Climates: Architecture and the Planetary Imaginary

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Views from the Plastisphere: A Preface to Post-Rock Architecture

MEREDITH MILLER

Plastiglomerate sample, 2013. This and the following plastiglomerates were collected through a collaboration between Kelly Jazvac, geologist Patricia Corcoran, and oceanographer Charles Moore. Photograph by Jeff Elstone, courtesy of Kelly Jazvac.

WHAT DOES ARCHITECTURE HAVE TO DO WITH GLOBAL CLIMATE CHANGE?

You might respond, "it has everything to do with global climate change" and then further articulate this sentiment with a list of the building industry's culpable features, such as the carbon footprint of steel production, or all the emissions from transporting construction materials, or the large share of energy consumption by buildings, or at an urban scale, wasteful mobility habits caused by the horizontal expansion of cities.

Okay. A fine response. But let me ask the same question again: "What does architecture have to do with global climate change?" As in, how does design as a cultural practice bear on the extensive processes of atmospheric modification and the social, scientific, and political circumstances through which we have come to know about, and have attempted to manage, this slow inevitability? To some, this version of the question might overreach or sound too theological coming from an architect. It's like asking, "Where does my design fit within the cosmic order of the universe?" But perhaps speculating on the tangible links

This text parallels a research and design project I am currently working on with Thom Moran, which speculates on plastiglomerates as a future building material. Called "Post Rock," this project is funded by the Research Through Making Program at Taubman College of Architecture + Urban Planning, University of Michigan, and was exhibited in March 2015.

between the immediate experience of architecture and its planetary milieu is exactly where we might look for design's significance right now. Escaping the nowhere of abstract metrics and summary figures that characterize climate's representation, and pursuing instead a cosmology of physical things, where might we end up?

It is in search of this cosmological perspective that I want to first offer a contemporary parable. On the surface, the parable involves land, water, and garbage moving about the earth's surface in biblical proportions. But beneath these large maelstroms of matter and energy, there is, I hope, a small lesson for architecture and about climate.

A CONTEMPORARY PARABLE FOR ARCHITECTURE AND ABOUT CLIMATE

Three travelers, having walked the greater part of the day, come upon a kind of monument made of what appears to be stone. The exterior surfaces of the open-air structure are very smooth and similarly colored, as if each large block had been cut from a much larger boulder or outcropping and then polished. The interior surfaces, on the other hand, are rough and uneven, with bulges and dimples of varying shapes and sizes. The travelers cannot determine whether this unevenness resulted from someone carving away purposefully at the stone or if these are the eroded edges of the original boulder or outcropping turned inward. From apertures in the ceiling, light falls upon these pockets and lumps to reveal the orange curve of a family-size detergent bottle here, a scattering of seashells and rubber oyster tubing there, and throughout, marbled stalagmites of misshapen ropes, plastic mesh, and minerals. Despite these fragmentary indications to the contrary, the overall effect of the space is entirely monolithic, as if the whole thing has been quarried directly from the earth. The travelers then wonder if the crenulations are too colorful, the crystalline specks too bright, and the cave-like forms too reminiscent of garbage for this material to be strictly geological…

On second thought, let me start again:

Three figures, two women and a man, are walking along a remote seashore. The beach is punctuated with black volcanic rock, but its most distinctive feature is a layer of colorful trash occupying a wide margin of sand. They look past the loose pieces of plastic and glass pushed about in the surf and inspect various nooks in the volcanic rock. Stooping over, one of them dislodges a softball-size object from a cluster of rocks, driftwood, and trash. Mostly smooth and granite-like in texture, the object is clearly geological in origin, except there is a bit of yellow nylon rope protruding from one end and a marbled neon-pink vein down the center.

These people happen to be an earth scientist, an artist, and a marine scientist. Defying categorization as either geological material or manufactured product, this rock-like object, and the many similar ones they collect along Hawaii's Kamilo Beach, prompts them to come up with a new system for classifying this hybrid material. In June 2014, the *Geological Society of America* published their report announcing a stone: "plastiglomerate." According to the article, a plastiglomerate is "an indurated, multi-composite material made hard by agglutination of rock and molten plastic."[1] This rock-like substance results from plastic waste of various sizes and types accumulating in the world's oceans and beaches. Much of this plastic breaks down into

1 Patricia L. Corcoran, Charles J. Moore, and Kelly Jazvac, "An Anthropogenic Marker Horizon in the Future Rock Record," *Geological Society of America Today*, vol. 24, no. 6 (June 2014): 4–8.

smaller bits called microplastics (less than 5 mm in diameter); some remains on the ocean surface; some of it drifts down and away from the ocean surface; some is ingested by marine life; and some, these researchers discovered, fuse with sand, shells, stone, glass, and other marine debris to form strange, heterogeneous rocks. In other words, a plastiglomerate is an emergent product of human and geological processes.

Given the inherent durability of both stone and thermoplastics, plastiglomerates are likely to last for a very long time. If geology is the study of the earth's history, plastiglomerates represent an unusual historiographical conundrum. Without a long record of existence (the mass production of synthetic thermoplastics began in the twentieth century), their geological classification relies instead on their likelihood of remaining in the earth's surface far into the future—probably well beyond the human race.[2] Thus, plastiglomerates are yet another indication that the Anthropocene has arrived.[3]

Within this pair of parables, the large stones (speculatively) encountered in an architectural structure and the rocks (actually) collected on the beach, are objects that mobilize concepts and territories outside their immediate moment of encounter. The rocks and stones, with visible remnants of fishing apparatus and seashells fused with smaller multicolored polymer fragments, tell a reverse history of the near and distant materials brought together by the heat of sunshine, the scattering of winds, the churn of ocean currents, the toss of a hand, the stamp of a thermoset mold, and the chemical daisy-chaining of synthetic polymers. While each is unique in its exact composition of parts, they all fall within a bracketed range of hardness, density, and hybrid materiality that places them

Plastiglomerate sample, 2013. Photograph by Jeff Elstone, courtesy of Kelly Jazvac.

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By plastic I am referring to thermoplastics or synthetic polymers; there are of course other resins that occur in nature. Billie Faircloth's recent book thoroughly dissects the many types of polymers, identifies where they appear in construction products, and reflects on the conceptual limitations placed on plastic's presence in architecture. Billie Faircloth, *Plastics Now: On Architecture's Relationship to a Continuously Emerging Material* (New York: Routledge, 2015).

3

Corcoran, et al., "An Anthropogenic Marker," 4.

within this new geological series.[4] In this way, the qualities of each plastiglomerate sample, from its colors to its particular proportions of heterogeneous components, are inseparable from the dispersed geographies, energetic inputs, and consumer or commercial refuse that contributed to its making.

What do these physical qualities tell us that abstractions cannot? This essay will position such objects as points of access to broader knowledge formations, in particular the fraught epistemologies of global climate. By focusing on the literal qualities of a thing,[5] this essay looks at the potential of materials for creating new subjectivities in an era of climate anxiety and information overload. As an alternative to the abstracting tendencies of data-focused practices, this claim implies an approach to architecture. It acknowledges that architecture has a particular capacity to work on and through its physical, material specificity in order to make sensible and immediate those ideas that are more abstract and distant. The mediation of climate knowledge through the aesthetic qualities of things will be considered here as a kind of cosmology of subject, object, and environment: a means of apprehending the world by way of the here and now.

ABSTRACTION VS. EVIDENCE

At the turn of the millennium, architecture experienced a renewed interest in the informational, and diagrammatic techniques expanded into a broader descriptive field linking ecological processes with spatial form. Landscape became the envy of building designers; the allure was not in the dirty stuff of soils, plant matter, and hydrology but in the open-ended way in which designers could referee a complex set of circumstances toward an imagined future. The "agency of mapping" placed authorship at a remove from the matter meant to be authored. Notational systems of representation took precedence over measured drawings or experiential images to demonstrate the design's networks of relationships and their open range of possibilities.[6] This widespread shift to the paradigm of landscape was also significant for the scale and scope of architecture's purported capacities: programs, habitats, ecosystems, economies, were all seen as equal subjects for design's management. Anticipating effects and outcomes rather than specifying them, this architecture became more and more infrastructural and, thus, less and less material.

Today's design discourse has clearly benefited from this brand of systems thinking and a broader awareness of an ecological or even planetary context for design. These theories have been influenced by 1960s systems thinkers and environmental designers—figures like Ian McHarg, Buckminster Fuller, and John McHale, among others—evidenced in the representational techniques that support recent landscape-focused practices (network diagrams, energy budgets, data

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The researchers distinguished two types of plastiglomerate found on Kamilo Beach: "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." They cite the manner of plastic's adherence to rock ("molten plastic had infilled vesicles in volcanic rock, thereby forming plastic amygdales") and the density of the samples ("Bulk density of the clastic fragments ranged from 1.7 to 2.8 g/cm^3, with the highest values determined from fragments rich in basalt pebbles. The measured bulk densities show that plastiglomerate has greater potential to become buried and preserved in the rock record than plastic-only particles, which typically have densities in the range of 0.8–1.8 g/cm^3"). Corcoran, et al., "An Anthropogenic Marker," 4.

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The aim here is not to reify the auratic object or speculate on its impenetrable ontology.

6

This is a reference to James Corner, "Agency of Mapping." Many other examples of the system's position in landscape are possible here, such as Corner and Stan Allen's entry to the Downsview Competition in 2000 and its influence captured in publications like *Large Parks*, ed. Julia Czerniak, George Hargreaves, and John Beardsley (New York: Princeton Architectural Press, 2007). In architecture, a significant example from this time period is the work of Jesse Reiser and Nanako Umemoto, who also describe their geometric surface modeling and its effects through an encompassing logic of landscape.

flowcharts). Yet it is instructive to note what representational practices did not carry over from that era of global consciousness. Collaging existing urban paradigms with visionary and formally distinct proposals (think Fuller and Shoji Sadeo's domes and pyramids) gave way to imaging emptiness (think James Corner's Fresh Kills) and demonstrating programmatic indeterminacy. This latter mode of representation is not without an aesthetic, of course, but the emphasis is on behaving like something and not looking like anything.

With some distance from the landscape paradigm's first appearance, it is time to recognize the presiding habits of mind that have developed from this influential chapter in our discipline's recent history. Of particular concern is the idea that the physical and aesthetic qualities of architecture take a backseat to the mutable circumstances that they frame, or that form simply serves to make visible the diagrammatic relations that are the real substance of the work. Either scenario easily argues for design as a passive instrument of information, which in turn implies an impossible neutrality. But we might instead see that architecture (framed here as a material practice) can be an active participant in the construction of, or challenge to, new knowledge formations. The physical and aesthetic qualities of architecture can create visceral cues, sensible reminders of the elsewheres and elsewhens that encompass and support that architecture's existence (and our own).

Moreover, systems practices that perpetuate a modernist concept of Nature's alterity often do so by privileging certain aesthetic categories over others. The scientism that is inherent to a modernist, managerial approach toward the earth's systems breeds a kind of false consciousness, disclaiming the considerable role that aesthetics play in shoring up certain ideological positions. Perhaps turning off that false consciousness would free us up to really "see" the aesthetic categories that often go ignored but that are intrinsic to the many "naturecultures" that constitute our planetary environment. (I am using Donna Haraway's term "naturecultures" here to refer to conditions that have fully dismantled any remaining possibility of a binary separation of culture from nature.) Design that enables us to "see" these "other" aesthetic categories is a step toward understanding the types of cultural and epistemological work they do. As designers we do not just document existing conditions—we can put things together in new ways, adding value through form, image, coloration, organization, and so on. However, this cannot happen from within autonomous bubbles of a "disciplinary" practice. It involves a more inclusive attention to the naturecultures that comprise architecture's contingencies and that condition architecture's reception.

In other words, the data-landscape project is not the only way for architecture to engage matters outside disciplinary boundaries. And conversely, the form-aesthetics project is not limited to discourses of autonomy. The geodesic dome was one techno-utopian image whose proliferation circulated a transforming set of political and social affiliations, while enduring as the aesthetic of technology's empowerment to individuals.[7] (It not only *behaved like* something, it also *looked like* something.) The ideas affiliated with that form evolved from the designer's original intentions; the dome is eminently recognizable and yet, it remains open to appropriation and discourse. Moving from abstraction toward evidence offers a model for architecture's capacity to mobilize ideas and associations outside its immediate material limits. One benefit of this model is the focus on architecture's primary domain of knowledge, which addresses the question of where form, material, and aesthetics can actually have effects in the world.

7 Felicity Scott, *Architecture or Techno-Utopia: Politics After Modernism* (Cambridge, MA: MIT Press, 2013).

Plastiglomerate sample, 2013. Photograph by Jeff Elstone, courtesy of Kelly Jazvac.

MATTERS OF FACT, MATTERS OF OPINION, MATTERS OF CONCERN

> It is not unanimous among scientists that [climate change] is disproportionately man-made. What I get a little tired of on the Left is this idea that somehow science has decided all this so you can't have a view.
> —Jeb Bush, interview with Fox News, 2011[8]

Climate change is not simply an atmospheric phenomenon. It is a multitude of competing narratives that shape what we know about climate change and what we are willing to put at risk in response to that knowing. Among these narratives is the perennial debate around the scientific evidence for climate change's anthropogenic causes. In the seven years between the Fourth and Fifth Assessments authored by the Intergovernmental Panel on Climate Change (IPCC), the consensus around the reliability of climate models as a source of data shifted. The Fifth Assessment Report from 2014 included risk scenarios and projected outcomes that were developed through data models. Still, public opinion on climate models remains uneven, as Paul N. Edwards discusses in his history of climate science, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*.[9]

Edwards begins his history with the 1968 portrait of Earth from Apollo 8. He emphasizes that the timing of this new vantage point corresponded with numerous scientific activities and cultural movements already in motion (the 1957–58 International Geophysical Year, the United Nations, Cold War

8 Suzanne Goldenberg, "Jeb Bush May Be 'The Smart Brother'—But He's as Much of a Climate Denier as Any Conservative," the *Guardian*, December 15, 2015, http://www.theguardian.com/commentisfree/2014/dec/16/jeb-bush-climate-denier-republican-presidential-candidate-2016.

9 Paul Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge, MA: MIT Press, 2013).

"closed world" discourses, the "One World" movement, and orbiting satellites with funny names dazzling Western and Soviet audiences). A planetary imaginary was in place, as were the international instruments for thinking and managing a global environment.[10] What is significant about this image, for Edwards, is how it exposes the tremendous gap between the simple immediacy of a single atmosphere as a concept and the intricate, layered, and multi-scaled composition of people, systems, and infrastructures involved in making that atmosphere "knowable" as climate. While computing, infrastructures, and measurement protocols are highly technical and essential components of this construction of climate knowledge, its effective aggregate is a socio-technical system, one that includes the scientists, their habits and errors of judgment, monitoring stations, organizations, and communication systems. It is a "vast machine."[11]

Asking "how did the world become a system?" Edwards frames a detailed account of how early, distributed forms of weather observation became incrementally consolidated into climate science. Localized practices, varying instruments, and uneven material conditions were absorbed into a coordinated network of data, through arduous institutional oversight and the labor-intensive task of reconstructing historical data sets. This system makes it possible to think of the Earth's climate as a "knowable entity" and its climate as something "conceivably managed by deliberate intervention." The incomprehensibly large and complex entity of global climate is rendered "knowable," but its key representation is unstable—and that merging of multiplicity into a single model has been at the heart of debates over the "truth" of climate change.[12] One objection is that science can only produce truths through empirical data or experimental evidence. The problem with this criticism, Edwards points out, is that it wrongly assumes that data has a greater degree of objectivity or autonomy than the sociotechnical system that generates it. Furthermore, the world's climate processes are clearly too complex and too many to reproduce experimentally. Edwards makes the case that the existence of climate models is what makes climate data possible. In other words, the model precedes the data it represents. Without this form of representation, much of climate history would remain in "shadow."

If matters of fact are inseparable from the sociotechnical apparatus that produces them, climate narratives that hang on science's objectivity are equally inseparable from those that appeal to public opinion. (The former Florida governor's insistence on having his own "view" is one of many examples of this popularized distrust in expertise.) Geographer Mike Hulme blames the slow public acceptance of climate change on a failure of communication. The deficit model of communication supposes that if the public is not convinced of a theory, it is due to a lack of information. Hulme argues that the problem is not an information deficit—advances in climate science and the unified front of the IPCC prove climate data's abundance and internal consistency. Instead, he claims, it is a problem of popularizing the information's *message*.[13] He proposes alternative models, including "deliberation," where communication between citizens and the scientific community would move two ways, exchanging the sentiments, beliefs, and histories of those who participate.[14]

The previous two examples expose the counterintuitive ways in which climate data becomes more meaningful when wrapped up with less objective modes of representation. Following these perspectives, it is clear that climate discourse needs a "powerful descriptive tool," as Bruno Latour articulated a

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Edwards, *A Vast Machine*, 3.

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Edwards, *A Vast Machine*, 3. The term "vast machine" is taken from a John Ruskin passage he quotes as the book's epigraph: "The meteorologist is impotent if alone; his observations are useless; for they are made upon a point, while the speculations to be derived from them must be on space… The Meteorological Society, therefore, has been formed not for a city, nor for a kingdom, but for the world. It wishes to be the central point, the moving power, of a vast machine, and it feels that unless it can be this, it must be powerless; if it cannot do all, it can do nothing. It desires to have at its command, at stated periods, perfect systems of methodical and simultaneous observations; it wishes its influence and its power to be omnipresent over the globe so that it may be able to know, at any given instant, the state of the atmosphere on every point on its surface. —John Ruskin (1839)." Edwards defines the vast machine of climate science as: "a sociotechnical system that collects data, models, physical processes, test theories, and ultimately generates a widely shared understanding of climate and climate change."

decade ago, in "Why Has Critique Run Out of Steam?" While Latour helped create a discipline out of investigating the conditions in which scientific knowledge is produced, this essay laments the use (or misuse) of similar constructivist tactics to debunk the science of climate change. Rather than a full reversal, Latour attempts to find another "powerful descriptive tool" that does away with "matters of fact" and allies instead with what he calls "matters of concern."[15] This approach takes root interrogating the materiality of science not as a series of "objects"—which are factual and undesigned—but rather to attend to them as "things," which he frames as a "gathering" of meaning and intents.

While climate is typically considered an atmospheric phenomenon or a representational problem of data, plastiglomerates are physical markers of climate's ongoing transformation. They are the sum of various inputs. Even if their existence cannot be ascribed human authorship, these things are crafted by a more complex composition of industrial and consumer activities, thalassic and riparian forces. Their physical qualities are signatures of this complex composition, or natureculture, that authored them. It would also be possible to say these objects are "post-natural," existing outside a modernist division of civil society from pure nature. They represent a possible avenue for thinking about a more

Plastiglomerate sample, 2013. Photograph by Jeff Elstone, courtesy of Kelly Jazvac.

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In 1988, James Hansen testified before the assembly of the US House Energy Committee, with a graphic analysis of projected temperature ranges based on a model attesting to a 99 percent rate of reliability.

13

Mike Hulme, *Why We Disagree About Climate Change: Understanding Controversy, Inaction, and Opportunity* (Cambridge: Cambridge University Press, 2009), 217.

14

What this looks like is unclear, but it would require various media to convey evolving messages to different subjects. Hulme, *Why We Disagree About Climate Change*, 218–221.

15

"The mistake we made, the mistake I made, was to believe that there was no efficient way to criticize matters of fact except by moving away from them and directing one's attention toward the conditions that made them possible. But this meant accepting much too uncritically what matters of fact were. This was remaining too faithful to the unfortunate solution inherited from the philosophy of Immanuel Kant. Critique has not been critical enough in spite of all its sore-scratching. Reality is not defined by matters of fact. Matters of fact are not all that is given in experience. Matters of fact are only very partial and, I would argue, very polemical, very political renderings of matters of concern and only a subset of what could also be called states of affairs. It is this second empiricism, this return to the realist attitude, that I'd like to offer as the next task for the critically minded." Bruno Latour, "Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern," *Critical Inquiry*, vol. 30, no. 2 (Winter 2004): 231–232.

literal version of architecture's connection to larger milieus. Architecture's capacity to link an aesthetic to a world of ideas, so clearly evidenced by plastiglomerate samples, starts with materiality.

Imagining the geocentric arrangement of a Ptolemaic cosmology, suppose that the physical encounters that make up an architectural experience correspond to the nested rings layered around the central subject. These nested encounters with physical things act like membranes through which subjects (individuals, collectives, publics) develop a new awareness of surrounding milieus at various scales. These are not conclusive encounters: the strange rocks and stones of my two-part parable leave much to the imagination while evoking some history outside that moment, a human and natural history. In this way, perhaps an architectural cosmology of things can re-enchant us with the nearby world or provide new perspectives on the "wicked problems" of contemporary life.

NAVIGATING THE PLASTISPHERE

The annual global production of plastics is currently estimated to be 245 million metric tons (270 US tons). According to one study, this amount "represents 35 kg of plastic produced annually for each of the 7 billion humans on the planet, approximating the total human biomass."[16] It is vivid and staggering to picture that each year, the earth's surface is populated with new plastic whose combined bulk is roughly equivalent to that of all the human bodies that also populate the earth's surface—and that year after year, another total-human-biomass's worth of plastic is added.

Of that 245 million metric tons, only 0.1 percent is believed to end up in one of the five subtropical gyres, the vast islands of floating debris that have now been well measured and documented.[17] Still, plastic has become the primary source of marine pollution in the sixty years of its manufacture. A new report by a group of marine chemists and biologists documents the microbial communities that are flourishing on fragments of floating plastic. This study found that a variety of "heterotrophs, autotrophs, predators, and symbionts" are concentrated on these plastic fragments at a density and diversity much greater than that of the surrounding ocean water. Plastic waste has become a substrate for "novel ecological habitats in the open ocean," and one that given plastic's long half-life, guarantees a stable alternative to indigenous substrates found at sea.[18]

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"Plastic accumulates not only on beaches worldwide, but also in 'remote' open ocean ecosystems. Drifter buoys and physical oceanographic models have shown that surface particles such as PMD can passively migrate from Eastern Seaboard locations all the way to the interior of the North Atlantic Subtropical Gyre in less than 60 days, illustrating how quickly human-generated debris can impact the gyre interior that is more than 1,000 km from land. Plastic debris in the North Atlantic Subtropical Gyre and North Pacific Subtropical Gyre is well-documented and models and limited sampling confirm that accumulations of PMD have formed in all five of the world's subtropical gyres." Erik R. Zettler, Tracy J. Mincer, Linda A. Amaral-Zettler, "Life in the 'Plastisphere': Microbial Communities on Plastic Marine Debris," *Environmental Science and Technology* 47 (2013): 7,137–7,146.

17

Marcus Eriksen, Laurent C. M. Lebreton, Henry S. Carson, Martin Thiel, Charles J. Moore, Jose C. Borerro, Francois Galgani, Peter G. Ryan, Julia Reisser, "Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea," *PLoS ONE*, vol. 9, no. 4 (December 2014).

18

"Plastisphere communities are distinct from surrounding surface water, implying that plastic serves as a novel ecological habitat in the open ocean. Plastic has a longer half-life than most natural floating marine substrates, and a hydrophobic surface that promotes microbial colonization and biofilm formation, differing from autochthonous substrates in the upper layers of the ocean." Zettler et al., "Life in the "Plastisphere," 7,137.

WELCOME TO THE "PLASTISPHERE"

The "plastisphere" joins an assortment of other "-spheres" that encircle the planet with distinct but interrelated material conditions: atmo-, bio-, hydro-, litho- and so on. Each is defined by its particular components and by its vital function within the planetary system; and each outlines a distinct knowledge category comprised of the disciplines and institutions that attend to its study and management. By selecting the term "plastisphere" to describe the totality of garbage-surfing microbes and their nearly imperceptible ecosystem, these scientists underscore the phenomenon as a pervasive materiality and a global infrastructure of life. The proliferation of plastic waste represents the entropic flipside of the world's industrial system while revealing the adaptive capacities of life worlds outside our own. The balancing of ecological gains and losses according to a static idea of "nature" begins to feel like a futile motivation for environmentalist action. From this perspective, change—to the atmosphere, to the biosphere, to the lithosphere, to the financial sphere—becomes less an indicator of nature out of balance. Change appears instead as a consistent property of environment and a reminder of the conceptual limits to technocratic models of sustainability. This is not to argue that architecture has nothing to do with climate; rather, it is to modify Latour's and Hulme's call for descriptive tools or new mediums through which different perspectives, multiple views, and alternate sensibilities can be shared, in order to begin assessing which forms of change, what methods of adaptation, and whose burdens of responsibility are acceptable.

> The planet will be here for a long, long, LONG time after we're gone, and it will heal itself, it will cleanse itself, 'cause that's what it does. It's a self-correcting system. The air and the water will recover, the earth will be renewed. And if it's true that plastic is not degradable, well, the planet will simply incorporate plastic into a new paradigm: the earth plus plastic. The earth doesn't share our prejudice toward plastic. Plastic came out of the earth. The earth probably sees plastic as just another one of its children. Could be the only reason the earth allowed us to be spawned from it in the first place. It wanted plastic for itself. Didn't know how to make it. Needed us. Could be the answer to our age-old egocentric philosophical question, "Why are we here?"
>
> Plastic, asshole.
> —George Carlin

A PREFACE TO POST-ROCK ARCHITECTURE

Returning us to a cosmological perspective, George Carlin's punch line points out the absurdity of humanist logic in the context of geological and climatic transformations. What if "earth plus plastic" is a new paradigm of lithospheric materiality? What if plastic, or a plastic-rock hybrid, is the answer to the most basic existential questions? While this scenario may resonate with "post human" discourses circulating today, for me the humor is key here; as a speculative device, it offers a possible technique for reconfiguring persistent frameworks of environmental thinking and the subject-object relationships those frameworks support. It relieves the proprieties of a modernist idea of

Collection of identifiable plastic objects found by Noni Samford on Kamilo Beach and along the nearby coastline. Photograph courtesy of Kim De Wolff.

environmental design and its aesthetics. Learning from the qualities of plastiglomerates as material and medium, perhaps a post-rock architecture might be formulated:

Post rocks resist abstraction. They are neither symbolic nor instrumental. They embody the trajectories of materials and forces, rather than diagram them; they give physical presence to the entropic processes and cultural tendencies behind the plastic's production and eventual removal from a system of value. However, to describe this relation to process as indexical is not quite right either. Post rocks' physical appearance does not *index* their formation, a process that involves degrees of complexity and many agents acting at different scales. It's a process that is impossible to repeat precisely. As a "thing," post rock makes sensible those scattered inputs and distant geographies without *explaining* their contingencies. Carrying that external history, the aesthetics of post rocks both arrest with familiarity and resist easy categorization.

Now insert the word *architecture* after "post rock" in that last paragraph. Both literally and as a model for practice, what is envisioned here is a way of engaging architecture's milieus—atmo-, hydro-, bio-, plasti-, or other—not by emulating the abstract logic of the system but by authoring tangible things of the here and now.

Meredith Miller is an architect and an assistant professor of architecture at the University of Michigan's Taubman College of Architecture and Urban Planning. Through design research, writing, and collaborations, she explores the interactions of architecture and environmental thinking.

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