, 39-46. New York: Palgrave Macmillan, 2012.

9. Amanda Boetzkes and Andrew Pendakis, "Visions of Eternity: Plastic and the Ontology of Oil" *e-flux journal* 47 (September 2013), 2.

10. See Jakob von Uexküll, *A Foray into the Worlds of Animals and Humans*, Minneapolis: University of Minnesota Press, 2010.

11. Esther Leslie, *Synthetic Worlds: Nature, Art and the Chemical Industry*, London: Reaktion Books, 2005. 14.

12. Jeffrey Meikle, *American Plastic: A Cultural History*, New Brunswick, NJ: Rutgers University Press, 1995. 7.

13. Roland Barthes, *Mythologies*, New York: Noonday Press, 1972. 97.

14. Amanda Boetzkes and Andrew Pendakis, "Visions of Eternity: Plastic and the Ontology of Oil" *e-flux journal* 47 (September 2013), 1.

15. Esther Leslie, *Synthetic Worlds: Nature, Art and the Chemical Industry*, London: Reaktion Books, 2005. 9.

16. Michael Hardt and Pinar Yoldas, "Plastic / Money" in *Pinar Yoldas: An Ecosystem of Excess*, edited by Heike Catherina Mertens. Berlin: argobooks, 2014. 89.

17. Bernadette Bensaude Vincent, "Plastics, materials and dreams of dematerialization" in *Accumulation: The Material Politics of Plastic* edited by Jennifer Gabrys, Gay Hawkins and Mike Michael. London: Routledge, 2013. 24.