

# In Search of Freedom in the Anthropocene

*entangled histories*

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DEEP TIME  
CHICAGO

**DEEP TIME CHICAGO** is an art/research/activism initiative formed in the wake of the Anthropocene Curriculum program at HKW in Berlin, Germany. The initiative's goal is to explore one core idea: humanity as a geological agency, capable of disrupting the earth system and inscribing present modes of existence into deep time. By knitting together group readings, guided walks, lectures, panels, screenings, performances, publications and exhibitions, we hope to develop a public research trajectory, offering a variety of formats where Chicago area inhabitants can grapple with the crucial questions of global ecological change.

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C H I C A G O

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*The history of the world is none other  
than the progress of the consciousness  
of freedom.*

– GEORG WILHELM FRIEDRICH HEGEL

*The Anthropocene challenges the modern  
definition of freedom, long conceived  
in opposition to nature.*

– CHRISTOPHE BONNEUIL AND JEAN-BAPTISTE FRESSOZ

# Introduction: Freedom

OLIVER SANN & SHAWN MICHELLE SMITH

In the spring of 2018, Oliver Sann and Shawn Michelle Smith taught a course called Freedom at the School of the Art Institute of Chicago. It was a small, intensive seminar that quickly came to feel more like a working group than a class. Six students—Evan Graham, Jenny Magnus, Viviana de la Rosa, Julia Sharpe, Ellie Tse and Guanyu Xu—met weekly to think together about the meaning of freedom in a current moment shaped by the legacies of colonialism and slavery and the crisis of climate change. The challenge we put to ourselves was could we understand those histories as the problem of the Anthropocene?

To explore what freedom means today, we asked the following questions: What constitutes freedom? And whose freedom is it? How has freedom changed historically and how does “freedom to” coexist with “freedom from”? How and why have universal theories of freedom been historically practiced as the privileges of the few, even as many proclaim that nobody can be free until everyone is free?

We brought these questions to current conversations about the Anthropocene, which names a new geological period in which the earth registers indelibly the mark of human industry. It defines the interval in Earth’s history during which many geologically significant conditions and processes became irreversibly altered by human activities. Although attempts to date the advent of this new epoch remain contested, many historians propose the invention of the steam engine in 1784 and the subsequent industrial revolution of the nineteenth century as important beginnings.

The arrival of the Anthropocene also coincides with the era of demands for “universal freedom,” in which Western philosophers defined freedom against nature and political theorists defined liberty against tyranny.

European freedom and liberty, however, were linked to and dependent upon European imperialism, settler colonialism in the Americas, transatlantic African slavery, and Asian contract labor. According to Lisa Lowe, colonialism, slavery, and contract labor provided the conditions under which the universality of human freedom was conceived, precisely as it was denied to enslaved, colonized, and indigenous peoples.

Our readings and conversations put the advent of the steam engine and the growth of the industrial revolution in the context of the political revolutions of the late eighteenth century, including the French, American, and Haitian Revolutions. Looking even earlier, to the seventeenth century, we discussed slavery and the transatlantic slave trade as the foundation of capitalism, one of the driving forces of the Anthropocene.

Together we sought to understand the complex material and philosophical legacies of the seventeenth, eighteenth and nineteenth centuries for our current understanding of freedom in the wake of the ongoing escalation of national and global conflict in the age of the Anthropocene. With the collapse of the age-old humanist distinction between natural history and human history, we wondered if an opening for other definitions of freedom might become negotiable.

We see this pamphlet as in dialogue with *A Curriculum for the Anthropocene* and share it as one literal curriculum, one path pursued. To make sense of our collective conversation in the seminar Freedom, each contributor has reflected on one of the core readings or offered an essay, sketch, case study, or proposition that marks an individual commitment in this terrain.

One of the challenges of the course and a recurring theme of our conversations was how to account for these histories and the overwhelming circumstances of contemporary life in the Anthropocene, without allowing ourselves simply to become overwhelmed. We talked a lot about how to maintain agency, if not optimism, how to inhabit “ongoingness,” in Donna Haraway’s words. Many of the sketches and propositions offered here reflect that impetus, trying to imagine efforts that people might make, things that people might do. Some pieces bring critical tools to the local places we inhabit, enabling us to see layered histories through multiple lenses. Others bring into view the invisible or ignored consequences and true costs of consumption.



In the end we came to understand that there is no pathway out of the problems of the Anthropocene without finding solutions for social justice, and there is no solution for decolonization without addressing anthropogenic histories and our dire ecological present. As deep geological Earth time and human time are collapsing into each other, we can no longer simply focus on the specificities of a single history, or dialectic for that matter, but need to address multiple histories and their legacies together on planetary and local scales. If freedom can still exist despite a flawed genealogy entrenched in coercive imperialisms and privileges for the few, it must be reconceived as an agency entangled with others and with the planet itself.

### **Freedom Reading List**

Stephen Houlgate, "G.W.F. Hegel: The Phenomenology of Spirit"

G.W.F. Hegel, "Lordship and Bondage"

Slavoj Žižek, "Is It Still Possible to Be a Hegelian Today?"

Susan Buck-Morss, *Hegel, Haiti, and Universal History*

Lisa Lowe, *The Intimacies of Four Continents*

Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene*

Isaiah Berlin, "Two Concepts of Liberty"

Dipesh Chakrabarty, "The Climate of History: Four Theses"

Nicholas Mirzoeff, "Visualizing the Anthropocene"

Bruno Latour, *Facing Gaia: Eight lectures on the new climatic regime*

Rob Nixon, *Slow Violence and the Environmentalism of the Poor*

Christina Sharpe, *In the Wake: On Blackness and Being*

Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*



Behaim-Globe, Martin Behaim (1459-1507), Painting: Georg Glockendon d.Ä. (died in 1514), WI 1826  
© Germanische Nationalmuseum

## Four to Five Planets

OLIVER SANN

In 2016 I visited the Behaim Globe at the Germanische Nationalmuseum in Nueremberg, Germany. The construction of the globe was initiated by Martin Behaim in 1459, and it is considered the oldest surviving terrestrial globe. It is an early European visualization of the world that demonstrates colonial intent, an 'Ursprung' of overlapping cultural, social, political and scientific agendas, trajectories and scales. It is constructed of laminated layers of linen and parchment, with paper on the surface, and its map was painted by several artists, but mainly by Georg Glockendon (Wiki). The Americas are not included, as Columbus did not return to Spain until March of 1493. The globe shows an enlarged Eurasian continent and an empty ocean between Europe and Asia. The Eurocentric notion of the world – and subsequently of the so-called 'Western World' -- is represented here in all its oblivion and coercive desire for the treasures of Africa. The globe fulfilled two functions: It was an index of mercantile information and a source of entertainment, showing dangers from the deep sea, also correlated to risk in trading and equated with national ranking in investment banking. It was persistently used as an archive of knowledge production, and information was added and changed over time, almost like an early version of google maps, an early god trick for crusaders. Peter Sloterdijk describes the Behaim globe as the first European television apparatus. The earth as a globe, says Sloterdijk, can be seen as an image of solitude, as an emblem of human reclusiveness in a physical space. The globe makes it clear that the earth is everything that we human beings have; we are not embedded in a safe haven, our atmosphere is fragile (Empa TV 00:26:30-00:31:16).

I'm looking at the latest screen design of one of the most popular news shows in German television, ZDF Heute. Here we have five planets lined up next to each other, from the top left of the frame to the top right, creating a frieze of Earths, with different continents highlighted, facing the audience.

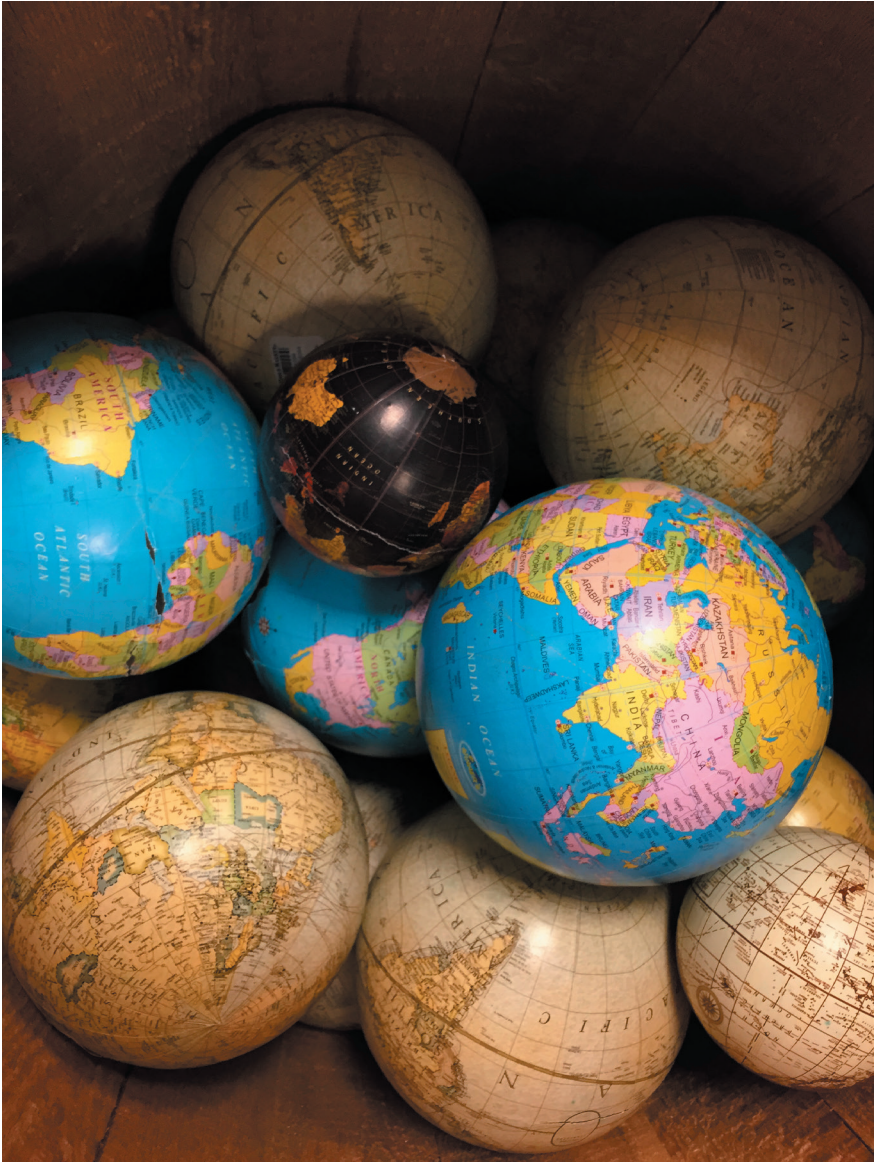


Top left, hard to recognize, is North America, with the United States cropped, the West Coast and Canada not visible, and in the lower left, underneath, South America. Top right, in the distance, is Australia, to the left of it Russia, India and Asia. The remaining two Earths in the middle showcase Europe on the right, which looks small and fragmented, and Africa on the left, which looks big and occupies the center of this composition. In his book *Critique of Black Reason* Achille Mbembe writes, “Europe is no longer the center of gravity of the world. This is the significant event, the fundamental experience of our era. And we are only just now beginning the work of measuring its implications and weighing its consequences” (1). Europe’s mind is set on Africa.

In their 2014 annual report the World Wildlife Fund suggested that if everyone on the planet consumed as much as the average US citizen, roughly four to five Earths would be needed to sustain us. What is the calculation behind this assertion? The average American uses seven global hectares or 17.297 acres, compared to a global average of 2.7 hectares or 6.6717 acres, according to figures and data from 2011 (13). It’s this figure of seven global hectares that allows scientists to calculate that it would take four Earths - or to be precise, 3.9 Earths—to sustain a population of seven billion at American levels of consumption. Updating this number from 2014 to 2017 and the world population to 7.6 billion people brings us in the realm of four to five planets.

However, the United States does not consume the most on this measure. It is in fact ranked fifth among countries with a population of one million or more. Kuwait comes in at the top with 8.9 global hectares (5.1 Earths), followed by Australia (4.8 Earths), the United Arab Emirates (4.7 Earths) and Qatar (4.0 Earths). The others in the top ten are Canada, Sweden, Bahrain, Trinidad, Tobago, and Singapore. The size and composition of a nation’s per capita ecological footprint is determined by the goods and services used by an average person in that country, and the efficiency with which resources, including fossil fuels, are used in providing these goods and services (McDonald).

Not surprisingly, most of the 25 countries with the largest per capita ecological footprints are high-income nations; for virtually all of them, carbon is the biggest footprint component. Most high-income countries have maintained per capita footprints greater than the amount of biocapacity available per person on this planet, largely depending on the biocapacity of other countries to support their lifestyles. Colonialism, slavery and European imperialism have established this inequality as cultural, political and social norms for



*Basket full of Earths, 2017, © Oliver Sann*

over two hundred years, which has brought us to a situation in which we're using more than Earth can provide. We would need the regenerative capacity of 1.5 Earths to cover the ecological services we currently use (McLellan 21).

Recently, I went to World Market, a retail chain featuring an eclectic array of imported housewares, furniture, decor and specialty foods. I found a basket full of Earths there at a fairly reasonable price.

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Everything is right  
until it's wrong...  
You'll know when it's wrong.

—ERNEST HEMINGWAY



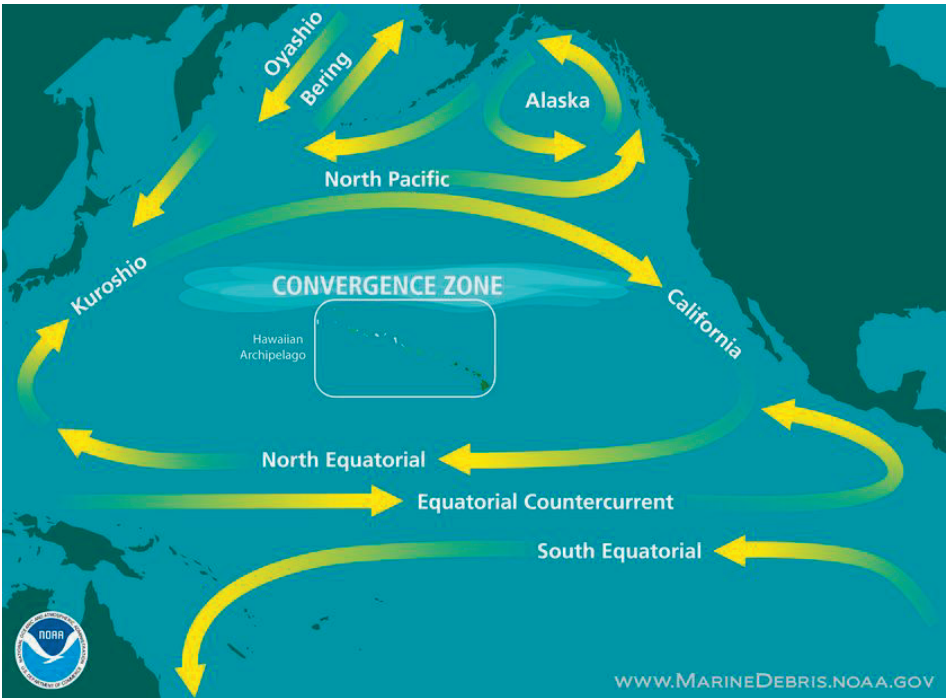
## Trash Island: The Intimacies of Five Continents

VIVIANA DE LA ROSA

Anthropos, we have a problem! Trash has taken on a monstrous form and stature, disrupting ecological systems (land, air and sea), and colonizing the Earth with new geological plateaus, mountains and islands. Is it possible that trash will soon have its own continent? Due to its rapid growth rate, it has created a problem of aesthetics as well as a hazardous threat.

Prompting a well-thought out final solution, under the guise of a “secret memo,” in 1991 the World Bank Treasury Secretary Lawrence Summers proposed the transfer of waste and dirty industries to under-industrialized poor countries. The memo began in a hushed tone: “Just between you and me... Shouldn’t the World Bank be encouraging more migration of the dirty industries to the LDCs [least developed countries]?” wrote Summers. “I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that. ... I’ve always thought that under-populated countries in Africa are vastly under-polluted; their air quality is vastly inefficiently low compared to Los Angeles or Mexico City” (quoted in Nixon, 1). After the internal memo was leaked, Summers apologized. He claimed the memo was meant as a joke. Maybe it was food for thought? Ha, ha, ha, nobody was laughing.

Trash is waste, a by-product of consumption, and consists of plastic bags, food containers, syringes, and other toxic materials. It fills the land, piling up like hills and mountains, seeping into rivers and streams, until it reaches the Pacific Ocean. This waste transforms, transfigures, and then transfixes in the sea. In the ocean, trash gathers into an island, where it also undergoes an invisible transformation, disintegrating into micro-plastic particles that now pervade all seven seas. All five continents contribute



Russell McClelland's "What is the Great Pacific Garbage Patch," March 22, 2018 at 11:11am  
Ocean currents conspire to collect debris in a North Pacific 'convergence zone.' (Map: NOAA Marine Debris Program)

to this problem, but the most advanced and industrialized countries of Europe, Asia, and North America undoubtedly bear the heavier burden as mass-producing pollutant machines.

According to Russell McLendon's article, "What is the Great Pacific Ocean Garbage Patch?," published on Mother Nature Network (MNN), on April 19, 2018, Trash Island is "the poster child of a world wide problem: plastic begins in human hands yet ends up in the Ocean, normally inside animals' stomachs or around their necks." Using a 2018 case study of data from vessel and aircraft surveys, McLendon has discovered that "79,000 tons of plastic are floating in an area spanning 1.6 million square kilometers (about 618,000 square miles)." The Pacific Ocean is forced to embrace this artificial, unnaturally man-made foster child, which has become a pestilent monstrosity, growing and causing havoc among sea and avian life.

Trash Island—the shock-anthropocene of 79,000 tons—also has a transformative afterlife. It disintegrates into micro-plastic, floating its way through the food chain of the ocean, where birds and sea creatures unable to determine its plasticity eat the micro-particles. Seafood caught then reaches the Anthropos' very own food chain. Thus, trash becomes transcendental, arriving at its very first point of departure: from the sea to the supermarkets, from the supermarkets to dining tables, from dining tables to the dump, from the dump to the sea.

Summers' way of thinking is the major cause of the Anthropocene, an approach to trash as a "product" that can be transferred to the least developed African countries, an approach that undervalues the health and well-being of their citizens. We need an alternative approach and language. According to Lakota Wisdom Keepers, humans are merely a thread in the web of life, not the weavers of the web. Going back to the basics: Earth must be viewed as a breathing organism, as a Mother who nurtures all her children. (Non) breathing organisms are also included within the circle of life. The mind has to be decolonized in order to decolonize the Earth. We must develop alternative behaviors and ways of thinking in relation to the Earth -- to animals, plants, the land, the sea and each other. We must stop ranking countries and continents as First, Second, and Third Worlds.

The Great Pacific Garbage Patch is a ticking time-bomb. Effective solutions are needed, such as: recycling and refurbishing plastic bags, voting for

politicians who are Green-thinkers and environmentally friendly; establishing anti-dumping toxic waste laws and harsher jail-time for toxic violators; and supporting innovative inventors such as Boyan Slat, who is developing a solar-powered collector of ocean waste.

As the Lakota say, "Mitakuye Oyasin!" We are all related.

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Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Cambridge, Mass.: Harvard University Press, 2011.

Vartan, Starre. "Remember That Kid Who Invented A Way To Clean Up Ocean Plastic," Mother Nature Network (MNN), June 7, 2017

## True Cost

JENNY MAGNUS

What is the true cost of consumption? Of desires that can never be fulfilled, only momentarily stilled, appeased, banked like a fire, the hot coals of wanting and “needing” still there under the ash, waiting to flare up at any time? The true cost of entitlement to immediacy, satisfaction, convenience, and intoxicated grabbery? What are the true costs of living in a consumer society, and being raised as consumers? What is the true cost of some of the most ubiquitously possessed objects in the modern world: our phones, our computers, our cars, our plastic sandwich and grocery bags, our water bottles, our toys, our paper supplies, our inexpensive charcuterie, our reasonably priced, ever changing, clothing?

Here is a way to think about the true cost of something: cotton. Maybe new clothes aren't so reasonably priced after all.

### **Clothing**

Cotton represents nearly half of the total fiber used to make clothing today. More than 90% of that cotton is now genetically modified, using vast amounts of water as well as chemicals. Cotton production is now responsible for 18% of worldwide pesticide use and 25% of total insecticide use. The world now consumes about 80 billion new pieces of clothing every year. This is 400% more than the amount we consumed just two decades ago. As new clothing comes into our lives, we also discard it at a shocking pace. The average American now generates 82 pounds of textile waste each year. That adds up to more than 11 million tons of textile waste from the United States alone. One-in-six people work in the global fashion industry. A majority of these workers are women earning less than \$3 per day.

<https://truecostmovie.com/learn-more/environmental-impact/>

Before the 18th century, cotton was a rare commodity for Europeans. Yet in places all across the globe, from Peru and Mesoamerica to Japan, Egypt, and India, cotton grew in abundance. To facilitate the importation of cotton to Europe while growing an appetite for this commodity, enforced labor, or slavery, was utilized in all facets of its production. Growing cotton on plantations, picking it, then spinning it into thread and weaving it into cloth, were all activities that used enforced labor to keep up with demand and generate immense profits for the landowners, manufacturers, and retailers. American and Caribbean plantation slavery, British factory exploited labor, Indian colonized cotton production and manufacture all used exploited labor. And lest we think this is past history, even into the 21st century, China has colonized vast new regions and exploited millions of laborers in order to create the cheap imported clothing we all wear and buy.

[http://www.slate.com/articles/arts/books/2014/12/empire\\_of\\_cotton\\_a\\_global\\_history\\_by\\_sven\\_beckert\\_is\\_a\\_great\\_history\\_of.html](http://www.slate.com/articles/arts/books/2014/12/empire_of_cotton_a_global_history_by_sven_beckert_is_a_great_history_of.html)

To acknowledge true costs, here are some simple, concrete actions/solutions available for every individual: buying used clothing (still durable and wearable), learning how to repair and maintain one's own clothing (instead of continuously buying new), being cognizant of where textiles are manufactured, and supporting responsible manufacturers of cotton clothing (who use zero-waste design philosophy, which includes local, made-in-the-USA manufacturing, non-toxic dyes, and sustainable fibers).

## Overpopulation

EVAN GRAHAM

I have no interest in having children. I've held this view for as long as I can remember—I attribute it to being the youngest in my extended family. I also have no interest in entertaining the idea that one day I may change my mind. That being said, I also hold the view that everyone has the personal liberty to either reproduce or not. I'm a humanist, however unsexy that may sound within the current theoretical climate. I learned this from my mother, someone for whom I have tremendous respect and someone who knew she wanted to be a mother for most of her life and left a career to raise me and my sister. As this pamphlet discusses the intersection of philosophical definitions of freedom, particularly Hegel's, with the Anthropocene, we have discussed issues of the Transatlantic slave trade, the rise of modern capitalism, rapid industrialization, and the continued release of carbon into the atmosphere, all centered from the nineteenth century onwards. What we have not discussed is how the role of reproduction, and the overpopulation of the planet, have contributed to these phenomena. This essay is but one space for this discussion.

Regarding my reproductive decisions, I was taken when I heard that in 1969, Stephanie Mills, valedictorian of her graduating class at Mills College, gave an address at commencement titled "The Future is a Cruel Hoax." She has since pursued a career as an author, teacher, editor, and activist addressing environmental issues. But, on the day of her commencement, she made headlines with her bold proclamation that due to overpopulation, she saw herself as having an ethical and moral duty to not have children. Her address was inspired by Paul R. Ehrlich and Ann Ehrlich's 1968 book, *The Population Bomb*. Highly controversial at the time, to the point of being controversial by proxy as demonstrated by Mills, this book argued that overpopulation had reached such a fever pitch that if something was not done to decrease the world fertility rate, a rate that is still in the positive as of 2017, then our environment

would “correct” this pressure with death: predominantly the death of the most socially and economically vulnerable.

This is fatalistic if not put in context, and even then it seems fatalistic. World population ballooned starting in the nineteenth century, coinciding with the emergence of the many other issues we discuss in this pamphlet. To put this into perspective, there were approximately 1 billion people around 1800; 2 billion around 1930; 3 billion around 1960; 4 billion around 1975; 5 billion around 1990; 6 billion around 2000; and 7 billion in 2011. Anyone versed in basic algebra can see that this growth is exponential at a staggering rate.<sup>1</sup>

To further provide context, I find it useful to return to high school biology. Carrying capacity is defined as the number of organisms that a region can support without environmental degradation. The carrying capacity of the Earth-as-system has wildly varying estimates, as technological advances—like the Green Revolution of the 1960s and 1970s—can radically alter it. That being said, the Earth does have a carrying capacity as it is a finite system with a limited number of resources, an argument that the Ehrlichs bring to the foreground. Population dynamics have two broad models: logarithmic and exponential. The logarithmic growth model is one characterized by an S-shaped curve, where population increases at a rate that slows and eventually levels to a horizontal limit representing carrying capacity of a particular system. The exponential growth model, in contrast, has a constant rate of growth without approaching a limit. As mentioned above, human growth has resembled and will most likely to continue resembling an exponential growth model, but that is incredibly unsustainable. The Earth's carrying capacity will become evident sooner rather than later.

Just as the world population started to skyrocket in the nineteenth century, the notion of population control increasingly became a matter of public policy. Thomas Robert Malthus, an English cleric and scholar, wrote *An Essay on the Principle of Population* in 1798. Becoming widely read and incredibly controversial for its time, it argued, among other things, that the rate at which the human population was growing (exponential) compared to the rate of food production, which Malthus characterized as linear, would become vastly incommensurate as time passed. This meant famine, disease, and death if the birth rate was not kept in check relative to the rate of food

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<sup>1</sup> A useful visualization of how large the growth rate is can be found at [worldometers.info](http://worldometers.info).



production. Due to this catastrophic and compelling vision, it is no wonder that population control entered the realm of public policy. Rationalized as falling under the purview of how to protect a public from self-destruction, individuals became population statistics comprised of birth and death rates. It might seem advantageous in theory to have an ostensibly objective institution manage people for the purpose of the welfare of human beings in the present and future. But in reality governments are made by people and people are fallible. The history of population control has not been rosy, ranging from forced sterilization, to eugenics, to genocide. This was not just a factor in the Nazi party that led to the Holocaust; the United States has a significant history of eugenics characterized by white doctors, scientists, and policy-makers targeting economically depressed people of color. In this respect, Christina Shape was right in saying there is violence in abstraction.

Comparing this to Stephanie Mills, what is unusual about her proclamation is that it was a very personal one. She may have been advocating for everyone present to resist the urge to procreate, but it was always in conjunction with her own life decision. Inspired by the Ehrlichs, themselves neo-Malthusians and equally fatalistic, Mills seems to have the same sentiments—she titled her address “The Future is a Cruel Hoax.” I have the same sentiments. But again, they are sentiments felt personally before being vocalized. Faced with the statistics of global warming, climate change, pollution, population growth, and the like, I find it hard to envision a future where the Earth as we know it, including the continuation of the human species, is not put in dire peril. And this is just one of the reasons why I don’t want to have kids: I wouldn’t want my children to contend with the same problems of our own Earth, but only on a more intense scale. But there is little evidence to suggest that even if the birth rate dropped to zero, the impact of these horrendous environmental phenomena would be drastically diminished. In fact, in everything that I have read about the Anthropocene, I have yet to hear convincing, hopeful, and concrete solutions that will halt or even reverse environmental disasters, let alone overpopulation. Solutions offered seem to me methods of managing chaos, rather than ameliorative. Maybe that is all we can do, those of us not in positions of considerable influence and power on other people. How can a managing of chaos and amelioration come together? As Donna Haraway writes in her book *Staying with the Trouble: Making Kin in the Chthulucene* (2016), “There is a fine line between acknowledging the extent and seriousness of the troubles and succumbing

to abstract futurism and its affects of sublime despair and its politics of sublime indifference" (4).

So what now? Haraway also writes, "A 9 billion increase of human beings over 150 years, to a level of 11 billion by 2100 if we are lucky, is not just a number; and it cannot be explained away by blaming Capitalism or any other word starting with a capital letter. The need is stark to think together anew across differences of historical position and of kinds of knowledge and expertise" (6). Her contribution to this "thinking anew" is to write ways of making kin with other living organisms and non-living materials on this Earth. In my "thinking anew" I take recourse to love and care. One fault I find with past histories of population control is the complete lack of self-determination on the part of individuals being "controlled" and the dignity afforded, or not, to every human being regardless of identity. Both of these I inextricably tie to quality of life. Who gets to decide who has the right to reproduce and who doesn't? What are the methods that put the theory of population control into practice? More often than not, those methods are coercive and violent.

Carol A. Kates, Professor in the Department of Philosophy and Religion at Ithaca College, argues that reproductive liberty should not be considered a "fundamental human right" and, in the face of mass-death due to overpopulation, there should be a global agreement on methods to control birth rates. I disagree with her on both points. Although she makes the compelling point that most religious conservatives of the pro-life variety seem to be on the same page as most Leftist feminists when it comes to public policy concerning population control, the reasons for their respective views are incredibly different. I'm on the side of the feminists, holding the firm stance that every woman should have control over whether to reproduce or not. My mother taught me this, a woman who found intense fulfillment in raising and caring for children of her own. I know nothing about her decision and subsequent fulfillment, therefore I cannot judge anyone who, like my mother, has decided to have children. Even if all the evidence suggests that having children is indirectly leading to the collapse of our ecosystem, I still respect one's decision to procreate. I also hold the view that proselytizing about the dangers of having children, or even passing judgement on those that seek fulfillment in rearing a child, is one step closer to considering reproduction as under the purview of the state. Yes it may have a positive impact on the future of the planet, but I am not convinced that the loss of liberty is worth it.

So again love and care, for whom? Since I firmly believe in the inherent dignity of every human being (and you should too), I say love and care should be given to everyone, and I mean everyone. What form love and care takes is up for debate, and deserves space longer than I can provide here. But one thing I can say is I take the lesson of love and care from my mother, from the love and care she gave to me and hopefully I give back to her. Her every action was made from a place of love and care. They were like the atmosphere to her every word and deed.

What if we cared for one another, whether we knew each other or not, in ways that a mother, father, or cherished caretaker cares for their child? Love and care is not limited to a biological family. What if instead of having your own biological child, you loved and cared for those who do not have parents that love and care for them? What if I loved and cared for those who choose to have children as well as loved and cared for their children? That one is a hard one for me, loving children. What if those more fortunate loved and cared for those that live in poverty caused by the same processes that characterize the ugliest perspectives of the Anthropocene? What if you learn what you can, make what changes you can make in your own life to better the planet, but not become overwhelmed by a passive obsession? These questions are more important to me, in 2018, than asking what methods we as a society can implement in order to control and manage overpopulation. As Peggy Lee sang, "Is that all there is?" I say if that's all there is to overpopulation, then let's keep dancing. Overpopulation may be a specter looming over all of us, and it's certainly important to pay attention to it, but we shouldn't sit in despair and fear. Metaphorically dancing with those in need, with those most affected may make overpopulation and the demise of the human race not so difficult to bear. It may even change the course of our existence.

## References and Further Reading

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## US Military Jet Fuel Consumption

GUANYU XU

Winston Churchill once commented, “The whole power of the United States, to manifest itself, depends on the power to move ships and aircraft across the sea” (qtd. in Belanger and Arroyo). In this essay, I want to use simple calculation to demonstrate the environmental cost of the U.S. military through a single case study.

After World War II, the United States established its position as a world leader. The presence of overseas military paved the way to the U.S.-led international order. By 2017, there were over 800 American military bases overseas (Vine). If we compare the United States Department of Defense to a country, its spending would rank 21st in World GDP (Belanger and Arroyo). The DoD has 1.4 million people (.0002 percent of the world’s population) but generates 5 percent of the climate pollution in the world (qtd. Hynes).

In August 2017, the United States and South Korea conducted an 11-day joint military exercise. Towards the end of the exercise, North Korea launched a missile over Japan. Two days after this, the United States and South Korea performed bombing drills with two B-1B supersonic bombers and four F-35 stealth fighter jets from the United States, as well as four F-15 fighter jets from South Korea.

These warplanes use JP-8 fuel, a complex mixture of hydrocarbons produced by the distillation of crude oil. It contains hundreds of additives and is known to damage the liver and decrease immune response (Public Health Statement). Moreover, beyond its possibly tripled CO<sub>2</sub> emissions compared to diesel and oil, military jet fuel also produces exhaust like sulfur dioxide, which will further enhance the warming effect (qtd. Hynes).

I will give a rough calculation of the consumption of JP-8 military fuel during the action of two U.S. B-1B bombers and four F-35 stealth fighter jets that

flew from U.S. military bases to South Korea. I want to highlight the extra consumption of jet fuel during this military exercise that actually didn't count in the action of the military exercise itself. After all, the United States DoD consumes 970,000 gallons of fuel per hour, and more than 75 percent of its fuel is used to transport the fuel to its destination (Belanger and Arroyo).

The two B-1B bombers flew from Andersen Air Force Base in Guam. The air travel distance to South Korea is 1,874 miles. Thus, the approximate consumption of fuel by two B-1B bombers is 20,157 gallons (one-way).

The four F-35 stealth fighter jets flew from Iwakuni, Japan, which is 279.39 miles away from South Korea. In this case, they consumed approximately 2,093 gallons of fuel (one-way).

Hence, I can calculate estimated CO<sub>2</sub> emissions from these six battleplanes to be 445,000 pounds. By comparison, the U.S. annual carbon emissions per person was 35,715 pounds in 2014, which is four times larger than that of Mexico.

Although there are many reasons for which one might critique U.S. military actions, it's also important to be aware of these facts that can easily be hidden or slip away from public attention. The military show of power always is accompanied with environmental cost.

\*All the calculations are based on the limited resources from the public domain.

#### **B-1B (Boeing) Data Sheet and Calculation:**

(<http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104500/b-1b-lancer/>  
[https://en.wikipedia.org/wiki/Rockwell\\_B-1\\_Lancer#CITEREFPage1998](https://en.wikipedia.org/wiki/Rockwell_B-1_Lancer#CITEREFPage1998) )

Fuel Capacity: 265,274 lb (31,786.76 gallons)

Speed: 900-plus mph (Mach 1.2 at sea level)

Range: 5,900 miles.

Fuel Consumption Rate (approx.): Fuel Capacity/(Range/Speed)=4,845.54 gph

Time Estimate from Guam to South Korea (approx.): Distance/Speed = 2.08 h

#### **F-35B (Lockheed Martin) Data Sheet and Calculation:**

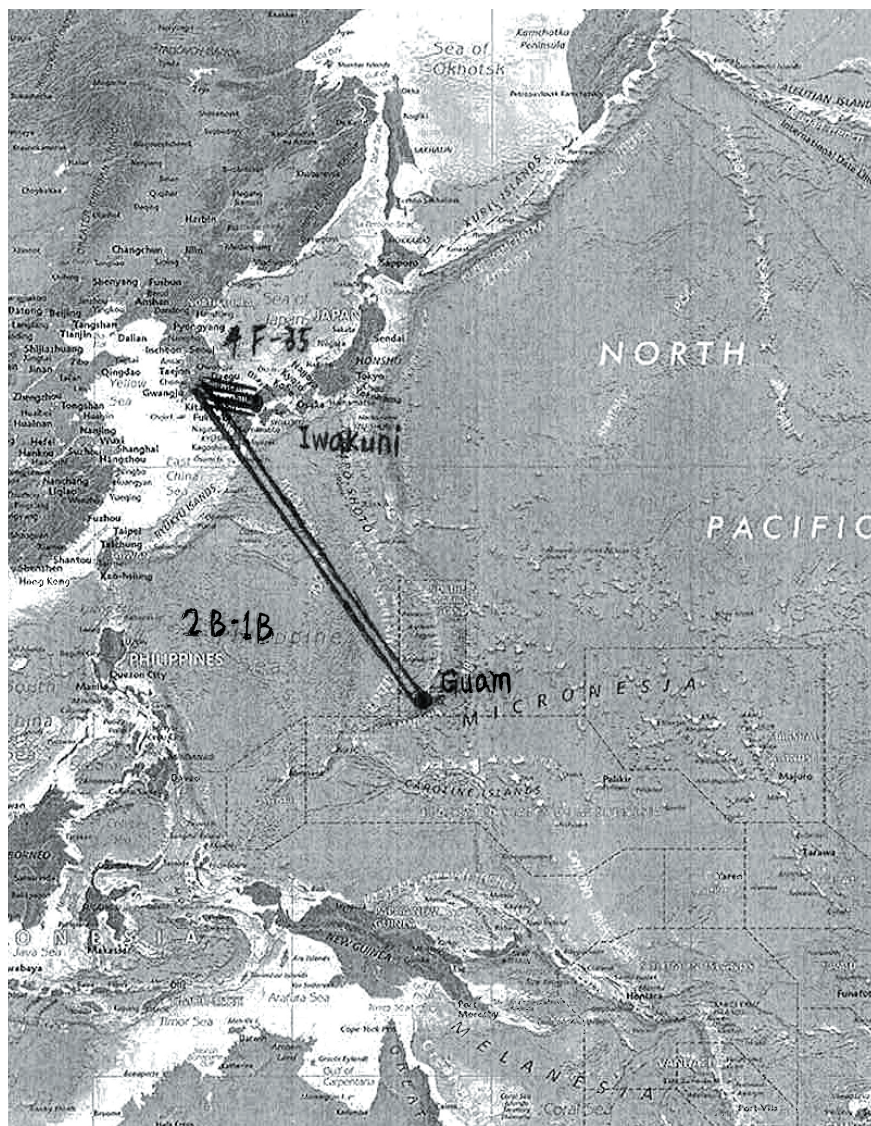
([https://a855196877272cb14560-2a4fa819a63ddcc0c289f9457bc3ebab.ssl.cf2.rackcdn.com/13538/fg15-1280\\_002\\_f-35b\\_pc.pdf](https://a855196877272cb14560-2a4fa819a63ddcc0c289f9457bc3ebab.ssl.cf2.rackcdn.com/13538/fg15-1280_002_f-35b_pc.pdf) )

Internal Fuel Capacity: 13,100 lb (1,569.71 gallons)

Speed: Mach 1.6 (1,227.63 mph)

Range (internal fuel): 900 n.mi (1035.7) / 1,667 km





Fuel Consumption Rate (approx.): Fuel Capacity/(Range/Speed)= 1,868.7 gph  
Time Estimate from Guam to South Korea (approx.): Distance/Speed = 0.28 h

### JP-8 Fuel and Calculation:

Calculation (<https://paullaherty.com/2015/01/10/calculating-aircraft-co2-emissions/>):

$2 \text{ C}_8\text{H}_{18} + 25 \text{ O}_2 \rightarrow 16 \text{ CO}_2 + 18 \text{ H}_2\text{O}$

A gallon will combine with 23 pounds of Oxygen and generate 20 pounds of CO<sub>2</sub>.

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The weather is the totality of our  
environments; the weather is the total  
climate; and that climate is antiblack.

—CHRISTINA SHARPE

## Environmental Double-Consciousness

SHAWN MICHELLE SMITH

The “climate” of “climate change” is one of the key registers of the Anthropocene. But it is not the only climate that shapes our environments. How can we learn to recognize the layered histories that make a place? How can we think the environment with and through race and racism, with and through the legacies of settler colonialism, Western imperialism, and the transatlantic slave trade?

Rob Nixon offers the term “environmental double-consciousness” to bring such complexities into view (245). He encourages us to think in doubled registers, to see the overlapping histories that map a terrain, to recognize how the toxic residues of capitalist production seep into spaces that have already been racialized.

“Environmental double-consciousness” evokes the famous twoness of W. E. B. Du Bois’s “double consciousness” (8), which he coined to describe the experience of being black in a white supremacist world, to describe the blindness and projection of a white gaze that refused to see him. Environmental double-consciousness asks us to take Du Bois’s double consciousness to the environment, in order to see the twoness of the places we inhabit (or don’t), to see how environments and ecologies are weighted with the legacies of race and racism, to see how the climate is the environment, and in Christina Sharpe’s words, “that climate is antiblack” (104).

Environmental double consciousness encourages us to see the ecologies of urban environments on the one hand, and to acknowledge the human histories and asymmetrical power relations that have shaped areas deemed “wilderness” on the other.

Environmental double-consciousness asks us to attend to the ecologies of settler colonialism, displacement, “displacement without moving,” by which Rob Nixon means the extraction of resources from a site that makes it no longer habitable (19), investment and disinvestment, development and gentrification, red lining, industrial pollution, environmental racism, abandonment, the monocrops of plantations and industrial agriculture, deforestation and drought. It asks us to see in multiple registers simultaneously, and to understand how the entangled forces of racism, capitalism, and environmental devastation shape a place.

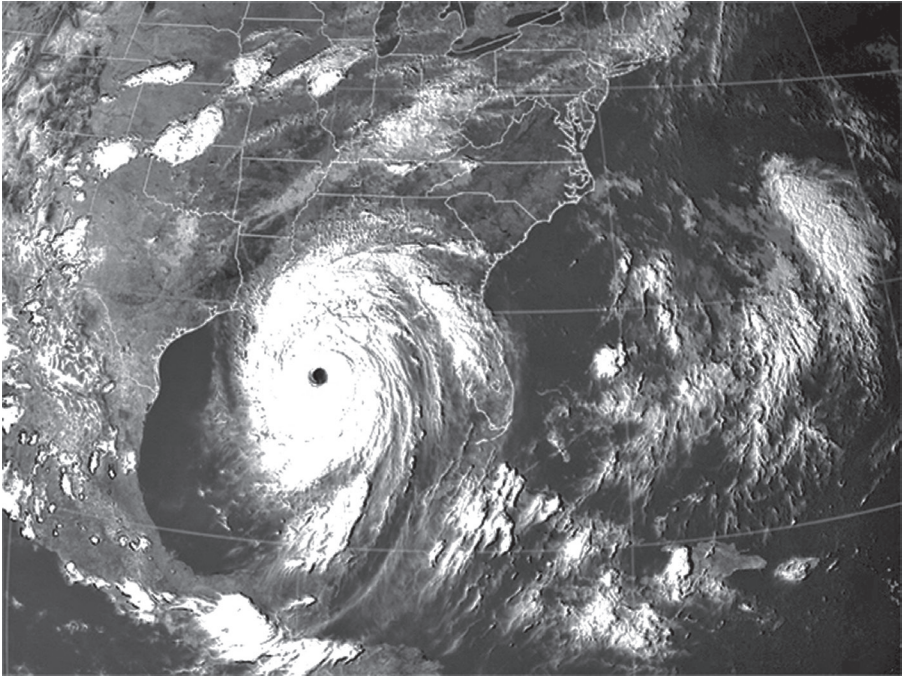
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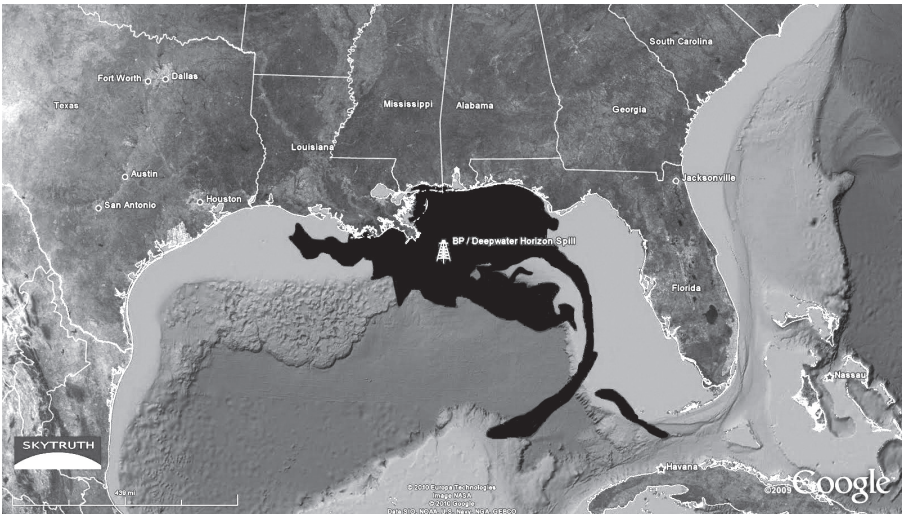
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Map showing cumulative oil slick footprint from BP/Deepwater Horizon oil spill, based on satellite images taken between April 25 and July 16, 2010. <https://www.skytruth.org/2010/07/bp-gulf-oil-spill-68000-square-miles-of/>



my son, my son  
I wasn't there  
so I can't know, can I?

—SOLMAZ SHARIF



## Looking and not/Knowing: Rob Nixon's *Slow Violence* and Christina Sharpe's *In the Wake*

JULIA SHARPE

I read Christina Sharpe's last name and my last name and I wonder: is there a common root? Near the house where I grew up, on the edge of a wooded ravine I find a small haphazard family cemetery. The dates are marked pre-civil-war-era and tarnished, worn. I'm not sure why, but it's clear that the headstones belong to black slaves. Perhaps the word slave is inscribed on the stones. Perhaps, growing up white in the American South—even before puberty—I learn to trust an unnamable feeling, born of the environment's inherited pathos.

Even now, I question this twenty-year-old memory. I see over-growth, the steep drop to a stream, and my father's name inscribed on one of the more prominent headstones. John Sharpe. On another headstone Sharpe, another Sharpe, and another Sharpe. Were the Sharpes slaveholders? Were the Sharpes enslaved? The undeniable entanglement collapses centuries of in/discreet and in/visible lineage(s). This collapse carves a space for my own epistemological inquiry. It complicates what I thought I knew and allows me to question my own historical position. As I write this now, I stand eleven years old, paralyzed. By asking how I might know, I enter the instability of history from which these un/buried monikers emerge. In newfound light, how can my looking be more than seeing? How can this looking be an act of mutual recognition, bringing the black Sharpe family cemetery into daily focus?

In their respective works, *Slow Violence and the Environmentalism of the Poor* and *In the Wake: On Blackness and Being*, Rob Nixon and Christina Sharpe offer us two frames that enable this re-focusing. Both frames foreground literature as a technology for connecting the destruction of psychic and natural

environments to historically indentured and enslaved peoples. In turn, this connection offers us a world view by which we might learn to reposition ourselves, to see what has been written over, grown over, ignored.

The first frame is Nixon's question "what kinds of aesthetic activism can re-insert [slow] violence into view" (249)? Nixon defines slow violence as that which "occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all" (2). Given this definition, I interpret Nixon's question to be: what kinds of aesthetics (art, literature) will engage us to process our own experiences in such a way that we (re)see slow violence? As the second frame, Sharpe offers us such an aesthetics in her definition of the "wake...as a means of understanding how slavery's violences emerge within the contemporary conditions of spatial, legal, psychic, material, and other dimensions of Black non/being as well as in Black modes of resistance" (35). Sharpe's gathering of documentary, photographic media offers visual evidence that speaks to the wake's impact on how we un/see, depending on our relation to the wake.

Reading these frames together allows us to see the presence of slow violence within the wake as well as how slow violence takes the shape of the wake. That is, the wake is the visual—both temporal and spatial—trajectory of slow violence and the wake is a slow violence. As I stand before the covered-over black Sharpe family cemetery, a slow violence emerges and I begin to position myself in relation to its temporal and spatial wake. What can I see beneath or behind the headstones? What has been mapped onto or embedded within? A casual disregard for their existence on the part of neighbors and my own family *is* a slow violence. *I wasn't there so I can't know, can I?* becomes sweeping horror below brush, ivy, moss, grass. Yet, the headstones exist. The bodies were not left to rot but considered, carefully buried. It is history/time that has erased them from view. The question becomes: how can we literally re-insert these markers of entangled kinship and slow violence back into plain sight? Further, how can we make visible the attritional violence that has recursively erased them?

Nixon's reading of Jamaica Kincaid's writing about the Kew Gardens, London gives us a vocabulary for beginning. Kincaid cannot see the garden's glass house without seeing its colonial structure built on the backs of her fore-family (248-9). Her seeing becomes a form of knowing that looks into the past

and reasserts its presence into her reader's plain view. Kincaid's approach to seeing is one of participation; she invites us to see the aesthetics of her worldview, which exists within the wake. More than mapping colonial history onto the garden, she sees its very existence as a monolith, indicative of what Sharpe describes as the "rapid, deliberate, repetitive, and wide circulation...of Black social, material, and psychic death" (45). In Kincaid's view there is only slow violence: slave labor pushed out of sight, out of mind, left in the wake, yet planted into the Kew Garden's fabrication.

I understand Kincaid's vision as a cue to read slow violence and the wake into our daily environment; to (un)(re)read history with Sharpe's and Nixon's frames at hand; to allow for revision and entanglement in daily knowing and doing. In revisiting the black Sharpe family cemetery, I enter into and complicate my own familial certainty/lineage/knowing. This destabilization aids me in positioning myself in relation to slow violence and the wake. I ask concrete questions: Who were the black Sharpes named by these headstones? What is my relationship to them? What is our relationship to communal (un)acknowledgement? How can we make these graves and their entangled histories visible? How can visibility and double consciousness help undermine dominant systems? These questions demand that we disengage knowing and inhabit uncertainty in an attempt to see. That I likely will never know if I am or am not related to the black Sharpes is overshadowed by the questions that arise as I learn to proceed and process my own relation to slow violence and the wake.

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## Staying with the Wake: The SF of Speculative Freedom

ELLIE TSE

*Staying with the Trouble* offered what was undoubtedly an optimistic conclusion to our readings on freedom. Persuasively and lyrically argued by Donna Haraway, tentacular thinking managed to pull closer the still-tenuous ties between human and nonhuman critters. In the thick of what seems/looks/feels like insurmountable crisis, it also brought optimism closer to opportunity despite “techno-fix” daydreams and “game-over” negativity. The story of the Chthulucene does not merely think our way *out* of the strictures of the Anthropocene and Capitalocene, but rather persists *into* the thickening present and rethinks the way we exist on this planet. Only by being and thinking together in this ongoing present are we capable of serious response and serious response-ability.

In the unresolved afterlives of slavery and indentured servitude, environmental devastation, imperialism and colonialism, this “ongoingness” we ought to inhabit in lieu of the Anthropocene has opened freedom up as a speculative, even hopeful category. Freedom is free to think itself into being, becoming and doing within the “ongoing temporality” of the Chthulucene, a true present that resists static definition (Haraway, “Chthulucene” 51). Ongoingness is thus the domain of a new, contingent SF, a major one that I personally consider *speculative freedom*. Artist and literary scholar Svetlana Boym expands on such a freedom through the lens of adventure and/of co-creation, “Let us try to imagine freedom by *thinking ‘what if’* and not only ‘what is.’ Let us explore missed historical opportunities and highlight alternative spaces of freedom” (Boym 1).

If we are indeed at stake with each other, it seems important to get to know those with whom we now share a “multi-species response-ability.” Yet, in light of the other texts we have read this semester, I cannot shake the feeling

that we have left some *people* behind. Is it possible that not everyone made it to Haraway's "hot compost piles" ("Chthulucene" 4)? *What if* the heterogeneity of the thick co-presence in the Chthulucene, with all its endless processes of sympoeisis and symbiogenesis, is *not heterogeneous enough*? In light of the other texts we have discussed during this seminar, any tracing and practicing of speculative freedom would only stand to benefit from a greater understanding of the cultural component of what Haraway refers to as "*naturalcultural* species trouble on earth" ("Chthulucene" 40). In the trouble of colonialism and imperialism, issues of race, class, gender and labor are absolutely inextricable from those of nature and the environment. I wonder if the Chthulucene reflects the same priorities. Are we staying with the same trouble?

This radical species companionship and stewardship Haraway proposes has contended precariously with the category of the human from the start. The Chthulucentric overturning of human exceptionalism and utilitarian individualism in political economics, as ostensibly our primary way of thinking the world, seems itself reliant on a distinctly liberal Eurocentric humanism. That same humanism also exists at the core of Haraway's critique of the Anthropocene, a no longer thinkable explanation of the world in its "reknitted" order ("Chthulucene" 55):

Unlike the dominant dramas of the Anthropocene and Capitalocene, human beings are not the only important actors in the Chthulucene, with all the other beings able simply to react. The order is reknitted: human beings are with and of the earth, and the biotic and abiotic powers of this earth are the main story. ("Chthulucene" 55)

However, divides between human and nonhuman, human and posthuman, human and humus, are far from dissolved despite earnest encouragements to close the distance therein. Instead, they pose classic and by-now clichéd formulations of center and periphery in which the human remains the constant variable—the cardinal North—dynamics that follow any set of conditions bound by the "post-", be they postcolonial, posthuman, post-post-human or com-post. By extension, the very notion of the human risks being read as a co-optation of the humus and even the site of this relation, "We are humus, not Homo, not anthropos; we are compost, not posthuman" (Haraway, "Chthulucene" 55). Surely, living and thinking in the same pile of

compost would entail more than a homogenization of identity. What sorts of erasure lurk in the compost as a melting pot?

In other words, decentering the human comes with all the slippery terms in which the contingency of SF worlding is couched, not least of which is the idea that relation itself can be a means of and ends to power. Speculative freedom must therefore account for existing asymmetries within human relations *before or alongside* those between human and non-human, rather than after or not at all. This brings us back to Dipesh Chakrabarty's concern with the universality of deep history and any "recourse to the idea of species":

How do we hold the two together as we think the history of the world since the Enlightenment? How do we relate to a universal history of life--to universal thought, that is--while retaining what is of obvious value in our postcolonial suspicion of the universal? (219)

In her discussion of Marxist humanism in postsocialist contexts, literary scholar Shu-mei Shih challenges the broad relevance of posthumanism in the face of the subhumanized and dehumanized: "When certain people have not been considered and treated as humans, posthumanism serves as an alibi for further denial of humanity to these same people" (30). This is a useful proposition for Haraway. Turning to humusities instead of humanities, Haraway has distanced herself from the posthuman in an elaboration of her 1991 cyborg, "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction" ("Cyborg Manifesto" 292). That said, the cyborgs in the Chthulucene, however, "are not machines in just any sense, nor are they machine-organism hybrids. In fact, they are not hybrids at all," but, rather, imploded entities (Haraway, "Cyborg Manifesto" 104). Shih articulates what may be an anachronism of ongoingness and a problem of Chthulucentric temporality: "Cybernetics might be a step beyond old-fashioned Enlightenment humanism... but the newly emerging subjects of history--colonized peoples, women, minorities of all kinds--need to be respected and dignified as humans first" (30). *What if* we need to re-humanize before or alongside a deconstruction of what it means to live and think and be a human in the SF of speculative freedom?

Re-humanization is de facto a process of kin-making. For one, it is a resistant reversal of what Lisa Lowe refers to as the reproduction of "kinlessness"

in slavery (Lowe 12). In extension of Haraway's compost pile, "making kin as oddkin" *beyond* the boundaries of human and nonhuman relations also situates us in the wake where, for Christina Sharpe, "the past that is not past reappears, always, to rupture the present" (Sharpe 9; Haraway, "Chthulucene" 2). In the wake of Black death, chattel slavery and the abstraction of these violences, how does the yet-to-be re-humanized participate in the unfinished project of freedom through "a method of encountering a past that is not past" (Sharpe 13)? I think it is precisely the atemporality, the untimeliness of those whose humanity remains pending in the thick of loss and devastation, that allows us to reclaim a set of freedoms that has been denied and continues to be denied. *What if* staying in the trouble is also staying in the wake?

Against the "total environment" of antiblackness in the climate of black pain and trauma, we need to learn "how to mourn by bringing the dead into active presence" (Sharpe 106; Haraway, "Chthulucene" 7). We are, after all, at stake in each other's company; grieving together, we must forge "a path to understanding entangled shared living and dying" (Sharpe 39). Just as humans have been cast overboard like cargo, so we must continue our search for those who are not yet on board. Inhabiting Sharpe's "ship time, a counter to monumental time," would mean accounting for the 133 deaths aboard the British slave ship *Zong* alongside our critterly coexistence (Sharpe 62). Speculative freedom must therefore produce thoughts and practices of human and non-human living in a new temporality that not only thickens the present but also the past. In other words, to do trouble work is to do wake work.

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DEEP TIME  
C H I C A G O



**GOETHE  
INSTITUT**

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"There is no pathway out of the problems of the Anthropocene without finding solutions for social justice, and there is no solution for decolonization without addressing anthropogenic histories and our dire ecological present."

DEEP TIME  
C H I C A G O