

————— Perspecta 54 —————

*Atopia*

**The Yale Architectural Journal**

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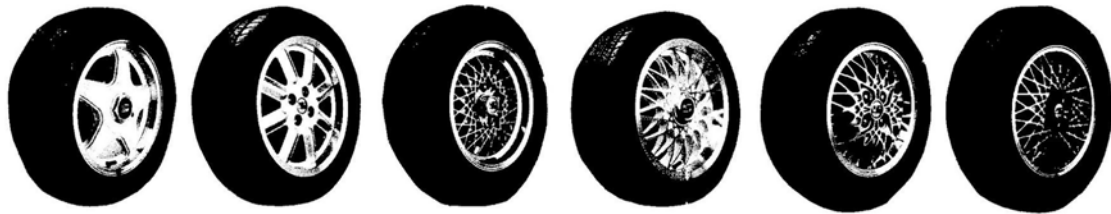
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Anthony Dunne and Fiona Raby, Victoria Hattam,  
and Miriam Ticktin **Material**  
**Imaginaries**



## Introduction

Scholarship is often distinguished from creative work: real versus fiction. Yet imagination plays a role in scholarship, just as research plays a role in creative work. What are the conditions for generative thinking in both cases? What allows for imaginative leaps – for instance, what enables us to see things differently, to bring two very different ideas or objects together, or to open new ways of thinking? And what is the relationship between imagination and materialization—is materialization a way of imagining?

In what follows, even as we each start with our own disciplinary norms — politics, design, and anthropology — we take on similar questions about the role and place of evidence, and how we might broaden our sensorium to allow evidence to appear in new ways; whether and how a search for solutions can shut down reflection; and how to maintain an openness to alternative imaginaries while paying attention to the empirical particulars.

We have worked together for three years while running a Mellon Funded Sawyer Seminar at the New School and participating in a variety of collaborative ventures. Our existing conversations notwithstanding, we approached this essay as an “exquisite corpse” in which we wrote three separate texts and only revealed them to each other after they had been drafted. It was fascinating to see the echoes and differences across the three essays. We wanted to hold onto our differences and thus did not try to square the texts with each other when revising. As a consequence, there are fissures and disjunctions running throughout the document that we hope will

open up questions and provoke further exploration from others working in the grey zone.

We each use imagination to open the way to new possibilities. But how does this happen? How do we externalize the imagination, and make it available to others? These questions bring us to the subject of materialization. In fact, we each found and focused on a form of materialization that has a double capacity: as both an imaginative possibility and a place where the truth (or the real) is adjudicated or legitimated. We used our own form of materialization to explore this duality. For Hattam, photographs blur the boundary between evidence and imagination—located simultaneously in the realm of the documentary and creative practice; Dunne and Raby do this by way of the model. Rather than using the “prototype,” as is typically done in design practice, they draw on the architectural tradition of thinking through the model to scale up or down. However, their “scaling” happens between the real and unreal, bridging the two by way of a physical design based on a fictional concept. Ticktin uses biological science to materialize the fine edge between explaining and exploding truth, between fixing one account of reality or being, and showing how it opens the way to another, possibly livelier world.

For each of us, imagination emerges in the materialization; this simultaneously enables us to bring nuance to our own intellectual and political commitments. Dunne and Raby do not want to lose the real. Rather than opposing it to the unreal, they double down on the poetic and aesthetic sides of their practice to develop the idea of “making other

reals proximate.” Hattam is committed to the empirical, not as an easy way to arbitrate disagreements; instead, following John Cage, she advances a notion of “ungrounded ground” in which imagination and the empirical always are twinned — constituted together through worldly excess. Ticktin is committed to a version of biological science as an

account of living beings in the world, but instead of using science to provide a truth decontextualized from the social or political, she uses it to unhinge our notions of common sense, thereby prefiguring different political worlds. In other words, she uses it to “make strange.”

## 1. Wild World (Victoria Hattam)

The world is a wild place. One does not have to turn to fiction to find the strange and unpredictable. It is right here in our midst. The craziness of 2020 accentuated a wildness that is always present. Academic disciplines strive to steady the unsteady world; but despite heroic efforts, the wobbling persists. What’s more, papering over the craziness has deadening effects. Rather than doubling down on discipline, I am interested in opening up the political by exploring the interplay between art, design, and social research. The world is more capacious than we think.

Following John Cage’s “purposeful purposefulness,” I am after a grounded ungroundedness in which I attend to empirical specificities with considerable care, without being drawn into the claims that empirics serve as arbiters of political disagreements.<sup>1</sup> Put differently, I want to unhinge historical and material particularities from questions of evidence. Or, more specifically, I want to reHINGE them. Perhaps hinge is the wrong metaphor altogether, since it presumes a somewhat mechanical relation between

two elements that obscures the more elusive connections I am after. Politics lies in amongst the multi-directional affinities and disagreements surrounding empirical specificities, affects, images, forces, and silences. Relational particularities are enormously consequential, yet necessarily diffuse, plural, and partial. Political formations are at once forceful and incomplete; consequential and opaque. I want to make room for “loose connections” and “blind spots” explored so evocatively by Radhika Subramaniam and Teju Cole. In many ways, the intellectual concerns that orient my work are not new; claims of objectivity and observation have been questioned for decades through powerful work on perception, positionality, social construction, and mediation more generally. But something new is afoot; imagination is coming into focus, further stretching the articulation of argument and evidence. Actually, imagination is not being added. It was never absent, just left unacknowledged. Surfacing the imaginative places questions of political possibility front and center.

1. John Cage, “Experimental Music,” reprinted in *Silence* (Middletown Connecticut: Wesleyan University Press, 1957), 12.
2. Radhika Subramaniam, “Loose Connections,” in *Assuming Boycott: Resistance, Agency, and Cultural Production*, eds. Kareem Estefa, Carin Kuoni, and Laura Raicovich (New York: OR Books, 2017); Teju Cole, *Blind Spot* (New York: Random House, 2016)

# Weeds

Empirical specifics play a crucial role in my work; it is through particularities that otherwise abstract arguments take on an embodied quality. Being in the weeds is where arguments come alive. Weeds are where my imagination lives. What exactly is it that grounding allows? What is it about particularities that gives arguments affective and imaginative force? How does a grounded ungrounding work? All too often, the analytic work of particularities is not really specified, thereby leaving a soft positivism in play in which students are asked to marshal evidence; data is amassed to settle disagreements; and observation is invoked even as vision is widely recognized as a deeply political field.<sup>3</sup> It is tempting to use the specifics of so-called “grounded research” to establish one’s professional authority. I want to resist

this move. I do not want the analytics to rest there . . . on the ground . . . even though such claims often legitimate one’s work. I want to use specifics differently, as a way of reclaiming the wildness of the world and as a way of holding onto the excess that lies therein. Particulars have capacities that reach well beyond the boundaries of established arguments and disciplines. For me, the empirical is a portal to the imagination. Empirics are capacious. Empirics disrupt. Empirics open the mind to other ways of seeing.

And yet, exactly how the empirical comes into view is a complex matter. Imagination and observation are deeply entangled. It is not just a question of opening one’s eyes and looking, since evidence comes bundled together in a complex mix of imagination and seeing.

## Seeing Gold

The American historian, Mae Ngai, has written on the gold rushes in California, USA, Victoria, Australia, and Johannesburg, South Africa. The Victorian and Californian rushes occurred within three years of each other in 1848 and 1851, respectively; Johannesburg followed thirty-three years later in 1884. Ngai offers a dynamic account of all three sites in which she recovers the Chinese miners’ agency within the three colonial sites.<sup>4</sup> After listening to Ngai talk about the project, I found myself contemplating the timing of the rushes themselves. Why did so many people begin to “see gold” as newly valuable in the mid-nineteenth century? The rocks had been underfoot all along, hidden in plain sight. Why did they only become visible around 1850?

The question is all the more pressing in two regards. First, the multi-sited nature of the perceptual shift, in which gold fever occurred simultaneously in different locations around the world, disrupts more proximate and linear notions of cause. Reckoning with the near simultaneity of gold rushes in Ballarat and Sacramento, half a world apart, requires a more capacious analytics of change. It was not so much a

copycat thing as it was a contemporaneous visual shift. Something was in the air. Moreover, the timing of the discoveries is all the more perplexing given the fact that considerable quantities of gold were found in “shallow” or alluvial deposits.<sup>5</sup> Although by no means typical, the discovery of the famous “Welcome Stranger” nugget found near Bendigo, Victoria in 1869 makes the point. The massive nugget, weighing 173 pounds, was found only three centimeters from the earth’s surface. Why had this and other nuggets like it remained out of sight? The rather sudden capacity to see gold in the mid-nineteenth century captures the blended notion of evidence and imagination that I want to foreground. How did this new kind of seeing emerge? Why did this change occur specifically in California and Victoria between the years of 1848 and 1851? If I were to pursue this question, I would follow Ngai’s lead and look to the larger global transformations underway many miles away. Marx understood all too well that industrialization involved dramatic changes in collective notions of value that rippled well beyond factory floors.<sup>6</sup>

3. Maurice Merleau-Ponty, “Cezanne’s Doubt,” in *Sense and Non-Sense*, trans. Hubert Dreyfus and Patricia Allen Dreyfus (Evanston, Illinois: Northwestern University Press, 1945/64); W. J. T. Mitchell, in *Landscape and Power*, ed. W. J. T. Mitchell (Chicago: University of Chicago Press, 1994); John Elderfield, *Manet and the Execution of Maximilian*, (New York: MoMA, 2006); Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007); Eyal Weizman, *Hollow Land: Israel’s Architecture of Occupation* (New York: Verso, 2007).
4. Mae Ngai, “Chinese Gold Miners and the “Chinese Question” in Nineteenth-Century California and Victoria,” *The Journal of American History* 101, no. 4 (March 2015), 1082-1105; and Mae Ngai, “Doing Transnational History: The Case of the Chinese Question,” *Critical History Today*. Lecture given at The New School, April 8, 2019.
5. The town of Daylesford, Victoria, was built on the proceeds of gold. Henry Maddicks’ history of the Gold Rush there includes a fascinating table, giving the weight, year, and depth of particular mining finds. Interestingly, the list and other sources besides show that considerable gold was found close to the surface (Maddicks 1981: 69-70). And yet, gold was not mined by the early settlers who farmed there, nor had gold been collected by Indigenous Australians. Rather, the fascination with gold developed rapidly - in a rush. I am not suggesting that gold was not valued or used earlier; it was. Gold was used as currency in China as early as 1091 B.C. and had been valued widely as a sign of prestige in many societies (Ngai 2015, 1082; National Mining Association 20001). But in California and Victoria, gold was discovered anew. How and why it came to be seen as a valuable commodity at that particular moment is my question.
6. Ngai, “Chinese Gold Miners and the “Chinese Question” in Nineteenth-Century California and Victoria,” 1082.

“Seeing gold” has become shorthand for me for the complex processes through which visual fields shift, taking evidence with them. Seeing gold suggests that imaginative shifts preceded the rush, but the sequencing of imagination and sight need not always proceed in that order. In the border walls example elaborated below, imagination and evidence still go hand-in-hand, but in the materiality of the wall comes first, provoking an imaginative reorientation after.

## Evidencing Imaginaries

Even asking the question, “which comes first, imagination or evidence?” presumes the very split that I am trying to dislodge. I want to push the argument further. Traveling to the US-Mexico border with the Multiple Mobilities Research Group provided another site through which to rethink the relation between seeing and knowing / imagination and evidence.<sup>7</sup> The materiality of the wall itself is not what I had expected. It is built in pieces. People, animals, and things move back and forth all the time: doorways, gaps, bridges, walkways, and holes make mobilities possible. The wall is neither uniform nor continuous. Seeing gaps in the wall brings multiple forms of mobility into view; conceptions of sovereignty begin to shift. I use three images below to extend this argument.

### Image 99: San Ysidro Port of Entry, California

Materials matter. Both the gate and border walls in the photograph above are made from recycled war-time materiel. The pierced steel plank of the door had been used earlier to build portable runways during World War II, while the solid corrugated steel panels of the surrounding wall had been used for portable landing strips in Vietnam. After the war, the U.S. Army Corps of Engineers recycled the solid planks to build large sections of the U.S.-Mexico border wall. The photograph that follows is of landing mats at the San Ysidro port of entry, connecting San Diego and Tijuana. The ghosts of war are carried in the fence and aesthetics do a good deal of the carrying. As I have argued elsewhere, modernist grids reach across apparently divergent worlds of Vietnam, the border wall, and MoMA. Aesthetic affinities allow ghosts to travel.<sup>8</sup>

Rather than presuming a uniform sequencing, I see imagination and evidence moving together in a complex dance of co-constitution. The temporal ordering depends on when and where one enters. It is difficult to hold the two dynamically in play because there are enormous pressures to “ground” research empirically. Doing so often suppresses the imaginative dimension of social research.

An official ICE photographer, Josh Denmark, took the door-wall photograph, raising the question of whether there is something in the image itself that echoes authority relations at the border.<sup>9</sup> Put simply, how tightly should we read aesthetics and politics in the photo? Four color bands structure the image: charcoal grey, blue grey, rusty green, and off-white. They form an imposing sequence, with each band running across the full width of the image; we are not invited in. We are confronted with visual walls at all four levels. White tubes and dark poles extend beyond the frame, anchoring the fence and door in systems of power beyond the photograph. We are seeing only part of a larger political system. And yet, there are other political valences in the image. The door itself, as well as the little lock to the right of the gate, suggest that traversing through the wall is possible. There is even a light above the door to assist safe passage. Most strikingly, the holes in the gate undercut the sense of an impermeable barrier. Crossing over is possible — if one is lucky enough to have mobility privileges.

Stunning as the border-gate photograph is, it does not quite capture the ungrounded ground that I am after. Border walls have received a great deal of attention and even though the gate complicates the visual repertoire, the border-gate image remains anchored too literally for my purposes in notions of wall and passage.

Two images that follow — each taken on the Brownsville-Matamoros International Bridge — help dissolve a hard and fast boundary between fact and fiction, image, and evidence. Right at the bridge’s midpoint, immediately above the border line, there is a little gap in the middle of the walkway. It is only three or four inches wide and runs from the walkway roof down to the pavement. Unexpectedly, the Mexican and U.S. territories do not touch. The gap caught my eye.

7. The argument presented here was developed through extended conversation with the Multiple Mobilities Research Cluster (Laura Y. Liu, Radhika Subramaniam, Miriam Ticktin, Rafi Youatt, and myself). Our collaborations over the last six years have shaped my work and institutional life at every level. See <https://www.multiplemobilities.org/>.
8. Victoria Hattam, “Imperial designs: Remembering Vietnam at the US-Mexico border wall,” *Memory Studies* 9, no. 1 (2016). See also David Brody, *Visualizing American Empire: Orientalism and Imperialism in the Philippines* (Chicago: University of Chicago Press, 2010).
9. See W. J. T. Mitchell, “Imperial Landscape,” in *Landscape and Power*, ed. W. J. T. Mitchell (Chicago: University of Chicago Press, 1994); Ariella Azoulay, “Getting Rid of the Division between the Aesthetic and the Political,” *Theory, Culture & Society* 27, no. 7-8 (2010), 239-62; and Ariella Azoulay, *Civil Imagination: A Political Ontology of Photography* (New York: Verso, 2012).



Image 99



Image 100



Image 101



## Image 100: International Bridge between Brownsville and Matamoros

## Image 101: The gap at the border line, International Bridge between Brownsville and Matamoros

The photograph is taken at an actual place, at a specific point on a particular bridge. Asymmetrical mobility rights are carried within the material form.<sup>10</sup> However, the image's significance does not lie in its facticity but in its ability to provoke an imaginative reengagement with questions of sovereignty. The imaginative provocation is contained within the photograph, but the image does not act alone. I am trying to direct your gaze from walls to holes; telling you to look here and not there. In so doing, I aim to shift perception just a little thereby opening up questions of sovereignty and the political.

What then, is the status of the image? It is at once imaginative and evidentiary. I want to insist that the gap-photograph is simultaneously in this world and imaginatively other. I do not want the photograph to be seen as documenting the real, as documenting a point of passage through the wall, nor do I want it to be turned into a site of fictive reimagining. I want it to occupy an in-between position — simultaneously real and imaginative — a

grounded ungrounding. It is difficult to name such a space. Perhaps, the most congenial term might be political imaginary as it captures the collective and political aspects of imagination.<sup>11</sup> But I am not invested in any particular sign. My only stipulation is that whatever term is used should refuse even a soft distinction between the real and the imaginative. They need to be held together — at all times.

Only after writing this essay have I come to see the fit between photographs and the analytic issues I am after. I never write about paintings, drawings, videos, or films, even though I value these other artistic media. I use photos. I see now that photographs, in and of themselves, sit perfectly at the intersection of the real and imagined in a way that enacts the grey zone I am after. Photographs often have been denigrated both by artists and social scientists as at once insufficiently creative and unreliably evidentiary. It is precisely this wobbly spot between evidence and imagination that I want to bring into focus and explore. Photographs carry with them a sense of the evidentiary — but unreliably so; they are a perfect instance of ungrounded ground. The fit between my argument and its materialization is a wonderful instance of thinking through doing.

Exciting work is being done between the silos. Grey zones are expanding — a “re-wilding” of sorts. I hope it is clear by now that such re-wilding is not just a matter of adding imagination, nor of shifting from social research to fiction. Imagination is always present, even where its traces have been submerged or hidden. I aim to rework the relation between imagination and evidence and, in doing so, to expand the domain of the political.

## 2. Designing fiction when reality itself is no longer realistic<sup>12</sup> (Anthony Dunne and Fiona Raby)

Despite reality itself becoming ever more unreal, to the extent that political commentators are resorting to terms from quantum mechanics to describe, or attempt to make sense of, our seemingly paradoxical political realities, it feels as though the design imagination is being colonized by a particularly aggressive form of realism intolerant of anything that does not conform to or reaffirm prevailing realities — realities that are becoming obsolete.

For those of us committed to exploring alternative ways of seeing the world expressed through the design of everyday objects, refusing realism might serve as a form of resistance, a protest of sorts — to actively push back against the call to make stuff real, to make things work, to be realistic — in order to preserve and sustain pockets of an increasingly endangered natural resource: imaginative thought.

This is not a rejection of the real but of realism, which accepts how things are now, working within existing conditions. Nor is it about blurring boundaries between the real and the unreal in ways that take us into the realms of fake news, post-truth politics and other assaults on common sense and rationality. Rather, it is a broadening out of the real to include ideas and realities that typically would be excluded as unreal, rather than false or fake. These other reals do not try to pass themselves off as something they are not — to convince, persuade, or to replace the real real, they are just different kinds of real. By ignoring or marginalizing them, we severely close down possibilities for new ideas and thinking. After all, once an alternative comes into existence, even if as an idea or narrative, it effectively becomes part of reality, impacting it and making reality a little larger than it was before.

10. For powerful arguments about agency and materiality, see Mahmoud Keshavarz, *The Design Politics of the Passport: Materiality, Immobility, and Dissent* (London: Bloomsbury, 2018a); and Mahmoud Keshavarz, “Undesigning Borders: Urban Spaces of Borders and Counter-Practices of Looking,” in *Undesign: Critical Perspectives in the Intersection of Art and Design*, eds. G. Coombs, G. Sade, and A. McNamara (London: Routledge, 2018b), 161-174; Tristian Schultz et al., “What is at Stake with decolonizing Design? A Roundtable,” *Design and Culture* 10, no. 1 (2018), 81-101; Jilly Traganou, “The Spatial and Material Politics of Prefiguration: Christiania’s Self-Management Infrastructures,” in *The Future is Now – An Introduction to Prefigurative Politics*, ed. Lara Monticelli (Bristol: Bristol University Press, 2021).
11. Cornelius Castoriadis, *World in Fragments: Writings on Politics, Society, Psychoanalysis, and the Imagination*, ed and trans. David Ames Curtis (California: Stanford University Press, 1997).
12. This phrase is borrowed from Susan Strehle, *Fiction in the Quantum Universe* (North Carolina: UNC Press, 1992).

# Anamorphic Fictions

Over the last two decades, fiction has emerged as a space in design to explore ideas like this. But this space is dominated by future visions. Many of these futures are a form of extrapolation; they start by identifying ‘weak signals’ in present realities and extend them into a plausible future. If the goal is to use fiction to open the mind and encourage imaginative thought, then extrapolative futures can be too straightforward; the need to be plausible, rational, or possible ties them too closely to existing realities, of which they are of course a version. Literature offers some alternatives to futures as a primary framing device for fictions concerned with science and technology. Ursula K. LeGuin’s “thought experiments,”<sup>13</sup> H. G. Wells’ notion of “domesticating the impossible hypothesis,”<sup>14</sup> and Quentin Meillassoux’s idea of “extro-science fiction (XSF),”<sup>15</sup> all abruptly take the reader into a parallel realm which may or may not be a version of our own world, where something significant has changed or is different. This approach rarely bothers with the niceties of long-established literary transitions or portals, such as long sleeps, dreams, hidden doorways, far away planets, wardrobes, and other thresholds between the shared world of the reader and the world of the story.

In design, there is perhaps less need for a portal. Instead, viewers are simply confronted with a physical fragment from the imagined world brought into our own, appearing unannounced. It

just is. A piece of real, conceptually elsewhere, yet materially present. With this, comes a slightly different approach to aesthetics. Rather than aiming to convince, persuade, or trick the viewer (through aesthetic realism), it needs to engage them, hold their attention, send their imaginings off in new directions, by using what we have called elsewhere the ‘aesthetics of unreality.’ These designs depend on a certain amount of strangeness, perhaps a subtle variant of the kind of weirdness Mark Fischer has written about: “[. . .] the weird is a particular kind of perturbation. It involves a sensation of wrongness: a weird entity or object is so strange that it makes us feel that it should not exist, or at least it should not exist here. Yet if the entity or object is here, then the categories which we have up until now used to make sense of the world cannot be valid. The weird thing is not wrong, after all: it is our conceptions that must be inadequate.”<sup>16</sup>

Encounters with objects like these do not elicit a leap or a jump in the viewer’s mind. Rather, it is more nuanced, more like a reality shift, a form of anamorphic fiction that necessitates a change in perspective. As designers, we often make use of existing object types from everyday life. They appear familiar, but on closer inspection are not. Seen from an existing perspective, it might not make sense; shift (conceptual) perspective slightly, and it becomes clearer. It is making this shift that matters.

## Imaginative Mobilities

As part of *Imaginative Mobilities*<sup>17</sup>, a project we recently completed with our co-authors as part of a grant supported by the Mellon Foundation, we developed a number of vehicles for a world in which borders have become transition areas rather than fences or walls. Places where different ways of seeing the world could meet and difference could be acknowledged and celebrated. It was based on conversations with Miriam Ticktin and Victoria Hattam about their ongoing research into border conditions: “Much of the debate on borders — both academically and politically — has revolved around a dichotomy: whether they should be open,

or closed. The open borders argument is about free and unfettered movement for all; and the closed borders argument suggests people should be able to create and maintain an inside and an outside. Neither side asks, however, whether we might reconcile borders in different terms — such as permeable, partial, temporary, multilayered — or in different forms, such as welcome lounges, flyways, or weather fronts, shifting hour by hour depending on membership.” This is not a proposal for an alternative system of borders to be implemented but a catalyst for opening up different perspectives on what a border might be and what it could mean

13. Ursula K Le Guin, *The Left Hand of Darkness: 50th Anniversary Edition (Ace Science Fiction)*, (London: Penguin Publishing Group, Reissue edition 2000) Kindle Edition, xi-xvi.
14. H. G. Wells, *The Scientific Romances of H. G. Wells* (London: Victor Gollancz, 1933).
15. Quentin Meillassoux, *After Finitude: An Essay on the Necessity of Contingency*, trans. Ray Brassier (London: Bloomsbury/Continuum, 2010).
16. Mark Fischer, *The Weird and the Eerie* (London: Repeater Books, 2016), emphasis added.
17. See [www.imaginativemobilities.org](http://www.imaginativemobilities.org) for more about the Mellon Funded Sawyer Seminar at The New School. The vehicles were subsequently developed as part of A/D/O’s 2019-20 Research Program: Design at the Borders curated by Jan Boelen and Charlotte Dumoncel d’Argence.



Image 102

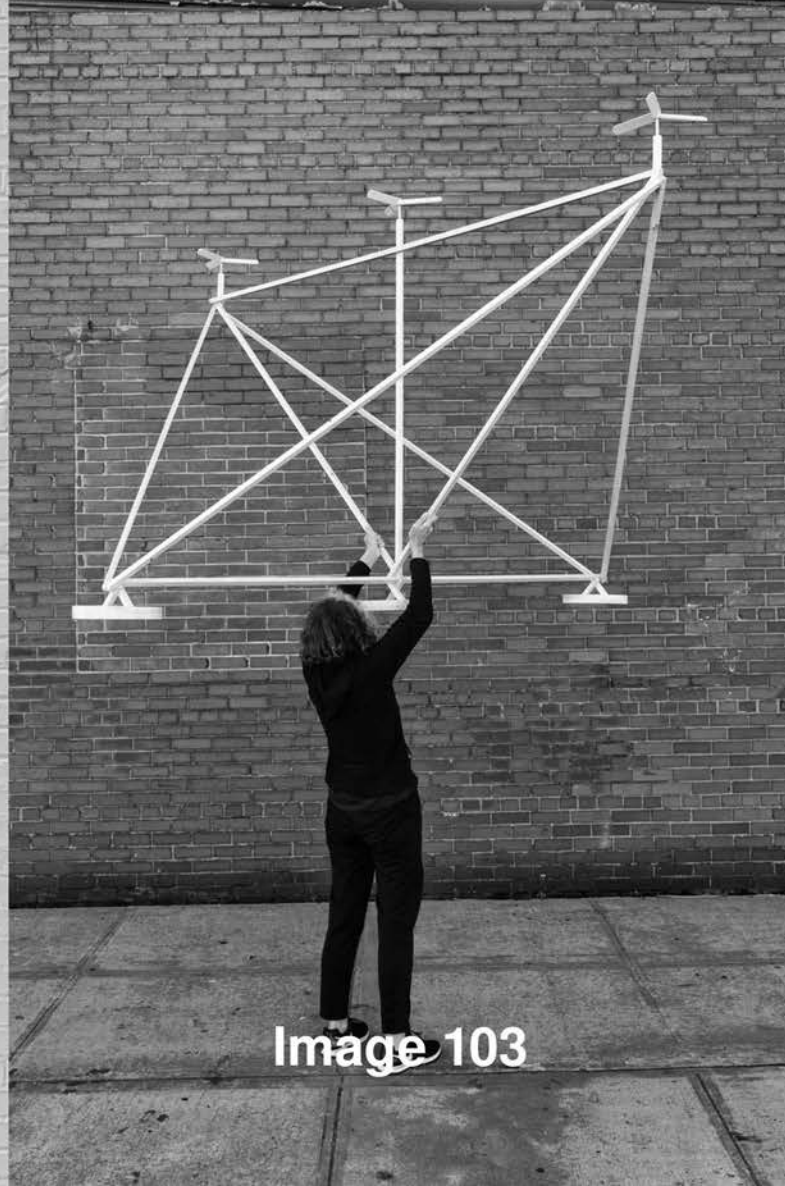
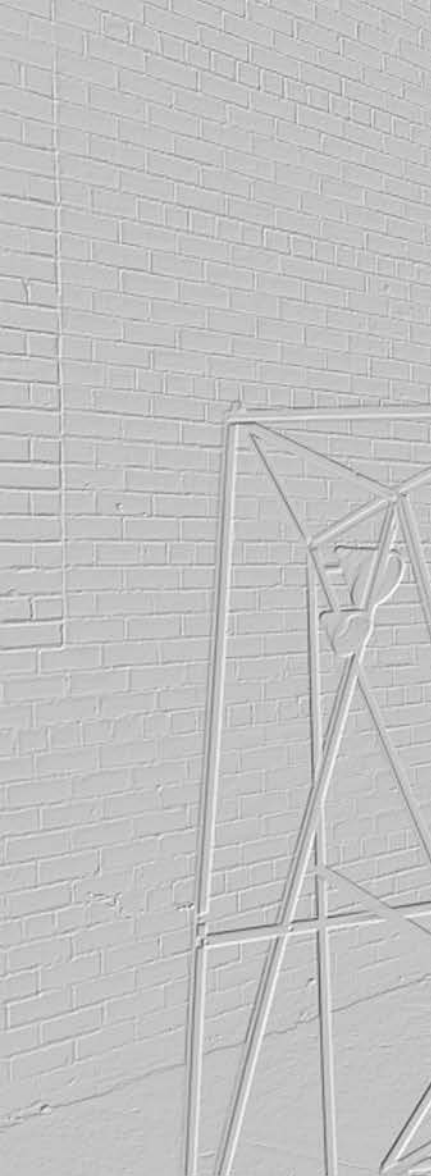


Image 103





The objects we designed take the form of floating sound platforms and slowly moving structures located in the transition area between blurred distinctions and different cultural formations. They broadcast stories, histories, and other content, representing the worldviews and narratives that meet there as they draw people through the space. At the edges, inflatable representations of disputed figures and icons would float, present but not permanent. Each of the

vehicles makes use of technologies used by security forces to control and even intimidate citizens. But here, they are used to draw people together. Their construction is at odds with the slick, intentionally intimidating technological materiality and structures deployed in drones and autonomous vehicles. Instead, their construction is ungainly, awkward, and out of place. They do not fit in, but they have presence and engage in other ways.

## Models as Ways of Seeing the World, Made Physical

### Images 102–105

So how does one approach the design of objects like this, designed not to solve problems but to spark reflection? What qualities do they need to embody if they are to be used in this way? Design after all, despite a growing interest in fiction, is still almost always read as something waiting to be realized. It is nearly always taken literally. Because we wanted our designs to have materiality while also maintaining their fictional status, we opted for large-scale models that suggest they are thoughts made physical, rather than possible solutions in waiting. These are not detailed design proposals in the form of prototypes, which are typically a first version of something to test how well it works within existing realities. Instead, these models are slightly abstracted in order to stimulate the imagination and spark reflection — ideas made physical.

The aesthetics of objects designed for reflection operate a little differently from other designed objects. They need to hold the viewer's attention, draw them in, and avoid easy resolution through too close an alignment with existing reality. They need to be a little off. With these vehicles, there are aspects besides meaning and function to be considered — thickness of structure as a line, scale in relation to the viewer's body (too small and it feels like a toy, too big and it feels ungainly), how the eye can be taken for a walk (as opposed to absorbing the object visually in one go), degrees of abstraction, subtle contradictions, and lack of detail. The viewer needs to look at the object from different angles for its structural logic to be slowly revealed.

If they are not design proposals, then where might contemplative objects like these be encountered?

For much of the 1800s, the US Patent office in Washington required a model as well as a written description and drawings to be submitted for every invention registered, which enabled anyone with technical skills to make use of the device. Inventors, patent agents, and even the public could visit and request an object for study. Over time, this repository of material proxies for alternative realities expanded to become a kind of public library of things, numbering 25,000 models in 1856, growing to 100,000 in the late 1860s, then continuing to grow at a rate of 13,000 models, or 5000 square feet, per year, until the practice ended in 1880 with 250,000 models. These models were also a way to “educate the public, stimulate creativity and enterprise, and inspire a sense of America’s destiny.”<sup>18</sup>

Could a place like this exist today? Could there be a home for other reals made tangible that help us navigate and meaningfully inhabit a world where existing realities collapse almost daily as new ones proliferate?

Realists could, of course, dismiss this kind of design as a form of escapism, but the value of design like this is not in how it changes the world or converts people to a specific point of view, but in how it expands imaginative horizons just a little, providing cultural nourishment for a new ‘climate of possibility.’<sup>19</sup> For us, this is valuable in itself, a civic act that aims to expand the public’s capacity for imagination by sustaining and enriching the worlds we carry around inside us, from which new realities emerge.

18. “Patent Models,” *The Franklin Institute* (2021), 17 May 2021, <https://www.fi.edu/history-resources/patent-models>.

19. A term used by Sir Ken Robinson in his lecture “How to Escape Education’s Death Valley,” accessed April 21, 2020, <https://www.youtube.com/watch?v=wX78iKhInsc>.

### 3. Making Strange (Miriam Ticktin)

Anthropology is a social science that is empirically grounded, yet not empiricist. It is interested in offering interpretive accounts of the world, in evoking rather than describing. As Jean and John Comaroff — two leading scholars in the field — have stated, anthropologists are interested in grasping the manner in which worlds are “indigenously imagined and inhabited by people variously positioned within them.”<sup>20</sup> But a critical part of the discipline of anthropology has also been to imagine a better world, often by way of the “indigenously imagined.” Franz Boas, who some call the “father” of American anthropology, was one of the first to critique the discriminatory practices of the time, harnessing the culture concept<sup>21</sup> against racist views of 19th century scholars. His quest to understand “representatives of foreign cultures” required that he understand their modes of thought — and this, in turn, led to an appreciation of what each group had achieved. In this sense, when he argued for tolerance and equality, Boas showed a commitment to keeping his science and politics unified.

To be sure, while Boas and others engaged anthropology — and the study of the “Other” — in the service of imagining a more egalitarian world, drawing on other systems of belief to illuminate the problems with our own — the discipline was largely harnessed to further the colonial project, providing governments with knowledge about places and peoples in order to further subject them to colonial intervention and rule.

Starting in the late 1970s, anthropologists were held to account for their complicity with colonial regimes, and the desire to study the “Other” was recognized as ethically suspicious — people were subjugated and scrutinized for Western benefit, not for their own.

How, then, might anthropologists imagine today, if they do not want to repeat colonial narratives by drawing on “Otherness”? If historians

can look for futures that were left unfulfilled or preempted in the past, what tools do anthropologists have to imagine an otherwise? How might they shake up their own conceptual scaffolding in order to see or open up new realities? How do we move between the dialectic of the concrete and conceptual?

I want to propose that new scientific theories might actually be a source of imagination for political and anthropological theory. New thinking in scientific fields can help to push our thinking about politics -- they can help us imagine new ways of being. To be sure, forms of natural and biological science have regularly fed into theories of the social and the cultural; sociobiology, for instance, is one example of this, as the “systematic study of the biological basis of all social behavior.”<sup>22</sup> Sociobiologists explain social life by way of biological models, yet in so doing, they often tend toward biological determinism. One particularly troublesome example is the explanation of “rape” (or forced sex) as a biological phenomenon, shared by various animals. Such an approach risks naturalizing rape, making it seem like a behavior that is simply ingrained and inevitable.

But what if we did not see it as a one-way street in which scientific research is applied to political life. Rather, what if we combine scientific and political imaginaries? That is, rather than following scientific evidence in a literal, linear, or logical sense, what if we understood scientific inquiry as its own creative process and used it metaphorically, to scramble the way we understand relationships, the way we understand being itself, and to evoke new bio-social<sup>23</sup> and political arrangements? What if we used its strangeness as a portal into new possible worlds?

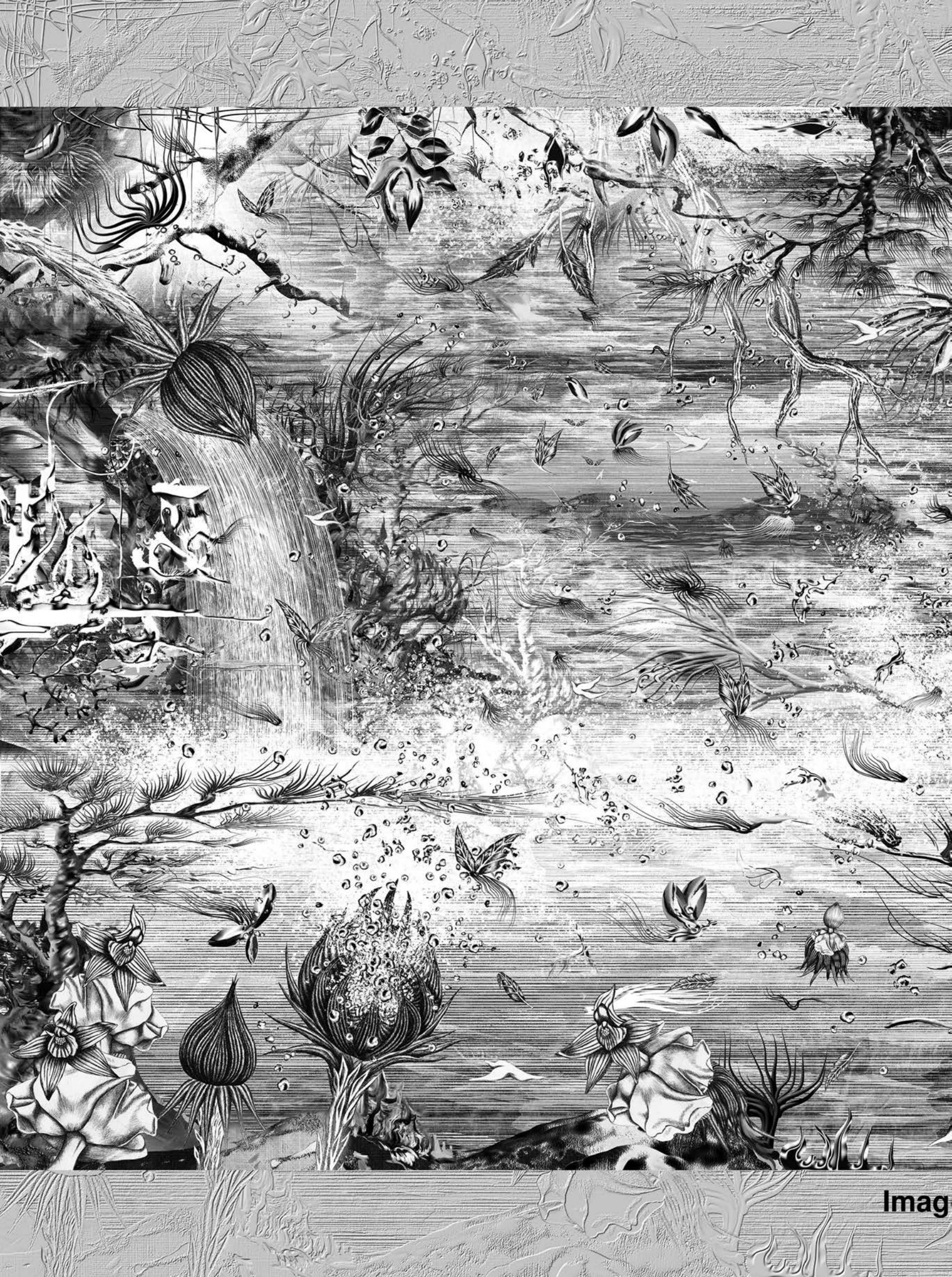
I will give two examples of how this might work.

20. John Comaroff and Jean Comaroff. “Ethnography on an Awkward Scale: Postcolonial Anthropology and the Violence of Abstraction” in *Ethnography* 4(2) (2003), 147-179.

21. The “culture concept” has been the key object of study for anthropology; that is, anthropologists have long worked to understand and study “culture,” even as they re-define and debate the concept. Boas’ idea of culture was an integrated system of symbols, ideas and values that should be studied as a working system, an organic whole” see Kuper, 1999:56. This went against the earlier notion of cultures as following a form of linear progression or evolution; rather, he saw cultures as relative rather than more or less advanced.

22. E.O. Wilson, *Sociobiology*, (Cambridge, MA: Belknap/Harvard University Press, 1975), 4.

23. The concept of “biosociality” challenges the dualist distinctions between biology and society or nature and culture, suggesting instead that human beings are configurations of biosocial relations. See Gisli Palsson, “Ensembles of biosocial relations,” in *Biosocial Becomings: Integrating Social and Biological Anthropology*, eds. Tim Ingold and Gisli Palsson (Cambridge: Cambridge University Press, 2013), 22-41.









# Biomia

First, I turn to the science of the microbiome. The microbiome is the study of microorganisms and microbial communities that we harbor and that actually maintain us as humans. We used to think that we had a self-enclosed biology; that humans were made up of uniquely human cells, which in turn determine and define us. But in fact, microbiome science has shown that the human is not a unitary entity but a dynamic and interactive community of human and microbial cells. A full half of “our” cells, it seems, are microbial. And these microbial communities are shared across human bodies. That is, our microbiomes are not fully individualized, but shaped by our local environments, making the boundaries of each of our bodies more ambiguous. They may reproduce wildly, or they may get extinguished in one fell swoop of antibiotics; they are active in ways that have not properly captured our attention. After all, these shape who we are, inform the decisions we make, what we desire, how we feel. The brain functions that underpin our personality and cognition are molded by the microbiome.<sup>24</sup> The “self” is a product of complex social interactions between human cells and a multitude of microbial cells.

In this sense, it behooves us to attend to us/them; to learn to feel them/us. If we are unhappy, could it be our microbiome speaking to us, asking for different nourishment? It requires the cultivation of a very different sensorium, attentive to “gut feelings” at a whole new level. If, as Rancière<sup>25</sup> states, politics is about reconfiguring the fabric of sensory experience, then this is an essential political act.

This imaginary clearly prompts a rethinking of how we are human. We are not individual, bounded, and autonomous selves, as the Enlightenment political tradition would have us believe. Instead, we are a conglomeration of beings without one, coherent, identifiable will.

Might this allow us to leap into reimagining our relationship to space and time? Who we “are” clearly has multiple incarnations, changing many times over during a human lifetime; “human” life is shaped by microbes, which live and die on different timescales. And the microbes are influenced by environments well beyond the borders of our skin; they are molded by different geographies of proximity. What would it mean to think that we are connected to things laterally and not simply genealogically — that who we are is not simply about where we came from, but who and what we associate with?

Such a shift enables a questioning of political categories. More specifically, why should our primary political

categories be based on forms of history and inheritance — ethnicity, race, nation, or biological kinship — when we might just as appropriately be thinking about forms of co-presence and co-constitution: encounters, attunements, penetrations, sharings, co-habitation, co-infections, or contagion? Who I am could be profoundly shaped by the fact I live next to a factory farm, or next door to a family from Indonesia, or on top of a mountain.

And could we use this to expand our political or moral grammars? If tolerance, benevolence, sympathy, and pity dominate the affective regime of the liberal era, what would the lens of the microbiome bring to our affective and social vocabularies? Would we seek to be parasitic, symbiotic, infected? Contaminated by joy? The moral valences of each would need to be reconsidered. Indigestion could be a way to explain not a physical state, but a dis-ease with a political or social situation. Would we aim for uncertainty and discomfort, which might better reflect an attunement to the world? Would equilibrium be a fleeting state of pleasure, gradually replaced by an appreciation of disequilibrium, when our political subjectivities are remade?

As an offshoot of the Imaginative Mobilities seminar, run with my co-authors, a sub-group of us<sup>26</sup> drew on the microbiome as a site from which to imagine a world to be: a near-future world, not a utopic one, which we called “Biomia.” (see Figure x, “*Biomia*,” for a lively illustration of this world.) In a series of workshops,<sup>27</sup> we used it to help imagine different ways of being together, not contingent upon borders, closure, identities, or fixity. We worked to be attentive to “biomic eruptions,” as breaks in our realm of the sensible, a manifestation of our ability to see the world differently. In our imaginings, *Biomia* was not a territory, but a state of becoming, where we were directed by a sense of relative ease or unease at being in one environment or set of ecologies. We replaced the concept of citizenship with an interconnected freedom to hover, to land, or to remain in movement. Biomic sensibilities directed us. These included new appreciations for vibrations and resonances; for living thresholds that are not limits but the edges of new formations, such as the melt of ice into water; and for the fullness of the air, from vapors to viruses. We acknowledged that at base, *Biomia* could never be without its risks: the risk of lethal infection, of annihilation by way of openness. Nevertheless, *Biomia* is a commitment to exploring and embracing the liveliness of the world.

## Against Invasion

### Image 106: Biomia

Second, I draw on new understandings of the immune system, and in particular, I turn to the work of medical doctor and anthropologist David Napier.<sup>28</sup> He examines theories of epigenetics, regenerative medicine, and immunology to challenge the idea that the job of the immune system is to attack and fight against invading pathogens, i.e., to eliminate the “non-self.” This model of the immune system grew out of scientific findings in the 1960s and developed in the context

of the Cold War with its associated metaphors of secret invasion. Since the 1990s, Napier has challenged this idea, showing that, in fact, the immune system goes out to explore and familiarize itself with its environment; it works as a “search engine of difference,” looking for the unfamiliar in order to assimilate new information. Rather than protecting us in the present, the immune system is engaged in making a future we can live in, creating new cells and a future evidence base. As such, it ensures that living beings are familiar with the diversity of our larger environment and can adapt to it.

24. Tobias Rees, Thomas Bosch, and Angela E. Douglas, “How the microbiome challenges our concept of self,” in *PLOS: Biology*, 16(2) (Feb 9, 2018), 1-9.

25. Rancière, Jacques, *Dissensus: On Politics and Aesthetics* (London: Continuum International, 2010).

26. This included: Anthony Dunne, Victoria Hattam, Jacquelin Kataneksz, Carolyn Kirschner, Laura Liu, Anne McNevin, Fiona Raby, Radhika Subramaniam, Miriam Tickin, and our illustrator, Kyung Me.

27. These were hosted at the design space A/D/O in Brooklyn and run by Fiona Raby and Anthony Dunne.

28. David Napier, *The Age of Immunology: Conceiving a Future in an Alienating World* (Chicago: University of Chicago Press, 2003); ‘Nonself Help: How Immunology Might Reframe the Enlightenment,’ in *Cultural Anthropology* 27 (1) (2012), 122–37; ‘Epidemics and Xenophobia, or, Why Xenophilia Matters,’ in *Social Research* 84 (1) (2017), 59–82.

Napier<sup>29</sup> proposes that we use this updated science to revise our political approaches. Rather than assuming we should be afraid of the Other, that we are constantly at war with difference, he proposes a medical theory that argues for the opposite: we require difference in order to survive. In other words, he proposes a social model of xenophilia rather than xenophobia. But we can take this even further. The immune system is constantly, recursively changing us, and in this sense, our bodies and the bodies of both human and non-human populations serve as archives. Napier's work shows that our immunological histories are not histories of stable beings — individual or social — but of encounters. They are grounded on relationships, not autonomy; they require an acknowledgment of the world as a web of living beings.

How might such a scientific imaginary open the way to re-imaginings of political and social life? We could think of ourselves as ecologies or assemblages that are constantly changing, porous, curious, and perhaps even welcoming. It could mean that we should be in search of encounters and eager for new experiences, rather than guarding against change. Closing borders — to our bodies, minds, political worlds — would be lethal; staying the same would be akin to dying.

How might we use this perspective to think with and beyond the Covid-19 pandemic? Two early, dominant responses were to either lock down nation-states, ignoring everything else, from other illnesses to social and economic well-being — or to keep everything open, sacrificing the vulnerable in the name of economic survival. But if we see ourselves as search engines that require difference, could we imagine scenarios beyond openings or closures, beyond all or nothing? If we follow this new imaginary, we understand that no system of control can master the borders of our bodies, as we are always changing with our environments.

What if, then, instead of control, our goal was to manage our various forms of

togetherness? And what if togetherness in the form of inequality was identified as the most toxic? This would mean managing quarantine medically, not politically, and isolating groups according to vulnerability, not nation-state. It would also mean understanding vulnerabilities as interfaces — not as static pre-conditions — created by particular contexts and relations. Neoliberal regimes, which defund health care, accelerate deforestation, and promote the domination of agro-business exacerbate inequality and also make us differently susceptible to already circulating virus variants.

In this imaginary, we will never exterminate the “invaders,” or win a “war” against them — as viruses are already an integral part of our body-worlds. There are 1.7 million known viruses in wildlife, all of which have the potential to cross into and be activated in us, depending on our own biosocial conditions. The question is: how do we nourish the infrastructural conditions and forms of togetherness that keep the more lethal viruses inert — which include, among other things, fighting for equality and against the encroachment into wildlife habitats — while still encouraging the innovativeness of non-lethal viruses? Indeed, viruses have been a driving force in the evolution of the species; a non-negligible percentage of human DNA comes from viral infections.<sup>31</sup> In this sense, curiosity is the only way to survive. Could we design playgrounds for certain human-virus meet-ups, and simply not invite wildlife? A series of sneeze-fests where we share the contents of our air, from sterile to virile to viral?

Whether scientific theories open the way to new visions of the world, or to new worlds themselves, they can work in the classic anthropological tradition of making the familiar strange. By shaking up what counts as common sense, new landscapes have more space to emerge. To me, this is an ethically-sound, playful, and provocative way to open new futures and to imagine the not-yet.

29. David Napier, ‘Epidemics and Xenophobia, or, Why Xenophilia Matters,’ in *Social Research* 84 (1) (2017), 59–82.

30. See: Vincanne Adams, “Disasters and capitalism...and COVID-19,” in *Somatosphere* <http://somatosphere.net/2020/disaster-capitalism-covid19.html/> (2020); David Napier, “I Heard it Through the Grapevine: On Herd Immunity and Why it is Important,” id., (2020); Rob Wallace, *Big Farms Make Big Flu: Dispatches on Infectious Disease, Agribusiness, and the Nature of Science* (Monthly Review Press, 2016).

31. Charlotte Brives, “The Politics of Amphibiosis: the war against viruses will not take place” in *Somatosphere*, April 19, 2020, <http://somatosphere.net/2020/the-politics-of-amphibiosis.html/> (2020).

# Conclusion

We started this project with a shared interest in the boundaries between scholarship and fiction in each of our fields. We all believed that imagination and critique were part of one process, and we wanted to think across our fields about how to render this connection visible. But there is often an assumption in interdisciplinary collaboration that the goal is to blend the findings – to come up with one hybrid answer. In fact, through the writing process, we have each dug deeper into our own disciplinary practices. However, we have done so through interdisciplinary dialogue: by reading across the edges of each of our disciplines, making them into interfaces that rub up against each other, creating new legibilities across our respective fields. Part of this process has involved running interference against each of our own deepest commitments; both rendering them explicit and challenging or reworking them.

Although each of us works in quite different areas, when looking across our contributions, some interesting commonalities emerged around questions of materialization. Each of us found specific sites and forms that allow us to bind together seemingly contradictory ideas that usually exist as binaries. For Dunne & Raby, it is about using physical objects – models – to introduce the unreal into the real in an effort to contribute to what writer Ursula K. LeGuin has called a ‘larger reality.’ Hattam is drawn to photographs as a perfect instantiation of the grey zone, since photos have long been viewed as at once evidentiary and imaginative. Scientific theories are Ticktin’s method of materialization. By splicing biological and political theories, taking ideas from a micro-scale and stretching them to fit the scale of collective political and social life, she attempts to open and reimagine the political.

After drafting the essays, interesting contrasts emerged around questions of *temporality*. Hattam is drawn to the past, to when and where gold became visible. Attending to shared yet geographically dispersed perceptual shifts allows her to rethink the relations between observation, perception, and evidence. The empirical is no bedrock on which to stand, but its very instability is precisely the ground of political

possibility. Dunne and Raby’s design objects engage us in the present. The objects appear unannounced as physical fragments making other realms proximate. The materiality of the models, their aesthetics and physicality, expand the grey zone between fiction and reality. Finally, Ticktin draws on biological science to imagine and prefigure alternative futures; it is an anticipatory process. Microorganisms and microbial communities call into question tightly bounded, self-enclosed notions of the human. Curiosity and entanglement, central to biosocial understandings of the world, offer ways of “making strange” that open up new political imaginaries.

Although we engage temporalities very differently, we do so in search of similar ends. Each of the essays seeks imaginative shifts as ways of generating new *political possibilities*.

Our imaginative shifts do not propose a new normative reality. Indeed, while the goal is to expand the political into unknown terrain, our approach has, nevertheless, been provoked by an acknowledgment of the inequalities grounded in colonial histories and a responsibility to the futures that have been foreclosed as a result. As Dunne and Raby have written elsewhere, “reality” only works for a privileged minority (2017). For Ticktin, this comes by insisting that we imagine otherwise without engaging or repeating the colonial narratives of Otherness that for so long drove the discipline of Anthropology; and that we call out both social and biological sciences for their own histories of racism. For both Dunne & Raby and Hattam, this critique takes place by prompting a rethinking of nation-state borders, which, founded on colonial violence, carry with them enduring inequalities. For Hattam, this happens by making visible the holes in the concept and practice of sovereignty; for Dunne & Raby, it is by rendering borders awkward and opening up a way to imagine technologies of border control as technologies of connection and mobility.

Working across three very different fields, each of the essays goes in search of the political by attending to the articulation of imagination and materiality.

## Image Credits

Image 99: Courtesy of Josh Denmark. Image 100: Courtesy of Victoria Hattam. Images 102–105: Courtesy of Anthony Dunne & Fiona Raby. Image 106: Illustration by Kyung-Me and David Linchen.