

Hyperobjects for Artists

A reader, edited by Timothy Morton and Laura Copelin with Peyton Gardner

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Timothy Morton Hyperobjects and Creativity

A hyperobject is a name I invented for something that is so vastly distributed in time and space, relative to the observer, that we might not think it's even an object at all. It's good to have a word for things that are now only too thinkable, if not totally visible—global warming, radiation, the biosphere... Words enable you to think. Stabilizing all kinds of intense and novel feelings and sensations in a word allows for a release of (creative) energy, because you don't have to keep on figuring the basic coordinates out—you have a word, which means things are capable of being figured out, seen... This doesn't make everything all right, of course, but it does mean that the way you undergo the gigantic things that structure your life, from hurricanes to the mass mobilization algorithms we call social media (a phrase that begins to sound like "military intelligence"), doesn't take up all your spare psychic processing power.

If you think about Björk's amazing song, "Hyperballad," you'll find that it's a sort of exploded version of a love song.¹ Björk never directly says, "I love you," or another indicative sentence like that. She shows you the wiring under the board of the emotion, what the philosopher Julia Kristeva would call the *genotext*.² In so doing, Björk shows you how that wiring is connected to all kinds of beings that aren't Björk: car parts, bottles, cutlery, the objects the narrator throws off the cliff in the first verse. I was inspired by that song to create the term *hyperobject*, because it seemed that Björk was evoking something that included her, but that was bigger than her, but that wasn't *more* than her, if you see what I mean: something physically bigger, but *ontologically* smaller. Ontology means *the logic of how things exist*. Things exist in strange piles of other things that don't add up to a whole that is greater than the sum of its parts. Things can slip out, fall off cliffs, find themselves in a beautiful strange love song. Björk imagines pitching *herself* off the cliff, and seeing herself among the rocks and the bits and pieces she's already chucked over. Car parts are symptoms of her feelings—she is throwing them over to allow herself to cope with her lover, the song says; but they are also parts of cars; and they are also things that lie next to rocks and human bodies in a song called "Hyperballad."

In the same way, this little piece of trinite is sitting on my shrine at home. Trinite is a mineral created in the first atom bomb test, in New Mexico. One side is strangely sparkly green—a mixture of all the elements that got churned up in the blast. The other side is plain, clay-like—the side that was facing away from the blast. Trinite is part of a nuclear explosion, and it's part of the desert sand, and it's part of a Buddhist shrine. Hyperobjects can intersect with one another, and with other beings, other bodies; and they can be broken down into little bits and redistributed. My first example of a hyperobject was Styrofoam. Imagine all the Styrofoam in the world, ever. But mealworms can eat Styrofoam successfully, in other words, they can digest this thing that might last for hundreds of years. Wholes don't exhaust their parts, otherwise mealworms couldn't bit bits of Styrofoam and digest them. That means, when you think it through, that all kinds of creativity and novelty are possible in the world. The world is bursting

¹ Björk, "Hyperballad," *Post* (One Little Indian, 1995).

² Julia Kristeva, *Revolution in Poetic Language* (New York: Columbia University Press, 1984).

with revolutionary potential. They are like titans, not gods. They are huge, but they can be defeated and dismantled. Hyperobjects are very good to think with.

Here are three questions we might ask about these strange gigantic beasts, the hyperobjects:

1. We have suddenly become aware of the Anthropocene, the geological period brought about by human carbon emissions. But how does the Anthropocene affect human society, thought and art?

2. How can humans think and plan for the scales sufficient to take global warming and radiation into account: scales that are measured in tens of thousands of years?

3. We often think and act towards the environment as if a horrifying cataclysm is about to take place. But what if the problem were precisely that the cataclysm has already occurred?

And here's another thing to think about: the trouble with events such as global warming and mass extinction is not that we can't picture them at all. That's not what the hyperobject concept is about at all.

The trouble with events such as this is that we can picture them. We can picture them, all too readily. The trouble is that in picturing them, our own capacity to visualize gets activated, and for all kinds of reasons, this capacity is disturbing to us, despite the fact that it's one thing that makes us quite special as human beings. Perhaps, and this is purely speculative, it's because the capacity to visualize depends on the capacity to hallucinate, which depends on what some ethnobotanists now call human–plant coevolution.

The writers we collected in this volume all have something to say about hyperobjects, because they are all capable of visualizing them in writing. They know that hyperobjects don't exist "over yonder" or up above us or below us, like gigantic space ships. They are in us. They are us. Consider the fact that as a member of the human species, you are a part of a massively distributed entity that is now acting like the asteroid that hurtled towards Earth sixty-five million years ago, wiping out the dinosaurs and many other species. That's what global warming really means: mass extinction.

Hyperobjects stick to you, inside and out: the radiation in my body, the mercury in my blood... they are "viscous" that way, and not just in a physical sense. Think about how some humans now think it would be best to colonize Mars, to avoid global warming (and other issues). The trouble is, on Mars you have to create a biosphere from scratch. You have the same problem as the one down here on Earth. So in a strong sense, not to do with spatial extension (distance in time and space), you are still "on Earth." You are, to use the technical lingo, phenomenologically glued to Earth wherever else you think you are. When you think about it this way, is the extractive and fossil fuel burning processes involved in making space ships to colonize Mars that great a way of avoiding global warming, or is it in fact part of the problem, not just physically (all those resources wasted and worse), but in terms of psychology and philosophy—the attitudes that seduce us into abandoning Earth have been baked into post-Neolithic social space for thousands of years.

Which doesn't mean they can't be undone. "Civilization" in the Mesopotamian, agricultural sense is simply a very long lasting hyperobject in itself. It's huge. But it's not infinite. We can change it. And when you have a word for something, you have some kind of power over it.

And the bigger news is that this power to change what is in fact a historical (not an eternal) situation has deep roots in ontology, which is the study not of what exists, but of *how things exist*. Hyperobjects force us to realize that collections of things are also things—a football team is just as real as a football player, global warming is just as real as these raindrops on my porch. And this means that they are in fact ontologically *weak*. They may be physically huge: the physical systems involved in neoliberal capitalism, for instance, now cover most of Earth's surface. But this should not frighten or intimidate us into the kind of cynical reason that proves that it's correct by blocking off all the exits to social change, in a competition as to whose picture of human paralysis is more intense, and therefore more correct. Since when did caring about poor suffering workers mean talking in such a disempowering way?

No. Hyperobjects are physically huge but they are ontologically tiny. There's one thing called global warming but there are thousands of things called rainstorm, gentle sunlight on a spring day, snow encouraging me to ski down this mountain. These things aren't exhausted by being caused by global warming. That's not all that they're about, just like being a citizen in a far-right regime doesn't mean that you yourself subscribe to far right views. And because Hyperobects are collections of other things, vast heaps of things in fact, they can overlap. You can be part of several hyperobjects. You're not absorbed into a hyperobject forever and ever like a droplet of water in an ocean.

That's the message. Science can now understand how things exist in dimensions and on scales far in excess of normal human functioning. But that means that they're not to be taken lying down, like fate or destiny or contingency or nature. I sometimes think that terms like that stand for entities that operate on scales that are at present too vast or too tiny for humans to do much more right now than report and observe them. We have to undergo them. But we can figure out how to work with them and transform society in order to accommodate their reality in ways that are beneficial to humans and nonhumans alike.

Chapter Two

Brenda Hillman Styrofoam Cup

thou still unravished thou thou, thou bride

thou unstill,

thou unravished unbride

unthou unbride

Chapter Three

Ester Partegas Invisible Forces



Chapter Four

Kim Stanley Robinson OPTIMODAL

SOCIAL SCIENCE EXPERIMENT IN ELECTIVE POLITICS (SSEEP)

(notes by Edgardo Alfonso, for Diane Chang, also the Vanderwal committee and the National Science Board)

The experiment is designed to ask, if the scientific community were to propose a platform of political goals based on scientific principles, how would it be formulated, and what the platform would say?

In other words, what goals for improvement in society and government might follow logically from the aggregate of scientific findings and the application of the scientific method?

The platform could conceivably take the form of the "Contract with America" adopted by the Republican Party before the 1994 election (a kind of list of Things to Do):

"Contract with Humanity" "Contract with Our Children" "Contract with the Generations to Come"

commitment to investing a sustainable culture

(Permaculture, first iteration what science is for)

Some kind of underlying macro-goal or foundational axiom set might have to be synthetized from the particulars of scientific practice and the composite standard model of physical reality expressed by the various disciplines.

1. One axiom or goal might be some form of the "Greatest good for the greatest number" rubric, without implying in any way that this "greatest good" could include or justify any planned or accepted structural or permanent disadvantage of any minority of any size. As should be clear in the wording of the rubric, the "greatest number" is of course one hundred percent, including also the generations to come.

2. Even in the context of any religious or humanistic anthropocentrism, the life of our species depends on the rest of Earth's biosphere. Even the utilitarian view of nature as something distinct and subservient to humanity must grant the biosphere the status of a diffused expression and aspect of our bodies. Interdependence of all the components of biosphere (including humanity) is undeniable. An observable, confirmable fact (breathing).

Given some version of these foundational axioms, the scientific community suggests these platform particulars for government:

(preliminary partial list, please add to it as you see fit)

"Contract with Our Children"

1. Protection of the biosphere: sustainable uses; clean technologies; carbon balance; climate homeostasis.

2. Protection of human welfare: universal housing, clothing, shelter, clean water, health care, education, legal rights for all.

3. Full employment: Current economy defines 5.4% unemployment as optimum for desired "wage-pressure balance," treating labor (people) as a commodity and using a supply/demand pricing model. Five percent in USA = approx. fifteen million people. At the same time here is important work not being done.

If government-created full employment reduced "wage pressure" (fear), forcing a rise in minimum wages from the private sector, this would help pull millions out of poverty, decrease their government dependence and social services costs, and inject and cycle their larger incomes back into the economy.

4. Individual ownership of the majority of the surplus value of one's labor.

People create by their work an economic value beyond what it costs to pay them and provide their means of production. This averages \$66,000 per year for American workers, a surplus legally belonging to owners/shareholders.

American workers therefore receive between a tenth and a fourth of the actual value of their work. The rest goes to owners/shareholders.

A minimum share of 51% of the value of one's work should be returned to one as surplus value beyond salary, this value to be measured by objective and transparent accounting as defined by law.

3. and 4. combined would tend to promote the greatest good for the greatest number, by distributing the wealth more equitably among those who have created it.

5. Reduction of military spending

Match U.S. military expenditures to the average of other nations; this would halve the military budget, freeing over \$400 billion a year.

More generally, all national militaries should be integrated in an international agreement

upholding nonviolent conflict resolution.

Disproportionate size of U.S. military and arms industry a waste of resources. Doubling since September 11, 2001, resembles panic response or attempt at global hegemony. Results undermine goals of the foundational axioms.

6. Population stabilization

Human population stabilized at some level to be determined by carrying-capacity studies and foundational axioms. Best results here so far have resulted from increase in women's rights and education, also a goal in itself, thus a powerful positive feedback loop active within a single human generation.

Context/ultimate goal: Permaculture

A scientifically informed government should lead the way in the invention of a culture which is sustainable perpetually. This is the only good bequest to the generations to come. It is not adaptive to heavily damage the biosphere when our own offspring and all the generations to follow will need it, like we do, in order to survive. If reproductive success is defined as life's goal, as it is in evolutionary theory, then stealing from descendants (kleptoparasitism) is maladaptive.

Protection of the environment, therefore, along with restoration of landscapes and biodiversity, should become one of the principal goals of the economy. Government must lead the way in investigating potential climate-altering strategies to mitigate current problems and eventually establish a balance that can be maintained in perpetuity.

Process Notes: how to enact platform.

Broader outreach. Public discussion. Performance evaluation methodologies. Scientific organizations and universities as information transmitters. Individuals in these organizations as catalysts in information cascade; also, candidates for elections and appointments. Advocacy.

Study governing methods in other countries to suggest possible reforms to our system where currently function (democracy) is impaired. Some candidates for study:

Swiss presidential model (executive council) Australian ballot (preferential voting) transparency in government (freedom of information, watchdog groups); the rule of law mass action, grass roots, people power, democracy Diane and the Vanderwal committee sat around the table in the meeting room next to Diane's office. Some shook their heads as they read Edgardo's draft; others just gave up and held their heads in their hands.

"Okay," Diane said cheerfully. "Anyone want to add anything else?"

Chapter Five

Heather Davis *Molecular Intimacy*

The human-size rectangular glass box emits a slow whoosh. A pause. And then again. It sighs. Inside the box are leaves—leaves slowly decomposing. And as they decompose, they exhale. A sound made audible to our ears through the use of carbon dioxide sensors, adapted from forestry management. Ventilation fans on either side of the box open and close, like gills. This is the breath of the earth as it is transforming. Moving through the processes of decay to nourish the soil. As the leaves exhale the carbon they have been storing throughout their lives, it releases into the atmosphere. Molecular structures exchange and transform. As they breathe out, exhale, the leaves become molecular.

This 2008 work, *Inhale—Exhale*, by Finnish artist Terike Haapoja, which was exhibited in the installation "Closed Circuit—Open Duration" at the Nordic Pavilion of the Venice Biennale of Art in 2013, affectively attunes us to the carbon cycle. The numeracy of the climate crisis, the endless barrage of statistics, here gives way to breath—to the sound of breath, to the sound of the breath of the leaves, of the soil. To the exhale we then inhale. Climate statistics pulled inside our lungs. Levels of carbon dioxide and methane and oxygen registered as vibration.



Exhibition view of Terike Haapoja's *Inhale-Exhale* at Venice Biennale (2013).

"It is not enough," Haapoja says, "to show the workings of carbon in the ecosystem: we need to try to see what does CO2 mean to us, how does it work its way in our own inner reality, the reality of love, and bodily being, and death."¹ The story of the carbon cycle is the story of things passing in and out of being, of transformation, of composition and decomposition. Haapoja proposes that these cycles are intimate, pulled into our most constitutive and basic elements of being. I would like to take up this proposition. How, in the midst of contemporary political debates about

carbon, carbon dioxide, and carbon economies, might a shift in discourse toward affective attunement—toward an intimate engagement with the molecular—augment or intervene in those politics?

Carbon is arguably the most important molecule in an age that has been increasingly framed through the molecule. In the twentieth and twenty-first centuries, it has come to define our bodies and the world around us. It is the primary scientific figure visualizing the inner workings of the world. We understand our sense of self, history, and ethnicity through the fetishization

¹ Terike Haapoja, "Closed Circuit—Open Duration in 55. Venice Biennale." http://www.terikehaapoja.net/ closed-circuit-open-duration-exhibition-venice-biennale-nordic-pavilion.

of DNA, just as we alter our bodies through other molecules such as oxytocin, serotonin, estrogen, and testosterone. In other words, we manufacture our subjectivities, especially our gendered identities, on the molecular scale.² Similarly, we are asked to think about climate change through molecular composition, including the levels of carbon dioxide, methane, etc. in the atmosphere. We increasingly understand ourselves, our identities, and our political realities through the frame of the molecule—so what are the affordances and foreclosures of this framing, especially in relation to contemporary environmental crises and climate justice?

For even as the effects of climate change are being felt and observed in so many communities around the world, scientific data remains abstract for many people. And the carbon molecule is at the heart of this abstraction. The molecular is a historically contingent product of scientific knowledge, with precursors in Ancient Greece—such as Leucippus and Empedocles—through to the thought of the Roman Lucretius, to more sustained considerations beginning in the seventeenth century in Northern Europe. In a paper published in *Nature* in 1873, Scottish scientist James Maxwell Clerk



Detail of Terike Haapoja's *Inhale-Exhale* at Venice Biennale (2013). Photo by Sandra Kantanen

claimed that a molecule was "the smallest possible portion of a particular substance. No one has ever seen or handled a single molecule. Molecular science, therefore, is one of those branches of study which deal with things invisible and imperceptible by our senses, and which cannot be subjected to direct experiment."³ The molecule is the making-abstract of the observable world. The molecular institutes a world beyond our senses, which pushes at the limits of the human sensorium, and seems to invite the kind of technological prosthesis that today we take for granted. It wasn't until 2009 that IBM captured the first image of a molecule, which corresponds remarkably well to the diagrams that have been in use since the early twentieth century.⁴ The molecule, as the basis of materiality, as rendering matter knowable and manipulable to the wills and whims of the chemical industry, is ultimately also pure information, pure capital. As the Critical Art Ensemble wrote over a decade ago: "…any form of molecular capital can now be

2 On the relation of gendered identity to the molecular see Beatriz Preciado, *Testo Junkie: Sex, Drugs and Biopolitics in the Pharmacopornographic Era* (New York: The Feminist Press, 2013).

3 James Clerk Maxwell, "Molecules," in *The Scientific Papers of James Clerk Maxwell*, vol. II, ed. Sir William Davidson Niven (Cambridge UK: Cambridge University Press, 1890), 361–78.

4 IBM, "IBM Scientists First to Image the 'Anatomy' of a Molecule," Zurich, Switzerland, August 28, 2009, https://www-03.ibm.com/press/us/en/pressrelease/28267.wss.

appropriated—it is an open frontier. As with all named and controlled objects, now, genomes, enzymes, biochemical processes, etc., will all be privatized. What was once communal and controlled by traditional authority and common understanding is now usurped by separating its molecular or chemical value from its holistic phenotypic value."⁵ This is, in part, what is happening in the current climate debates: the structures of commonality are broken down by the market, by private interests, by national negotiations. The air, the air that we breathe and are so vulnerable to, is rendered molecular, read, contested, and written into legislation through the knowledge of scientific expertise.

The molecule, or molecular, is also a significant figure in contemporary philosophy. Deleuze and Guattari together, and Guattari in his own writings, take the figure of the molecule as central to an anti-capitalist movement. Molecules oppose the category of the molar. "Molar subjects, objects, or form," write Deleuze and Guattari, "we know from the outside and recognize from experience, through science, or by habit."6 Molecules, on the other hand, articulate the processes of movement-of being in-between, of the interstitial that escapes the confines of the definition of a subject or object—the movement that they call becoming. Deleuze and Guattari write that "all becomings are molecular: the animal, flower, or stone one becomes are molecular collectivities, haecceities."7 This description of the molecular offers what is radical and urgent in our engagement with ecological crisis—that there is no possibility of barricading, containing, or sealing ourselves off. We are radically open, radically constituted by the molecular outside. We breathe in each other's air, and despite air conditioning and all the attenuating accoutrements of the wealthy, there is no way to shield against our collective molecular becoming.⁸ This radical openness to the outside is both what links us to the world and what threatens us. Writer Elias Cannetti, on the occasion of Hermann Broch's fiftieth birthday wrote, in relation to his friend's literature: "It is the defenselessness of breathing, which I would like to talk about in conclusion. One can hardly form too great a notion of it. To nothing is a man so open as to air... Air is the last common property. It belongs to all people collectively... And this last thing, which has belonged to all of us collectively, shall poison all of us collectively..."9 Molecular-becoming, the carbon cycle, and breath render the body vulnerable while providing

5 Critical Art Ensemble, *The Molecular Invasion* (Brooklyn NY: Autonomedia, 2002), 8.

6 Gilles Deleuze and Félix Guattari, A Thousand Plateaus: *Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 2007), 275.

7 Ibid., 275.

8 Peter Sloterdijk has written extensively on the vulnerability to the air, and this vulnerability being exploited by state terrorism in the twentieth century in *Terror from the Air* (Cambridge, Mass.: Semiotext(e), 2009). He writes, "The progressive explication of the atmosphere forces a sustained mindfulness of the air's breathability—above all in the physical sense, and then, more and more, in the metaphoric dimensions of respiration in cultural spaces of motivation and concern...We begin to understand that man [sic] is not only what he eats, but what he breathes and that in which he is immersed." 84

9 Elias Cannetti, "Hermann Broch Speech for His Fiftieth Birthday," Vienna, November 1936, http:// www.tanvien.net/Dich_1/Broch_by_Canetti.html. As a citizen of ______, "The Nation," I urge you to act now to initiate an extraordinary nomination process to inscribe Earth's Atmosphere on the UNESCO World Heritage List on an emergency basis, consistent with the aims and goals of the World Heritage Convention, and lead a coalition effort to that end,

Recognizing the outstanding universal value of Earth's Atmosphere, and responding to the formidable threats and risks to its integrity from greenhouse gases, including a forecast global temperature rise of 3 to 6 degrees Celsius by 2100,

Finding it in the common interest to protect the Atmosphere for present and future generations, and acknowledging that its preservation is the duty of the international community,

Further recognizing the impacts of climate change on sites of tangible and intangible natural and cultural heritage currently inscribed on the World Heritage List,

The Nation should undertake and faithfully carry out a coalition-led effort for inscription of Earth's Atmosphere on the World Heritage List, consistent with the aims and goals of the World Heritage Convention.

Willing governments should 1) Immediately notify the World Heritage Committee and relevant Advisory Bodies of the decision to present a nomination with the request for processing on an emergency basis, and 2) Register at *d13.publicsmog.org/initiate* to announce the nomination plan publicly via dOCUMENTA (13), the German cultural initiative (Attn: Carolyn Christov-Bakargiev/ Amy Balkin).

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Amy Balkin, Public Smog: Earth's Atmosphere as UNESCO World Heritage Preserve, Postcard, 2012. Courtesy of the artist.

the basis of the argument for the necessity of an atmospheric commons. This is at once a political and affective project, a project constituted in and through the filling and emptying of the lungs, again and again. It is a project that ties us to our fellow creatures, as well as to the organic and inorganic.

Amy Balkin's 2004–2012 project Public Smog is one artistic proposition for asserting the air as a commons. In this work, she attempted "to submit Earth's atmosphere...for inscription on UNESCO's World Heritage List."¹⁰ This would require that we treat the atmosphere with the same stringent restrictions and regulations that are accorded to public buildings, monuments and natural preserves, which would effectively limit the amount of greenhouse gases that could be released into the air. The project also consisted of purchasing and retiring emissions in regulated emissions markets, making it impossible for polluters to purchase them.

The project effectively takes the privatization of pollution and turns the air into a public resource, creating public space in the sky, or what she calls a "clean air park," while refusing to trade in our collective futures. In each of these ways, Balkin insists upon the air as a commons and does so by intervening in United Nation's rights and discourses as well as by manipulating the privatization of the air. The vulnerability to the air, the defenselessness of breathing, is what makes the atmosphere, a priori, a commons. But in light of the fact that most of the particles

emitted are produced through the private market, and which are then bought and traded in a market economy, it effectively has become the space of commerce. Balkin reasserts the

10 Amy Balkin, "Public Smog," in Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments and Epistemologies, ed. Heather Davis and Etienne Turpin (London: Open Humanities Press, 2015), 8.

necessity of the air as a commons through this project, providing a tactic that could, if taken up more broadly, be quite effective in reducing overall emissions.

In a different valence, Susanna Hertrich offers a tool for molecular becoming. Her proposition is less about the commons than about the possibility of futurity, and the necessity to become-with animals and techno-objects as a matter of survival. Jacobson's Fabulous Olfactometer (JFO), a sensorial prosthesis, is worn on the head and triggers the "flehmen response" in the wearer when air pollution levels become too high. The flehmen response, which is seen in horses, elk, goats, young elephants, felines, and other animals, is characterized by a raising of the front lip to transfer air containing pheromones and other scents to the vomeronasal or Jacobson's organ, a chemosensory organ located between the roof of the mouth and the palate. The animal uses the response to detect non-volatile organic

the response to detect non-volatile organic compounds, like urine and hormones. In the human prosthesis, the movement becomes a warning device. Jacobson's Fabulous Olfactometer is a prosthetic becoming-animal. The boundaries of the human sensorium are extended in an adaptation adequate to the molecular threat that we have induced in our environment-capitalism molecularized as the output of fossil fuels, particulate matter, persistent organic pollutants, plastics, flame retardants, and hormones. "Do not imitate a dog," Deleuze and Guattari write, "but make your organism enter into composition with something else in such a way that the particles emitted from the aggregate thus composed will be canine as a function of the relation



Susanna Hertrich, *Jacobson's Fabulous Olfactometer* (JFO), 2014. Courtesy of the artist.

of movement and rest, or of molecular proximity, into which they enter."¹¹ This becominganimal, which is figured as the future of human life, an accelerated human evolution driven by existing technology, is meant to help us cope with extreme environments.¹² Hertrich's prosthesis creates a kind of involutionary movement, a transversal space that adapts a response meant, most often, for sexual pleasure, here turned to a world of threat, but that still retains the capacity for play, and excitable communication. It is an "achievement" in the sense that Isabelle Stengers means, "as a collective participation of more-than-human agencies in a changing world."¹³

- 11 Deleuze and Guattari, A Thousand Plateaus, 274.
- 12 See Susanna Hertrich's website: http://www.susannahertrich.com/research/jfo.shtml.
- 13 Quoted in Carla Hustak and Natasha Myers, "Involutionary Momentum: Affective Ecologies and the

The molecule is a figure of contradiction. While it affords the privatization of life itself, it also defies that hubris. Its endless movements, its constant becomings call attention to the ways in which none of us are just us, but rather composed of everyone else, of everything else, and in this it offers the possibility of an ethics of commonality and of the commons that resists enclosure by both national state interests and private enterprise. It makes apparent the ways that we are vulnerable to each other, how we are indebted to each other, and how we are doomed, together.

The molecular offers a framework to re-attune our entangled relations with the world around us, through its perpetual movement and its disregard of the molar categories of the human, animal, leaf, soil, or atmosphere. If we understand our bodies as the temporary stability of a particular form of carbon that inevitably circulates, passing through other bodies, the earth, and the atmosphere, how might this shift our relation to climate change? How might we understand this particular moment as one not just of crisis, but as a point of connection, as a necessary call for a commonality of carbon? And how might we do this without being naïve about the deaths that the chemical revolution has left in its wake, deaths that have happened and those that are foretold?

As Juliana Spahr writes,

How connected we are with everyone. This space that has just been inside of everyone mixing inside of everyone with nitrogen and oxygen and water vapor and argon and carbon dioxide and suspended dust spores and bacteria mixing inside of everyone with sulfur and sulfuric acid and titanium and nickel and minute silicon particles from pulverized glass and concrete. How lovely and how doomed this connection of everyone with lungs.¹⁴

Sciences of Plant/Insect Encounters," *Differences: A Journal of Feminist Cultural Studies*, vol. 23, no. 3 (Fall 2012); 83. This article beautifully lays out the playfulness of involutionary momentum, contrasted with Darwinian survival of the fittest.

14 Julianna Spahr, "Poem written after September 11, 2001" in *This Connection of Everyone With Lungs* (Berkeley: University of California Press, 2005), 9–10.

Chapter Six

TVGOV Manifesto

TELEVISION GOVERNMENT

PUBLIC FINANCE IS BROKEN. WHAT WE ADVOCATE IS MORE NORMAL THAN WHAT ALREADY EXISTS.

Most forms of public finance today, chiefly the income tax, promote obtaining income by any means, often depletive. This appears most baldly with fossil fuels: income is earned by the production of a commodity "producing" an "essence" (the French word) that harms the environment in its extraction, transport and use.

The current income tax model is a corrupted system, incentivizing the waste of land, resources and oil. Full of loopholes, top income earners can avoid most of the intended tax burden, e.g., creating foundations in the name of "philanthropic endeavors." For urban governments, budgets are funded through the property tax of rentier capitalists, driving speculation, displacement, and destruction of soil.

We imagine a system where overhead imagery in many spectral readings, from orbiting and site-fixed sensors derived from time-tracked digital data, is transferred to the web for everyone's viewing. No one can avoid ecological evaluation, not by a hidden "Big Brother," but by anyone able to acquire civil satellite data. Sources of data are many: Thailand, Russia, India, China, US, France, Japan, Indonesia. The planet has many different repeat-viewing eyes.

MOVE SURVEILLANCE AWAY FROM PEOPLE AND SURVEY/SURVEIL THE LAND.

We become Star Wars from space. We choose satellite imagery as our medium to abstract ecological data through color sequencing in order to communicate ecological urgency. The "television" becomes the source of information. A new visual language can communicate the global crisis in order to steer political thinking and governance. An *ecocratic*, image-based governance model is what we offer.

In order to understand the value of an ecosystem it is necessary to characterize and quantify the relationships between ecosystems and the provision of ecosystem services, and to identify the ways in which these impact human welfare and produce income revenue from the existing natural capital.

All spectral readings have exact numbers. The numbers, and their algorithmic transformations, can be made public. These values can represent colors, easily decipherable by the eye. We

process what has been collected in order to show decades worth of trauma. We target property, land, fixed capital, for the collective good.

WE MONETIZE LAND, NOT BY WHAT IT HAS, BUT BY WHAT IT CAN CONTRIBUTE.

Start with satellites. Start with what can give a panoptic view of the entire situation: the waste of space and the intermix of grass and forest, the violence of sprawl and the ruins of last century infrastructures.

Using watersheds, we map areas of the world for an ecological tax system, encouraging rational and sustainable land use. Each basin territory becomes an Eco-Tax District. Determined by hydrological rather than existing political boundaries, the taxable district is assessed by its own resources and its ecological condition determining its Eco-Tax rate. A "regional index" will determine economic costs on a specific property.

Economic pressure can promote multi-story structures to prevent sprawl and leave room for healthy, productive vegetation. An Eco-Tax encourages the clearing away of empty buildings and inactive lots that fragment the city and disrupt urban ecology and efficiency. Pressure can reverse deforestation and ecological depletion, encouraging local farming and small economy practices. Urban tissue can cluster rather than sprawl. Giant malls, burdening ecology, would not be economic.

Financial pressure on each pixel induces ecological architecture: land will not be wasted; any fumes will be too costly; improving human health will proliferate. We shift a financial ecology to a collective logic.

THE LAND COMMUNICATES TO US. WE ARE THE TRANSLATORS.

Chapter Seven

Joan Naviyuk Kane *Hyperboreal*

Arnica nods heavy-headed on the bruised slope. Peaks recede in all directions, in heat-haze, Evening in my recollection.

The shield at my throat ornamental and worse. We descended the gully thrummed into confusion With the last snowmelt a tricklet into mud, ulterior—

One wolfbane bloom, iodine-hued, rising on its stalk Into the luster of air: June really isn't June anymore, Is it? A glacier's heart of milk loosed from a thousand

Summer days in extravagant succession, From the back of my tongue, dexterous and sinister. Chapter Eight

Charles Mary Kubricht *Autotelic* #5



Charles Mary Kubricht, *Autotelic* #5 (detail), 2018. Photograph courtesy the artist. Sky image courtesy NASA/JPL-Caltech.

Chapter Nine

Mark von Schlegell URTH

But the game is up! We must all die: nor leave survivor nor heir to the wide inheritance of earth. We must all die! The species of man must perish; his frame of exquisite workmanship; the wondrous mechanism of his senses; the noble proportion of his godlike limbs; his mind, the throned king of these; must perish. Will the earth still keep her place among the planets; will she still journey with unmarked regularity round the sun; will the seasons change, the trees adorn themselves with leaves, and flowers shed their fragrance, in solitude? Will the mountains remain unmoved, and streams still keep a downward course towards the vast abyss; will the tides rise and fall. Will beast pasture, birds fly, and fishes swim, and the winds fan universal nature; when man, the lord, possessor, perceiver, and recorder of all these things, has passed away, as though he had never been? O, what mockery is this!

- Mary Shelley, The Last Man. 1826

DAY ZERO.

CO-2 – 22,000 parts per million.

This is a log of surviving URTH project. It arrives out of nowhere, by necessity not invention. This is the first thing I discovered upon taking command of system files, was that no log had ever been kept. My predecessors kept detailed records of day-to-day experiments and problems of individual biomes, but never of the Vivarium as a whole, what we might call the whole URTH. This continued when operations were taken over by A.I.

Who had any idea URTH would be the most important experiment ever conceived? In the hemisphere at least. And that a graduate student summer worker, the only one with no family to return to (well that's what she said to them) would be the last scientist.

Fact: I have disengaged the majority of the A.I. functions at this moment. I've taken command of URTH.

DAY ONE HUNDRED FORTY-FOUR

Oxygen – 25.2 percent

Once again, our rainforests breed wrong. The mosaic pattern cannot be artificially established without constant turbulence.

Crew quarters, apparently intact, show signs of infestation. If I allow insects something else to live for they might leave my rainforest alone. I very much want a more seasonal flux in temperature than the current stabilization allows. Flux, where have you gone?

Fact: It was over exactly this that I decided to disengage with the A.I. We had a disagreement over the importance of wind to a living system.

DAY TWO HUNDRED AND THIRTY-THREE

Oxygen - 29.8 percent

Outside URTH, the CO2 is all crowded around. Sensors suggest Venus-style greenhouse transformation, on a scale no one quite anticipated. Is that why our skies have been blank for years? And all signals inert?

In that regard URTH Project has become, in a sense, Earth 2.

I am in some sense lucky, I'm happy isolated, contained, autonomous. The benefits of my singularity are showing – agriculture is now 7/8 wetlands.

Earth is lucky too, to have folded us here. Three and bookworm. Every species going for broke as always. Everything trying to beat out its neighbor. Every fish chasing down its children.

Like the Sibyls, those women whose utterances kept the ancient world turning, I can be sure to wrap my words in mystery. Hence this record, these photographs, and this "I" will have at least two purposes simultaneously – to express and to make invisible what it records.

Fact: The environment does not promote, it demands stress at every level.

DAY THREE HUNDRED AND TWENTY-TWO

Oxygen 20 percent. A drop near 10 percent. The correction was extreme. But it's extremes we're looking for.

Fluctuations have been extreme, even daily, since the system has been closed.

URTH still contains multitudes. Multitudes of waiting. My ants work soil, waiting. My bees
fertilize and make honey, waiting. My coral reefs shelter, waiting. My trees make my air, waiting.

For what?

We can never submit. We can always work. As long as we wait.

For what?

This is no desert. This is no jungle. This is no ocean. Don't give it that credit. URTH is no Earth. But I love it nonetheless.

Mud. URTH. Nothing following.

Fact: Disappointment is the guardian deity of human existence.

DAY THREE HUNDRED AND FORTY-THREE.

CO-2 – 5,666 parts per million.

Wind will not come from outside. Once can spark it, but the flame of it must catch. The Principle must exist. Once ignited then from then on, wind makes decisions, or embodies the will of the system.

"Our gaseous physique makes possible for us many distinct modes of exquisite and intimate bodily contact and union. Consequently, we easily recognize that, though we are indeed distinct and different individuals, we are also one and identical."

I have been increasing ocean evaporation as much as 20 percent of late.

This is not to slight my Ocean. My Ocean is our Ark, upon which we float. We love our Ocean, still the healthiest of the living systems I manage. The Ocean promotes the luxury of all the rest and promises all beings here something like eternity still. I serve my Ocean. I must pinch the Ocean to wake her.

Fact: At least 50 percent of the energy of all wind dynamics on the old planet were due to Ocean evaporation.

The Ocean has always fanned the wind.

DAY THREE HUNDRED AND FIFTY-SIX.

CO 2 – 728,000 parts per million.

With oxygen as it is I haven't exercised in a week. This will only be for a time. WIND – Water Initiated Nudge-Draw – inter-biome communication will bring it back.

Usually energy begins in the fire of the sun, stolen by the receivers skinning URTH's facade. That energy is dispersed shivered down cascading triangles of living systems. Then it eventually becomes CO2 and must be packed away. But what if along the way energy entered a state between states, a self-transforming boundaryism. Say the wind was evaporated before it was stolen, exploited by the living, not the dead lungs, not burned by cascading electricity - by the animals, the plants, the drinkers of condensation. Owned by the architecture and the bodies of the machines with in it. The so called dead machines.

Fact: Wind is a liquid.

DAY THREE HUNDRED SIXTY-FOUR.

Oxygen still dangerous at 17 percent.

I have seen a breeze! It was in the desert savannah at Night. I will not let the cameras take it away. I will not look.

Fact: I ate the arm of the cactus that showed it to me.

DAY THREE HUNDRED AND SIXTY-NINE.

CO-2 – 12,000 parts per million.

I have artificially injected sulfate into all of the biomes.

Within the confines of URTH, breathing the gas of URTH, secreting its waters, there is no longer doubt of the possibility of wind. I know because I have seen it. I have recorded it and read it here. But wind is simply the dynamic expression of the inter-relation of the system's pieces. The Mystery of the winds, for it is now a plural entity I call upon, a plurality. The life of

the system depends on this spirit.

This is difficult for me to express. It is not just wind I demand. My second goal, as a human scientist, is the establishment of the possibility of a multiverse. Anticipating my own death, I am working on my will and testament, climbing closer to the node of freedom.

Fact: Upon my death, I have programmed A.I. to return. My remains must be scattered on the winds.

DAY THREE HUNDRED AND SEVENTY-TWO.

Oxygen – 18.1 percent.

Under my stewardship URTH has contained immensities. Each of these plants is participating, drinking in its sun. But only inwards, away from history. Only backwards in time.

It's not just the oxygen.

Any species might explode. From outside it's a lot clearer what we are. It's for that reason I exit from time to time, fully suited, to repair cameras.

I give URTH a mirror from which we may behold our rational and beautiful girders -- our exoskeletal skin – as philosophical and complex as anything inside or outside.

Fact: I watch myself.

DAY THREE HUNDRED AND SEVENTY-FOUR.

CO-2 - 9,100 parts per million

The sulfates took care of the Carbon buildup. But where is my Oxygen?

I only monitor, too tired to move now. Wind will come. But when?

I write my log.

It has been all sun almost constantly. As if we now occupy the equator, we are in a doldrums outside and in. I am not sure how that is possible in our latitude of Venus.

Satellites and aircraft have begun appear in our skies, I see them, but they are through the glass and never evident from our outside cameras.

Fact: The majority of deserts on the surface of the old biosphere 1 occurred in Trade Wind Latitudes

DAY THREE HUNDRED AND SEVENTY-FIVE.

Oxygen - 19 percent. A rise!

I may live. The survival of a mammal species is too much to pin down to one bottleneck. I don't think it's fair.

Like Heraklitus understood, photosynthesis was always the way. This is why he ate grass at the end. I don't know why I'm still eating my comrades.

For mammals, and things with minds, sea-less earth proved a harsh stepmother. I will make myself URTH's own.

The Tigris-Euphrates valley, where this adventure began, and whose end I in some sense embody. There is where I return. Like Eve, I come out of nowhere and return eventually to desert and forest.

Which came first, the egg or the Ostrich?

Fact: Lilith was the First.

DAY THREE HUNDRED AND SEVENTY-SIX. HOUR TEN.

CO-2 - 15,000 parts per million

The enormity of landscape is for the most part imagined.

Those of us with decent eyesight only ever took it for granted that there was more of the same over the horizon.

How do we know we weren't in some tiny container, some holodeck all along?

What if you could see the entirety of the ocean as a single entity? And simultaneously - or a moment's later –glimpse its infinities?

Fact: Though Pluto's atmosphere is incredibly thin, and it's way too far from the sun to receive a day, there the skies are blue, and as bright as my own. There the sand, the particles of nitrogen, water ice, the methane - appear to be a world exactly like this one. Only gravity would be far different. Falling downwards, backwards along the curve, you yourself would become quite large. Earth's a heavy place. But sometimes I wonder if I am there. Or am I an artificial intelligence, programmed to believe I am? In that case objects are alive. We living things are the ghosts. The architects were correct; we are only our monuments.

DAY THREE HUNDRED AND SEVENTY-SIX. ZERO HOUR.

Oxygen – 17.1 percent.

The great rite.

It was taught to us, the highest, most sacred form of magic there is. Because that moment. Those shining seconds are the highest power.

Being alone in one's one world like that. Free.

The little world. The big world. There is the world above and the world below.

Whoever thought one being could walk all the way?

I'm done. I'm going outside, where the world is still going on. Those airplanes, those lights are real. The world is still here. I can go to the Mall.

Fact: I see you, Observer. I always have.

Chapter Ten

Olafur Eliasson An Orchestra of Forces

On the surface of the earth, in a midsize European metropolis, stands a red-brick industrial building – an artist's studio. Its concrete foundations hold fiercely on to the planet, just as the planet holds fiercely on to the studio.

Inside, on the ground floor, a stone table supports the weight of a sheet of paper; it feels the weight where the rough-hewn surface makes contact with the page. The stone has been around for hundreds of years. The paper, much younger, enjoys the cold, solid support, aware that the floor and foundations beneath the table were built upon the very same earth from which the paper, as a sapling, once grew. The paper is mindful of its scarcity as a resource. It is about to engage with a pencil.

The pencil gets together with its companion, the hand. It is a listening hand, in fluid motion. The movements conjure a hand dance of pushing and being pushed. Sometimes the pencil leads, sometimes the hand. There's some friction in the interaction.

The weight of the hand and of the pencil travels to the paper, onwards to the table, and further down to the foundations of the building and to the planet. The pencil is conscious of its ability to push the planet.

As the pencil pushes, the planet pushes back. The table readily hosts the downward and upward forces, negotiating.

The meeting-up of trajectories gives rise to the drawing. As much as the relationship is vertical at first glance, there are also sideways connections, and spinning and orbital activity. The drawing is drawing upon and travelling in various dimensions.

At this moment, the pencil is catching up with an idea that has come from the future, but has not yet been scribbled down. Time is its companion.

The listening hand enjoys the apparently abstract agenda of the pencil; it accepts the unspeakable openness of things.

It is too soon, at this point in time, to introduce a subject.

Chapter Eleven

Ester Partegas Moon



Chapter Twelve

Candice Lin Licking the Wound: Three Works from Pacific Standard Time: LA/LA

Tamar Guimarães and Kaspar Akhøj: Studies for a Minor History of Trembling Matter, in Universal History of Infamy Los Angeles County Museum of Art August 20, 2017–February 19, 2018

Maria Sibylla Merian: *Metamorphosis, in Visual Voyages* Boone Gallery, The Huntington, San Marino, CA September 16, 2017–January 8, 2018

Carolina Caycedo: *El Hambre Como Maestra/Hunger as Teacher* Commonwealth and Council, Los Angeles September 9–October 21, 2017

- Candice Lin

Tamar Guimarães and Kaspar Akhøj's film *Studies for a Minor History* of *Trembling Matter* (2017) ends with a close-up of an insect grooming itself on an infamous plant, *Caesalpinia pulcherrima*. German entomologist and scientific illustrator Maria Sibylla Merian delicately painted this same plant in her 1705 book *Metamorphosis of the Insects of Surinam*. Of this plant, commonly known as the peacock flower, Merian notes:

The Indians, who are not treated well by their Dutch masters, use the seeds to abort their children, so that their children will not become slaves like they are. The black slaves from Guinea and Angola have demanded to be well treated, threatening to refuse to have children. Indeed they even kill themselves on account of the usual harsh treatment meted out to them; for they consider that they will be born again with their friends in a free state in their own country, they told me this themselves.¹

In the film, we see a man beheaded by shadow sitting beneath this plant. The image is repeated twice, at the beginning and in the middle, with two different men sitting in this dappled light and fragmented by the camera frame. Both subjects live in Palmelo, Brazil, the last country in the Western world to abolish slavery, in 1888. I learned about Palmelo from *Captain Gervasio's Family* (2013/2014), an earlier film by Guimarães and Akhøj. Palmelo was founded in 1929 by a man named Captain Gervasio. A group of eighteen people, including Gervasio's descendants, created a Spiritist study group, Luz da Verdade, that later became a Spiritist center with an accompanying sanatorium that healed its patients through energy work known as the Magnetic

1 Maria Sibylla Merian (1647–1717), Over de Voortteeling en Wonderbaerlyke Veranderingen der Surinaamsche Insecten (Metamorphosis of the Insects of Surinam) (Amsterdam: Jean Frederic Bernard MDC-CXXX, 1730), 34. Huntington Library, Rare Book Collection, call number 145365. Chain.² Most of the inhabitants of Palmelo are practicing Spiritist mediums, and many of them are employed in civil service. Through linking hands, a group of mediums strengthens and heals each other, through channeling the flow of a vital spiritual fluid that washes through them, cleansing blockages, and attempting to settle karmic debt.³ Though the sanatorium was



Tamar Guimarães and Kasper Akhøj, *Studies for a Minor History of Trembling Matter*, 2017. Video still. Digital video, color, three-channel sound, 30:28 min. Edition of 5 + 2 AP. Courtesy of the artists and Fortes D'Aloia & Gabriel.

later closed by the Brazilian government, which objected to treatment solely through psychic, energetic forces, the inhabitants of Palmelo continue to heal and nourish each other by magnetic passes. Captain Gervasio's Family is comprised of counterposed shots of mediums in trance describing "vast spiritual colonies" with images of modern Brazilian cities and architectural details. While Captain Gervasio's Family focuses on the spirit architecture and Kafkaesque hierarchies of governmental offices, tedious procedures, statistical collections, and data analysis, *Studies for a Minor History of*

Trembling Matter locates itself within the provincial, queer, and domestic. There are some final scenes of communal gatherings of mediums holding hands and channeling spirits, but most of the film is comprised of the domestic and private lives of two mediums in particular, Divino and Lázaro.

One of the opening scenes shows Divino, the first of the shadowed men that we see in *Studies*, repairing a torn chromolith of Saint Lazarus. This act of healing echoes the significance of St. Lazarus as the representation of illness and recovery; his body is depicted scarred by leprosy,

2 Spiritism is a specific spiritual philosophy and practice codified by Allan Kardec (and channeled in the 19th century through the French educator Hippolyte Léon Denizard Rivail). It draws upon Spiritualist beliefs in spirits and the use of mediumship to communicate with them, but follows Kardec's stricter doctrine about how the two realms interact.

Guimarães describes the Magnetic Chain more precisely:"According to St. Lázaro, an energy strip or band forms behind the mediums, and that band attracts and gathers spirits that are lost and/or unwell—spirits that usually hang around someone who is present in the room, who is also being treated in the process. The treatment to the spirits (both embodied and disembodied) involves then an attempt for the settlement of karmic debt. In this sense, the process is more about relationships and less about the individual. Also there are more mediums in the chain besides the mediums that sit holding hands. It's a complex choreography involving the mediums holding hands, the mediums that come and give 'magnetic passes' (the analogy is to the work of a nurse that comes to cleanse and prepare a patient), and the ones that come after and do more complex 'surgery' (known as physical effect mediums). A fourth group of mediums comes to provide protection and reinforcement to the physical effect mediums." Email correspondence between Tamar Guimarães and Candice Lin, February 13, 2018. and he is known as the one Jesus raised from the dead. As Divino works with careful fingers, he speaks of how this saint had the power to cure him of childhood sickness. The film cuts to a similar print of St. Lazarus hanging on a wall, but this image is whole, and a different man— Lázaro, who shares the saint's name—is making coffee. The body is broken here, cut by light, by the fragility of paper, by the frame's composition. Sunlight filters through the plant's leaves, marking the sitter's limbs with golden coins and dark scars like the ulcers of leprosy dotting the body of St. Lazarus.

Tamar Guimarães wrote the book A Man Called Love: Reading Xavier about a Spiritist leader, Francisco Cándido Xavier. Speculating on Xavier's femininity and queer sexuality, Guimarães writes, "Here I sketch out an argument—a hesitant and half suggested question: Could the notion of a porous body be a remainder of what is not reconciled in the subject's negotiations with modernity?—An open body rather than the hermetically sealed, autonomous body of the Enlightenment?"⁴ Divino and Lázaro are porous bodies, open to the shadows of plants



Tamar Guimarães and Kasper Akhøj, *Studies for a Minor History of Trembling Matter*, 2017. Video still. Digital video, color, three-channel sound, 30:28 min. Edition of 5 + 2 AP. Courtesy of the artists and Fortes D'Aloia & Gabriel.

and history that flicker across their flesh and the spirits who pass through them, fleetingly palpable as groans, sharp intakes of breath, clucking and brrr-ing of the lips, and descriptions of visions. Both Divino and Lázaro are connected through spiritual tissue and through their shared occupation of space; we see them toward the end of the film together at the Sanatorium, engaged in a communal activation of the Magnetic Chain. There they exchange a long, meaningful glance. They are also mysteriously connected in their affinity for St. Lazarus and are shadowed by the same canopy of peacock flower trees.

In many images of St. Lazarus, he is accompanied by a dog or several dogs, who lovingly lick his open wounds. Lázaro, whose voice narrates Guimarães and Akhøj's film, says, "I wanted a dog like that, my father kept going to the neighbors until he managed to get a puppy like that. He was my companion." This intimacy punctuates the suffering and alienation Lázaro describes feeling because the human community could not accept the spirit voices he heard and instead saw him as "sick."

Guimarães writes that Xavier was forced to lick the open wound of his godmother's favorite

4 Tamar Guimarães, *A Man Called Love: Reading Xavier* (London: Aldgate Press and Capacete Produções and Forlaget * [asterisk], 2010), 107.

child. Noted by Guimarães as a moment of childhood abuse, it echoes in the film in a different way. Looking closely at the chromolith of St. Lazarus, we see the dog's soft tongue licking the wounds of St. Lazarus in a moment of interspecies love and intimate care,⁵ a sensual probing of the porous body not unlike the saints who eagerly lap pus from wounds of the sick or the ecstatic visions of mystics who insert their tongues, fingers, and even whole arms inside the vaginal chest wound of Jesus Christ. This dog of St. Lazarus reappears in the film in the city of Palmelo, trotting alone down an empty street, Avenida Allan Kardec (named after the founder of Spiritism). The scene forms a non-human bridge between the only physical encounter between the two characters, Lázaro and Divino. Solitude permeates the desolate city of Palmelo,

populated by awkward outcasts whose most intimate interactions are mediated by other species or spirits. The opening scene shows Divino regarding a praying mantis that walks upon the hairy prairie of his arm with gentle curiosity.

This companion, the praying mantis, speaks to the enmeshment of life through the physicality of its form, a mimetic insectoid interpretation of a tree branch. In Donna Haraway's book Staying with the Trouble, she describes a cartoon, xkcd, by Randall Munroe, that shows two people discussing an orchid that evolved to lure and mate



Tamar Guimarães and Kasper Akhøj, *Studies for a Minor History of Trembling Matter*, 2017. Video still. Digital video, color, three-channel sound, 30:28 min. Edition of 5 + 2 AP. Courtesy of the artists and Fortes D'Aloia & Gabriel.

with a male bee that is now extinct. "The flower collects up the presence of the bee aslant, in desire and mortality. The shape of the flower is 'an idea of what the female bee looked like to the male bee...as interpreted by a plant."⁶ Such interpretations abound in our contemporary, digital world, where humans must prove to machines that they are humans in order to detect fraud, and where machines create fake news stories with real news effects. One method of authenticating one's humanity is the transcription of CAPTCHA codes— those blurry, distorted pictures of numbers and letters.⁷ Dr. Luis von Ahn, a computer scientist at Carnegie Mellon University, and a team of researchers created reCAPTCHA, a startup company he sold to Google for an undisclosed sum in 2009. ReCAPTCHA harnesses the unwitting free labor of millions of people for Google Books or Google Maps when these people, intent on proving

5 Dog saliva contains the antibacterial enzyme lysozyme, which stimulates healing of the skin around a wound.

6 Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 69–70.

7 CAPTCHA is an acronym for Completely Automated Public Turing test to tell Computers and Humans Apart their fleshy status, transcribe blurry photos of words and numbers sourced from digitized old books or address numbers. This labor is usually an intensive and expensive three-stage process involving bitmap photography of the text, encoding into optical character recognition (OCR), and human correction of mistakes. "By filling out a captcha, [humans] were providing unpaid, involuntary and 'fundamentally mindless' labour. They had to become robots—which translates as workers—in order to prove they were human."⁸

Donna Haraway uses the word sympolesis, which was coined by M. Beth Dempster in 1998, to describe generative acts of becoming-with. Sympolesis replaces the auto in self-making, recognizing that all of the partners making up holobionts (etymologically, "entire beings" or "safe and sound beings") are symbionts to one another. There is no hierarchy in which one, usually because of scale or egocentricity, is considered the host and the other the dependent. Instead, scientist Lynn Margulis forwarded a theory of symbiogenesis where new bodies come to exist not through competition and survival of the fittest, but rather through uneasy, long-lasting intimacies, interspecies-interkingdom mergers where one organism partially digests, partially assimilates, and partially transforms with other organisms, forming new multicellular forms.

In the event that became known as Pizzagate, narrative and reality were intertwined in sympoietic relation. Fake news of Hilary Clinton's involvement in child pornography (aka Cheese Pizza) was generated by Twitter bots—automated accounts that are programmed to retweet, repost, or even police and report accounts based on recognition of specific keywords

and hashtags—along with real people who found and reposted the tweets, and other real people (based mostly in Russia and Eastern Europe) who consciously controlled "shepherd" and "sheepdog" accounts that amplified these automated tweets. It is astounding that such a ridiculous story could take on enough believability to "become real," but if reality is measured by physical effects, then Pizzagate indeed was "real." Real enough for Edgar Welch to visit Comet Ping Pong with an AR-15 rifle intent on liberating exploited children; real enough to spark an episode of PTSD in an ex-student of mine, leading him to wield a piece of



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⁸ Hito Steyerl, "*Why Games,*" *Manipulating the World: Connecting Öyvind Fahlström* (London: Moderna Museet and Koenig Books, 2017), 41–42. Details of this anecdote come from *The New York Times* article Steyerl cites: Guy Gugliotta, "Deciphering Old Texts, One Woozy, Curvy Word at a Time," *The New York Times*, March 28, 2011.

glass in a supermarket in Sylmar, California, whereupon he was shot dead by a security guard; and real enough to aid Donald Trump's election to US president. Strangely enough, the visual arts' strength in narrative was harnessed to authenticate right-wing claims: Marina Abromovic's invitation to John Podesta's brother Tony to attend a "Spirit Cooking dinner" became proof that he was a Satanic occultist, and Louise Bourgeois's sculpture The Arch of Hysteria (1993) in Tony Podesta's art collection was used as proof linking the Podesta brothers to Jeffrey Dahmer, who posed the body of one of his murder victims in a similar composition.

The strategy of drawing associative connections between formal similarities has a long history in art, perhaps most notably in Aby Warburg's unfinished Mnemosyne Atlas (1924–29), which places similar gestures and formal compositions next to each other, irrespective of the time periods and contexts in which these images originally appeared. Indeed, it is the organizing principle for this essay and for my artistic method of thinking and research. So it is with great unease that I notice the use of this strategy to fuel conspiracy theories and fake news generated by the right-wing. Yet the recognition of visual similarities also has its histories of resistance within colonization. As peoples dislocated from their homelands and coerced to convert to Christianity, African slaves syncretically associated their local gods with Catholic saints who shared specific visual attributes.

The leprosy-scarred St. Lazarus is syncretically aligned in African-diasporic religions such as Umbanda, which is also practiced in the city of Palmelo, with Obaluaiye (also known as Babalú-Ayé), the god associated with infectious disease and healing.⁹ Obaluavie has roots in the Yoruba god of smallpox, Shakpana or Shopona, a god of contamination covered in red infective sores, shielded from gaze by a raffia cloak that makes the god seem, when whirling around or standing perfectly still, part vegetal and part whirlwind, mystical and inhuman. Obaluaiye is a porous body, riddled with open sores, a figure that rose to power during the European colonization of Africa and its diaspora. In Santería, the ritual altar presents different vessels—in the form of soup tureens (soperas), ceramic water storage jars (tinajas), terra cotta or iron pots, roof tiles (teja), basins (palangana), platters (fuente), wooden vessels (bateas), metal boxes or cans, and calabashes. Each represents a specific god and is distinguished by distinct colors and aesthetics associated with each god. These vessels house the sacred stones or other objects-physical manifestations of the spirit. Many of the vessels, such as the soperas, are made of porcelain or white earthenware china and harken back to Cuba's colonial past and its European aristocracy's collections of china as status tokens in the eighteenth and nineteenth centuries.¹⁰ But the bisque-fired terracotta pot that houses Babalú-Ayé is unglazed

9 There are many spellings of Obaluaiye. I use this spelling for consistency with the Robert Farris Thompson quote, on page 47

10 David Brown writes, "White Cubans remember the sopera as a cherished object of Cuban middle-and upper-class domestic life. The sopera... [was] saturated with the meanings of domestic well-being and social class status. ...With the increasing diversity and reach of transatlantic commercial nineteenth-century trade, imitations, often of less elaborate materials and design, were disseminated widely across class lines." David

and perforated with holes; these holes mirror the holes in the flesh and symbolize the difficulty of containing illness. The permeability of the raffia cloak punctuates this reminder. During the "scramble for Africa," Shakpana, previously a lesser-known deity, rose to major significance as smallpox spread along with the disease's visibility in public health campaigns and the establishment of "tropical medicine" as a field.

Robert Farris Thompson writes, "British colonial authorities banned the cult in Nigeria in 1917 when Obaluaiye priests were accused of deliberately spreading smallpox. But members of the cult... refused to be intimidated. They took their worship underground. They worshipped Obaluaiye under different names... The strength of his lore in modern Nigeria is illustrated by the continuity of the old belief that it was dangerous to call him by his name, for one would thereby spread his dread disease, shoponnon (smallpox)."¹¹

Obaluaiye is sometimes represented by a thorn. This could be seen as the typical colonialist fear of contamination, or it could be the opposite, a natural, plant-formed inoculation device. In 1774, during a smallpox epidemic in England, physicians noted that milkmaids were among the few who did not bear the ravages and scars that marked the faces and bodies of other smallpox survivors. "Folk knowledge held that if a milkmaid milked a cow blistered with cowpox and developed some blisters on her hands, she would not contract smallpox even while nursing victims of an epidemic."¹² From this practical knowledge, laypeople experimented: one farmer used a darning needle to drive pus from a sick cow into his wife and children. Known as variolation, this evolved to become what we now know as modern vaccination. Inoculation does not come from professionalized medical experimentation but rather from observation, interspecies relations, and a chain of shared immunity, not unlike the Spiritist Magnetic Chain of Palmelo.¹³

Obaluaiye's raffia-covered body is formally echoed in Carolina Caycedo's sculpture, Big Woman/Mujer grande (2017), a witchlike, folk female figure with a painted wooden mask for a face. She is suspended within a permeable cloak of fishing net and dry cattails, plantain fibers, and vines that trail in a tangled excess onto the wooden floor. The voluminous fabric of her body is rotund and basket-like; she seems to hover protectively, omen-like, promising

Brown, Santería Enthroned (Chicago: University of Chicago Press, 2003), 253.

- 11 Robert Farris Thompson, *Flash of the Spirit* (New York: Vintage Books, 1983), 61.
- 12 Eula Biss, *On Immunity* (Minneapolis, MN: Graywolf Press, 2014), 51.

13 In Moises Velasquez-Manoff's *An Epidemic of Absence: A New Way of Understanding Allergies and Autoimmune Diseases* (New York: Scribner, 2012), he makes the case that the rise in auto-immune diseases in Western nations could be cured by an inoculation of hookworms. Claiming that our immune systems have coevolved with parasites and viruses, our obsession with hygiene has created a diversity-lacking void of boredom where the body starts to attack itself. By swallowing hookworms or allowing them to burrow into the soft skin of one's arm, Velasquez-Manoff makes a self-tested case that we could cure diseases like MS, lupus, and rheumatoid arthritis



Tamar Guimarães and Kasper Akhøj, *Studies for a Minor History of Trembling Matter*, 2017. Video still. Digital video, color, three-channel sound, 30:28 min. Edition of 5 + 2 AP. Courtesy of the artists and Fortes D'Aloia & Gabriel.

plentitude yet, perhaps, righteous retribution if one transgresses upon the bounty of her body.

Big Woman/Mujer grande is one of several sculptures in Caycedo's exhibition El hambre como maestro/Hunger as Teacher, at Commonwealth and Council. The works in the exhibition are part of Caycedo's ongoing project, Be Dammed, which addresses socio-environmental impacts of dams in collaboration with various riverside communities affected by dams. The project also honors several environmental activists working for water rights and protections (including many who have been murdered for their activism)¹⁴ Many of Caycedo's other works also involve fishing nets as their primary material and form. These cast-off nets are gathered from the riverine communities Caycedo works with, and their materiality represents a porous way of thinking about bodies and boundaries as a membrane, a malleable structure that allows liquid to flow through it. According to Caycedo, the fishing net stands as a symbol for "food sovereignty and autonomous economies... To throw a fishing net affirms the river as a common good."¹⁵

But I encounter this fishing net within another web of symbolism. Taken out of use, it has moved from its original context and relation to food sovereignty into the realm of aesthetics. Here, the fishing net lends its physicality to the structure of a sculpture. It materially speaks the content of the work, and the history of its origins has immaterial cultural capital in its declaration of a leftist, community-affirming politics that the art market values, even when these leftist politics are in contradiction with its own funding. Caycedo's haunting sculptures play with the shiftiness of materials, creating visual traps of meaning that challenge the very economies that make the lives of those it represents precarious, while still being enmeshed within that same economy. What does it mean for such materials to move from being used as a tool of survival to playing a pedagogical role in raising art viewers' awareness of political

14 *The Guardian* reports that environmental defenders are being killed at a rate of about four a week. Jonathan Watts and John Vidal, "Environmental Defenders Being Killed in Record Numbers Globally, New Research Reveals," The Guardian, July 13, 2017, https://www.theguardian.com/environment/2017/jul/13/environmental-defenders-being-killed-in-record-numbers-globally-new-research-reveals.

15 Carolina Caycedo, "Cosmotarrayas/Comotarrafas/Cosmonets series," artist's statement, 2016, http://carolinacaycedo.com/cosmotarrayas-comotarrafas-series-2016 water-rights issues, activating an emotional and aesthetic stake in the issue through its materiality, and being an object collected by private collectors and museums? To be clear, I raise these questions of economics not to take Caycedo to task, for I deeply respect her ethics, political motivations, and admire the aesthetic strength of her work. Rather, these are questions relevant to all cultural production, for none of it takes place outside of the systems and history of its making, and the question of how to negotiate such creative, critical artistic production is an ongoing one. Yet it is an "impossibility" we must persist in and insist upon imagining if we are to create, in Saidiya Hartman's words, a "critical fabulation" of what was and is possible, weighted in the awareness that our "own narrative does not operate outside the economy of statements that it subjects to critique."¹⁶ Caycedo's work does this by moving between the material and immaterial, and by playing in the in-between realm through the signifier of the net, a malleable and porous membrane. Her work's engagement with the economics and politics of water-rights contestation is echoed in how she traces the movement of meaning and value in material to immaterial forms.¹⁷ Interestingly, these movements also mirror value production in the world of finance.

From The Reverse Side of a Painting (1670) by Cornelius Gijsbrechts to René Magritte's La trahison des images (Ceci n'est pas une pipe) (The Treachery of Images [This is not a pipe], 1928) to Joseph Kosuth's One and Three Chairs (1965), the visual arts highlight how meaning production is tied to visual and linguistic representation through undercutting what usually appears neutral to us. By generating confusion between three-dimensional and two-dimensional representations of reality, or through introducing text as an alternate form of representation, these artworks question how realities and meanings are constructed, pointing to the linguist Ferdinand de Saussure's concept of arbitrariness in the relation between the signifier and the signified. Franco "Bifo" Berardi describes this tearing apart of the signifier and the referent as dereferentialization, a gesture he observes in both twentieth-century experimental poetry and in neoliberal economic changes within the last three decades of the century.

In financial markets, liquidity measures the trade-off between time and value. Cash, in countries with stable currency value, is considered the ultimate liquid asset, because it can be exchanged for goods and services with no loss of value. A house, on the other hand, traditionally represents less liquidity—it can be sold, possibly for an increased value, but the funds are not as readily available. In 1971, under President Richard Nixon, the U.S. dollar abandoned the gold standard, and the value of U.S. currency, no longer tethered to a physical referent, fluctuates according to debt and speculation. During the 2007 to 2010 subprime mortgage crisis, properties became

16 Saidiya Hartman, "Venus in Two Acts," Small Axe 26 (June 2008), 13.

17 Another Caycedowork, *The Binding/El amarre, Vocabulary and Infrastructure/Vocabulario e infrastructura (after The Distance Plan)* (2017), uses a similar strategy as the fishing nets. The Binding changes the original value of paper currency from a variety of countries by first recontextualizing them as artworks and then by "defacing" them in marker with words and graffiti that reimagine their imagery outside of nationalistic ideologies.



Carolina Caycedo, *To Drive Away Whiteness/Para alejar la blancura*, 2017. Hand-dyed fishing net, lead weights, hand-dyed jute cord, plastic and glass bottles, liquor, banknotes, seeds, chili peppers, achiote, sand, dried kelp seeds, water (Pacific Ocean, Colorado River, and Los Angeles River), hibiscus, black beans, human hair, ginseng, paper, 89 x 136 x 107 in. Courtesy the artist and Commonwealth and Council. Photo: Ruben Diaz.

illiquid because they were bundled into stacks that obscured the actual value of material assets tied to them. Their value increased beyond their materiality through speculation, and their illiquid status was exacerbated by computerized technologies that increased the complexity and obscurity of how their value was determined. Berardi writes: "Because of the technological revolution produced by information technology, the relation between time and value has been deregulated. Simultaneously, the relation between the sign and the thing has blurred, as the ontological guarantee of meaning based on the referential status of the signifier has broken apart."¹⁸

Water is sometimes spoken of as the last resource to be privatized, and its value comes from holding the right to choose who moves through it or what bodies—human, geographical, or corporate—it passes through.¹⁹ Water's power comes from its potential movement and the restriction of that movement. In the physical world, a dam takes a material resource—a river—and abstracts it into immaterial (or less material) electricity that can be moved and displaced from its location, divorced from its origin and the community it sustains. But a river is a body that cannot be rerouted and controlled without a chain of effects. In their essay "Transfiguring the Anthropocene: Stochastic Reimaginings of Human-Beaver Worlds," Cleo Woelfle-Erskine and July Cole use Eva Hayward's transgender theorizing to rethink bodies as riverine ecologies and vice versa. They discuss Hayward's consideration of "the body variously as a body of water—a river, which draws together all of the above and underground water in a watershed."²⁰ The body is more than what is visible on the surface, it is the vapor in the air, the subterranean wetness below; the body is not fixed any more than a body of water could be defined by the landmasses that surround

18 Franco "Bifo" Berardi, *The Uprising: On Poetry and Finance* (Los Angeles: Semiotext(e), 2012), 27.

The Big Short (2015) dramatizes the financial crisis through three main characters: hedge fund managers Michael Burry and Mark Baum and Deutsche Bank salesman Jared Vennett. At the end of the movie, intertitles describe that Michael Burry, one of the first to predict the sub-prime mortgage crisis, "contacted the government several times to see if anyone wanted to interview him to find out how he knew the system would collapse years before anyone else. No one ever returned his calls. But he was audited by the Internal Revenue Service four times and questioned by the Federal Bureau of Investigation. The small amount of investing he does today is all focused on one commodity: water."

20 Cleo Woelfle-Erskine and July Cole, "Transfiguring the Anthropocene: Stochastic Reimaginings of Human-Beaver Worlds," *TSQ: Transgender Studies Quarterly 2*, no. 2 (May 2015), 304. it. In Hayward's words, "The body, trans or not, is not a clear, coherent and positive integrity. The important distinction is not the hierarchical, binary one between wrong body and right body, or between fragmentation and wholeness. It is rather a question of discerning multiple and continually varying interactions among what can be defined indifferently as coherent transformation, decentered certainty, or limited possibility."²¹ According to Woelfle-Erskine and Cole,"In river terms, rejecting a binary between fragmentation and wholeness refuses the dewatered, fragmented river that holds no salmon and leaves some farmers without irrigation water in dry years."²²

In the Magnetic Chain, illnesses are addressed in part through magnetic passes which remove the obstructions in the flow of vital fluid; these obstructions are what cause sickness. In a series of letters edited by John Pearson, in 1790, the purpose of treatment using animal magnetism (lebensmagnetismus) is to induce "crisis" through shocking the body into convulsion, "to remove obstructions in the humoral system that were causing sickness."²³



Carolina Caycedo, *Damn Knot Anus/Nudo represa ano*, 2016. Pencil on paper, 15 $1/2 \ge 20 \ge 1 \le 1/2$ in. Courtesy the artist and Commonwealth and Council. Photo: Ruben Diaz.

In Caycedo's El hambre como maestro/ Hunger as Teacher, the riverine movement of water through the land is likened to the human body, in its fluids and orifices. In Damn Knot Anus/Nudo represa ano (2016), a graphite drawing of a portallike wrinkled or hairy anus graphically shouts, in Spanish and English, the words: "Una represa es como un nudo en el ano /A Dam is like a knot in your anus." Taken from Caycedo's interview with Kogui indigenous spiritual leader Mamo Pedro Juan, who passed away June 2017, this memorable phrase speaks to the pressure that a dam creates in cutting off water from the communities that depend upon

it. In Undammed/Desbloqueada (2017), Caycedo's own body—its fluids and reproductive potential—is referenced in the copper intrauterine device that hangs suspended like a totem within one of her fishing net sculptures above a metal pan used for mining gold. The pan is

Eva Hayward, "Lessons from a Starfish," *Queering the Non/Human, ed.* Noreen Giffney and Myra Hird(Aldershot, UK: Ashgate, 2008), 256. Quoted in Cleo Woelfle-Erskine and July Cole, "Transfiguring the Anthropocene," TSQ, 304–5

22 Woelfle-Erskine and Cole, "Transfiguring the Anthropocene," TSQ, 305.

John Pearson, "A plain and rational account of the nature and effects of animal magnetism: in a series of letters. With notes and an appendix," *Eighteenth Century Collections Online, Project Gutenberg*, (Originally published in London, 1790), http://self.gutenberg.org/articles/Animal_Magnetism.

empty of gold and the wealth contained within this pan is the land: "a chunk of Navajo sand-stone."²⁴

Control over water, land, and reproductive rights are ways that sovereignty has historically expressed its power, and this is the rhetoric used both by the indigenous communities and the Brazilian businesses and government they are fighting against, who claim that the power harnessed by dam-controlled waterways will finance and power their nation in a way that does not rely on foreign imports of oil or coal. Much of the energy generated by dams actually goes to power the mining industries converting raw materials into metals. These are often foreign companies, such as the American company Alcoa, which has a heavy presence in Brazil and Suriname. Bauxite ore, used to make aluminum, is mined at La Providence. In the eighteenth century, La Providence was the last Labadist outpost in Suriname; it was this communal, antimaterialistic religious community that awoke Merian's curiosity, as its members returned from the colony with specimens of exotic flora and fauna and descriptions of the environment there.²⁵ "In the 1960s Alcoa dammed the river just past the site of La Providence to create energy to process the bauxite, flooding [what was once] marcon territory and creating a vast lake where, when the water level sinks, the dead trees rise."²⁶

This reanimation of the dead trees that lie latent under the beguilingly calm surface of the dammed water brings to mind Christina Sharpe's writing on oceanic memory. Thinking about those who died during transatlantic voyages—in which slaves were thrown or jumped overboard from ships— Sharpe reveals a haunting method of keeping time in the sea:

There have been studies done on whales that have died and have sunk to the seafloor. These studies show that within a few days the whales' bodies are picked almost clean by benthic organisms— those organisms that live on the seafloor. My colleague Anne Gardulski tells me it is most likely that a human body would not make it to the sea floor intact. What happened to the bodies? By which I mean, what happened to the components of their bodies in salt water? Anne Gardulski tells me that because nutrients cycle through the ocean (the process of organisms eating organisms is the cycling of nutrients through the ocean), the atoms of those people who were thrown overboard are out there in the ocean even today. They were eaten, organisms processed them, and those organisms were in turn eaten and processed, and the cycle continues. Around 90–95 percent of the tissues of things

24 Caycedo, "Cosmotarrayas/Comotarrafas/Cosmonets series."

The Labadists were a religious community movement founded by Jean de Labadie on principles of communal ownership of property and a rejection of materialism. Maria Sibylla Merian moved from Germany to the Wiuwert province of Friesland, the Netherlands, to join their religious community, from 1685 to 1691.

26 Kim Todd, *Chrysalis: Maria Sibylla Merian and the Secrets of Metamorphosis* (New York: Houghton Mifflin Harcourt, 2007), 279.

that are eaten in the water column get recycled. As Anne told me, "Nobody dies of old age in the ocean." The amount of time it takes for a substance to enter the ocean and then leave the ocean is called residence time. Human blood is salty, and sodium has a residence time of 260 million years. And what happens to the energy that is produced in the waters? It continues cycling like atoms in residence time.²⁷



Carolina Caycedo, *Undammed/Desbloqueada*, 2017. Hand-dyed fishing net, lead weights, metal gold pan, Navajo sandstone, copper T IUD, thread, rope, 64 x 19 x 19 in. Courtesy the artist and Commonwealth and Council. Photo: Ruben Diaz.

The shadows in Guimarães and Akhøj's film serve to remind us of residence time, of this atomized presence of the death and life that came before us. In the canopy of trees and plants that were used by African and Indigenous slave women to abort their children so they would not be born enslaved, these sylvan shadows could be the souls of the past, reminding us of histories that remain sublimated but present. In the fairytale The Fisherman and his Soul, by Oscar Wilde, a fisherman falls in love with a mermaid, whom he catches in his fishing nets and wants to join. But he is burdened by his human soul. He meets a red-haired witch who gives him a

knife with a handle of green viper skin and says, "What men call the shadow of the body is not the shadow of the body, but is the body of the soul. Stand on the sea-shore with thy back to the moon, and cut away from around thy feet thy shadow, which is thy soul's body, and bid thy soul leave thee, and it will do so." The tale goes on to tell of the devastation caused by

foolishly thinking one could separate oneself from one's shadow, conscience, soul, or past. The story of the 2007–10 financial crisis is a similar tale of an ill-fated separation between the material and immaterial worlds.

In the eighteenth century, when Maria Sibylla Merian journeyed to La Providence and Paramaribo, the capital of Suriname, she saw a very different pre-flooded geography, proximate in space to both Palmelo, Brazil, and the South American locations of the riverine communities Caycedo has worked with.²⁸ In 1699, Merian encountered a Dutch colony obsessed with sugar production. When Merian heard about Suriname from her Labadist religious comrades, she sold her paintings and drawings to raise the funds to join the Dutch colonial expedition, so that she could travel and study the metamorphosis of bodies in a new environment. Merian's scientific illustrations were path breaking because they studied organisms in their contexts, rather than as isolated specimens. This style of visual representation, showing the insect or animal and the environment that sheltered and fed it, became the scientific status quo a century after her death. It is an anachronism to describe her representations as ecological, since that



Maria Sibylla Merian, *Peacock flower plant and insects, Amsterdam*, 1719. Published in Metamorphosis insectorum Surinamensium (The Metamorphosis of the Insects of Surinam). Counterproof etching with watercolor (hand coloring), 20 1/4 x 13 3/4 in. © John Carter Brown Library, Box 1894, Brown University, Providence, R.I. 02912.

concept was only articulated much later. In 1866, the German zoologist Ernst Haeckel used the term "oecologie" in his book Generelle Morphologie. "Oecologie" or "ecology" comes from Greek "oikos," meaning "household organization," and describes the interaction of creatures

28 Caycedo is involved, through activism and the incorporation of artistic materials and subject matter, in publicizing riverine communities protesting the building of these specific dams: the Fundao Mine Tailing dam on Doce River, Minas Gerais, Brazil; El Quimbo hydroelectric dam on Magdalena River in Huila, Southern Colombia; the Hidroituango hydroelectric dam on Cauca River in Antioquia, Northern Colombia; and the Belomonte Dam in Pará. Caycedo also works with the Caiçara artisanal fishing community of Ilha do Cardoso on the Rio Ribeira in State of Sao Paulo. This community has successfully resisted the buildings of dams on this river, the only medium-sized river in the state of Sao Paulo that is not dammed. and their surroundings. Though complicit with colonialism as part of the Dutch colonial expedition, Merian's drawings and notes reflect more than a capitalistic eye toward an insect or plant's possible profitable exploitation. Her careful, invested interest described the effects, dependence, and co-constitution of organisms in a shared ecology, of which humans, and their plantation economies, were inextricable parts. The meshed ecology that Merian painted was perhaps a visual depiction of what feminist physicist Karen Barad calls "intra-action," a mutual constitution of entangled agencies.²⁹ Instead of seeing organisms as separate, pre-existing beings, Merian, like other female scientists—Barad, Haraway, and Margulis—observed how the physical forms of life were co-constituted by their relations to each other, relations where lines between sexuality, survival, and mimicry become blurred.

Though an ecological view of intermeshed, sympoetic life has its political ideals in theories like Gaia and a recognition of how one's own responsibility and livelihood is interconnected in a web of cause and effects, the financial crisis of 2007–8 is another example of intra-action. In a 2016 Fortune article, Geoffrey Smith writes of Deutsche Bank,

Too Big to Fail was always a bit of a misnomer. What really makes a bank a risk to the financial system as a whole is the degree to which it is interconnected with other institutions, i.e., its ability to spark chain reactions of non-payment if it should ever default. By this measure, Deutsche is frighteningly indispensable. It's a counterparty to virtually every major bank in the world, in virtually all asset classes. [An] illustration from an IMF report in June gives you some idea. This is why I argued yesterday that the German government, which together with the European Central Bank is responsible for supervising Deutsche, would be highly unlikely to let it fail in a disorderly manner à la Lehman Brothers.³⁰

In Spiritism, this enmeshment of life is seen as a form of animal magnetism, the invisible natural force that flows through all animate beings. Guimarães and Akhøj's Studies for a Minor History of Trembling Matter shows a Spiritist session where members clasp each other's fluttering hands, their bodies racked with spasms and shudders of the energetic ripples that flow through the linked chains of their bodies. As the session comes to a close and people sit in peaceful clusters, a rain shower pours down outside, a physical manifestation of the spiritual fluid that flows through them.

Perhaps the vital fluid that connects all living beings could be seen in contemporary terms as debt. Debt, a promise of our future labor, our future time, interconnects us as individuals, as networks, as countries. The institution that gathers the most future time of other countries,

Adam Kleinman, "Intra-actions: An interview with Karen Barad," Mousse Magazine 34, 76-81.

30 Geoffrey Smith, "5 Things You Should Know About the Deutsche Bank Train Wreck," *Fortune Online* (September 27, 2016), http://fortune.com/2016/09/27/deutsche-bank/.

therefore, has, by virtue of its interconnection and the intra-active devastation it would wreak if it were forced to go bankrupt or pay its debt, the right to insolvency, the right to refuse to pay its debts, the right defy time. "German banks have stored Greek time, Portuguese time, Italian time and Irish time, and now the German banks are asking for their money back...Is the money that is stored in the banks my past time (the time that I have spent in the past) or is it the money that ensures the possibility of my buying a future?"³¹ This debt, made up of our past and future time, is the vital fluid, the invisible liquid that we are submerged in; it defines our relations.

Counterproof burn of Maria Sibylla Merian's Caesalpinia pulcherrima (Peacock flower plant) in *Metamorphosis insectorum Surinamensium* (The Metamorphosis of the Insects of Surinam). The Huntington Library, San Marino, California. Photo: Candice Lin.

I first encountered Maria Sibylla Merian's book Metamorphosis of the Insects of Surinam at the Huntington's Visual Voyages exhibition. Curator Daniela Bleichmar writes that this copy of Merian's book used a unique method of printmaking, called counterproofing: "The printer would take a freshly printed page just off the press, put it on top of a blank sheet of paper, and run both together through the press to produce a print from another print rather than from a copperplate. The resulting counterproof had a much lighter impression than a regular print and, when colored by hand, looked much more like an original drawing than a regular copper plate did."³²

This mirrored, softer copy has a third unintentional impression created by the acidic burn of the pigments reacting to the paper over two centuries of time. What we are left with on the backside of the paper is a partial shadow of the original. This ghostly silhouette reminds me of a similar specter I saw in the Smithsonian archives in 2009, when looking at John Stedman's The Narrative of a Five

Years Expedition against the Revolted Negroes of Surinam (1796), illustrated by William Blake. The image that haunted my mind was the burned shadow of Blake's engraving, The Execution of Breaking on the Rack. The print shows two slaves; one is outstretched on the ground, while the other bends over him, arrested in the labor of bludgeoning his bones with a stick. The original image is as grotesque in its violence as Stedman's descriptions. But it's the burn that haunts me, for its possibilities, what Hartman describes as the "impossible goal"—listening for the unsaid, looking for what is beneath the submerged surface of water, the imagined lives

outside of their limited appearances and disappearances in the official histories of those in power.³³

In this imprint, the figure standing over the one outstretched on the ground could be running to his assistance, hands thrown up in horror, or, enlisted in the brutality of torture, the standing figure could be theatricalizing the gesture of breaking, trying instead to find ways of minimizing the pain.

Merian's book makes tangible the impressions each generation of image-making leaves upon another. Softer, blurred lines or pigment reacting with paper, foxed with age, the content of these histories are incomplete but can neither be disappeared nor fully imagined into being. Immaterial histories and the violent legacies that live on into the present erupt into the physical in liminal forms: the molecules of sodium in the water we drink, epigenetic illnesses, and, of course, the societal institutions, such as prisons, that continue the same inequities of power and slavery from which they spring. This is the "history of present" that Saidiya Hartman writes about:

As a writer committed to telling stories, I have endeavored to represent the lives of the nameless and the forgotten, to reckon with loss, and to respect the limits of what cannot be known. For me, narrating counter-histories of slavery has always been inseparable from writing a history of present, by which I mean the incomplete project of freedom, and the precarious life of the ex-slave, a condition defined by the vulnerability to premature death and to gratuitous acts of violence. As I understand it, a history of the present strives to illuminate the intimacy of our experience with the lives of the dead, to write our now as it is interrupted by this past, and to imagine a free state, not as the time before captivity or slavery, but rather as the anticipated future of this writing.³⁴

Caycedo's sculptures and Guimarães and Akhøj's films endeavor to visualize an intimacy of our present interwoven with the dead—the water rights activists who died or were killed for their actions and beliefs and the mediums who channel the voices of a Brazilian past grappling with its modernity. Though embroiled within the same systems of finance, the same "grammar of violence," there is a material and haunting "terrible beauty" in both Caycedo's and Guimarães and Akhøj's works, which use shadows and nets to point to what is not present, to strive, against impossibility, pessimism and hopelessness, to imagine a future that is not already owed to a German or U.S. bank.

- Hartman, "Venus in Two Acts," 2–3.
- Hartman, "Venus in Two Acts," 4.

Chapter Thirteen

Joan Naviyuk Kane *Gray Eraser*

There is no one to scold, even when the heavens deem

the most abject of failures receptive to correction.

Likewise in cackleless sleep, the magpies remain tucked away.

A mother can no longer dismiss her child as a spectacular waste

of an education. Even the wind stills its sighs in the dry and bare

branches of the nearby white spruce damaged by Lirula blight.

Meanwhile, a pearl-green fox retracts its untrussed tail

through an eastward sky thick with unfamiliar stars.

If I wake missing the cold, fresh sound of new snow,

I may still miss the kinds of places that scar me and complete

my sorrow. Late at night, the birches must let their leaves

pitch and imbricate the floor of what is left of the woods

near what is left of me.

Chapter Fourteen

Beatriz Cortez The Face as a Hyperobject

"I coined the term *hyperobjects* to refer to things that are massively distributed in time and space relative to humans."

- Timothy Morton

"Dismantling the face is the same as breaking through the wall of the signifier and getting out of the black hole of subjectivity."

- Gilles Deleuze and Félix Guattari

Hyperobjects are viscous¹, they flow in non-diagramed motions, they are part of the cosmic flows. Their movement is nomadic, it flows through what Deleuze and Guattari would call smooth space. Because of the size and the extended temporality of hyperobjects, their motion can't always be seen by humans.² Since their temporality extends beyond a human life, we are not always able to perceive their motion or transformation. However, the span of a human life is not the only way to conceptualize time. As Peter Osborne argues, modernity is presented as universal. Yet, there are several different temporalities, and technologies coexisting, making visible the impossibility of a universal (Western) temporality and revealing the obsolete nature of many different types of modernities that have emerged and crumbled.³ The Maya and other ancient indigenous inhabitants of the Americas conceptualized time in human and what could be now conceived as non-human perspectives. After all, their spiritual worldviews were based on their understanding of time as part of simultaneous short counts and long counts that allowed them to write their very human history in stone and ceramic, and to also conceive non-human temporalities.⁴

If we consider, following Deleuze and Gattari, that every face and every object diagrams the space in front of them, due to the massive scale of hyperobjects, we imagine their diagraming of space in non-human ways, not as a landscape in front of us, not as an environment around us. This brings us to a question posed by Claire Colebrook: "[C]an we imagine a mode of reading the world, and its anthropogenic scars, that frees itself from folding the earth's surface around

1 Timothy Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013). See pages 27-37.

2 Ibid., 11-12.

3 Peter Osborne, *The Politics of Time: Modernity and Avant-Garde* (London: Verso, 1995), 1-29.

4 See *The Popol Vuh: The Definitive Edition of the Mayan Book of the Dawn of Life and the Glories of Gods and Kings*, trad. Dennis Tedlock, 2a ed. (New York: Touchstone, 1996).

human survival?"⁵ Therefore, a discussion about hyperobjects invites us to ponder massive scale, other types of vision, and the philosophical debates about the face.

For Spinoza, human beings have the natural right to act.⁶ This natural right is based on the body's powers and abilities, it does not require recognition from others. In fact, for Spinoza, recognition is what he would call a sad passion, one, like co-dependency, that reduces our power to act. Spinoza argues instead for passions that increase our creative potential and our power to act, and for the formation of spontaneous collectivities. The larger the collective body, the greater its natural right.

For Hegel, on the contrary, the construction of subjectivity is linked to being recognized as a subject, "self-consciousness is primarily simple existence for self, self-identifying by exclusion of every other from itself".⁷ However, for him, in the recognition of the other there is also a struggle to death, a struggle that takes us to symbolically (or literally) cancelling the other: "self consciousness is, [...], constituted in such a way that it proves itself and the other through a battle of life and death".⁸ In other words, for Hegel, self-consciousness emerges from the desire to kill (symbolically or literally) the other, and from the understanding that one's life is more important than that of the other.

Emmanuel Levinas, in contrast, argues that the face of the other "speaks to me and invites me to have an unmeasured relationship with an exercised power, whether it is of joy or knowledge".⁹ The face of the other, "resists possession, resists my powers",¹⁰ he writes. For him, even death is not enough to appropriate the face of the other, because "killing is not to dominate but to annihilate; [killing] is renouncing in an absolute way to understanding".¹¹ On the contrary, Levinas proposes that the ethical responsibility that we have when engaging with the face of the other is that "the face opens the primordial discourse whose first word is obligation".¹² In this way, both Spinoza's concept of natural right and Hegel's idea about individual self-imposition are suspended for Levinas, in the measure that we recognize our responsibility to respond in

6 Benedict de Spinoza, *A Theologico-Political Treatise / A Political Treatise*. Trans. R. H. M. Elwes (New York: Dover Publications, 1951).

7 G. W. F. Hegel, *The Phenomenology of Mind*, Trans. by J. B. Baillie (Mineola, NY: Dover Publications, 2003), 106.

8 Ibid., 232-233.

9 Emmanuel Levinas, "Ethics and the Face" in *Totality and Infinity*. Trans. Alphonso Lingis (Dordrecht: Kluwer Academic Publishers, 1991), 198.

- 10 Ibid., 197.
- 11 Ibid., 198.
- 12 Ibid., 201.

⁵ Claire Colebrook, *Death of the PostHuman: Essays on Extinction, Vol. 1*, (Ann Arbor, MI: Open Humanities Press, 2014), 3.

the face of the other. In other words, the vulnerability in the face of the other compels us to act beyond the construction of our own subjectivity.

In *Precarious Life*, Judith Butler argues that "Levinas is clear that 'the face of the other is not exclusively a human face".¹³ It can be symbolically represented by other parts of the body or by objects. However, Butler speaks from a humanist perspective that reconstitutes, no matter the absence of a human face, humanity. For Deleuze and Guattari, the face is not a face but the symbolic [object? hyperobject?] that diagrams the space in front of it. "The face is not an exterior wrapping of the person who speaks, thinks, or feels," they state.¹⁴ For them, the face is an "abstract machine"¹⁵ with the ability of territorializing the space in front of it. "Faces are not basically individual; they define zones of frequency or probability, delineate a field that neutralizes a priori any expression or connection with meanings that are not welcome".¹⁶ The idea that a face exists beyond the human opens up the possibility of the face of the other be that of an animal, an object, a molecule. But, what if the abstract machine that delineates the field, the face that territorializes space, is a hyperobject?

This face/hyperobject, whether it is due to scale or to time, is too massive for us to comprehend, its span of existence and transformation is too long for us to experience in a human lifetime. It is not meant for humans, it is impersonal, it bears other potentialities, it diagrams other fields of movement not meant for us. However, these perspectives are not completely absent in artistic production and aesthetic experiences. Let me take as an example the short film titled La zona intertidal [The Interstitial Zone] made in 1980 at the start of the civil war in El Salvador by El Taller de los Vagos under the direction of the renowned Salvadoran filmmaker Guillermo Escalón.¹⁷ Here, the face of the other, the face in front of which the human being gains consciousness of his life that dissipates, is an animal, a hermit crab. They are beings of different dimensions. Here, as the human dies, it is the hermit crab's subjectivity that remains. In this scene, post-human possibilities open up as the film opens up to the possibility that humans might not be the only subjectivity on the planet. As the man's life withers away, the camera takes on a view that allows us to imagine seeing the world as a hermit crab. In a recent interview, when asked about this scene of the film, Escalón stated: "Oh ves! The hermit crab's vision... there is shot-countershot between the hermit crab's vision and the one who is dying there... and [we see] how he sees the other, and how the hermit crab sees him: well, he would see a gigantic eye...".¹⁸ This invitation to imagine being other, to imagine being a hermit crab

14 Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*. Trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 167.

- 15 Ibid., 175.
- 16 Ibid., 168.

17 Guillermo Escalón, Dir., La Zona Intertidal (El Salvador: El Taller de los Vagos, 1980).

18 Guillermo Escalón, "I.3 La Zona Intertidal (entrevista)" en *La Zebra* (1 de enero, 2017).

¹³ Judith Butler, *Precarious Life: The Powers of Mourning and Violence* (London: Verso, 2006), 133.

facing the death of a human that cannot be completely comprehended due to the human's massive scale in comparison to the hermit crab's vision, in the middle of a war where thousands of civilians, organizers, teachers, and children were killed by their own government, opens up the possibility of human life withering away with a hermit crab as its only witness, and in the most human terms, to ask, who will hold the memory of the lives lost? Is there such a thing as a non-human memory? It also brings with it a discussion about humanism and the eye.

Colebrook examines the eye as the organ that diagrams the world, as a synthesizer that reads, theorizes and organizes what it sees. In conversation with Bergson, she reminds us that "the human eye organizes the world in conceptualized units, mastering the world by reducing



Stills from La Zona Intertidal, dir. Guillermo Escalón (El Salvador: El Taller de los Vagos, 1980)

difference."¹⁹ This is of great importance, what the human eye sees and what the human eye does not perceive or disregards, how it frames what it sees, and how it reproduces in this way a world that is coherent, a world that is human. For Colebrook, "[w]hat is abandoned is intensity—the infinitesimally small differences and fluxes that the eye edits out."²⁰ The eye, which synthetizes and digests the world for us, is a corporeal eye that also reproduces our humanity, that reconstructs a human subject. As Colebrook reminds us, "Deleuze asks for an inhuman perception: can we imagine the world without us, *not as our* environment or climate?"²¹ Colebrook's solution is "tearing the eye from the body," and to instead "think of the eye as a machine."²² In a Deleuzian move that strives to step outside the diagrammed spaces imposed by humanism, Colebrook invites us to imagine a world without us, a non-human world, a world after the anthropocene. The non-human eye that Colebrook invites us to imagine might be able to edit less differences out,²³ to see other details that the human eye does not see,

- 21 Ibid, 23.
- 22 Ibid., 15.
- 23 Ibid., 23.

¹⁹ Claire Colebrook, "Framing the End of the Species: Images without Bodies" in *Death of the PostHuman: Essays on Extinction, Vol. 1*, (Ann Arbor, MI: Open Humanities Press, 2014), 16.

²⁰ Ibid.

to complicate matters more and to see beyond human limits. While the vision of the machine eye that she describes could be so small that it would be impossible for a human to see, it could also be of a scale or duration superior to our own, as is the case with hyperobjects. I imagine the sort of landscapes that this machine vision captures as some that I might have never visited, even as they might be close to me, and in my mind the difference between human vision and this machine eye is a little bit like the difference between a selfie and the landscapes evoked in the imagery of a colonoscopy or the auras captured by an x-ray machine.

However, the machine eye that she imagines exists when humans have ceased to live on this planet, it reads the remnants of the anthropocene, when, as Colebrook states, "the earth's strata will be inscribed with scars of the human capacity to create radical and volatile climactic changes."²⁴ This machine eye would move through the Earth like a researcher does through an archive, and would read the world, its anthropocenic scars, its survival, it would detect other rhythms, it would take different points of view on what has been recorded on the earth by the human species.²⁵

Colebrook imagines this geologist of the future will be a machine. Reading her work, I imagine it as one of those rovers that move through Mars, and it will read our present at a time when it will have become the past, it will read what has not yet been written, what has not been recorded in our writing, that is, on the sediments. The world it will read will not be seen from a body, it will not be a world for a body, it will be an impersonal vision, another way of seeing.²⁶ And so, Colebrook invites us to think in the ways in which the international artistic avant-garde freed the image from the structures imposed by humans, but by doing so, it created a new (and human) subjectivity. Now, in the era of extinction a new possibility emerges of abandoning subjectivity as we have understood it until now, and to imagine a memory of the present written in the future over the sediments on the planet. And of course, to ask ourselves if they will be able to survive, if they will be able to communicate, the rovers and the hermit crabs and all the rest of inhabitants of the Earth of the future. But also, it invites us to wonder if the vision of that machine eye might be like the impersonal vision of a microscope, the animal vision of a hermit crab, or the massive scale diagram of a hyperobject facing a cosmic field.

- 24 Ibid., 23.
- 25 Ibid., 24.
- 26 Ibid., 27.

Chapter Fifteen

Ester Partegas *Two Houses in Marfa*


Chapter Sixteen

Lynn Xu *Kazuo*

JELLYFISH DANCE, KAZUO OHNO, 1949 – FRAGMENT

Kazuo's leg crossing over a void camouflaging the statue of Guadalupe dragging his feet like an asparagus Paso umbilical Paso nada Telepathos: Passage from cadaver to corolla

Chapter Seventeen

Jennifer Walshe Everything is Important

(Excerpt)

EVERYTHING IS IMPORTANT (2016)

for voice, string quartet and film

by Jennifer Walshe

Commissioned by the Internationales Musikinstitut Darmstadt (Germany), Huddersfield Contemporary Music Festival (UK), Wundergrund Festival (Denmark), November Music (Netherlands) and the Onassis Cultural Centre (Greece).

For the Arditti Quartet.

The diagram below indicates the basic positions of the performers on-stage.



All instruments are amplified. Vln. II uses a **small mic and independent speaker** – this is provided with the score. It may be necessary to amplify this small speaker depending on the acoustic.

The **vocalist** will require one or possibly two vocal mics on boom stands. Mic 1 is near the front of the stage, which is the main position the vocalist uses throughout the piece. The vocalist will take vocal mic 1 and move out in front of the quartet towards the end of the piece. A

1

megaphone is positioned to the rear of the stage; if a megaphone is not available, a second vocal mic can be used instead. The megaphone or Mic 2 will only be used during **31:48** to **32:11**.

The string quartet can be amplified using pickups or mics on boom stands. The string quartet make a wide range of sounds in dynamic and timbral terms.

The vocalist will also require a small table or percussion stand at mic 1.

All musicians should have music stands with stand lights. A lighting part is included with the score.

The performers are synchronised using **stopwatches** - they may choose to use one larger screen with the time on it near the front of the stage, multiple smaller timers, whatever works best for them.

The film part is provided as a Quicktime file. The file has sound.





Time	Voice	Violin I	Violin II	Viola	Cello	Elec.
4:52	IN THE CHARNEL	All strings, in rhythmic	White			
	GROUND	unison: very fast	unison: very fast	unison: very fast	unison: very fast	noise drones
		strumming with flesh of	Jupiter,			
	"the emergency room	thumb, high over	thumb, high over	thumb, high over	thumb, high over	Saturn,
	of a busy hospital.	fingerboard. Each	fingerboard. Each	fingerboard. Each	fingerboard. Each	under-
	People are dying	performer should strum	performer should strum	performer should strum	performer should strum	water
	everywhere. There is	for 7 to 13 bars and rest	volcano)			
	blood and noise,	for 1 to 2 bars, coming	& rumbling			
	equipment rushing	in and out irregularly (if				
	around, screams."	a performer would like				
	(Timothy Morton,	to strum constantly that is				
	Hyperobjects).	also welcome).	also welcome).	also welcome).	also welcome).	
	Defibrillator	At least 2 (preferably 3)				
	Pressure infusor	performers should be	performers should be	performers should be	performers should be	
	Vacuum pump	strumming at any one				
	Ventilator	time – make sure there is				
	Resuscitator bag, valve	a continual, relentless	a continual, relentless	a continual, relentless	a continual, relentless	
	and mask	stream of quavers. This is				
	Oxygen cylinders and	the massive unleashing	the massive unleashing	the massive unleashing	the massive unleashing	
	concentrators	of juicy, vibrant sound				
	Suction	after the white noise				
	pumps/aspirators	build – all the stops are				
	Scalpels, scissors,	open and the dust has				
	forceps	been rubbed off the lens.				
	Stainless steel kidney					
	dishes	The opening pitches are				
	Saw	given for each player –				
	Restraints	after the first rest, each				
	Drills	performer is free to				
	Syringes, needles, IV	deviate. The feeling	deviate. The feeling	deviate. The feeling	deviate. The feeling	
	Nasogastric tubes	should be modal or a				
	Suction catheters	sort of bent/weird folk-				
	Stlyet for intubation	modal rather than	modal rather than	modal rather than	modal rather than	
		atonal.	atonal.	atonal.	atonal.	

Time	Voice	Violin I	Violin II	Viola	Cello	Elec.
Time	Voice Laryngoscope handle and blades Endotracheal tubes Chest tubes and insertion equipment Crychothyrotomy kit	Violin 1 Keep energy high and relentless - the mode is brutal backporch banjo hillbilly rather than sleek minimalism. Chords should be varied by articulation, also by releasing and stopping strings. The opening bar of Vln. 1 shows how this might be done, but the notation should be regarded as a suggestion - as the bar is repeated the opening and stopping of the G string should be varied irregularly rather than repeated as written, creating asymmetric groupings and accents - EX. Sawmill Vln. 1.wav. Vla. and Vc. both have 3 strings notated to begin with - 3 or 4 strings may be used after the first rest. Vc. is given half- pressed harmonics to strum initially - normal notes may be used after the first rest.	Violin II Keep energy high and relentless - the mode is brutal backporch banjo hillbilly rather than sleek minimalism. Chords should be varied by articulation, also by releasing and stopping strings. The opening bar of VIn. I shows how this might be done, but the notation should be regarded as a suggestion - as the bar is repeated the opening and stopping of the G string should be varied irregularly rather than repeated as written, creating asymmetric groupings and accents - EX. Sawmill VIn. I.wav VIa. and Vc. both have 3 strings notated to begin with - 3 or 4 strings may be used after the first rest. Vc. is given half- pressed harmonics to strum initially - normal notes may be used after the first rest.	Viola Keep energy high and relentless - the mode is brutal backporch banjo hillbilly rather than sleek minimalism. Chords should be varied by articulation, also by releasing and stopping strings. The opening bar of Vln. 1 shows how this might be done, but the notation should be regarded as a suggestion - as the bar is repeated the opening and stopping of the G string should be varied irregularly rather than repeated as written, creating asymmetric groupings and accents - EX. Sawmill Vln. 1.wav Vla. and Vc. both have 3 strings notated to begin with - 3 or 4 strings may be used after the first rest. Vc. is given half- pressed harmonics to strum initially - normal notes may be used after the first rest.	Cello Keep energy high and relentless - the mode is brutal backporch banjo hillbilly rather than sleek minimalism. Chords should be varied by articulation, also by releasing and stopping strings. The opening bar of Vln. I shows how this might be done, but the notation should be regarded as a suggestion - as the bar is repeated the opening and stopping of the G string should be varied irregularly rather than repeated as written, creating asymmetric groupings and accents - EX. Sawmill Vln. I.wav Vla. and Vc. both have 3 strings notated to begin with - 3 or 4 strings may be used after the first rest. Vc. is given half- pressed harmonics to strum initially – normal notes may be used after the first rest.	Elec. (White noise drones & rumbling)

Time	Voice	Violin I	Violin II	Viola	Cello	Elec.
	(Screams and machinery)	Coming up to 6:13 every performer should be active so that the FREEZE happens while all performers are playing.	Coming up to 6:13 every performer should be active so that the FREEZE happens while all performers are playing.	Coming up to 6:13 every performer should be active so that the FREEZE happens while all performers are playing.	Coming up to 6:13 every performer should be active so that the FREEZE happens while all performers are playing.	(White noise drones & rumbling)
		AND	LAT MULTICAL RANGE ADDRESS AND ADDRESS A	LAT MARKEN M	AND AND AND AND AND AND AND AND AND AND AND	
6:13	FREEZE	FREEZE	FREEZE	FREEZE	FREEZE	Malfunct- ioning electro- static generator
6:18	RELEASE, get ready for next section.	RELEASE, get ready for next section.	RELEASE, get ready for next section.	RELEASE, get ready for next section.	RELEASE, get ready for next section.	

Time	Voice	Violin I	Violin II	Viola	Cello	Elec.
6:39	MY APPROACH WAS 3-	The foundation for this	Electro-			
	FOLD [toggling between	section (6:39 to 10:23)	magnetic			
	singing and speaking,	is a recording of the	fields			
	FX]	electromagnetic field of	electromagnetic field of	electromagnetic field of	electromagnetic field of	
		a MacBook Pro laptop.				
	My approach was 3-fold	This is a drone which is				
	I began by making over-	continually activated and	continually activated and	continually activated and	continually activated and	
	exaggerated	distorted, rather than a				
	gesticulations	drone which is static and				
		pure.	pure.	pure.	pure.	
	That was then/this is now					
	(repeated)	Listen very closely to the				
		electronics. Begin	electronics. Begin	electronics. Begin	electronics. Begin	
	My approach was 3-fold	playing long notes,	playing long notes,	playing long notes,	playing long notes,	
	I began by looking at	blending with the	blending with the	blending with the	blending with the	
	people's ears instead of	electronics. The	electronics. The	electronics. The	electronics. The	
	their faces	fundamental is	fundamental is	fundamental is	fundamental is	
		approximately C quarter	approximately C quarter	approximately C quarter	approximately C quarter	
	Stop hating everyone	tone sharp - you can set				
	She's on the internet,	up camp on any C				
	looking at pictures of	quarter tone sharp, or				
	majestic soaring eagles	any overtone (double	any overtone (double	any overtone (double	any overtone (double	
		stops may of course be				
	The commercial purpose	used). The overall sound				
	The commercial purpose	will be full and luscious,				
	of this thing soon will be	and your playing can				
	revealed	ride on top of this sound,				
		at times briefly coming				
	Geronimo!	forward and smearing	forward and smearing	forward and smearing	forward and smearing	
	Geroni- no	over everything else,	over everything else,	over everything else,	over everything else,	
	Geroni- nono	then receding into the				
	Geronimo!!!	background. Slide into	background. Slide into	background. Slide into	background. Slide into	
		distortion and scratch	distortion and scratch	distortion and scratch	distortion and scratch	
	We are still angry,	tones, exploit different	tones, exploit different	tones, exploit different	tones, exploit different	
	We're still angry, we	colours (sul pont., sul				

Time	Voice	Violin I	Violin II	Viola	Cello	Elec.
	want more than the OU,	tasto etc), wreathe the	(Electro-			
	we want more than a	voice with harmonics.	voice with harmonics.	voice with harmonics.	voice with harmonics.	magnetic
	voucher, we're still					fields)
	angry, we're still angry,	Grind exquisitely into	Grind exquisitely into	Grind exquisitely into	Grind exquisitely into	
	we want more than that,	sheets of beating – find				
	they may be the oldest	microtonal metallophytes	microtonal metallophytes	microtonal metallophytes	microtonal metallophytes	
	trousers in the world but	growing in nooks and				
	we don't want them, we	crannies of the sound,				
	don't want them,	use them to activate				
	because we're still	shoals of difference tones				
	angry, they're still angry,	and partials.	and partials.	and partials.	and partials.	
	we're still angry; it might					
	be an emotional	Respond to the energy				
	swansong but we don't	shifts - your drone is not				
	want it, we don't want it,	static throughout, but is				
	we're still angry, we're	activated through bow	activated through bow	activated through bow	activated through bow	
	still angry, they're	changes which gather	changes which gather	changes which gather	changes which gather	
	rearranging deck chairs	momentum, accelerate	momentum, accelerate	momentum, accelerate	momentum, accelerate	
	on the Titanic and we're	and subside. At times				
	still angry, we're still	rocket off into whirls of				
	angry, they're still angry,	energy/activity, always	energy/activity, always	energy/activity, always	energy/activity, always	
	he's still angry, and it's	returning to the drone.				
	don't take advice from					
	anyone, and it's don't	The default setting of the				
	take advice from me,	sound is without vibrato.				
	and it's what colour is	However, different types	However, different types	However, different types	However, different types	
	that parachute it's a	of vibrato can be				
	lovely colour and tell me	explored as colours,	explored as colours,	explored as colours,	explored as colours,	
	which rapper is the	ways to activate the	ways to activate the	ways to activate the	ways to activate the	
	richest rapper? And	sound.	sound.	sound.	sound.	
	which model is the					
	sexiest model? And	From time to time				
	which rapper is the	interject quotes from	interject quotes from	interject quotes from	interject quotes from	
	richest, richest rapper?	other string quartets	other string quartets	other string quartets	other string quartets	
	Because he's still angry	(Classical and Romantic	(Classical and Romantic	(Classical and Romantic	(Classical and Romantic	

Time	Voice	Violin I	Violin II	Viola	Cello	Elec.
Time	Voice and she's still angry and they're still angry, you see it's liom leat leis lei linn libh leo, you see it's dom duit do di dinn dibh doibh, and yes you see it's agam agat aige aci aguinn aguibh acu	quartets are preferable, but quotes from recent repertoire may also work) – these quotes should be very brief, just enough to be recognizable to other members of the quartet. When a performer quotes something, another performer should respond to the quote, but the response should mangle the reference, take it some place bizarre. These are only ever brief moments, small scraps.	quartets are preferable, but quotes from recent repertoire may also work) – these quotes should be very brief, just enough to be recognizable to other members of the quartet. When a performer quotes something, another performer should respond to the quote, but the response should mangle the reference, take it some place bizarre. These are only ever brief moments, small scraps.	quartets are preferable, but quotes from recent repertoire may also work) – these quotes should be very brief, just enough to be recognizable to other members of the quartet. When a performer quotes something, another performer should respond to the quote, but the response should mangle the reference, take it some place bizarre. These are only ever brief moments, small scraps.	quartets are preferable, but quotes from recent repertoire may also work) – these quotes should be very brief, just enough to be recognizable to other members of the quartet. When a performer quotes something, another performer should respond to the quote, but the response should mangle the reference, take it some place bizarre. These are only ever brief moments, small scraps.	Elec. (Electro- magnetic fields)
		Occasionally double, even quote the voice, in a Romantic mode, high up on a low string, with some nice vibrato. Make space for the voice within the texture as needed. This section becomes increasingly distorted and energized as it progresses. Coming up to 10:23 there should be a sense of everything	Occasionally double, even quote the voice, in a Romantic mode, high up on a low string, with some nice vibrato. Make space for the voice within the texture as needed. This section becomes increasingly distorted and energized as it progresses. Coming up to 10:23 there should be a sense of everything	Occasionally double, even quote the voice, in a Romantic mode, high up on a low string, with some nice vibrato. Make space for the voice within the texture as needed. This section becomes increasingly distorted and energized as it progresses. Coming up to 10:23 there should be a sense of everything	Occasionally double, even quote the voice, in a Romantic mode, high up on a low string, with some nice vibrato. Make space for the voice within the texture as needed. This section becomes increasingly distorted and energized as it progresses. Coming up to 10:23 there should be a sense of everything	

Time	Voice	Violin I	Violin II	Viola	Cello	Elec.
lime	(Singing and speaking)	Violin 1 building and agitating, energizing the cellist to shoot off into their solo at 10:23. Note: This is one of two drone sections in the piece. Each should have a different identity – this section has shades of an almost Romantic, rhapsodic feeling, despite the distortion, beats, grindings etc.	Violin II building and agitating, energizing the cellist to shoot off into their solo at 10:23. Note: This is one of two drone sections in the piece. Each should have a different identity – this section has shades of an almost Romantic, rhapsodic feeling, despite the distortion, beats, grindings etc.	Viola building and agitating, energizing the cellist to shoot off into their solo at 10:23. Note: This is one of two drone sections in the piece. Each should have a different identity – this section has shades of an almost Romantic, rhapsodic feeling, despite the distortion, beats, grindings etc.	Cello building and agitating, energizing the cellist to shoot off into their solo at 10:23. Note: This is one of two drone sections in the piece. Each should have a different identity – this section has shades of an almost Romantic, rhapsodic feeling, despite the distortion, beats, grindings etc.	Elec. (Electro- magnetic fields)
10:23	MASTER & SERVANT Oh yeah!/Shut Up!	FREEZE, hold for 5 seconds, release and get ready for next section.	FREEZE, hold for 5 seconds, release and get ready for next section.	FREEZE, hold for 5 seconds, release and get ready for next section.	The sound here is raw & aggressive, with an intense focus and precision. Shred this	

Chapter Eighteen

Timothy Donnelly *Hymn to Life*

There were no American lions. No pygmy mammoths left or giant short-faced bears, which towered over ten feet high when rearing up on their haunches. There were no stoutlegged llamas, stilt-legged llamas, no single Yukon horse. The last of the teratorns, its wingspan broader than the room in which I'm writing now, had long since landed on a tar pit's

surface and was lost. There might be other things to think of strobing in the fume or sometimes poking through the thick of it like the tiny golden toads once so prevalent in the cloud forests north of Monteverde, only none of them are living anywhere anymore. The last was seen on May 15, 1989, the week Bon Jovi's "I'll Be There for You" topped Billboard's Hot 100.

Then it dropped to three. A teratorn might have fit in here the long way come to think of it. Studies claim it wasn't climate change that killed the golden toad but a fungal epidemic provoked by cyclical weather patterns. Little things like that had a way of disappearing: thimbles, the Rocky Mountain grasshopper, half the hearing in my patient ear. There were

no Eastern elk, no sea mink, and no heath hens, a distinct subspecies of the prairie chicken. Once common to the coastal barrens of New Hampshire down to Virginia, they're often thought to have been eaten in favor of wild turkey at the inaugural Thanksgiving feast. To work on my character I pretend to be traveling Portsmouth to Arlington in modern garb at first,

then backwards into costumes of the past: tee shirt and shorts, gray flannel suit, a cutaway jacket and matching breeches tucked into boots, taupe velvet getup with ruffles and ribbons streaming into Delaware till I'm buckled like a Puritan, musket in hand, not half-famished, and there's plenty of heath hens everywhere I look. But there were still no Carolina parakeets

and no Smith Island cottontails, a long contested subspecies of the Eastern cottontail. These lost rabbits, somewhat shaggier than their mainland cousins, were named for the barrier island off the tip of Virginia's Eastern Shore, where Thomas Dale, deputy governor of the Virginia Colony, set up a salt works back in 1614, and not for the Chesapeake's other Smith Island up in Maryland, birthplace of the Smith Island cake, that state's only official dessert—a venerable confection whose pencilthin layers, numbering eight to twelve on average, lie divided by a fudge-like frosting cooked for greater lastingness, making it suitable for local oystermen to take with them on the long autumn harvest. Smith Island in Washington offers nesting

sites for tufted puffins on its rocky cliff faces as well as rest stations for migrant sea lions. Situated in Long Island Sound, Connecticut's Smith Island is among that state's famed Thimble Islands, a cluster of landmasses named for the thimbleberry, cousin to the black raspberry. During the Revolutionary War, the Thimbles were deforested to rid the sound of hiding

places for British ships. Alabama boasts no fewer than three Smith Islands. Little can be said about the one in Minnesota's Voyageurs National Park. Its neighboring islands include Rabbit, Snake, Wolf, Wigwam, Sweetnose, and Twin Alligator down here on the American side, and Little Dry, Big, and Big Dry up on the Canadian. Tomorrow should be 82° and sunny

but it won't be. The blue pike cavorted through the waters of the Great Lakes no longer. Ditto the somber blackfin cisco. Overfishing, pollution, and the introduction of nonnative species did both fish in as early as 1960 and '70, respectively. There were no spectacled cormorants, no Goff's pocket gophers, and no Ainsworth's salamanders, a species known to us only

through two specimens found on Ainsworth family property in Mississippi on June 12, 1964. That same day Nelson Mandela was sentenced to life in prison. I remember the feeling of another kind, the way they alternately lay limp in my hands then pleaded to be free. They took naps in the dampness of softened logs. There's a fine dirt, a dust I guess, that collects

under the rug I'm sitting on. I think the rough weave of it acts as rasp to our foot-bottoms then sieve to what it loosens. There were no Caribbean monk seals, eight of which no less than Christopher Columbus killed for food in 1494, and therefore no Caribbean monk seal nasal mites, an objectively hideous arachnoid parasite that resided nowhere but in the respiratory passages of the Monachus tropicalis. When it occurs to me I sweep it up. Back in the day they used to darken our skies in flocks a mile wide and 300 miles in length, enough to feather the air from Fall River down to Philadelphia, their peak population hovering above five billion, or 40% of the total roll of birds in North America, but there were no remaining

passenger pigeons, the last of their red eyes having shut in Cincinnati on September 1, 1914. Her name was Martha. Martha Washington went by Patsy as a child. Her pet raccoon was Nosey. Cozumel Island's pygmy raccoon is actually a distinct species and not, like the Barbados raccoon, a subspecies of the common. There might be as few as 250 of the former

hidden in the mangroves or prowling the wetlands for ghost crabs and lizards, whereas the latter was last seen in '64 when one was struck dead by a car in Bathsheba, a fishing village built on Barbados's eastern shore, magnet for hurricanes and pro surfers, its foamy white waters calling to mind the milk baths rumored to have kept Solomon's mother so

perilously beautiful. First the milk's lactic acid would have acted as an exfoliant, gently removing layers of the dead, dry skin to uncover younger, fresher skin waiting like artwork in Dunkirk underneath, then the milk's natural fat content would restore moisture lost to the exacting atmosphere of biblical Jerusalem, whose name in Hebrew, yireh shalem,

means "will see peace." Most versions of the story make her into an exhibitionist but the Midrash says Bathsheba, modest, was washing behind a wicker screen when Satan, seizing opportunity, appeared as a red bird to David who, cocksure with projectiles now, aimed the stone in his hands at the bird but hit the screen instead, splitting it in half and thereby

revealing our bather, the wife of Uriah the Hittite at the time but not for much longer. All these gains and losses, so mysterious from a distance, held together it has felt by nothing stronger than momentum, like a series of bicycle accidents or a pattern in the pomegranate, come to hint at a logic in time, but whether it's more fitting to say that they promise to reveal it or else threaten to is debatable. Attempts to stem the vast mosquito population in salt marshes abutting Kennedy Space Center on Florida's Merritt Island, technically a peninsula but more like a question mark of land flopped into the Atlantic, devastated the dusky seaside sparrow. Its last known specimen died on June 17, 1987, when the ballad "Always" by Atlantic Starr

dominated radio. Mosquitoes would have taken to the nasty Olduvai waterhole around which two clans of hominids battle at the start of Stanley Kubrick's 2001: A Space Odyssey. This is after the first monolith shows up. The film's monoliths are artifacts of alien origin, identical in ratio but varying in size, designed to provoke large-scale changes in human life. As when it dawns

on the wiry leader of the clan the first monolith appears to to bludgeon the other to death with a leg bone. Later on he hurls it into the air to celebrate his power, the image of its tumbling weaponhood at half-speed match-cutting to that of a long white nuclear satellite angled in orbit against the scintillant anthracite of space. Pan right to the Earth, a quarter of it silvery

blue in the corner, aloofly beautiful for sure but only a pale idea of a planet when set beside photographs taken years later by the crew of Apollo 17 on December 7, 1972, annus finalis for the Lake Peddler earthworm, bush wren, and possibly the Toolache wallaby as well, long considered among kangaroos to have been the most elegant. The sapphire blue, the ochre

of Africa, the chalk-white spirals convolving as if an icecap's wispy tentacles. They were killed for fur, sport, and frequently with the aid of greyhounds, who hunt mostly by way of sight as opposed to scent. Then the Earth is at the left as the satellite approaches it almost dozily to the opening bars of Strauss's Blue Danube, first performed on February 15, 1867, in the now

defunct Diana Ballroom. In my own Diana Ballroom, named not for the Roman goddess of the hunt, the moon, and chastity directly, but by way of the two-kilometer lunar crater christened in her honor in 1979, declivity in whose embrace my ballroom trembles comfortably, I boost my chi by remembering to breathe deep, to eat oatmeal, ginger, and figs, and to commit myself to a custody of wildflowers, up to and including the maroon perfume of the chocolate cosmos, a non-self-pollinating species whose every plant now in bloom is a clone of the selfsame specimen uprooted from a cubic foot of Mexico back in 1902. Likewise the last known Rocky Mountain locust ever to appear appeared alone that year on a prairie up in Canada, whereas

decades before a glistering storm of them blanketed an area vast as California, matter-of-factly devouring buckwheat, barley, strawberries, apple trees, fence posts, and even the laundry wildly flapping away on the line, the sound of "millions of jaws biting and chewing" setting a nation's nerves on edge, or at least Laura Ingalls Wilder's, if we're to believe her On the Banks

of Plum Creek, first of three books spectered by prototypical beeotch Nellie Oleson. Cloudiness persists regarding the difference between locust and grasshopper. Typically I keep a number of soaps on hand and seem to know by instinct which of them to reach for. In gingham and curls Nellie Oleson was played by Alison Angrim in the 1970's TV adaptation. The Wife of Bath

was also an Alyson. An Angrim is father to the outlaw Gorlim in Tolkein's Middle-Earth mythos. They say to run the tap as hot as you can stand. Fast forward a century to April 16, 2002, and dance anthem "Hot in Herre" by Cornell Haynes, Jr., better known to us as Nelly, reaches number one and reigns there seven weeks. Miss Oleson, elder offspring of the local retailer,

is based on no fewer than three distinct historical persons. Produced by The Neptunes, "Hot in Herre" samples Neil Young's record "There's a World" and lifts its hook from an infinitely more upbeat "Bustin' Loose" by Chuck Brown. Later on or earlier in 2002, up a slope in dewy Mauna Loa, a Nelly somewhere on the radio, the last pair of noncaptive Hawaiian crows flew

into the category known as "extinct in the wild." "We are leaving, we are gone," Young sings wanly atop percussion and strings courtesy of the London Symphony Orchestra. "Come with us to all alone." 'Alala is the word for the Hawaiian crow in Hawaiian. No fewer than twenty 'alala chicks were hatched in 2012 in a breeding facility at San Diego Zoo. Jack Nitszche co-produced and also played piano. "Bustin' loose to my love Jones," declares the late great Brown, dead in Baltimore mid-May of that year. "Bustin' loose to each his own." He traded cigarettes for a guitar while serving time in Virginia's historic Lorton Reformatory. An average daytime temperature of 89°. He was father to the style of music known as go-go, so-called because the sound, Brown

was said to have said, "just goes and goes." But there were no dire wolves, no Florida black wolves, and no Texas reds, although the red, morphologically midway between the gray and the coyote, has been bred in captivity down on South Carolina's Bull's Island since 1987, year Tim Tebow was born and Andy Warhol died. Likewise the year in which the films Precious, Fargo,

and American Psycho are set. "It can be hard to tell," the Times admits of the thousands who once posed for photographs in the posture known as "Tebowing," if they intended to celebrate or to mock the quarterback for his much-publicized virtuous ways. Nor were there any of the subspecies indigenous to Canada's Banks Island, Earth's twenty-fourth largest island, upon which

the first confirmed wild hybrid of the polar bear and grizzly was found and shot in 2006. The island also has the distinction of its treelessness, and of being home to fleets of muskoxen. Times I count myself among them if more comfortable in my bulk I still can't get around the funk of us. Our ancient mouths set to decimating herbages. In times of risk we assume the O-

shaped formation around our wobbly young. A sense of calm or guiltlessness blows in. Then it's back to business with another cup of coffee, hot beverage held to have been first drunk in these parts in 1668, when frothy infusions of the slow-roasted bean spiked with costly cinnamon sticks and honey grew popular along New Amsterdam's foggy docks. In tidepools to the north

eelgrass limpets affixed to eelgrass blithely at the time, unaware an insidious slime mold campaign would in centuries inflict catastrophe on their habitat, making them the first marine invertebrate to dissolve in the historical era, the last of its kind plucked while the Bank of Manhattan Trust Building whistled up past the Woolworth like a startled monk's apocalyptic vision of a cloud-bound train. It began in 1929. Sir Hubert Wilkins, Arctic explorer, advocated in The Advertiser for submarine technology as tomorrow's answer to the Northwest Passage's pack ice question. Ice had heretofore kept a surface-travel route troublingly out of reach, even after its putative discovery by Sir Robert McClure, who on his eastward voyage spotted

from atop a windy Banks Island promontory the westmost landmass mapped three decades earlier by Sir William Parry. McClure later lent his name, understood to translate to "son of a sallow lad," to a lunar crater whose diameter spans over twelve times that of Diana, but only a quarter that of the big kahuna Tycho, where a second monolith appears. This one emits

a painful radio signal to a third, which orbits like an onyx football field around Jupiter. Rewind 150 years and McClure's HMS Investigator, like a Musca domestica on a runway paved with flypaper, has come to a full stop in the blind white grip of ice. It felt like 1850. There were no Steller's sea cows, the tame kelp-nibbling cousins to the manatee, albeit double their size,

and there were no great auks. The last known pair of them was claimed on July 3, 1844 by poachers hired by a merchant itching for tchotchkes to ornament an office. Nine long winters later, rescue sledges bundled McClure and crew up and sped them back to the claps of Britain. Soon Banks Island's muskox population whittled down to nil as their flesh gave

way to the hungry Inuit who trekked up to 300 miles to strip McClure's abandoned ship before the ice crushed her completely, folding her metals into Mercy Bay. "I took him by the neck and he flapped his wings," the poacher said. "He made no cry." Inuit shaped Investigator's copper and iron into spear- and arrowheads as well as knife blades, chisels and harpoons like those

depicted in lithographs in the mitts of seal hunters patiently stationed at breathing holes in the ice. But there were no broad-leaved centaury plants, no western sassafras, and no Galapagos amaranth, cousin to the seabreach amaranth. Its tiny spinach-like leaves once bounced along dunes from South Carolina to Massachusetts till habitat loss, insensitive beachgrooming tactics and recreational vehicles slashed figures drastically. When ice decides it must feel like being splintered from a multiplex of tightness that pains but holds together. Aerial shot of 1961, year submarine thriller K-19 and Saving Mr. Banks are set in. Kennedy is president. The cloud of a hundred muskoxen migrating back to Banks Island rises plainly as

narrow-leafed campion, a handful of whose seeds had slept 30 millennia before being found in 2007 in a ruined system of ground squirrel burrows. Surveys will report up to 800 heads in 1967 and a thousand more in 1970. All matter thundercracking belowdecks: hoof of earth into water, water over air, air under water and up. So that the vessel, broken, settles

onto sea stars on the floor. The seeds were sown successfully under grow lights in Siberia, deep in whose permafrost international high-fiving scientists discovered a fully intact woolly mammoth carcass. To enlarge my sympathy I attempt to picture the loud tarp tents around the digging site, the lamplengths they putter away to, the costs. By 1994, estimates

on the island ran as high as 84,000, over half the muskoxen alive at the time, but paging ahead five years we see numbers speedily hunted back down to 58,000, or as many pounds of "fine ground beef" called back by California's Central Valley Meat Company when "tiny pieces of plastic" were found nestling in it like the voice of Katy Perry, whose hit "Roar"

was everywhere repeating we would hear it. "Called back" says Emily Dickinson's epitaph. One scientist says to the other, "What's that?" The other says, "Do you feel it, Slovo? A certain category of effect. Difficult to describe and yet a certain category of effect is still possible. You'd think it would have wizened in our atmosphere by now, or withdrawn in sickness or mere

tedium into the cold shell of itself in the manner of a what, yes, a gastropod, the very figure of a recluse, secular of course, anthropomorphic misnomer because its foot is not actually its stomach, witness the oblong rocksnail, still another thought extinct due to rampant habitat loss but no, not yet, Alabama graduate student Nathan Whelan just now located a specimen kayaking down the Cahaba River, misplaced modifier Slovo it is the student in the kayak, not the snail, badum tish, but amid the mist and as if against this vanishment of dodos a certain category persists, not unlike a last known pair of Middlemist's Red camellia, a cultivar sent as rootstock to England from China by John Middlemist in 1804." Note: One is in a garden

in New Zealand, where the laughing owl is no longer, thanks largely to cats. Its call has been described as "a loud cry made up of a series of dismal shrieks frequently repeated," "a peculiar barking noise...just like the barking of a young dog," "precisely the same as two men 'cooeying' to each other from a distance," and "a melancholy hooting note," to quote

The Owl Pages, sweet dream of a website whose first FAQ asks, "I've seen an owl, can you tell me what kind it is?" The other Middlemist's Red, long presumed barren, resides in a nursery somewhere in Britain, and stalwart through its hardships, it has begun to bloom again. The remains of the Investigator found in 2010 were well preserved by the pristine cold waters

of the Canadian Arctic. And yet no one's idea of red includes the hue of Middlemist's camellia, which is instead a true pink, or some might even say a rose. Mallarmé would just say "flower" and from oblivion there would arise musically a flower absent from all bouquets. "Whoever reaches into a rosebush," Lou Andreas-Salomé supposed, "may seize a handful of flowers,

but no matter how many one holds, it's only a small portion of the whole. Nevertheless, a handful is enough to experience the nature of the flowers. Only if we refuse to reach into the bush because we cannot possibly seize all the flowers at once, or if we spread out our handful of roses as if it were the whole bush itself—only then does it bloom apart from us, unknown

to us, and we are left alone." Endangered coastal roses seek some subtler way of putting it. "All the roses in the world," Rilke gushed to Salomé—whose Galilean namesake, it's often overlooked, didn't desire the head of John the Baptist for herself but was told to ask for it by her mother, Herodias, whose union with Herod Antipas, at once her uncle and her brother-in-law, John declared unlawful—"bloom for you and through you." Forget-me-nots bloom unhindered in Heidelberg, where Max Wolf spied in 1905 a so-called "minor planet" he named 526 Salome. That these odd bodies spatter the galaxy like pollen shaken from a central flower, or like honeybees tumbling along with us around the sun, I never knew until a visit to the Minor Planet

Center website at a turning point like April 1543. I think I saw upwards of 3500 were spotted last month alone. "Nature is an inexplicable problem," Emily Brontë wrote in 1842 in French in a confection titled "The Butterfly." "It exists on a principle of destruction." Lepidopterists are scouring Florida's pine forests and gentle costal jungles on the trail of five butterfly species

feared as good as gone. They were never listed as endangered and still aren't known to be extinct. These are their names: Zestos skipper. Rockland Meske's skipper. Zarucco duskywing. Bahamian swallowtail. Nickerbean blue. "I love you," wrote Salomé, "with all your harms," who died in her sleep shortly after the Gestapo destroyed her library, in her poem "Hymn to Life."

Her friend Nietzsche liked the poem so much he set it to music. I've listened to it and can't say I like it but I'm listening to it again as I try to finish. I promised Lynn I'd put the dishes away before the babysitter arrives but it looks like I won't be a person of my word tonight. I had meant to write about the imperial woodpecker of Mexico. The red gazelle. I told my friend Dottie

when saddened in the predawn I have seen the people pushing small mountains of soda cans in their shopping carts stop in front of my recycling, open one bag after another of empty metal and glass, dig through them, take what they need and shut the bags back up with so much care it has destroyed me. I remember bathing my daughter when she was two and how I stopped

short thinking if I were gone tomorrow she wouldn't even remember. The year was 2007. Radio waves associated with cell phones may not have been contributing to recent declines in bee population. "And if you must destroy me," says the poem, "I'll tear myself away from you / as I would leave a friend." When there was time to put away the dishes, they were gone.

Chapter Nineteen

Ursula K. LeGuin A Non-Euclidean View of California as a Cold Place to Be

Robert C. Elliott died in 1981 in the very noon of his scholarship, just after completing his book The Literary Persona. He was the truest of teachers, the kindest of friends. This paper was prepared to be read as the first in a series of lectures at his college of the University of California, San Diego, honoring his memory.

We use the French word lecture, "reading," to mean reading and speaking aloud, a performance; the French call such a performance not a lecture but a conference. The distinction is interesting. Reading is a silent collaboration of reader and writer, apart; lecturing, a noisy collaboration of lecturer and audience, together. The peculiar patchwork form of this paper is my attempt to make it a "conference," a performable work, a piece for voices. The time and place, a warm April night in La Jolla in 1982, are past, and the warm and noisy audience must be replaced by the gentle reader; but the first voice is still that of Bob Elliott.

In The Shape of Utopia, speaking of our modern distrust of utopia, he said,

If the word is to be redeemed, it will have to be by someone who has followed utopia into the abyss which yawns behind the Grand Inquisitor's vision, and who then has clambered out on the other side.¹

That is my starting point, that startling image; and my motto is:

Usà puyew usu wapiw!

We shall be returning to both, never fear; what I am about here is returning. In the first chapter of The Shape of Utopia, Bob points out that in the great participatory festivals such as Saturnalia, Mardi Gras, or Christmas, the age of peace and equality, the Golden Age, may be lived in an interval set apart for it, a time outside of daily time. But to bring perfect communitas into the structure of ordinary society would be a job only Zeus could handle; or, "if one does not believe in Zeus's good will, or even in his existence," says Bob, it becomes a job for the mind of man.

Utopia is the application of man's reason and his will to the myth [of the Golden Age], man's effort to work out imaginatively what happens — or might happen — when the primal longings embodied in the myth confront the principle of reality. In this effort man no longer merely dreams of a divine state in some remote time: he assumes the role of creator.²

Now, the Golden Age, or Dream Time, is remote only from the rational mind. It is not

¹ Robert C. Elliott, *The Shape of Utopia* (Chicago: University of Chicago Press, 1970), p. 100.

accessible to euclidean reason; but on the evidence of all myth and mysticism, and the assurance of every participatory religion, it is, to those with the gift or discipline to perceive it, right here, right now. Whereas it is of the very essence of the rational or Jovian utopia that it is not here and not now. It is made by the reaction of will and reason against, away from, the here-and-now, and it is, as More said in naming it, nowhere. It is pure structure without content; pure model; goal. That is its virtue. Utopia is uninhabitable. As soon as we reach it, it ceases to be utopia. As evidence of this sad but ineluctable fact, may I point out that we in this room, here and now, are inhabiting utopia.

I was told as a child, and like to believe, that California was named "The Golden State" not just for the stuff Sutter found but for the wild poppies on its hills and the wild oats of summer. To the Spanish and the Mexicans I gather it was the boondocks; but to the Anglos it has been a true utopia: the Golden Age made accessible by willpower, the wild paradise to be tamed by reason; the place where you go free of the old bonds and cramps, leaving behind your farm and your galoshes, casting aside your rheumatism and your inhibitions, taking up a new "life style" in a not-here-not-now where everybody gets rich quick in the movies or finds the meaning of life or anyhow gets a good tan hang-gliding. And the wild oats and poppies still come up pure gold in cracks in the cement we have poured over utopia.

In "assuming the role of the creator" we seek what Lao Tzu calls "the profit of what is not," rather than participating in what is. To reconstruct the world, to rebuild or rationalize it, is to run the risk of losing or destroying what in fact is.

After all, California was not empty when the Anglos came. Despite the efforts of the missionaries, it was still the most heavily populated region in North America.

What the Whites perceived as a wilderness to be "tamed" was in fact better known to human beings than it has ever been since: known and named. Every hill, every valley, creek, canyon, gulch, gully, draw, point, cliff, bluff, beach, bend, good-sized boulder, and tree of any character had its name, its place in the order of things. An order was perceived, of which the invaders were entirely ignorant. Each of those names named, not a goal, not a place to get to, but a place where one is: a center of the world. There were centers of the world all over California. One of them is a bluff on the Klamath River. Its name was Katimin. The bluff is still there, but it has no name, and the center of the world is not there. The six directions can meet only in lived time, in the place people call home, the seventh direction, the center.

But we leave home, shouting Avanti! and Westward Ho! driven by our godlike reason, which chafes at the limited, intractable, unreasonable present, and yearns to free itself from the fetters of the past.

"People are always shouting they want to create a better future," says Milan Kundera, in The Book of Laughter and Forgetting It's not true. The future is an apathetic void of no interest to anyone. The past is full of life, eager to irritate us, provoke and insult us, tempt us to destroy or repaint it. The only reason people want to be masters of the future is to change the past.³

And at the end of the book he talks to the interviewer about forgetting: forgetting is

The great private problem of man: death as the loss of the self. But what is this self? It is the sum of everything we remember. Thus, what terrifies us about death is not the loss of the future but the loss of the past.⁴

And so, Kundera says, when a big power wants to deprive a small one of its national identity, of its self-consciousness, it uses what he calls the "method of organized forgetting."

And when a future-oriented culture impinges upon a present-centered one, the method becomes a compulsion. Things are forgotten wholesale. What are the names "Costanoan," "Wappo"? They are what the Spanish called the people around the Bay Area and in the Napa Valley, but what those people called themselves we do not know: the names were forgotten even before the people were wiped out. There was no past. Tabula rasa.

One of our finest methods of organized forgetting is called discovery. Julius Caesar exemplifies the technique with characteristic elegance in his Gallic Wars. "It was not certain that Britain existed," he says, "until I went there."

To whom was it not certain? But what the heathen know doesn't count. Only if godlike Caesar sees it can Britannia rule the waves.

Only if a European discovered or invented it could America exist. At least Columbus had the wit, in his madness, to mistake Venezuela for the outskirts of Paradise. But he remarked on the availability of cheap slave labor in Paradise.

The first chapter of California: An Interpretive History, by Professor Walton Bean, contains this paragraph:

The survival of a Stone Age culture in California was not the result of any hereditary biological limitations on the potential of the Indians as a "race." They had been geographically and culturally isolated. The vast expanses of oceans,

³ Milan Kundera, *The Book of Laughter and Forgetting*, trans. Michael Henry Heim (New York: Penguin Books, 1981), p. 22.

⁴ Ibid., pp. 234–35.

mountains, and deserts had sheltered California from foreign stimulation as well as from foreign conquest...

(being isolated from contact and protected from conquest are, you will have noticed, characteristics of utopia),

...and even within California the Indian groups were so settled that they had little contact with each other. On the positive side, there was something to be said for their culture just as it was.... The California Indians had made a successful adaptation to their environment and they had learned to live without destroying each other.⁵

Professor Bean's excellent book is superior to many of its kind in the area of my particular interest: the first chapter. Chapter One of the American history — South or North America, national or regional — is usually short. Unusually short. In it, the "tribes" that "occupied" the area are mentioned and perhaps anecdotally described. In Chapter Two, a European "discovers" the area; and with a gasp of relief the historian plunges into a narration of the conquest, often referred to as settlement or colonization, and the acts of the conquerors. Since history has traditionally been defined by historians as the written record, this imbalance is inevitable. And in a larger sense it is legitimate; for the non-urban people of the Americas had no history, properly speaking, and therefore are visible only to the anthropologist, not to the historian, except as they entered into White history.

The imbalance is unavoidable, legitimate, and also, I believe, very dangerous. It expresses too conveniently the conquerors' wish to deny the value of the cultures they destroyed, and dehumanize the people they killed. It partakes too much of the method of organized forgetting. To call this "the New World" — there's a Caesarian birth!

The words "holocaust" and "genocide" are fashionable now; but not often are they applied to American history. We were not told in school in Berkeley that the history of California had the final solution for its first chapter. We were told that the Indians "gave way" before the "march of progress."

In the introduction to The Wishing Bone Cycle, Howard A. Norman says:

The Swampy Cree have a conceptual term which I've heard used to describe the thinking of a porcupine as he backs into a rock crevice:

Usà puyew usu wapiw!

"He goes backward, looks forward." The porcupine consciously goes backward in order to speculate safely on the future, allowing him to look out at his enemy or the new day. To the Cree, it's an instructive act of self-preservation.⁶

The opening formula for a Cree story is "an invitation to listen, followed by the phrase 'I go backward, look forward, as the porcupine does."⁷

In order to speculate safely on an inhabitable future, perhaps we would do well to find a rock crevice and go backward. In order to find our roots, perhaps we should look for them where roots are usually found. At least the Spirit of Place is a more benign one than the exclusive and aggressive Spirit of Race, the mysticism of blood that has cost so much blood. With all our self-consciousness, we have very little sense of where we live, where we are right here right now. If we did, we wouldn't muck it up the way we do. If we did, our literature would celebrate it. If we did, our religion might be participatory. If we did — if we really lived here, now, in this present — we might have some sense of our future as a people. We might know where the center of the world is.

...Ideally, at its loftiest and most pure, the utopia aspires to (if it has never reached) the condition of the idyll as Schiller describes it — that mode of poetry which would lead man, not back to Arcadia, but forward to Elysium, to a state of society in which man would be at peace with himself and the external world.⁸

The California Indians had made a successful adaptation to their environment and they had learned to live without destroying each other.⁹

It was Arcadia, of course; it was not Elysium. I heed Victor Turner's warning not to confuse archaic or primitive societies with the true communitas, "which is a dimension of all societies, past and present."¹⁰ I am not proposing a return to the Stone Age. My intent is not reactionary, nor even conservative, but simply subversive. It seems that the utopian imagination is trapped, like capitalism and industrialism and the human population, in a one-way future consisting only of growth. All I'm trying to do is figure out how to put a pig on the tracks.

6 Howard A. Norman, introduction to *The Wishing Bone Cycle* (New York: Stonehill Publishing Co., 1979).

- 7 Ibid.
- 8 Elliott, p. 107.
- 9 Bean, p. 4.

10 Victor W. Turner, *The Ritual Process: Structure and Anti-Structure* (Chicago: Aldine Publishing Co., 1969), p. 129.

Go backward. Turn and return.

If the word [utopia] is to be redeemed, it will have to be by someone who has followed utopia into the abyss which yawns behind the Grand Inquisitor's vision.¹¹

The utopia of the Grand Inquisitor

is the product of "the euclidean mind" (a phrase Dostoyevsky often used), which is obsessed by the idea of regulating all life by reason and bringing happiness to man whatever the cost.¹²

The single vision of the Grand Inquisitor perceives the condition of man in a way stated with awful clarity by Yevgeny Zamyatin, in We:

There were two in paradise, and the choice was offered to them: happiness without freedom, or freedom without happiness. No other choice.¹³

No other choice. Hear now the voice of Urizen!

Hidden, set apart in my stern counsels Reserved for days of futurity, I have sought for a joy without pain For a solid without fluctuation...

Lo, I unfold my darkness and on This rock place with strong hand the book Of eternal brass, written in my solitude.

Laws of peace, of love, of unity, Of pity, compassion, forgiveness. Let each choose one habitation, His ancient infinite mansion, One command, one joy, one desire, One curse, one weight, one measure One King, One God, one Law. ¹⁴

- 11 Elliott, p. 100.
- 12 Ibid.
- 13 Quoted in Elliott, p. 94.
- 14 William Blake, *The Book of Urizen*, lines 52–55, 75–84.

In order to believe in utopia, Bob Elliott said, we must believe

That through the exercise of their reason men can control and in major ways alter for the better their social environment.... One must have faith of a kind that our history has made nearly inaccessible.¹⁵

"When the Way is lost," Lao Tzu observed in a rather similar historical situation a few thousand years earlier,

there is benevolence. When benevolence is lost, there is justice. When justice is lost there are the rites. The rites are the end of loyalty and good faith, the beginning of disorder.¹⁶

"Prisons," said William Blake, "are built with stones of Law."¹⁷ And coming back to the Grand Inquisitor, we have Milan Kundera restating the dilemma of Happiness versus Freedom:

Totalitarianism is not only hell, but also the dream of paradise — the age-old dream of a world where everybody would live in harmony, united by a single common will and faith, without secrets from one another.... If totalitarianism did not exploit these archetypes, which are deep inside us all and rooted deep in all religions, it could never attract so many people, especially during the early phases of its existence. Once the dream of paradise starts to turn into reality, however, here and there people begin to crop up who stand in its way, and so the rulers of paradise must build a little gulag on the side of Eden. In the course of time this gulag grows ever bigger and more perfect, while the adjoining paradise gets ever smaller and poorer.¹⁸

The purer, the more euclidean the reason that builds a utopia, the greater is its self-destructive capacity. I submit that our lack of faith in the benevolence of reason as the controlling power is well founded. We must test and trust our reason, but to have *faith* in it is to elevate it to godhead. Zeus the Creator takes over. Unruly Titans are sent to the salt mines, and inconvenient Prometheus to the reservation. Earth itself comes to be the wart on the walls of Eden.

The rationalist utopia is a power trip. It is a montheocracy, declared by executive decree, and maintained by willpower; as its premise is progress, not process, it has no habitable present, and speaks only in the future tense. And in the end reason itself must reject it.

¹⁵ Elliott, p. 87.

¹⁶ Lao Tzu, *Tao Teh Ching*, Book II, Chapter 38.

¹⁷ William Blake, *The Marriage of Heaven and Hell*, Book III, Proverbs of Heaven and Hell, line 21.

¹⁸ Kundera, p. 233.

"O that I had never drank the wine nor eat the bread Of dark mortality, nor cast my view into futurity, nor turned My back darkening the present, clouding with a cloud, And building arches high and cities, turrets and towers and domes Whose smoke destroyed the pleasant garden, and whose running kennels Choked the bright rivers....

Then go, O dark futurity! I will cast thee forth from these Heavens of my brain, nor will I look upon futurity more. I cast futurity away, and turn my back upon that void Which I have made, for lo! futurity is in this moment...."

So Urizen spoke....

Then, glorious bright, exulting in his joy, He sounding rose into the heavens, in naked majesty, In radiant youth....¹⁹

That is certainly the high point of this paper. I wish we could follow Urizen in his splendid vertical jailbreak, but it is a route reserved to the major poets and composers. The rest of us must stay down here on the ground, walking in circles, proposing devious side trips, and asking impertinent questions. My question now is: Where is the place Coyote made?

In a paper about teaching utopia, Professor Kenneth Roemer says:

The importance of this question was forced upon me several years ago in a freshman comp course at the University of Texas at Arlington. I asked the class to write a paper in response to a hypothetical situation: if you had unlimited financial resources and total local, state, and national support, how would you transform Arlington, Texas into utopia? A few minutes after the class had begun to write, one of the students — a mature and intelligent woman in her late thirties — approached my desk. She seemed embarrassed, even upset. She asked, "What if I believe that Arlington, Texas, *is* utopia?"²⁰

What do you do with her in Walden Two?

Utopia has been euclidean, it has been European, and it has been masculine. I am trying to suggest, in an evasive, distrustful, untrustworthy fashion, and as obscurely as I can, that our final loss of faith in that radiant sandcastle may enable our eyes to adjust to a dimmer light

¹⁹ William Blake, Vala, or the Four Zoas, Book IX, lines 162–167, 178–181, 186, 189–191.

²⁰ Kenneth Roemer, "Using Utopia to Teach the Eighties," World Future Society Bulletin (July-August 1980).

and in it perceive another kind of utopia. As this utopia would not be euclidean, European, or masculinist, my terms and images in speaking of it must be tentative and seem peculiar. Victor Turner's antitheses of structure and *communitas* are useful to my attempt to think about it: structure in society, in his terms, is cognitive, *communitas* existential; structure provides a model, *communitas* a potential; structure classifies, *communitas* reclassifies; structure is expressed in legal and political institutions, *communitas* in art and religion.

Communitas breaks in through the interstices of structure, in liminality; at the edges of structure, in marginality; and from beneath structure, in inferiority. It is almost everywhere held to be sacred or "holy," possibly because it transgresses or dissolves the norms that govern structured or institutionalized relationships and is accompanied by experiences of unprecedented potency.²¹

Utopian thought has often sought to institutionalize or legislate the experience of communitas, and each time it has done so it has run up against the Grand Inquisitor.

The activities of a machine are determined by its structure, but the relation is reversed in organisms — organic structure is determined by its processes.²²

That is Fritjof Capra, providing another useful analogy. If the attempt to provide a structure that will ensure *communitas* is impaled on the horns of its own dilemma, might one not abandon the machine model and have a go at the organic — permitting process to determine structure? But to do is to go even further than the Anarchists, and to risk not only being called by being in fact regressive, politically naïve, Luddite, and anti-rational. Those are real dangers (though I admit that the risk of being accused of not being in the Main Current of Western Thought is one I welcome the opportunity to run). What kind of utopia can come out of these margins, negations, and obscurities?²³ Who will even recognize it as a utopia? It won't look the way it ought to. It may look very like some kind of place Coyote made after having a conversation with his own dung.

21 Turner, p. 128.

22 Fritjof Capra, The Turning Point (New York: Simon & Schuster, 1982). Excerpted in Science Digest (April 1982), p. 30.

When I was struggling with the writing of this piece, I had not read the four volumes of Robert Nichols' Daily Lives in Nghsi-Altai (New York: New Directions, 1977–79). I am glad that I had not, because my thoughts could not then have so freely and fecklessly coincided, collided, and intersected with his. My paper would have been written in the consciousness of the existence of Nghsi-Altai, as Pierre Menard's Quixote was written in the consciousness of the existence of Cervantes' Quixote and might have been even more different from what it is than Menard's Quixote from Cervantes'. But it can be and I hope will be read in the consciousness of the existence of Nghsi-Altai is in some respects the very place I was laboriously trying to get to, and yet lies in quite the opposite direction, can only enlarge the use and meaning of my work. Indeed, if this note leads some readers to go find Nghsi-Altai for themselves, the whole thing will have been worthwhile. The symbol which Trickster embodies is not a static one.

Paul Radin speaking. You will recall that the quality of static perfection is an essential element of the non-inhabitability of the euclidean utopia (a point that Bob Elliott discusses with much cogency).

The symbol which Trickster embodies is not a static one. It contains within itself the promise of differentiation, the promise of god and man. For this reason every generation occupies itself with interpreting Trickster anew. No generation understands him fully but no generation can do without him...for he represents not only the undifferentiated and distant past, but likewise the undifferentiated present within every individual.... If we laugh at him, he grins at us. What happens to him happens to us.²⁴

And he never was in Eden, because coyotes live in the New World. Driven forth by the angel with the flaming sword, Eve and Adam lifted their sad heads and saw Coyote, grinning.

Non-European, non-euclidean, non-masculinist: they are all negative definitions, which is all right, but tiresome; and the last is unsatisfactory, as it might be taken to mean that the utopia I'm trying to approach could only be imagined by women — which is possible — or only inhabited by women — which is intolerable. Perhaps the word I need is yin.

Utopia has been yang. In one way or another, from Plato on, utopia has been the big yang motorcycle trip. Bright, dry, clear, strong, firm, active, aggressive, lineal, progressive, creative, expanding, advancing, and hot.

Our civilization is now so intensely yang that any imagination of bettering its injustices or eluding its self-destructiveness must involve a reversal.

The ten thousand things arise together and I watch their return. They return each to its root. Returning to one's roots is known as stillness. Returning to one's destiny is known as the constant. Knowledge of the constant is known as discernment. To ignore the constant is to go wrong, and end in disorder. ²⁵

²⁴ Paul Radin, *The Trickster* (New York: Philosophical Library, 1956), p. 168.

²⁵ Lao Tzu, Book I, Chapter 16.
To attain the constant, we must return, go round, go inward, go yinward. What would a yin utopia be? It would be dark, wet, obscure, weak, yielding, passive, participatory, circular, cyclical, peaceful, nurturant, retreating, contracting, and cold.

Now on the subject of heat and cold: a reference in The Shape of Utopia sent me to a 1960 lecture by M. Lévi-Strauss, "The Scope of Anthropology," which so influenced my efforts to think out this paper that I wish to quote from it at some length, with apologies to those of you to whom the passage is familiar. He is speaking of "primitive" societies.

Although they exist in history, these societies seem to have worked out or retained a certain wisdom which makes them desperately resist any structural modification which might afford history a point of entry into their lives. The societies which have best protected their distinctive character appear to be those concerned above all with persevering in their existence.²⁶

Persevering in one's existence is the particular quality of the organism; it is not a progress towards achievement, followed by stasis, which is the machine's mode, but an interactive, rhythmic, and unstable process, which constitutes an end in itself.

The way in which they exploit the environment guarantees them a modest standard of living as well as the conservation of natural resources. Though various, their rules of marriage reveal to the demographer's eye a common function; to set the fertility rate very low, and to keep it constant. Finally, a political life based upon consent, and admitting of no decisions but those arrived at unanimously, would seem designed to preclude the possibility of calling on that driving force of collective life which takes advantage of the contrast between power and opposition, majority and minority, exploiter and exploited.

Lévi-Strauss is about to make his distinction between the "hot" societies, which have appeared since the Neolithic Revolution, and in which "differentiations between castes and between classes are urged without cease, in order that social change and energy may be extracted from them," and the "cold" societies, self-limited, whose historical temperature is pretty near zero.

The relevance of this beautiful piece of anthropological thinking to my subject is immediately proven by Lévi-Strauss himself, who in the next paragraph thanks Heaven that anthropologists are not expected to predict man's future, but says that if they were, instead of merely extrapolating from our own "hot" society, they might propose a progressive integration of the

Claude Lévi-Strauss, *The Scope of Anthropology* (London: Jonathan Cape, 1968), pp. 46–47. Also included in *Structural Anthropology II* (New York: Basic Books, 1976), pp. 28–30. The version here is my own amalgam of the two translations.

best of the "hot" with the best of the "cold."

If I understand him, this unification would involve carrying the Industrial Revolution, already the principal source of social energy, to its logical extreme: the completed Electronic Revolution. After this, change and progress would be strictly cultural and, as it were, machinemade.

With culture having integrally taken over the burden of manufacturing process, society..., placed outside and above history, could once more assume that regular and as it were crystalline structure, which the surviving primitive societies teach us is not antagonistic to the human condition.

The last phrase, from that austere and somber mind, is poignant.

As I understand it, Lévi-Strauss suggests that to combine the hot and the cold is to transfer mechanical operational modes to machines while retaining organic modes for humanity. Mechanical process; biological rhythm. A kind of superspeed electronic yang train, in whose yin pullmans and dining cars life is serene and the rose on the table does not even tremble. What worries me in this model is the dependence upon the cybernetics as the integrating function. Who's up in the engineer's seat? Is it on auto? Who wrote the program — old Nobodaddy Reason again? Is it another of those trains with no brakes?

It may simply be the bad habits of my mind that see in this brief utopian glimpse a brilliant update of an old science-fiction theme: the world where robots do the work while the human beings sit back and play. These were always satirical works. The rule was that either an impulsive young man wrecked the machinery and saved humanity from stagnation, or else the machines, behaving with impeccable logic, did away with the squashy and superfluous people. The first and finest of the lot, E. M. Forster's "The Machine Stops," ends on a characteristic double chord of terror and promise: the machinery collapses, the crystalline society is shattered with it, but outside there are free people — how civilized, we don't know, but outside and free.

We're back to Kundera's wart on the walls of Eden — the exiles from paradise in whom the hope of paradise lies, the inhabitants of the gulag who are the only free souls. The information systems of the train are marvelous, but the tracks run through Coyote country.

In ancient times the Yellow Emperor first used benevolence and righteousness and meddled with the minds of men. Yao and Shun followed him and worked till there was no more hair on their shins...in the practice of benevolence and righteousness, taxed their blood and breath in the establishment of laws and standards. But still some would not submit to their rule, and had to be exiled, driven away... The world coveted knowledge... there were axes and saws to shape things, ink and plumblines to trim them, mallets and gouges to poke holes in them, and the world, muddled and deranged, was in great confusion.²⁷

That is Chuang Tzu, the first great Trickster of philosophy, sending a raspberry to the Yellow Emperor, the legendary model of rational control. Things were hot in Chuang Tzu's day, too, and he proposed a radical cooling off. The best understanding, he said, "rests in what it cannot understand. If you do not understand this, then Heaven the Equalizer will destroy you."²⁸²⁹

Having copied out this sentence, I obeyed, letting my understanding rest in what it could not understand, and went to the I Ching. I asked that book please to describe a yin utopia for me. It replied with Hexagram 30, the doubled trigram Fire, with a single changing line in the first place taking me to Hexagram 56, the Wanderer. The writing of the rest of this paper and the revisions of it were considerably influenced by a continuing rumination of those texts.

If utopia is a place that does not exist, then surely (as Lao Tzu would say) the way to get there is by the way that is not a way. And in the same vein, the nature of the utopia I am trying to describe is such that if it is to come, it must exist already.

I believe that it does:³⁰ most clearly as an element in such deeply unsatisfactory utopian works as Hudson's A Crystal World or Aldous Huxley's Island. Indeed Bob Elliott ended his book on utopia with a discussion of Island. Huxley's "extraordinary achievement," he says, "is to have made the old utopian goal — the central human goal — thinkable once more."³¹ Those are the last words of the book. It is very like Bob that they should not be the closing but the opening of a door.

The major utopic element in my novel The Dispossessed is a variety of pacifist anarchism, which is about as yin as a political ideology can get. Anarchism rejects the identification of civilization with the state, and the identification of power with coercion; against the inherent violence of the "hot" society it asserts the value of such antisocial behavior as the general refusal of women to bear arms in war; and other coyote devices. In these areas anarchism and Taoism converge both in matter and manner, and so I came there to play my fictional games. The structure of the book may suggest the balance-in-motion and rhythmic recurrence of the Tai

27 *The Complete Works of Chuang Tzu*, trans. Burton Watson (New York: Columbia University Press, 1968), p. 116.

28 Ibid., p. 254.

29 "Heaven the Equalizer" was translated by James Legge as "the Lathe of Heaven," a fine phrase, from which I have got considerable mileage; but Joseph Needham has gently pointed out to me that when Chuang Tzu was writing the Chinese had not yet invented the Lathe. Fortunately we now have Burton Watson's wonderfully satisfying translation to turn to.

30 In Nghsi-Altai — partly.

31 Elliott, p. 153.

Chi, but its excess yang shows: though the utopia was (both in fact and in fiction) founded by a woman, the protagonist is a man; and he dominates in it, I must say, a very masculine fashion. Fond as I am of him, I'm not going to let him talk here. I want to hear a different voice. This is Lord Dorn, addressing the Council of his country, on June 16, 1906. He is talking not to, but about, us.

With them the son and the father are of different civilizations and are strangers to each other. They move too fast to see more than the surface glitter of a life too swift to be real. They are assailed by too many new things ever to find the depths in the old before it has gone by. The rush of life past them they call progress, though it is too rapid for them to move with it. Man remains the same, baffled and astonished, with a heap of new things around him but gone before he knows them. Men may live many sorts of lives, and this they call "opportunity," and believe opportunity good without ever examining any one of those lives to know if it is good. We have fewer ways of life and most of us never know but one. It is a rich way, and its richness we have not yet exhausted.... They cannot be blamed for seeing nothing good in us that will be destroyed by them. The good we have they do not understand, or even see.³²

Now, this speech might have been made in the council of any non-Western nation or people at the time of its encounter with Europeans in numbers. This could be a Kikuyu talking, or a Japanese — and certainly Japan's decision to Westernize was in the author's mind — and it is almost painfully close to the observations of Black Elk, Standing Bear, Plenty-Coups, and other native North American spokesmen.

Islandia is not a hot but a warm society: it has a definite though flexible class hierarchy, and has adopted some elements of industrial technology; it certainly has and is conscious of its history, though it has not yet entered into world history, mainly because, like California, it is geographically marginal and remote. In this central debate at the Council of Islandia, the hinge of the book's plot and structure, a deliberate choice is made to get no hotter: to reject the concept of progress as a wrong direction, and to accept persevering in one's existence as a completely worthy social goal.

In how many other utopias is this choice rationally propounded, argued, and made?

It is easy to dismiss Islandia as a mere fantasy of the Golden Age, naively escapist or regressive. I believe it is a mistake to do so, and that the options it offers are perhaps more realistic and more urgent than those of most utopias. Here is M. Lévi-Strauss once more, this time on the subject of viruses:

The reality of a virus is almost of an intellectual order. In effect, its organism is reduced practically to the genetic formula that it injects into simple or complex beings, thus forcing their cells to betray their characteristic formula in order to obey its own and to manufacture beings like itself.

In order for our civilization to appear, the previous and simultaneous existence of other civilizations was necessary. And we know, since Descartes, that its originality consists essentially of a method which, because of its intellectual nature, is not suited to generating other civilizations of flesh and blood, but one which can impose its formula on them and force them to become like it. In comparison with these civilizations — whose living art expresses their corporeal quality because it relates to very intense beliefs and, in its conception as much as in its execution, to a certain state of equilibrium between man and nature — does our own civilization correspond to an animal or a viral type?³³

This is the virus that Lord Dorn saw carried by the most innocent tourist from Europe or the United States: a plague against which his people had no immunity. Was he wrong?

Any small society that tried to make Lord Dorn's choice has, in fact, been forcibly infected; and the big, numerous civilizations — Japan, India, and now China — have either chosen to infect themselves with the viral fever or have failed to make any choice, all too often mixing the most exploitive features of the hot world with the most passive of the cold in a way that almost guarantees the impossibility of their persevering in their own existence of allowing local nature to continue in health. I wanted to speak of *Islandia* because I know no other utopian work that takes for its central intellectual concern this matter of "Westernization" or "progress," which is perhaps the central fact of our times. Of course the book provides no answer or solution; it simply indicates the way that cannot be gone. It is an enantiodroma, a *reculer* pour *mieux sauter*, a porcupine backing into a crevice. It goes sideways. That's very likely why it gets left out of the survey courses in Utopian Lit. But side trips and reversals are precisely what minds stuck in forward gear most need, and in its very quality of forswearing "futurity," of standing aside — and of having been left aside — *Islandia* is, I suggest, a valuable as well as an endearing book.

It is to some degree a Luddite book as well; and I am forced to now ask: Is it our high technology that gives our civilization its invasive, self-replicating, mechanical forward drive? In itself, and technology is "infectious" only as other useful or impressive elements of culture are; ideas, institutions, fashions too, may be self-replicating and irresistibly imitable.

Obviously, technology is an essential element of all cultures and very often, in the form of potsherds or bits of styrofoam, all they leave behind in time. It is far too basic to all civilizations to be characterized in itself as either yin or yang, I think. But at this time, here and now, the continuously progressing character of our technology, and the continuous change that depends upon it — "the manufacture of progress," as Lévi-Strauss called it — is the principal vehicle of the yang, or "hotness," of our society.

One need not smash one's typewriter and go bomb the laundromat, after all, because one has lost faith in the continuous advance of technology as the way towards utopia. Technology remains, in itself, an endless creative source. I only wish that I could follow Lévi-Strauss in seeing it as leading from the civilization that turns men into machines to "the civilization that will turn machines into men."³⁴ But I cannot. I do not see how even the most ethereal technologies promised by electronics and information theory can offer more than the promise of the simplest tool: to make life materially easier, to enrich us. That is a great promise and gain! But if this enrichment of one type of civilization occurs only at the cost of the destruction of the planet, then it seems fairly clear to me that to count upon technological advance for anything but technological advance is a mistake. I have not been convincingly shown, and seem to be totally incapable of imagining for myself, how any further technological advance of any kind will bring us any closer to being a society predominantly concerned with preserving its existence; a society with a modest standard of living, conservative of natural resources, with a low constant fertility rate and a political life based upon consent; a society that has made a successful adaptation to its environment and has learned to live without destroying itself or the people next door. But that is the society I want to be able to imagine — I must be able to imagine, for one does not get on without hope.

What are we offered by way of hope? Models, plans, blueprints, wiring diagrams. Prospects of ever more inclusive communications systems linking virus to virus all over the globe — no secrets, as Kundera says. Little closed orbiting test-tubes full of viruses, put up by the L-5 Society, in perfect obedience to our compulsion to, as they say, "build the future" — to be Zeus, to have power over what happens, to control. Knowledge is power, and we want to know what comes next, we want it all mapped out.

Coyote country has not been mapped. The way that cannot be gone is not in the road atlas, or is every road in the atlas.

In the *Handbook of the Indians of California*, A. L. Kroeber wrote, "The California Indians... usually refuse pointblank to make even an attempt [to draw a map], alleging utter inability."³⁵

34 Lévi-Strauss, *Scope of Anthropology*, p. 49.

35 Alfred L. Kroeber, *Handbook of the Indians of California, Smithsonian Institution, Bureau of American Ethnology Bulletin* no. 78 (Washington, D. C., 1925), p. 344.

The euclidean utopia is mapped; it is geometrically organized, with the parts labeled a, a', b: a diagram or model, which social engineers can follow and reproduce. Reproduction, the viral watchword.

In the Handbook, discussing the so-called Kuksu Cult or Kuksu Society — a clustering of rites and observances found among the Yuki, Pomo, Maidu, Wintu, Miwok, Costanoan, and Esselen peoples of Central California — Kroeber observed that our use of the terms "the cult" or "a society," our perception of a general or abstract entity, Kuksu, falsifies the native perception:

The only societies were those of the town unit. They were not branches, because there was no parent stem. Our method, in any such situation, religious or otherwise, is to constitute a central and superior body. Since the day of the Roman empire and the Christian church, we hardly think of a social activity except as it is coherently organized into a definite unit definitely subdivided.

But it must be recognized that such a tendency is not an inherent and inescapable one of all civilization. If we are able to think socially only in terms of an organized machine, the California native was just as unable to think in those terms.

When we recall with how slender a machinery and how rudimentary an organization the whole business of Greek civilization was carried out, it becomes easily intelligible that the...Californian could dispense with almost all endeavors in this direction, which to us seem vital.³⁶

Copernicus told us that the earth was not the center. Darwin told us that man is not the center. If we listened to the anthropologists we might hear them telling us, with appropriate indirectness, that the White West is not the center. The center of the world is a bluff on the Klamath River, a rock in Mecca, a hole in the ground in Greece, nowhere, its circumference everywhere.

Perhaps the utopist should heed this unsettling news at last. Perhaps the utopist would do well to lose the plan, throw away the map, get off the motorcycle, put on a very strange-looking hat, bark sharply three times, and trot off looking thin, yellow, and dingy across the desert and up into the digger pines.

I don't think we're ever going to get to utopia again by going forward, but only roundabout or sideways; because we're in a rational dilemma, an either/or situation as perceived by the binary computer mentality, and neither the either nor the or is a place where people can live. Increasingly often in these increasingly hard times I am asked by people I respect and admire, "Are you going to write books about the terrible injustice and misery of our world, or are you going to write escapist and consolatory fantasies?" I am urged by some to do one — by some to do the other. I am offered the Grand Inquisitor's choice. Will you choose freedom without happiness, or happiness without freedom? The only answer one can make, I think is: No.

Back round once more. Usà puyew usu wapiw!

If the word [utopia] is to be redeemed, it will have to be by someone who has followed utopia into the abyss which yawns behind the Grand Inquisitor's vision, and who then has clambered out on the other side.³⁷

Sounds like Coyote to me. Falls into things, traps, abysses, and then clambers out somehow, grinning stupidly. Is it possible that we are in fact no longer confronting the Grand Inquisitor? Could he be the Father Figure whom we have set up before us? Could it be that by turning around we can put him behind us, and leave him staring like Ozymandias King of Kings out across the death camps, the gulags, the Waste Land, the uninhabitable kingdom of Zeus, the binary-option, single-vision country where one must choose between happiness and freedom?

If so, then we are in the abyss behind him. Not out. A typical Coyote predicament. We have got ourselves into a really bad mess and have got to get out; and we have to be sure that it's the other side we get out to; and when we do get out, we shall be changed.

I have no idea who we will be or what it may be like on the other side, though I believe there are people there. They have always lived there. There are songs they sing there; one of the songs is called "Dancing at the edge of the world." If we, clambering up out of the abyss, ask questions of them, they won't draw maps, alleging utter inability; but they may point. One of them might point in the direction of Arlington, Texas. I live there, she says. See how beautiful it is!

This is the New World! we will cry, bewildered but delighted. We have discovered the New World!

Oh no, Coyote will say. No, this is the old world. The one I made.

You made it for us! we will cry, amazed and grateful.

I wouldn't go so far as to say that, says Coyote.

Chapter Twenty

Kathelin Gray Last Chance

Zenith broods, unsettled in her usual chair in the British Library, trying to focus on writing. Instead she is consumed by contradictions.

how to breathe life into thoughts that sit so uneasily in language? i want to retreat to a kiva of the mind and inhabit physicality directly. why try to render into words

She checks her email. Inbox empty. Once again she reviews paragraphs of her essay:

"Underfoot, geochemical processes burn, surge, shift, layer, settle, until at high noon on a steamy August day, Vesuvius explodes. Life for survivors changes forever. Then generational amnesia sets in, and dainty ground tremors, echoes of distant thunder, faint scent of sulphur, become familiar background accompaniments to lunch.

But catastrophe has struck as we slept, and not just in the Bay of Napoli. The biosphere overheats, in every corner of land and sea. In slow motion, we relive the day in Pompeii when a 300°C volcanic surge flash-cooked the inhabitants. We enact motions of daily life, animated mosaics, shades in a dreamspace acting out a tableau vivant."

now what...this is the point when i would be chewing on my pencil if i had one. instead i'm staring at a metal box, this radiation-emitter under my fingers. they no longer teach handwriting in grade school

Inhalations, exhalations, inhalations, exhalations- the shared interior air of the library buzzes with the silent hubbub of subvocal monologues.

The truth is, Zenith is so distracted she cannot work. Feeling moves her as inexorably as geologic cataclysm. The night before at 9 p.m., a yearning for her new infatuation began in earnest. A frisson of dread shakes her each time her attention wanders, and the world begins to pulse and warp.

i give up

Anthony!

Anthony. AnthonyAnthony.

She relives their first meeting, his penetrating blue eyes, magnetic presence, thoughtful, spontaneous. She'd been an idiot, demurring when he urged her on the spot, to fly with him to St. Petersburg or wherever she wanted to go. She bolted. They'd met since, but her initial reserve had tinctured their interplay into a cautious minuet. Suddenly her brakes have failed and she careens down the slope of desire. i've never slept with a man who i didn't make love with the first time we met. was i confused or trying a new strategy?

Images insinuate themselves into her consciousness- entire populations wearing gas masks to survive their own cities. Driven to distraction, Zenith scrolls through her messages, an escape from geological time, from love, from the armies of books standing at attention on the shelves surrounding her, able to protect her no more. Torrents of memories cascade into her, as Iguazu Falls roars through the Devil's Throat. Inbox still empty.

damn

a man who doesn't communicate doesn't want to account for himself. a man who doesn't communicate doesn't want to communicate.

Which brings Zenith back to her questionable "strategy" with Anthony. She had exhausted herself trying to beam brainwaves to him. 'Call me, call me, call me' she had beamed. Or: 'Anthony, Anthony, Anthony, you are aching to see me and you find yourself step-step-stepping to me'.

who is Anthony and what do i want? i barely know him! i want something, i think it is love, whatever that is. if you don't seek the unknown, it hunts you down.

"Which love will be the last?" an 82-year-old Francis Huxley rhetorically asked her during an interview for her book. "You will never know how it feels to be old until you realise that you will never again feel the caress of a lover. It is over for you." His British upper class lisp lent the statement finality, yet Zenith wasn't sure if she really believed him. She was actually rather attracted, and semi-waited for him to make a move. Perhaps that was his move. She will never know.

once when I was eleven, on holiday in Marseilles, i walked down a street behind my grandfather and aunt. i wore a white sharkskin pleated skirt and a white sleeveless blouse. a strange man grabbed me, pulled me into a doorway and kissed me, my first kiss, thrilling and alien. he smelled 'other', of sweat and musk, not like any man I had ever met. i broke away from his arms and rejoined my family, who hadn't noticed my momentary disappearance. i never told a soul

my last affair was sex and quicksand, another man on a never-ending search for the perfect woman. all-night parties in squats, birthing into the unnerving gaze of morning. it had to end. we had a wild chemistry, he was extreme, and I thought I would have done anything with him, things I never had done, things I should never do

Death had visited Zenith when she was sixteen and her first lover jumped over a bridge, "like

Goethe's Young Werther, how prosaic," was her first response. She had not seen that coming, he had hidden his despair. Then the numbress set in. She never allowed herself to experience that first sorrow.

sorrow might remind me of passion, and passion, sorrow

Zenith can no longer pretend she is working, and decides she needs emotional resolution elsewhere. She quickly packs up and makes her way down the escalator, outside and into the marrow-chill, into the ambient din of engines with their vapours of burnt black blood, exhumed from a tarry Cretaceous crypt, singeing her nostrils. Northerlies snap the bones. Shuddering, she crosses the plaza to Euston Road, deftly weaving her way between murmuring figures that clutch briefcases, flurries of intricately zigzagging choreography.

people walking from here to there, from there to here, on their way to and from life

Zenith navigates the ebb and flow of Kings Cross. Urban redevelopment has hit the streets like a bomb. Everywhere you look, 'walkway closed' 'no pedestrians'. Vast streams of spectral commuters exit the rail station funnel through narrow temporary passages, bursting out like a firehose. Behind high metal mesh fences, hard-hatted workers wave at large metallic pterodactyls which dutifully, awkwardly, scoop out chalky earth atop a compacted necropolis. Wearing fluorescent vests the colour of Chartreuse liqueur, construction crews swarm, schools of tropical fish in the ocean of London. Tides of humanity flow back into the rail station. Rushing, stopping, starting, stopping, starting, crossing, walking, stopping, waiting, crossing, stopping, starting, rushing. Automobiles, buses, trucks- insectoid exoskeletons fart down asphalt rivers.

i've got to get away from all this, get away from myself, from this yearning-

i need to go to Patagonia, to Iceland, to Chandni Chowk. i wish I were a scientist, or an aerialist, or a tiger. in the shop at the Victoria and Albert, they sell copies of a maharaja's mechanical toy which depicts a tiger devouring a man in a top hat. is it an homage to a tigress consuming a man who has killed her mate? or a real tiger trapped as a toy? why are the zoos of the world filled with man-eating tigers? as punishment, they are on display to their favourite meal, just out of reach. what is fear of love if not fear of being eaten by a tiger?

Zenith turns left up Pancras Road. She hurries to pass the couple in front of her. He is whispering frantically into the woman's ear, she is indifferent. "Things really need to return to a semblance of normal, and right now, they are far from it." He, snappy, with dark-rimmed glasses and close-cropped hair, canvas satchel with a shoulder strap, khakis, running shoes. She, wan and tired, black hoodie over mangy light brown hair, torn jeans, cigarette held aloft by a transparent hand-

-is she a prostitute just off work and he is her pimp disguising himself as an academic? siblings?

or has this unlikely couple found love with each other? which caprice of chemistry and circumstance has brought them together?

St. Pancras Old Church sits atop a hill on the right, and Zenith walks up the new cement path to mighty trees with barren arms outstretched, and to grass that blesses her with lovely oxygen. The cemetery is an oasis of green and of tangible spirits. She nearly suffocates in the city streets, yet here, the taboo of the dead protects life. Breathing free at last, she swings by the tomb of Mary Wolstoncraft, on top of which her daughter Mary made love with Percy Shelley. Zenith sits on the damp grass under the gnarled Thomas Hardy tree next to the spiky tangle of gravestones clumped around its trunk. Tenderly, she fingers the fallen leaves mouldering into black soil that exudes the pungent umami aroma of fertility.

tombs tigers temples intoxication danger sex and death are soulmates

biologies intertwine and couple with the cosmic, with the non-human

Shadows grow longer. She sighs, leans against a talismanic brass plaque and cradles her lonely bag close.

every thing is animated, how did I never see it? is it love trance or always?

"Hello my lady," barks a gravely voice. She looks up. "Fire in it, keep queer!" advises the grizzled man in tattered clothing, holding a can of beer. She looks at him quizzically, he nods sagely and staggers on past the Hardy tree.

there is fire in it, in this body, this me. the drunk is right. i want to always feel that fire inside, feel the queerness and nearness of that fire, feel cool flexibility of water. phoenix clouds infused with sunset, whispers of yes, bristling desert winds, stink of sulphurous springs, tempests. simple choices, complex solutions to imaginary problems, trickster lint, butterflies, chewing gum, gophers, lemonade

or perhaps the drunk said, "Fire exit, keep clear-" did he mean that passion's exit is this graveyard? i am growing deranged- but i can't keep clear, i am a mass of me's crowding towards an exit which may not exist

A young woman with alabaster skin and spun gold hair approaches. She is quite short, less than 1 1/2 metres tall, walks with a cane. Indeed, she is walking very fast with great determination. As she passes, she glances at huddling Zenith, and the woman's beatific face fills with light as her cheeks dimple. Zenith smiles back and blushes.

shining within from its own dawn, love is a striking coincidence, a miracle of ecstasy, turning on like a morning shower or magic spell.

She takes out her computer. The screen lights up the late afternoon greying of autumn:

Dear A, a belated note to confess that I may be in love with you. On our first encounter, it was not that I rejected you, I was afraid that I might not be strong enough to hold onto the tiger's tail. Then the feeling left me lightly. Today it has returned with claws. Hoping you are well and may your springs be fevered. Cheers, Zxxx

the love-trance reveals the world to be composed of verbs, all broadcasting intimacy, each in turn opening to an infinity

She rises, senses a magnetism coming from the ground up through her legs as if to draw her down, down, beyond the grave? Stamping rhythmically in a kind of tarantella, Zenith raises her arms to receive the drizzle that meets her, and breathes deeply of living air.

it's a discipline to fall in love each day- tomorrow, the day after; each day could be my last chance

all puzzles are not meant to be solved, and spring is so far away

Kathelin Gray November, 2017 London

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Timothy Morton is Rita Shea Guffey Chair in English at Rice University. He gave the Wellek Lectures in Theory in 2014 and has collaborated with Björk, Haim Steinbach and Olafur Eliasson. He is the author of *Hyperobjects: Philosophy and Ecology after the End of the World* (Minnesota, 2013), *Humankind: Solidarity with Non-Human People* (MIT, 2017), *Dark Ecology: For a Logic of Future Coexistence* (Columbia, 2016), forthcoming *Being Ecological* (Penguin, 2018), eighteen other books and over 200 essays on philosophy, ecology, literature, music, art, architecture, design and food. He blogs regularly at ecologywithoutnature.blogspot. com.

Brenda Hillman is the author of 10 collections of poetry, including *Extra Hidden Life, Among the Days* (Wesleyan University Press, 2018). Previous titles include *Seasonal Works with Letters on Fire*, which received the Griffin International Poetry Prize in 2014, and *Practical Water*, which received the Los Angeles Times Prize for Poetry. She has also co-translated *At Your Feet* by Ana Cristina Cesar (Parlor Press) 2018. With Patricia Dienstfrey, she edited the collection *The Grand Permission: New Writings on Poetics and Motherhood*. She is the Olivia Filippi Professor of Poetry at St. Mary's College of California.

Ester Partegàs is an artist and educator based in New York City and Marfa, TX. Employing a wide range of sculptural approaches, she examines unassuming details of our most immediate material reality as a record of an affective, political and philosophical relationship between people and things. She has held shows nationally and internationally, currently her work is on view at the Transborder Biennial, El Paso Museum of Art and Museo de Arte de Ciudad Juarez, at Bam, Brooklyn, and at the Drawing Center, New York. www.esterpartegas.com

Kim Stanley Robinson is an American science fiction writer. He is the author of more than twenty books, including the international bestselling Mars trilogy, and more recently, *New York 2140, Aurora, Shaman, Green Earth,* and *2312,* which was a New York Times bestseller nominated for all seven of the major science fiction awards—a first for any book. He was sent to the Antarctic by the U.S. National Science Foundation's Antarctic Artists and Writers' Program in 1995, and returned in their Antarctic media program in 2016. In 2008 he was named a "Hero of the Environment" by Time magazine, and he works with the Sierra Nevada Research Institute, the Clarion Writers' Workshop, and UC San Diego's Arthur C. Clarke Center for Human Imagination. His work has been translated into 25 languages, and won a dozen awards in five countries, including the Hugo, Nebula, Locus, and World Fantasy awards. In 2016 he was given the Heinlein Award for lifetime achievement in science fiction, and asteroid 72432 was named "Kimrobinson."

Heather Davis is an assistant professor of Culture and Media at the New School. Her current book project, *Plastic: The Afterlife of Oil*, examines the constitutive character of plastic in our

contemporary world, it's complicated inheritances, and its links to petrocapitalism. She is the co-editor of *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments and Epistemologies* (Open Humanities Press, 2015) and editor of *Desire Change: Contemporary Feminist Art in Canada* (MAWA and McGill Queen's UP, 2017). Her writing can be found at heathermdavis.com.

TVGOV (TELEVISION GOVERNMENT) aims to direct government policy toward the preservation of key global life-support functions. We propose a shift from current forms of taxation on labor and capital, which depresses economic efficiency and promotes resource waste, toward an Eco-Tax, which charges for any land, water, and air depletion.

TVGOV is an independent research group formed by Sofia Bastidas (EC), Peter Fend (US), Guillermo León Gómez (US), and Agustina Woodgate (AR). TVGOV is tied to Ocean Earth Development Corporation, which pioneered satellite monitoring of crisis spots, both ecological and military, for mass media in the 1980s.

Joan Naviyuk Kane's books and chapbooks of prose and poetry include *The Cormorant Hunter's Wife* (2009), *Hyperboreal* (2013), *The Straits* (2015), *Milk Black Carbon* (2017), *A Few Lines in the Manifest* (2018), and *Sublingual* (2018). She is a 2018 Guggenheim Fellow, has won a Whiting Writer's Award, the Donald Hall Prize in Poetry, the USA Projects Creative Vision Award, an American Book Award, the Alaska Literary Award, and fellowships from the Rasmuson Foundation, Alaska State Council on the Arts, Alaska Arts and Cultures Foundation, the Native Arts and Cultures Foundation, the School for Advanced Research, and the Aninstantia Foundation. Kane was a Harvard National Scholar, and the recipient of a graduate Writing Fellowship from Columbia University's School of the Arts. Inupiaq with family from King Island and Mary's Igloo, she raises her children as a single mother in Anchorage, Alaska.

Charles Mary Kubricht is an artist living in New York City and Marfa. Her work has been shown in solo exhibitions at the Contemporary Arts Museum Houston, Austin Museum of Art, and Art Museum of South Texas, and in numerous museum group exhibitions. Among other honors she was awarded a GSA Art in Architecture Award (2013-18) and received a CREATING A LIVING LEGACY grant from the Joan Mitchell Foundation and DiverseWorks (2013-2017). Kubricht has created public art installations for institutions such as the High Line, NYC and Rice University and has designed a series of stage sets for the Fire Island Opera Festival.

Mark von Schlegell was born in New York City. Mark's experimental writing practice has survived for twenty years, exploiting the gaps between art, science fiction, and literary theory. He has directed the "Pure Fiction" seminar at Frankfurt's Staedelschule since 2011. The newest book of theory, *Realometer Re-Loaded* (2018), has just been issued by Jan Kaps Galerie, Cologne, as an artwork. The science fiction novels in "The System Series", most recently *Sundogz* (2015), are published by Semiotext(e), Los Angeles. "URTH" is the second

collaboration with filmmaker Ben Rivers.

Olafur Eliasson (IS/DK), born in 1967, works in a wide range of media, including installation, painting, sculpture, photography, and film. Since 1997, his solo exhibitions have appeared in major museums around the world. Eliasson's recent projects include *Reality projector* at the Marciano Art Foundation, Los Angeles, in 2018; *The unspeakable openness of things* at the Red Brick Art Museum, Beijing, in 2018; and *Green light* – An artistic workshop at the 57th Biennale di Venezia and the Moody Center for the Arts, Houston, in 2017.

Established in 1995, his studio today numbers more than one hundred craftsmen, architects, archivists, researchers, administrators, and cooks. In 2014, Eliasson and architect Sebastian Behmann founded Studio Other Spaces, an office for art and architecture focusing on interdisciplinary and experimental building projects. Together with engineer Frederik Ottesen, Eliasson founded the social business Little Sun in 2012 to extend access to clean, sustainable energy to all.

Candice Lin is an interdisciplinary artist who works with installation, drawing, video, and living materials and processes, such as mold, mushrooms, bacteria, fermentation, and stains. Lin has had recent solo exhibitions at Portikus, Frankfurt; Bétonsalon, Paris; and Gasworks, London, as well as group exhibitions at the Hammer Museum (2018), LA; Moderna Museet, Stockholm (2017); New Museum, New York (2017); SculptureCenter, Long Island City, New York (2017), among others. She is the recipient of several residencies, grants, and fellowships, including the TAP (The Artists Project) (2018), Davidoff Art Initiative (2018), Louis Comfort Tiffany Award (2017), California Community Foundation Award (2014), Fine Arts Work Center Residency (2012) and Smithsonian Artist Research Fellowship (2009).

Beatriz Cortez is a Los Angeles-based artist and scholar. She was born in El Salvador and has lived in the United States since 1989. She holds an M.F.A. from the California Institute of the Arts, and a Ph.D. in Latin American literature from Arizona State University. She teaches in the Department of Central American Studies at California State University, Northridge. Her work has been exhibited internationally including at the Hammer Museum, LA; Whitney Museum of American Art, NY; Ballroom Marfa in Marfa, Texas; and BANK Gallery, Shanghai, China.

Lynn Xu was born in Shanghai. She is the author of *Debts & Lessons*, a finalist for the L.A. Times Book Prize, and *June*, a chapbook. With her family, she divides her time between Marfa, TX, and Chicago, IL, where she teaches at the University of Chicago.

Jennifer Walshe is the most original compositional voice to emerge from Ireland in the past 20 years" (The Irish Times) and "Wild girl of Darmstadt" (Frankfurter Rundschau), composer and performer Jennifer Walshe was born in Dublin, Ireland. Her music has been commissioned, broadcast and performed all over the world. She has been the recipient of fellowships and prizes from the Foundation for Contemporary Arts, New York; the DAAD

Berliner Künstlerprogramm, the Internationales Musikinstitut, Darmstadt and Akademie Schloss Solitude among others. Recent projects include Aisteach, a fictional history of avantgarde music in Ireland, *EVERYTHING IS IMPORTANT*, a work for voice, string quartet and film commissioned by the Arditti Quartet, which has been touring to critical acclaim, and *IS IT COOL TO TRY HARD NOW?* a work for voice and video made using artificial intelligence.

Timothy Donnelly is a poet and assistant professor and director of undergraduate creative writing at Columbia University. He is the author of two books of poetry, *Twenty-Seven Props for a Production of Eine Lebenszeit*, and *The Cloud Corporation*. Donnelly's poems have been published in anthologies such as *Joyful Noise: An Anthology of American Spiritual Poetry*, as well as magazines and journals including Harper's, jubilat, The Nation, The Paris Review, PEN America, Ploughshares, TriQuartely and various others. His work has also been translated in German and Italian. He earned a BA from the Johns Hopkins University, an MFA from Columbia University, and a PhD from Princeton University.

Ursula K. Le Guin (1929-2018) was a celebrated and beloved author of 21 novels, 11 volumes of short stories, four collections of essays, 12 children's books, six volumes of poetry and four of translation. The breadth and imagination of her work earned her six Nebulas, seven Hugos, and SFWA's Grand Master, along with the PEN/Malamud and many other awards. In 2014 she was awarded the National Book Foundation Medal for Distinguished Contribution to American Letters, and in 2016 joined the short list of authors to be published in their lifetimes by the Library of America.

Kathelin Gray is a producer, curator, director and writer. She has co-founded projects which integrate art, ecology and science, such as Biosphere 2 closed ecological experiment in Arizona. She is active in the field of bioregenerative life systems for space and terrestrial applications. She is a director of Research Vessel Heraclitus, a Chinese junk which has sailed 270,000 nautical miles on 11 expeditions. The vessel is currently being refitted in Spain by its crew of artist/explorers. Gray co-founded October Gallery, London, one of the first galleries to show pioneering artists from cultures worldwide.

With John Allen, she founded Theatre for the Reconstitution of Reality (THEATRRR), a pataphysical research initiative. It is successor to Theatre of All Possibilities ensemble, which toured internationally for 18 years. She consults to William Burroughs Communications and is a director of Institute of Ecotechnics, UK/USA. Gray lives in Santa Fe and London.

ACKNOWLEDGEMENTS

Generous support for the *Hyperobjects* exhibition provided by:

Andy Warhol Foundation for the Visual Arts; The Brown Foundation Inc.; City of Marfa; Creative Industries Fund NL; Fairfax Dorn and Marc Glimcher; Kristina Van Dyke & Jeff Fort; Paul Kasmin Gallery, New York; Virginia Lebermann & Family; Melony & Adam Lewis; George S. Loening; Max Mara; National Endowment for the Arts; PACE Gallery; Stroom Den Haag; Texas Commission on the Arts; the Ballroom Marfa Board of Trustees; and Ballroom Marfa members.

Hyperobjects for Artists special thanks to:

Margie Bachman, Poppy Coles, Hannah Elliott, Anna Engberg, Matthew Day Jackson, Willa Köerner, Kevin MacDonnell, Sarah Melendez, Rachel Monroe, Elizabeth Pulsinelli, T. Cole Rachel, Elliott Cost, Brandon Stosuy, University of Pittsburgh Press, Fairfax Dorn & Marc Glimcher, Virginia Lebermann & Family, Marianna Tekosky.

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This reader is published in conjunction with the exhibition *Hyperobjects* April 13–November 4, 2018, presented by Ballroom Marfa, Marfa, Texas.

Exhibition curators: Timothy Morton and Laura Copelin

Book design by Elliott Cost The Creative Independent Edited by Timothy Morton and Laura Copelin with Peyton Gardner Exhibition curators: Timothy Morton and Laura Copelin

Publication © 2018 Ballroom Marfa Introduction essay © Timothy Morton

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Back cover artwork © Jake Loeterman Courtesy the artist

Published by Ballroom Marfa

P.O. Box 1661 108 East San Antonio Street Marfa, Texas 79843 ballroommarfa.org

Distributed by ⁽⁶⁾ The Creative Independent

The Creative Independent 58 Kent Street Brooklyn, NY 11222 thecreativeindependent.com

