- Ahmed, Sara. *"Orientation towards objects."* In: *Queer phenomenology: Orientations, objects, others*. Duke University Press, 2006, pp. 25-63
- Amaro, Ramon. "Artificial Intelligence: warped, colorful forms and their unclear geometries." In: Danae Io and Callum Copley, eds. Schemas of Uncertainty: Soothsayers and Soft AI. Amsterdam: PUB/Sandberg Instituut, 2019, pp. 69-90.
- Berlant, Lauren. "The commons: Infrastructures for troubling times." *Environment and Planning D: Society and Space* 34, no. 3 (2016): 393-419.
- Chun, Wendy Hui Kyong. "Queerying Homophily.", In: Apprich, Clemens, Florian Cramer, Wendy Hui Kyong Chun, and Hito Steyerl. *Pattern discrimination*. meson press, 2018.
- Da Silva, Denise Ferreira. "1 (life)÷ 0 (blackness)=∞−∞ or∞/∞: On matter beyond the equation of value. e-flux, 79." (2017).
- Da Silva, Denise Ferreira. "On difference without separability." *32nd Bienal De Sao Paulo Art Biennial, "Incerteza viva"* (2016).
- Gumbs, Alexis Pauline, and Julia Roxanne Wallace. "Black Feminist Calculus Meets Nothing to Prove." *Are All the Women Still White?: Rethinking Race, Expanding Feminisms* (2016): 305.
- McKittrick, Katherine. "Mathematics Black Life." *The Black Scholar* 44, no. 2 (2014): 16-28.

ON DIFFERENCE WITHOUT SEPARABILITY
Denise Ferreira da Silva

Following European states' responses to the "refugee crisis" resulting from the latest wars of Global Capital – that is, local and regional conflicts about control of natural resources – it is evident how effectively the racial grammar and lexicon work as ethical descriptors. Without their citizens' assertions of fear of the new, incoming wave of "strangers," it would have been more difficult for them to justify the building of walls and deportation programs to contain the hundreds of thousands fleeing armed conflicts in the Middle East and throughout the African continent.[1] For in the tale of the dangerous and undeserving "Other" – the "Muslim Terrorist" disguised as (Syrian) refugee and the "starving African" disguised as asylum seeker – cultural difference sustains statements of uncertainty that effectively undermine claims for protection under the human rights framework, thereby supporting the deployment of the EU security apparatus.[2]

Fear and uncertainty, to be sure, have been the staples of the modern racial grammar. Since the early 20th century, articulations of cultural difference in the modern text added a social scientific signifier designed to delimit the reach of the ethical notion of humanity. Precisely because they too are specimens of modern thought, the available critical tools cannot support an ethico-political intervention capable of undermining cultural difference's capacity to produce an unbridgeable ethical divide. That is, they cannot effectively interrupt deployments of otherwise unacceptable total violence onto those placed on "the Other" (cultural) side of humanity. Why? Because they also rehearse the modern text's scientific imaging of The World as an

1   Read, for instance, Slavoj Zizek's comments available at: inthesetimes. com/article/18385/ slavoj-zizek-european- refugee-crisis-and-global- capitalism. Accessed on 3 June 2016.

2   See the European Commission plan for dealing with the crisis released on September 2015, available at: europa. eu/rapid/press-release_IP- 15-5700_en.htm. Accessed on 3 June 2016.

3   This is inspired by Leibniz's notion of the plenum. See, for instance, G.W. F. Leibniz, *Discourse on Metaphysics and Other Essays*. Indianapolis: Hackett, 1991.

ordered whole composed of separate parts relating through the mediation of constant units of measurement and/or a limiting violent force. When deployed for thinking about the social, this imaging renders sociality as being contingent upon the inhabiting of the same (juridical, spatial, or temporal) parts.

An ethico-political program that does not reproduce the violence of modern thought requires re-thinking sociality from without the modern text. Because only the end of the world as we *know* it, I am convinced, can dissolve cultural differences' production of human collectives as "strangers" with fixed and irreconcilable moral attributes. This requires that we release thinking from the grip of certainty and embrace the imagination's power to create with unclear and confused, or uncertain impressions, which Kant (1724-1804) postulated are inferior to what is produced by the formal tools of the Understanding. A figuring of The World nourished by the imagination would inspire us to rethink sociality without the abstract fixities produced by the Understanding and the partial and total violence they authorize – against humanity's cultural (non-white/non-European) and physical (more-than-human) "Others."

THE THINKING OF THE WORLD

After breaking through the glassy, formal fixed walls of the Understanding, released from the grip of certainty, the imagination may wonder about reassembling the fundamental components of everything to refigure the World as a complex whole without order. Let me consider a possibility: What if, instead of The Ordered World, we could image The World as a Plenum, an infinite composition[3] in which each existant's singularity is contingent upon its becoming one possible expression of all the other existants, with which it is entangled beyond space and time. For decades now, experiments in particle physics have astonished scientists and laypeople with findings that suggest that the fundamental components of everything, every thing, could be just such, namely the virtual's (subatomic particles) becoming actual (in space-time), which is also a recomposition of everything

else.[4] For decades now, the counter-intuitive results of experiments in particle physics have been yielding descriptions of the World with features – *uncertainty*[5] and *non-locality*[6] – that violate the parameters of certainty. Experiments that, I propose, invite us to image the social without the Understanding's deadly distinctions and lethal (re)ordering devices.

What is at stake? What will have to be relinquished for us to unleash the imagination's radical creative capacity and draw from it what is needed for the task of thinking The World otherwise? Nothing short of a radical shift in how we approach matter and form. Early Natural Philosophy (Galileo, 1564-1642 and Descartes, 1596-1650) and Classical Physics (Newton, 1643-1727) have inherited the Ancient view of matter – in the notion of body which comprehends it in abstract notions, such as solidity, extension, weight, gravity, and motion in space, in time, which are said to be present in thought. In any event, the claim that the human mind could know the properties of the bodies with certainty, without the mediation of the divine ruler and author of the Book of Nature, would rely on two departures from Scholastic philosophy: first, the 17th century philosophers who called themselves "modern" devised a knowledge program that was concerned with what they called the "secondary (efficient) causes" of motion, which cause change in the appearance of things in nature, and not with the "primary (final) causes" of things, or the purpose (end) of their existence; second, instead of relying on Aristotle's (384-322 a.C) logical necessity for the assurance of the correctness of their findings, philosophers such as Galileo relied on the necessity characteristic of mathematics, more precisely, on geometrical demonstration as the basis for certainty. Unquestionably, these philosophers inherited earlier writings of Man's exceptionality – his soul, free will, capacity for reasoning, etc. What Descartes introduced in the 17th century is a separation of mind and body in which the human mind, due to its formal nature, also acquires the power to determine the truth about the human body as well as anything that shares its formal attributes, like solidity, extension, and weight.

This separation is precisely what is consolidated in Kant's model-ing of his philosophical system after Newton's program, particularly

4 The actual (atomic and supra-atomic level) and the virtual (subatomic) refer to different material moments – atomic and supra-atomic and subatomic, respectively – of everything that exists.

5 Heisenberg's *uncertainty* principle accounts for experiments that violate the view that measurements of property correspond to events in reality, which cannot be altered by human intervention; see Werner Heisenberg, *Physics and Philosophy*. Amherst: Prometheus Books, 1999

6 The principle of nonlocality refers to measurements of a property of a particle (such as position) that instantaneously provide the measurement of a related property (such as momentum) of another particle regardless of the distance between the two; see Robert Nadeau and Menas Kafatos, *The Non-Local Universe*. Oxford: Oxford University Press, 1999.

7   See Immanuel Kant,
Critique of Pure Reason.
Cambridge: Cambridge
University Press, 1998.

the idea that knowledge consists in the identification of the limiting forces, or laws that determine what happens to observed things and events (phenomena).[7] Kant's accomplishment, which was the design of a system that relied primarily on the determining powers of reason and not on a divine creator, troubled his contemporaries, who saw the possibility that formal determination would also become a descriptor of human conditions, constituting a deadly threat to the ideal of human freedom. Yet, two interrelated elements of the Kantian program continue to influence contemporary epistemological and ethical projects: (a) *separability*, that is, the view that all that can be known about the things of the world is what is gathered by the forms (space and time) of the intuition and the categories of the Understanding (quantity, quality, relation, modality) – everything else about them remains inaccessible and irrelevant to knowledge; and consequently (b) *determinacy*, the view that knowledge results from the Understanding's ability to produce formal constructs, which it can use to determine (i.e. decide) the true nature of the sense impressions gathered by the forms of intuition.

A few decades after the publication of Kant's major works, Hegel (1777-1831) addresses this threat to freedom with a philosophical system that inverts the Kantian program with a dialectical method that accomplishes two things: (a) a notion of *actualization*, which presents body and mind, space and time, Nature and Reason, as two manifestations of the same entity, namely Spirit, or Reason as Freedom and (b) the notion of *sequentiality,* which describes Spirit as movement in time, a process of self-development, and describes History as the trajectory of Spirit. With these moves, he introduces a temporal figuring of cultural difference as the actualization of Spirit's different moments of development and postulates that post-Enlightenment European social configurations represented the fullest development of Spirit.

THE THINKING OF CULTURAL DIFFERENCE

Ever since the post-Enlightenment consolidation of the Kantian program, physics has provided models for scientific studies of human con-

ditions – a task facilitated by Hegel's account of time as the productive force and theater of knowledge and morality. Unfortunately, however, these models have been successful precisely because of how these writings on the human as a social thing rely on the same departures from Medieval philosophy that supported modern philosophers' claim of knowledge with certainty, namely, efficient causes and mathematical demonstration, which ground the modern text. The racial grammar activated in reactions to the flow of refugees to Europe is but an iteration of the modern text. Not only does it carry over into the claim of certainty, its claims of truth rest on the same pillars – namely *separability, determinacy*, and *sequentiality* – modern philosophers have assembled to support their knowledge program.

When one looks closely at the racial grammar, it is possible to identify two discrete moments. First, George Cuvier's (1769-1832) initial framing of the science of life, even if modeled after Newton's Natural Philosophy, still relied on the descriptive mode of early Natural History, and introduced Life as both the efficient and final cause of living things. Later, in the 19th century, after Darwin (1809-1882) released his descriptions of living Nature, in which differentiation emerges as the result of rational principle, an efficient cause, which operates in time through force, namely Natural Selection, or as the result of a struggle for existence, the science of life would guide a program for the knowledge of human existence, namely 19th century anthropology, or the science of man. In addition to external traits, which were used in Natural History's mapping of Nature, the self-named scientists of man developed their own formal tools, mathematical tools such as the facial index for measuring human bodies, which became the basis for the description and classification of human mental attributes, both moral and intellectual, on a scale said to register their degree of cultural development.

Second, in the 20th century, not surprisingly, the physicist-turned anthropologist Franz Boas (1858-1942) performs a major shift in the knowledge of the human condition with the claim that social, rather than biological aspects account for the variation of mental (moral and intellectual) contents. With this he assembles a notion of cultural dif-ference, which has both a temporal and a spatial aspect. According to

8 Alfred Kroeber. *Anthropology*. New York: Harcourt and Brace, 1948, p1.

9 See, for instance, Michel Foucault, *Discipline and Punish*. New York: Vintage Books, 1977.

10 Today's New Materialists also draw from insights from particle physics, see Diana Coole and Samantha Frost, *New Materialisms: Ontology, Agency, Politics*. Durham: Duke University Press, 2010.

Boas, the study of mental contents should address the cultural "forms," or "patterns of thought" which emerged in the early moments of a collective's existence and were expressed in its members' beliefs and practices. Emerging and consolidating in time, he argues, cultural, not physical "forms" account for noticeable mental (moral and intellectual) differences. The anthropological school his work inaugurated, namely cultural anthropology, marked a methodological shift, that is, a departure from ethnocentric views of human difference, which resonates with a major shift in physics, namely Einstein's principle of relativity. For Kroeber, Boas' student,

> From that, they commenced to envisage it as a totality, as no historian of one period or of a single people was likely to do, nor any analyst of his own type of civilization alone. They became aware of culture as a "universe," or vast field in which we of today and our own civilization occupy only one place of many. The result was a widening of a fundamental point of view, a departure from unconscious ethnocentricity toward relativity.[8]

In the second half of the century, in the mid-1970s, we find particle physics, in the work of the French philosopher Michel Foucault, opening new venues for critical thinking. For instance, Foucault establishes a distinction between a mode of operation of juridico-political power that resembles the events involving larger bodies as expressed in Newton's laws of motion and what he called the microphysics of power, which work primarily through language, or discourse, and institutions.[9] This second view describes power/knowledge as productive of its subjects and objects, and operating at the level of desire – much like experiments in quantum mechanics, which inspired Heisenberg's uncertainty principle, show how the apparatus determines the attributes of the particles under observation.

For centuries, as these examples indicate, developments in post-classical physics, relativity and quantum mechanics, have been crucial in the development of theoretical and methodological approaches to the study of economic, juridical, ethical and political issues, which both produced and rehearsed human difference.[10] Unfortunately, however, they have not yet inspired imagings of difference without

separability, whether spatio-temporal, as in Boas' cultural collectives, or formal, as in Foucault's discursively produced subject. Not surprisingly, they have further reinforced the idea of culture and the mental contents to which it refers as expressing a fundamental separation between human collectives, in terms of nationality, ethnicity and social (gender, sexual, racial) identity.

THE ENTANGLED WORLD

Following the recent European responses to the "refugee crisis," we find how cultural difference describes a global present mired in fear and uncertainty: Ethnic identity does this by means of statements that name the threatening "Other," that is, those seeking refuge in Europe from wars in the Middle East, political unrest in East and North Africa, and conflicts fuelled by the exploitation of natural resources in West Africa. Meanwhile, in Brazil, it manifests itself by those attempting to impeach President Dilma Rousseff by unleashing moral attacks on those who recently had their rights recognized on the basis of their social (gender, sexual, racial, and religious) identity. In both cases, cultural difference sustains a moral discourse, which rests on the principle of *separability*. This principle considers the social as a whole constituted of formally separate parts. Each of these parts constitutes a social form, as well as geographically-historically separate units, and, as such, stands differentially before the ethical notion of humanity, which is identified with the particularities of white European collectives.

What if, instead of the Ordered World, we imaged each existant (human and more-than-human) not as separate forms relating through the mediation of forces, but rather as singular expressions of each and every other existant as well as of the entangled whole in/as which they exist? What if, instead of looking to particle physics for models of devising more scientific or critical analysis of the social we turned to its most disturbing findings – such as nonlocality (as an epistemological principle) and virtuality (as an ontological descriptor) – as poetical descriptors, that is, as indicators of the impossibility of comprehending existence with the thinking tools that

cannot but reproduce separability and its aids, namely determinacy and sequentiality?

I close this essay with a contemplation of what can become available to the imagination, what sort of ethical opening can be envisioned with the dissolution of the grip of the Understanding and the releasing of The World to the imagination.

Towards re-imagining sociality, the principle of nonlocality supports a kind of thinking that does not reproduce the methodological and ontological grounds of the modern subject, namely linear temporality and spatial separation. Because it violates these framings of time and space, nonlocality allows us to imagine sociality, in such a way that attending to difference does not presuppose *separability*, *determinacy*, and *sequentiality,* the three ontological pillars that sustain modern thought. In the nonlocal universe, neither dislocation (movement in space) nor relation (connection between spatially separate things) describes what happens because entangled particles (that is, every existing particle) exist with each other, without space-time. Though Kant's comments on that which in The Thing is irrelevant to knowledge dismiss metaphysical concerns, they also suggest that the reality described in Newton's (and later Einstein's, 1879-1995) physics consists in a limited picture of The World because it refers only to phenomena, in other words, things as they are accessible to the senses, that is, in spacetime. What nonlocality exposes is a more complex reality in which everything has both actual (spacetime) and a virtual (nonlocal) existence. If so, then why not conceive of human existence in the same manner? Why not assume that beyond their physical (bodily and geographic) conditions of existence, in their fundamental constitution, at the subatomic level, humans exist entangled with everything else (animate and in-animate) in the universe. Why not conceive of human differences – the ones 19th and 20th century anthropologists and sociologists selected as fundamental human descriptors – as effects of both spacetime conditions and a knowledge program modeled after Newtonian (19th century anthropology) and Einsteinian (20th century social scientific knowledge) physics, in which separability is the privileged ontological principle. Without *separability*, difference among human groups and between human and nonhuman entities,

has very limited explanatory purchase and ethical significance. For, as nonlocality assumes, beyond the surfaces onto which the prevailing notion of difference is inscribed, everything in the universe co-exists in the manner Leibniz (1646-1716) describes, that is, as a singular expression of everything else in the universe. Without *separability*, knowing and thinking can no longer be reduced to *determinacy* in the Cartesian distinction of mind/body (in which the latter has the power of determination) or the Kantian formal reduction of knowing to a kind of efficient causality. Without *separability*, *sequentiality* (Hegel's ontoepistemological pillar) can no longer account for the many ways in which humans exist in the world, because self-determination has a very limited region (spacetime) for its operation. When nonlocality guides our imaging of the universe, difference is not a manifestation of an unresolvable *estrangement,* but the expression of an elementary *entanglement.* That is, when the social reflects The Entangled World, sociality becomes neither the cause nor the effect of relations involving separate existants, but the uncertain condition under which everything that exists is a singular expression of each and every actual-virtual other existant.

[3]

Queerying Homophily

Wendy Hui Kyong Chun

To recap, in *Pattern Discrimination*:

1. YOU is always singular plural:
    - Recognition is never at the level of the individual
    - You = YOUS value

2. Machines engage in deep dreaming, creating patterns from noise.
    - Crab in = crap out
    - As with the gibbering muses, interpretation and hermeneutics enter through pattern discrimination, but now through the "back door"
    - We live in mythic times, but without knowing we do

3. The singularity of the market = the crapularity of the world:
    - the dumbing down of humans
    - the integration of subjectivity into information technologies
    - the reality of paranoia

4. To come out, we have to come in:

- • we are inside when we think we are outside.
- • Open societies need enemies to be "open"

This chapter continues these points by examining homophily—the axiom that similarity breeds connection—which grounds contemporary network science. If we are inside-out, it is because homophily, love as love of the same, closes the world it pretends to open; it makes cyberspace a series of echo chambers. This transformation ironically fulfills its purpose as a portal: a portal is an elaborate façade that frames the entrance to an enclosed space. Cyberspace was always a horizon trapped within in U.S. military-academic networks. Thus, to start with a more contemporary myth:

> *Once upon a time, a U.S. commerce-free, military, and academic inter-networking protocol, Transmission Control Protocol/Internet Protocol, became reborn as cyberspace. A consensual hallucination, it transformed TCP/IP into its opposite: a global, government-free, and anonymous space that was fundamentally discrimination-free (because if you can't see it, how can you hate it?). A decentralized network allegedly designed to survive a massive, catastrophic flattening (i.e., nuclear war), it would flatten all hierarchies through its boundless expansion. Unfortunately, things did not quite turn out as planned. Rather than an endless difference-free utopia, the internet became a series of poorly gated communities that spawned towering, hate- and terror-filled, racist— or to some even worse, banal, star-obsessed, cat-infested— echo chambers. This Internet made cyberpunk dystopian futures look banal in comparison. Rather than state-free, it became a breeding ground for state surveillance, in which governments spied on citizens, on foreign nationals, and on each other, and in which corporations perfected global tracking techniques. The future it augured looked even darker: the dusk of human spontaneity via the dawn of Big Data. Soon all human actions would be captured, calibrated, predicted,*

and preempted. Networks, it would seem, were born free and yet everywhere were enchained.

People bemoaned, accepted, or embraced this situation and offered various explanations for it. They revealed that the initial dreams of cyberspace were delusional (as if this was profound: the term "cyberspace," after all, came from science fiction; William Gibson in Neuromancer *described it as a "consensual hallucination"); they argued that the internet had to be purged of the anonymity (it never really had) because anonymity was the root of all evil (as if people were only obnoxious or nasty under cover); they pointed out that echo chambers were produced by "personalization": corporate attempts to target individual consumers. What we were experiencing: the nightmare of buying "happily ever after."*

This tale is both right and wrong. Yes, the internet changed dramatically after its opening/commercialization, but personalization alone is not the culprit—and purging the internet of anonymity will not make networks any less nasty. "Real Names" or unique identifiers lie at heart of Big Data analytics, for they are crucial to synching disparate databases and calibrating recycled data. Further, if Big Data predictive analytics work, it is not because everyone is treated like a special snowflake but because network analyses segregate users into "neighborhoods" based on their intense likes and dislikes. Further, it "trains" individuals to expect and recognize this segregation. Instead of ushering in a postracial, postidentitarian era, networks perpetuate identity via "default" variables and axioms. In network science, differences and similarities—differences as a way to shape similarities—are actively sought, shaped, and instrumentalized in order to apprehend network structures. Networks are neither unstructured masses nor endless rhizomes that cannot be cut or traced. Networks, because of their complexities, noisiness, and persistent inequalities, foster techniques to manage, prune, and predict. This new method—this pattern discrimination—makes older, deterministic, or classically analytic methods of control seem innocuous.

Homophily (love as love of the same) fuels pattern discrimination. The fact that networks perpetuate segregation should surprise no one because, again, segregation in the form of homophily lies at their conceptual core. Homophily launders hate into collective love, a transformation that, as Sara Ahmed has shown, grounds modern white supremacism (2004, 123). Homophily reveals and creates boundaries within theoretically flat and diffuse networks; it distinguishes and discriminates between allegedly equal nodes: it is a tool for discovering bias and inequality and for perpetuating it in the name of "comfort," predictability, and common sense. Network and data analyses compound and reflect discrimination embedded within society. Like the trolls Whitney Phillips has diagnosed as the "grimacing poster children for the socially networked world," they engage in "a grotesque pantomime of dominant cultural tropes" (2015, 8). Most broadly, this pattern discrimination is linked to a larger subsumption of democratic politics to neoliberal market economics, with its naïve overvaluing of openness (as discussed by Cramer in the preceding chapter) and authenticity (diagnosed brilliantly by Elizabeth Bernstein [2007]).

To intervene, we need to realize that this pantomime is not simply dramatic, it is also performative—it puts in place the world it discovers. It also depends on constantly repeated actions to create and sustain nodes and connections. We must thus embrace network analyses and work with network scientists to create new algorithms, new hypotheses, new grounding axioms. We also need to reembrace critical theory: feminism, ethnic studies, deconstruction, and yes, even psychoanalysis, data analytics' repressed parent. Most crucially, what everyone needs now: training in critical ethnic studies.

Machine Learning: Money Laundering for Bias?

On June 19, 2016, Pinboard—an account linked to a site advertised as "Social Bookmarking for Introverts"—posted the following comment to *Twitter*: "Machine learning is like money laundering

for bias" (Pinboard 2016). This post, which was retweeted over a thousand times by the end of that summer, encapsulated growing suspicions about the objectivity of artificial intelligence and data-driven algorithms, suspicions confirmed by Cathy O'Neil in her remarkable *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (2016). During this time period, news reports about biases embedded in machine learning abounded. Just two of the stories reported in the mainstream media the week of August 28, 2016, include news that:

- *Facebook* unexpectedly fired its news curators, in a delayed response to allegations that its editors deliberately suppressed conservative news, charges it had previously denied (Thielman 2016). This resulted, as *the Guardian* reported, in the algorithms going "crazy." Among the top stories: a fraudulent one that then Fox News moderator Megyn Kelly was fired after she revealed that she was backing Hillary Clinton and a real video of a man masturbating with a McDonald's sandwich. According to some, this was because Facebook had not addressed the human problem embedded in machine algorithms: *Fortune* contended that "getting rid of human editors won't solve *Facebook*'s bias problem" because, in the end, the algorithms are written by human programmers (Ingram 2016).
- A coalition of civil liberties and civil rights organizations issued a statement against predictive policing technologies. According to this group, the crime data embedded in these programs poisoned the results. This data is "notoriously suspect, incomplete, easily manipulated, and plagued by racial bias" (Lartey 2016). These allegations followed a report by *Upturn* that revealed that these systems are not only overhyped, they also "reinforce disproportionate and discriminatory policing practices" (Robinson and Koepke 2016).

These are two of many. There are, as my coauthors have pointed out, many more instances of discriminatory algorithms. Other stories that broke in 2015–16 include news that:

- Google's photo app tagged two black people as "gorillas." Vivienne Ming, an artificial intelligence expert argued, "some systems struggle to recognize non-white people because they were trained on Internet images which are overwhelmingly white . . . the bias of the Internet reflects the bias of society." (Revealingly, Babak Hodjat, chief scientist at Sentinet Technologies, hypothesized that this error might have stemmed from the fact that the algorithm had not seen enough pictures of gorillas; Blarr 2015). This misrecognition of nonwhite people by cameras was hardly new: as Cramer also notes in his chapter in this volume, in 2009 it was revealed that HP Face-Tracking Webcams could not recognize black people, and the Nikon S360 asked its users if smiling Asians were "blinking" (see Frucci 2015; Lee 2009).
- The COMPAS software used by several U.S. courts to predict recidivism—and thus by some to determine sentencing and parole—was biased against racial minorities (Angwin et al. 2016).

These cases "revealed" well-documented biases that should not have been news. Historically, standard film stock was optimized for white skin; for the longest time, interracial filming was difficult not only for social reasons but also for technological ones (see Dyer 1997). As well, racial bias in sentencing within the United States has been debated and analyzed for years.[1] Further, racism within machine learning algorithms had been highlighted and predicted by numerous scholars: from Dr. Latanya Sweeney's revelation that "a black-identifying name was 25% more likely to get an ad suggestive of an arrest record" to predictions of price discrimination based on "social sorting"; from "inadvertent" and illegal discriminatory choices embedded in hiring software to biased risk profiles within terrorism-deterrence systems. These all highlighted the racism latent within seemingly objective systems, which, like money laundering, cleaned "crooked" data. To many, the solution was thus better, cleaner data: crime data, scrubbed free of police bias; more

images of black folks in libraries; more diversity within the tech industry, so technologies not tested on minorities would not reach the consumer market (Harris 2016). The problem, in other words, was the still-lingering digital divide.

Other analysts, however, pointed out that it is not simply a question of inclusion or exclusion but also of how differences are "latently" encoded. For example, Chicago police did not use overtly racial categories in their predictive policing algorithm to generate a "heat list" of those most likely to murder or be murdered, because they did not need to: their "neighborhood"-based system effectively discriminated on the basis of race (Saunders, Hunt, and Hollywood 2016). This system created "persons of interest" based on social ties (as well as personal history). As Kate Crawford and Jason Schultz have argued, Big Data compromises privacy protections afforded by the U.S. legal system by making personally identifiable information about "protected categories" legible (Crawford and Schultz 2014). As Faiyaz Al Zamal et al. (2012) have shown in their analysis of Twitter, latent attributes such as age and political affiliation are easily inferred via a user's "neighbors." These algorithms, in other words, do not need to track racial and other differences, because these factors are already embedded in "less crude" categories designed to predict industriousness, reliability, homicidal tendencies, et cetera. These algorithms can more precisely target key intersectional identities. Tellingly, Christopher Wylie—the Cambridge Analytica whistle-blower—told the *Guardian*'s Carole Cadwalladr that Steven Bannon was the only straight man Wylie's ever talked to about feminist intersectional theory. Feminist intersectional theory was first developed by Kimberlé Crenshaw (Crenshaw 1991) to explain the violence against women of color—through Cambridge Analytica, it became a measure to understand "the oppressions that conservative, young white men feel" (Cadwalladr 2018). As Susan Brown (personal communication, June 2015) has noted, imagine what could be revealed in terms of location, class, and race through the category: buys organic bird feed.

Crucially, these algorithms perpetuate the discrimination they "find." They are not simply descriptive but also prescriptive and performative in all senses of that word. Capture systems, as Phil Agre theorized in 1994, reshape the activities they model or "discover." Through a metaphor of human activity as language, they impose a normative "grammar of action" as they move from analyzing captured data to building an epistemological model of the captured activity (364). The Chicago Police's "heat list," for instance, did not result in a reduction of homocides; it did, however, lead to subjects on the list being "2.88 times more likely than their matched counterparts to be arrested for a shooting" (Saunders, Hunt, and Hollywood 2016). It also possibly led to more homicides: those contacted by the police were afraid of being perceived as "snitches" by their neighbors (Gorner 2013). Networks create and spawn the reality they imagine; they become self-fulfilling prophecies (see Chun 2016; Healy 2015). Based on efficiency, they, like all performative systems, bypass questions of justice (see Lyotard 1984).

Performativity, however, does not simply mean the reformatting and reorganizing of the world "into line with theory" (Healy 2015, 175). Performative utterances, as Judith Butler and Jacques Derrida have argued, depend on iterability and community (Derrida 1988; Butler 1997). Butler in particular has revealed the inherent mutability of seemingly immutable and stable categories. Gender, she has argued, is performative: "it is real only to the extent that it is performed" (Butler 1988, 527). What we understand to be "natural" or "essential" is actually "manufactured through a sustained set of acts, positioned through the gendered stylization of the body . . . what we take to be an 'internal' feature of ourselves is one that we anticipate and produce through certain bodily acts, at an extreme, an hallucinatory effect of naturalized gestures" (Butler 1990, xv). These gestures and constant actions are erased/forgotten as they congeal into a "comfortable" fixed identity. As Sara Ahmed provocatively puts it: "regulative norms function in a way as repetitive strain injuries" (Ahmed 2004, 145). This understanding of performativity adds a further dimension to analyses of network

performativity, for this performativity courses through networks.
As I've argued more fully in *Updating to Remain the Same* (Chun 2016), networks do not simply enact what they describe, their most basic units—nodes and ties—are also themselves the consequence of performative, habitual actions.

So: what would happen if we engaged, rather than decried, network performativity? How different could this pantomime called networks be? Crucially, to take up this challenge we must realize the expressive impact of our mute actions. If Big Data, as Antoinette Rouvroy among others have argued, devalues human language by privileging bodily actions over narratives, it does so via capture systems that, as Agre points out, translate our actions into "grammars of actions" (Rouvroy 2011). Our silent—and not so silent—actions register.

To take up this challenge, we also need to move beyond dismissing Big Data as hype and celebrating "missed" predictions as evidence of our unpredictability. The gap between prediction and actuality should not foster snide comfort, especially since random recommendations are increasingly deliberately seeded to provoke spontaneous behavior. The era of Big Data is arguably a future that we reach, if we do, asymptotically, and the fact that Big Data is hype is hardly profound: most of technology is. Further, Big Data poses fascinating computational problems (how does one analyze data that one can read in once, if at all?). The plethora of correlations it documents also raises fundamental questions about causality: If almost anything can be shown to be real (if almost any correlation can be discovered), how do we know what matters, what is true? The "pre-Big Data" example of the "Super Bowl predictor" nicely encapsulates this dilemma, for one of the best predictors of the U.S. stock market is the result of the Super Bowl: if an NFC team wins, it will likely be a bull market; if an AFC team wins, it will be a bear market (Silver 2012, 185). This example also poses the question: what does knowledge do? What is the relationship between knowledge and action? The best analogy for Big Data is the mapping of the human genome: before this mapping was actualized, it

was envisioned as the Holy Grail, or the Rosetta Stone for human illness. Rather than simply resulting in the cure for cancer and so forth, it raised new awareness about the importance of epigenesis, gene interactions, disease pathways, et cetera.

It is critical that we realize that the gap between prediction and reality is the space for political action and agency. Predictions can be "self-canceling" as well as self-fulfilling (Silver 2012, 219). Like global climate change and human population models, they can point to realities and futures to be rejected. They can, through their diagnosis, render impotent the predictive power of a symptom or enable new, unforeseen, grammars. To create new expressions, however, we need to read the scripts and analyze the set we find ourselves in the midst of, that is, the laboratory of network science.

Networks: The Science of Neoliberal Connections

At the most basic level, network science captures—that is, analyzes, articulates, imposes, instrumentalizes, and elaborates—connection (see the five stages of capture, Agre 1994). It is "*the study of the collection, management, analysis, interpretation, and presentation of relational data*"[2] (Brandes et al. 2013, 3). Described as fundamentally interdisciplinary, it brings together physics, biology, economics, social psychology, sociology, and anthropology. Put more extremely, it merges the quantitative social sciences with the physical and computer sciences in order to bypass or eliminate the humanities and media studies, two fields also steeped in theories of representation and networks. According to the acclaimed network scientist and author Albert-László Barabási, network science obviates the need for human psychology: "In the past, if you wanted to understand what humans do and why they do it, you became a card-carrying psychologist. Today you may want to obtain a degree in computer science . . . ." This is because network science, combined with "increasingly penetrating digital technologies," places us in "an immense research laboratory that, in size,

complexity, and detail, surpasses everything that science has encountered before." This lab reveals "the rhythms of life as evidence of a deeper order in human behavior, one that can be explored, predicted, and no doubt exploited" (Barabási 2010, 11). Network science unravels a vast collective nonconscious, encased within the fishbowl of digital media.[3] It is the bastard child of psychoanalysis: there are no accidents, no innocent slips of the tongue. Each action is part of a larger pattern/symptom. The goal: to answer that unanswerable question, what do (wo)men want?

Network science responds to increased global connectivity and capitalism, to "a growing public fascination with the complex 'connectedness' of modern society" (Easley and Kleinberg 2010, 11). As Duncan Watts, a pioneer in this field, explains, "if this particular period in the world's history had to be characterized in any simple way, it might be as one that is more highly, more globally, and more unexpectedly connected than at any time before it." Network science is crucial to mapping and navigating "the connected age" (Watts 2004).

Network science is a version of what Fredric Jameson once called "cognitive mapping" (Jameson 1990). It is the neoliberal cure for postmodern ills (see Chun 2016). Postmodernism, according to Jameson, submerged subjects "into a multidimensional set of radically discontinuous realities, whose frames range from the still surviving spaces of bourgeois private life all the way to the unimaginable decentering of global capital itself" (Jameson 1991, 413). Because of this, they were profoundly disoriented, unable to connect their local experience (authenticity) to global systems (truth). To resolve this situation, Jameson called for cognitive mapping, a yet imaginable form of political socialist art, which corresponded to "an imperative to grow new organs, to expand our sensorium and our body to some new, yet unimaginable, perhaps ultimately impossible, dimensions" (39). Like the cognitive mapping Jameson envisioned, network science lifts the fog of postmodernism by revealing the links between the individual to the totality in which she lives. Unlike Jameson's vision, it is hardly socialist or empowering.

Rather than enabling humans to grow new organs, it contracts the world into a map: it forces a mode of authenticity shaped to an artificially intelligent truth.

Network science reduces real-world phenomena to a series of nodes and edges, which are in turn modeled to expose the patterns governing seemingly disparate behaviors, from friendship to financial crises. This mapping depends on dramatic simplifications of real world phenomena.[4] In fact, these "discovered" relations are vast simplifications of vast simplifications, with each phase of network theory—initial abstraction/representation followed by mathematical modeling—producing its own type of abstraction. The first is "applied" and "epistemological": It suggests and explicates "for given research domains, how to abstract phenomena into networks. This includes, for example, what constitutes an individual entity or a relationship, how to conceptualize the strength of a tie, etc." (Easley and Kleinberg 2010, 2). Most simply, in this stage, one decides what is a node, what is an edge, and how they should be connected. The second is "pure" network theory, for it deals "with formalized aspects of network representations such as degree distributions, closure, communities, etc., and how they relate to each other. In such pure network science, the corresponding theories are mathematical—theories of networks" (5). In this second phase, the goal is to build a model that reproduces the abstraction produced in stage one. Whatever does so is then considered true or causal. This two-step process highlights the tightrope between empiricism and modeling that network science walks: network science models not the real world but rather the initial representation and truth is what reproduces this abstraction.

These abstract relations reveal and construct a complex relationship between the local and the global. Fundamentally, network science is nonnormative: it does not assume that aggregate behaviors stem from identical agents acting identically. It connects previously discontinuous scales—the local and global, the micro and the macro—by engaging dependencies that were previously "filtered" or controlled for. It, as the authors of the inaugural

volume of *Network Science* explain, differs from other sciences in its evaluation of dependency and structure. Rather than defining the domain of variables as a simple set without a structure, it assumes "at least some variables . . . to have structure. The potentially resulting dependencies are not a nuisance but more often than not they constitute the actual research interest" (Brandes et al. 2013, 8).[5] These dependencies go beyond correlations within actor attribute variables (such as the relation between income and age) to encompass the entire set of network variables. Network variables are themselves defined in terms of pairs, which are valued according to their degree (or not) of connection (for instance, 1 for connected; 0 for not). These variables in turn affect one another: "the crucial point is that the presence of one tie may influence the presence of another. . . . While this will appear an unfamiliar point of view to some, it is merely a statement that networks may be systematically patterned. Without dependence among ties, there is no emergent network structure (Brandes et al. 2013, 10).[6] At all levels, networks are dynamic and interdependent. What matters then is understanding and creating interdependencies.

Currently, modeling these interdependencies—tying global events to individual interactions—entails the marriage of graph theory with game theory, or other agent-based modeling. Computer scientist Jon Kleinberg's collaboration with economist David Easley exemplifies this fruitful combination. In their canonical and excellent textbook, *Networks, Markets, and Crowds,* based on their class at Cornell (now a popular EdX MOOC with Eva Tardos), they explain that understanding networks requires apprehending two levels of connectedness: "connectedness at the level of structure—who is connected to whom—and . . . connectedness at the level of *behavior*—the fact that each individual's actions have implicit consequences for the outcomes of everyone in the system" (Easley and Kleinberg 2010, 4). Global concerns impact local decisions, and local effects often only manifest themselves at global scales.[7] Network science thus spans the two extremes— macro-level structure and micro-level behavior—by mapping the

ways that "macroscopic effects . . . arise from an intricate pattern of localized interactions" (6). *Networks, Markets, and Crowds* explicitly draws from graph theory and game theory, showing how this combination can explain seemingly "irrational" phenomena such as information cascades.

As the turn to game theory reveals, a market-based logic permeates network science models (a theme pursued later in this series by the *Markets* book by Armin Beverungen, Philip Mirowski, Edward Nik-Khah, and Jens Schroeter). Most generally, capture systems are justified and praised as inherently more efficient and empowering (and thus more democratic) than older disciplinary or firm-based ones. Agre hypothesizes that

> the computer practitioner's practice of capture is instrumental to a process by which economic actors reduce their transaction costs and thereby help transform productive activities along a trajectory towards an increasingly detailed reliance upon (or subjection to) market relations. The result is a generalized acceleration of economic activity whose social benefits in terms of productive efficiency are clear enough but whose social costs ought to be a matter of concern. (Agre 1994, 121–22)

Most succinctly: capture systems transform all transactions into market-based ones so that computerization = liberalization. Although Agre stresses that this relation is historically contingent and itself the product of a "kind of representational crusade" (120), he nonetheless hypothesizes that this relation, which "presupposes that the entire world of productive activities can be conceptualized, *a priori,* in terms of extremely numerous episodes of exchanges among economic actors," constitutes the political economy of capture (121). The language of "costs" not only underlies Agre's own critical language, it also litters the literature on networks: from attempts to model (and thus understand) collective action and critical mass (Centola 2013) to those that map differential networking techniques of women and minorities (Ibarra 1993) to those that

model social learning (DiMaggio and Garip 2012); from those that
seek to identify the impact of influential or susceptible members
of social networks (Aral and Walker 2012) to those that analyze the
"payoffs" of social capital within immigrant networks (Ooka and
Wellman 2006). As this last example reveals, this market-based
logic also presumes the existence of "social capital," a concept
Pierre Bourdieu tied to group membership and accreditation.[8]

In the current literature, social capital explains lingering inequality
among individuals. It explains disparities in success that cannot
be explained in terms of individual differences in "human capital,"
that is, differences in intelligence, physical appearances, and skill
(Burt 2002). According to sociologist Ronald S. Burt, social capital is
a "metaphor or advantage" within a society "viewed as a market in
which people exchange all variety of goods and ideas in pursuit of
their interests." It reveals that

> the people who do better are somehow better connected.
> Certain people or certain groups are connected to cer-
> tain others, trusting certain others, obligated to support
> certain others, dependent on exchange with certain oth-
> ers. Holding a certain position in the structure of these
> exchanges can be an asset in its own right. That asset is
> social capital, in essence, a concept of location effects in
> differentiated markets. (Burt 1992, 150)

A relational form of capital, it grants advantage to those who invest
in social relations. It thrives off "trust" and obligation.

Marion Fourcade and Kieran Healy have refined this notion of
relational capital, arguing that this form of capital is really "über-
capital," which is tied to "one's position and trajectory according
to various scoring, grading, and ranking methods. . . . An example
would be the use of credit scores by employers or apartment
owners as an indicator of an applicant's 'trustworthiness'" (Four-
cade and Healy 2016, 10).[9] Fourcade and Healy's analysis thus
reveals the actuarial mechanisms that construct the "trust" that
Burt assumes. The term "über" denotes "the meta-, generalized,

or transcendent, nature of this capital, largely stored in the "cloud". . . . the term über also connotes something or someone who is extra-ordinary, who stands above the world and others . . ." (23). This form of capital categorizes consumers based on their "habitus" in order to make "good matches" between products and consumers. Crucially, the categories employed by corporations do not explicitly reference race/gender/class, for they are based on actions rather than inherent traits. Thus,

> everyone seems to get what they deserve. Eschewing stereotypes, the individualized treatment of financial responsibility, work performance, or personal fitness by various forms of predictive analytics becomes harder to contest politically, even though it continues to work as a powerful agent of symbolic and material stratification. In other words, Übercapital subsumes circumstance and social structure into behavior. (33, 38)

The emphasis—in all capture systems—is on translating and figuring actions.

As the above discussions of social capital and capture imply, network science, as currently formulated, is the science of neoliberalism. To be clear, this is not to blame network science for neoliberalism—or to claim that network scientists are inherently neoliberal—but to highlight the fact that the many insights network science currently produce are deeply intertwined with the neoliberal system they presuppose. Neoliberalism, as Wendy Brown has argued, is based on inequality and "financialized human capital": "When we are figured as human capital in all that we do and in very venue," she reveals, "equality ceases to be our presumed natural relation with one another" (Brown 2015, 179). Brown elucidates the social impact of capture systems, with their relentless rendering of all human actions in terms of "transactions costs," namely the destruction of democracy through the reduction of "freedom and autonomy to unimpeded market behavior and the meaning of citizenship to mere enfranchisement." Crucially,

> this evisceration of robust norms of democracy is accom-
> panied by unprecedented challenges to democratization,
> including complex forms and novel concentrations of
> economic and political power, sophisticated marketing
> and theatricality in politics, corporately owned media, and
> a historically unparalleled glut of information and opinion
> that, again, produced an illusion of knowledge, freedom,
> and even participation in the face of their opposites. (179)

These unprecedented challenges enumerated by Brown are exactly the challenges that network science manages by reducing public life to "problem solving and program implementation, a casting that brackets or eliminates politics, conflict, and deliberation about common values or ends" (127). Network science, as the rest of this chapter will explain, valorizes consensus, balance, and "comfort": it validates and assumes segregation by focusing on individual "preference," rather than institutional constraints and racism.

That is, to complement Fourcade and Healy's analysis and to draw from my *Updating to Remain the Same: Habitual New Media,* we need to understand how seemingly individualized scores coincide with "older" racial and class categories. Network categorizations do not only depend on your actions but on actions of your so-called neighbors—you are constantly compared to and lumped in with others. Advertisers divide the population into types such as "rising prosperity" and then subdivide that category into others such as "city sophisticates," which in turn produces categories such as "townhouse cosmopolitans" (see ACORN, developed by CACI). Neoliberalism destroys society by proliferating neighborhoods. Networks preempt and predict by reading all singular actions as indications of larger collective habitual patterns, based not on our individual actions but rather the actions of others. Correlations, that is, are not made based solely on an individual's actions and history but rather the history and actions of others "like" him or her. Through the analytic of habits, individual actions coalesce bodies into monstrously connected chimeras. That is, if as Barabási argues, "in order to predict the future, you first need

to know the past" and if information technologies have made uncovering the past far easier than before, they have done so not simply through individual surveillance but through homophily (McPherson, Smith-Lovin, and Cook 2001). Homophily is the mechanism by which individuals "stick" together, and "*we*s" emerge. It is crucial to what Sara Ahmed has diagnosed as "the cultural politics of emotion": a circulation of emotions as a form of capital.

Homophily: Laundering "Our" Past

At the heart of network science is the principle of homophily: the axiom that "similarity breeds connection" (McPherson, Smith-Lovin, and Cook 2001). Homophily structures networks by creating clusters; by doing so, it also makes networks searchable (Marsden 1988; Jackson 2008). Homophily grounds network growth and dynamics, by fostering and predicting the likelihood of ties. Homophily—now a "commonsense" concept that slips between effect and cause—assumes and creates segregation; it presumes consensus and similarity within local clusters, making segregation a default characteristic of network neighborhoods. In valorizing "voluntary" actions, even as it troubles simple notions of "peer influence" and contagion, it erases historical contingencies, institutional discrimination, and economic realities (Kandel 1978; Aral, Muchnik, and Sundaraajan 2013). It serves as an alibi for the inequality it maps, while also obviating politics: homophily (often allegedly of those discriminated against)—not racism, sexism, and inequality—becomes the source of inequality, making injustice "natural" and "ecological." It turns hate into love and transforms individuals into "neighbors" who naturally want to live together, which assumes that neighborhoods should be filled with people who are alike. If we thus manage to "love our neighbor"—once considered a difficult ethical task—it is because our neighbors are virtually ourselves. Homophily makes anomalous conflicting opinions, cross-racial relationships, and heterosexuality, among many other things.

According to Miller McPherson, Lynn Smith-Lovin, and James Cook, in their definitive review article on homophily, "the homophily principle . . . structures network ties of every type, including marriage, friendship, work, advice, support, information transfer, exchange, co-membership, and other types of relationship" (2001, 415). As a result, "people's personal networks are homogeneous with regard to many sociodemographic, behavioral, and intrapersonal characteristics." Rather than framing homophily as historically contingent, they understand it as fundamental and timeless: indeed, they start their review with quotations from Aristotle and Plato about similarity determining friendship and love (which they admit in a footnote may be misleading, since Aristotle and Plato also claimed that opposites attract—indeed, homophily renders heterosexuality anomalous—a mysterious fact to be explained). Homophily, according to McPherson et al., is the result of and factor in "human ecology" (415).

Homophily sits at the fold between network structure and individual agency. As McPherson et al. summarize the "remarkably robust" patterns of homophily across numerous and diverse studies, they also break down homophily into two types: baseline homophily ("homophily effects that are created by the demography of the potential tie pool") and inbreeding homophily ("homophily measured as explicitly over and above the opportunity set") (419). McPherson et al. also reiterate Paul F. Lazarsfeld and Robert K. Merton's influential division of homophily into "status homophily," and "value homophily":

> Status homophily includes the major sociodemographic dimensions that stratify society—ascribed characteristics like race, ethnicity, sex, or age, and acquired characteristics like religion, education, occupation, or behavior patterns. Value homophily includes the wide variety of internal states presumed to shape our orientation toward future behavior. (McPherson, Smith-Lovin, and Cook, 419)

In their review, the authors note that race and ethnicity are clearly the "biggest divide in social networks today in the United States,"

due both to baseline and inbreeding homophily" (420). They list the following causes of homophily: geography ("the most basic source of homophily is space," (429); family ties (431); organizational foci, occupational, family, and informal roles (80); cognitive processes (434); and selective tie dissolution (435). Remarkably missing are: racism and discrimination, at personal or institutional levels, and history. In the world of networks, love, not hate, drives segregation.

Given that the very notion of homophily emerges from studies of segregation, the "discovery" of race as a divisive factor is hardly surprising. Lazarsfeld and Merton's 1954 text, in which they coined the terms "homophily" and "heterophily" (inspired by friendship categorizations of the "savage Trobianders whose native idiom at least distinguishes friendships within one's in-group from friendships outside this social circle") analyzes friendship patterns within two towns: "Craftown, a project of some seven hundred families in New Jersey, and Hilltown, a bi-racial, low-rent project of about eight hundred families in western Pennsylvania" (Lazarfeld and Merton 1954, 18–66, 23, 21). Crucially, they do not assume homophily as a grounding principle, nor do they find homophily to be "naturally" present. Rather, documenting both homophily and heterophily, they ask: "what are the dynamic processes through which the similarity or opposition of values shape the formation, maintenance, and disruption of close friendships?" (28). Homophily in their much-cited chapter is one instance of friendship formation—and one that emerges by studying the interactions between "liberal" and "illiberal" white residents of Hilltown (27). The responses of the black residents were ignored, since all these residents were classified as "liberal." As Samantha Rosenthal has noted, the very concept of value homophily is thus enfolded within status homophily (personal correspondance). Value and status are not separate—and value increasingly is used as a "code word" for race- and class-based distinctions. The implications of this segregation have been profound for the further development of network principles, as well as U.S. housing policy.

This history has been erased in the current form of network
science, in which homophily has moved problem to solution.
In the move from "representation" to "model," homophily is no
longer something to be accounted for, but rather something that
"naturally" accounts for and justifies persistence of inequality
within facially equal systems. It has become axiomatic, that is,
common sense, thus limiting the scope and possibility of network
science.[10] As Easley and Kleinberg—again two of the most insightful
and important scholars working in the field—explain: "one of the
most basic notions governing the structure of social networks is
homophily—the principle that we tend to be similar to our friends."
To make this point, they point to the distribution of "our" friends.
"Typically," they write,

> your friends don't look like a random sample of the un-
> derlying population. Viewed collectively, your friends are
> generally similar to you along racial and ethnic dimen-
> sions: they are similar in age; and they are also similar in
> characteristics that are more or less mutable, including
> the places they live, their occupations, their interests, be-
> liefs, and opinions. Clearly most of us have specific friend-
> ships that cross all these boundaries; but in aggregate,
> the pervasive fact is that links in a social network tend to
> connect people who are similar to one another. (Easley
> and Kleinberg, 78)

Homophily is a "pervasive fact" that governs the structure of
networks. As a form of natural governance—based on presump-
tions about "comfort"—it grounds network models, which not
surprisingly also "discover" segregation.[11] Like many other texts,
Damon Centola et al.'s analysis in "Homophily, Cultural Drift, and
the Co-Evolution of Cultural groups," lists "comfort" as one of
the reasons "why homophily is such a powerful force in cultural
dynamics." Referencing the work of Lazarsfeld and Merton, Centola
states: "Psychologically, we often feel justified in our feel more
comfortable opinions when we are surrounded by others who
share the same beliefs—what Lazarsfeld and Merton (1954) call

"value homophily" . . . we also feel more comfortable when we interact with others who share a similar background (i.e., status homophily)" (Centola et al. 2007, 906). To model the effects of cultural drift—and thus to show why globalization does not/will not impose a monoculture—the authors make the following assumption:

> in our approach to studying cultural dynamics, if cultural influence processes create differentiation between two neighbors such that they have no cultural traits in common, we allow these individuals to alter the structure of the social network by dropping their tie and forming new ties to other individuals. Thus, in our specification of homophily, the network of social interactions is not fixed . . . but rather evolves in tandem with the actions of the individuals. (908)

Embedded, then, in the very dynamics of network science is the presumption that there can be no neighbors without common cultural traits. Remarkably, this assumption uses Lazarsfeld and Merton's work—which, as noted earlier, did not find homophily to be "natural"—to ground their model's dynamics. Not surprisingly, Centola et al. "discover" that homophily creates "cultural niches" (926). Homophily, in so many ways, "governs" networks structure.

The point is this: although many authors such as Easley and Kleinberg insist that homophily "is often not an end point in itself but rather the starting point for deeper questions—questions that address why the homophily is present, how its underlying mechanisms will affect the further evolution of the network, and how these mechanisms interact with possible outside attempts to influence the behavior of people in the network" (83), homophily as a starting point cooks the ending point it discovers. Not only does it limit the databases used for models—these studies often draw from the same database, such as the National Longitutindal Study of Adolescent Health (ADD Health) or Facebook or Myspace, since these studies already include "friend" as a category—homophily also accentuates the clusters network science "discovers." In

particular, homophily both accounts for and accentuates "triadic closure," another fundamental and "intuitive" principle of networks, which posits that "if two people in a social network have a friend in common, then there is an increased likelihood they will become friends themselves at some point in the future" (44) Although sometimes considered as a "structural" cause outside of homophily, it also presumes homophilous harmony and consensus. The reasons often given for this "very natural" phenomena are: opportunity (if A spends time with both B and C, then there is an increased chance that they will become friends), trust, and incentive ("if A is friends with B and C, then it becomes a source of latent stress in these relationship if B and C are not friends with each other" [45]). Network science posits nonconnection as unsustainable—a cause of stress. Conflict as a tie is difficult to conceive. Crucially, social networks such as Facebook (again the model organism for network science) amplify the effects of "triadic closure" and "social balance." By revealing the friends of friends—and by insisting that friendship be reciprocal—it makes triadic closure part of its algorithm: it is not simply predicted, it is predicative. As Andreas Wimmer and Kevin Lewis point out in "Beyond and Below Racial Homophily: ERG Models of a Friendship Network Documented on Facebook," Facebook's demands for reciprocity produces homophilous effects (Wimmer and Lewis 2010).

Again, homophily not only erases conflict, it also naturalizes discrimination. Segregation is what's "recovered" and justified if homophily is assumed. Easley and Kleinberg state quite simply that "one of the most readily perceived effects of homophily is the formation of ethnically and racially homogeneous neighborhoods in cities" (96). To explain this, they turn to the "Schelling model" of segregation, a simulation that maps the movement of "two distinct types of agents" in a grid. The grounding constraint is the desire of each agent "to have at least some other agents of its own as type of neighbors" (97). Showing results for this simulation, they note that spatial segregation happens even when no individual agent seeks it: the example for t = 4 (therefore, each agent would be happy as

a minority) yields overwhelmingly segregated results. In response, they write:

> Segregation does not happen because it has been subtly built into the model: agents are willing to be in the minority, and they could all be satisfied if only we were able to carefully arrange them in an integrated pattern. The problem is that, from a random start, it is very hard for the collection of agents to find such integrated patterns. . . . In the long run, the process tends to cause segregated regions to grow at the expense of more integrated ones. The overall effect is one in which the local preferences of individual agents have produced a global pattern that none of them necessarily intended.
>
> This point is ultimate at the heart of the model: although segregation in real life is amplified by a genuine desire within some fraction of the population to belong to large clusters of similar people—either to avoid people who belong to other groups, or to acquire a critical mass of members from one's own group—such factors are not necessary for segregation to occur. The underpinnings of segregation are already present in a system where individuals simply want to avoid being in too extreme a minority in their own local area. (101)

I cite this at length because this interpretation reveals the dangers of homophily. The long history and legacy of race-based slavery within the United States is completely erased, as well as the importance of desegregation to the civil rights movement. There are no random initial conditions. The "initial conditions" found within the United States and the very grounding presumption that agents have a preference regarding the number of "alike" neighbors are problematic. This desire not to be in a minority—and to move if one is—maps most accurately the situations of white flight, a response to desegregation. Further, if taken as an explanation for gentrification, it portrays the movement of minorities to more affordable and less desirable areas as voluntary, rather than as the

result of rising rents and taxes. Most importantly, if it finds that
institutions are not to blame for segregation, it is because institu-
tional actions are rendered invisible in these models.

Thomas C. Schelling's original publication makes this deliberate
erasure of institutions and economics, as well as its engagement
with white flight (or "neighborhood tipping"), clear. His now classic
"Dynamic Models of Segregation" was published in 1971, during the
heart of the civil rights movement and at the beginning of forced
school desegregation.[12] Schelling, in his paper, acknowledges that
he is deliberately excluding two main processes of segregation:
organized action (it thus does not even mention the history of
slavery and legally enforced segregation) and economic segrega-
tion, even though "economic segregation might statistically explain
some initial degree of segregation" (145). Economic assumptions,
however, are embedded at all levels in his model. Deliberate
analogies to both economics and evolution ground his analysis of
the "surprising results" of unorganized individual behavior.[13] He
uses economic language to explain what he openly terms "dis-
criminatory behavior."[14] At the heart of his model lies immutable
difference: "I assume," he asserts,

> a population exhaustively divided into two groups; every-
> one's membership is permanent and recognizable. Ev-
> erybody is assumed to care about the color of the people
> he lives among and able to observe the number of blacks
> and whites that occupy apiece of territory. Everybody has
> a particular location at any moment; and everybody is
> capable of moving if he is dissatisfied with the color mix-
> ture where he is. The numbers of blacks and whites, their
> color preferences, and the sizes of 'neighborhoods' will be
> manipulated. (149)

These assumptions are troubling and loaded. They erase the
history of redlining and other government sanctioned programs
that made it almost impossible for black citizens to buy homes in
certain neighborhoods, while helping white citizens buy homes

in new developments (Rothstein 2017). They also cover over the oftentimes troubling fluidity of racial identity within the United States, in particular the "one drop rule," which grounded segregation and effectively made black and white identity *not* about visible differences. As well, homophily maps hate as love. How do you show you love the same? By running away when others show up.

The erasure of history and qualitative theories about race, gender, and sexuality within social network models represents and reproduces troubling assumptions that many, within the humanities especially (but not only: think here of the overwhelming notion of the United States as "postracial" during the beginning of the Obama presidency) had thought were history. Judith Butler's definitive analysis of gender performativity at the end of the last century, combined with work in queer theory and trans studies, has made gender mutability a default assumption. The critique of race as socially constructed, which gained widespread acceptance after the horrors of the Holocaust, have been buttressed by careful historical, empirical, and theoretical studies: from Michael Omi and Howard Winant's canonical *Racial Formation in the United States* (1994) to Alondra Nelson's analysis of the genetics and race in the *Social Life of DNA: Race, Reparations, and Reconciliation after the Genome* (2016), from Paul Gilroy's controversial and provocative *Against Race: Imagining Political Culture beyond the Color Line* (2000) to Grace Elizabeth Hale's thorough examination of the Southern myth of absolute racial difference in *Making Whiteness: The Culture of Segregation in the South, 1890–1940* (1998)*.

Combined with so many more works, these texts document the rise of the modern concept of race during the era of Enlightenment; its centrality to colonization and slavery; its seeming zenith during the era of eugenics; its transformations after World War II; and its resurgence as an "invisible" marker in genetics. All of this is ignored within network science, when "race," "gender," and other differences are solidified as node characteristics. All of this drives twenty-first century echo chambers and politics. So what to do?

Co-relation not Correlation

Crucially, simply insisting on the fluidity of racial categories or "deconstructing" assumptions is not enough. Some work in network science does question assumptions behind racial homophily. As mentioned previously, Andreas Wimmer and Kevin Lewis have revealed that effects, understood as caused by "racial homophily," are usually caused by other factors: from homophily among coethnic groups rather than racial groups (so, underlying "Asian" homophily are tendencies of South Asians to befriend South Asians; Chinese other Chinese, et cetera) to homophily based on "socioeconomic status, regional background, and shared cultural taste" (143), to the "balancing mechanisms" employed by social media sites. (Importantly, this study was based on an extensive analysis of Facebook pages of an entire college cohort of 1,640 students.) Although this work in intersectionality is important, it is not enough, especially since intersectionality, as mentioned earlier, is exactly what "proxy factors" target, and also because this work still assumes homophily, but at different "ethnic" levels.

To create a different world, we need to question default assumptions about homophily. As Sara Ahmed has argued in *The Cultural Politics of Emotion,* "love of the same" is never innocent: white supremacist love, for instance, is based on a hatred of others (Ahmed 2004). The movement away from others, which grounds models of homophily, reveals the extent to which hatred precedes homophily. The hatred that networks foster, then, should surprise no one. Hatred, Ahmed stresses, organizes bodies. It is an emotional "investment" that makes certain bodies responsible for pain or injury. It organizes by bringing things and bodies together—by linking certain figures together so they become a common threat, an X to "our" O. Hate transforms the particular into the general: it transforms individuals into types so they become a common threat (I hate you because you are Y). It also transforms *I*s into *we*s who are threatened by this other. Homophily is never innocent: the very construction of Xs and Os, who define their discomfort in relation

to the presence of others, reveals hatred, not love. Hatred is what makes possible strong bonds that define a core against a periphery. Thus, it is not only that network science seemingly makes the modeling of conflict impossible, it does so while also hiding conflict as friendship.

What this makes clear is the following: rather than mutual ignorance, apathy, or revulsion, what is needed is engagement, discussion, and yes, even conflict, in order to imagine and perform a different future. The proliferation of echo chambers and the erasure of politics is not inevitable—we can make them self-canceling prophecies. Although this will entail more than different network algorithms, these algorithms are a good place to start. What if we heeded Safiya Noble's analysis of how Google searches spread sexism and racism, and her call for better, public search engines (2018)? What if we took up Joanne Sison and Warren Sack's challenge to build democratic search engines, that is, search engines that gave users the most diverse rather than the most popular results)? How would this challenge assumptions about the "power law" (rich get richer; poor get poorer), which these algorithms foster, as well as discover? What would happen if ties did not represent friendship but rather conflict? What other world would emerge if clusters represented difference rather than similarities? What other ways would be revealed of navigating the world and of making recommendations?

Vi Hart, in her remarkable remodeling of Schelling—*The Parable of the Polygons* (2017)—makes explicit the relationship between initial conditions and history. Further, her model takes the desire for desegregation, rather than segregation, as the default. The lessons learned are thus:

1. Small individual bias ⟶ Large collective bias.
   When someone says a culture is shapist, they're not saying the individuals in it are shapist. They're not attacking you personally.

2. The past haunts the present.
   Your bedroom floor doesn't stop being dirty just coz you stopped dropping food all over the carpet. Creating equality is like staying clean: it takes work. And it's always a work in progress.

3. Demand diversity near you.
   If small biases created the mess we're in, small anti-biases might fix it. Look around you. Your friends, your colleagues, that conference you're attending. If you're all triangles, you're missing out on some amazing squares in your life—that's unfair to everyone. Reach out, beyond your immediate neighbors. (Hart and Case 2017)

Fox Harrell, a pioneer in computational media studies, also offers a different way to engage computational modeling. Fox Harrell's work asks: how can A.I. generate new and more humane interactions? In contrast to most computational identity systems that incorrectly *reify* identity categories by implementing them as simple data fields (e.g., selecting gender from a brief drop-down menu) or a collection of attributes (e.g., races represented as modifiers to numerical statistics and constrained graphical characteristics in computer games), he has developed the AIR (Advanced Identity Representation) project to produce "computational models of *subjective* identity phenomena related to categorization such as specific forms of marginalization that are overlooked in engineering" (Harrell 2013, 1). Crucially, systems he has built, such as *Chimeria: Gatekeeper,* confront users with the fluidity of racial identifications and the difficulties of managing discrimination based on stereotypes and the limitations of passing. Further, his analyses of existing systems and user interactions with his systems based on "archetypal analyses," exposes and analyzes the "ideal players" embedded within popular games and how they can perpetuate stereotypes through the actions they enable and prohibit. For instance, he reveals how certain "species" within games line up

with certain stereotypical assumptions about races, as well as how user actions with differently gendered avatars reveal assumptions about gender.

Harrell's work most critically engages the creativity embedded within artificial intelligence. *Phantasmal Media: An Approach to Imagination, Computation, and Expression* (2013), drawn from his work with Define Me and GRIOT, groundbreaking social networking and expressive A.I. projects, asks: can A.I. have the same impact as great literature, such as Ralph Ellison's *Invisible Man*? That is, through its powerful imagery and literary innovations, can A.I. enable its readers to experience the world of social invisibility? Can A.I. imagine different, more just worlds, while also exposing the extent to which society and ideology are linked to the imagination? To produce computational and interactive narratives that do this, Harrell in his first book developed a theory of phantasmal media, in which a phantasm is a combination of imagery and ideas. By focusing on the role of phantasms, Harrell addresses not simply the centrality of the imagination to individual experience but also the relationship between individuals and larger cultural and political issues. Significantly, Harrell does not simply condemn phantasms as unreal and unjust but rather reveals how they can be both empowering and oppressive. They are forms of agency play. Through a comparative analysis that reveals the experiences of those normally excluded from mainstream society, his work thus both exposes the negative impact of phantasms and produces new phantasms that allow his users to imagine new worlds. That is, his work in cultural computing makes visible cultural phantasms in order to diversify the range and impact of computing systems. For instance, by revealing the cultural phantasms behind notions of grey/black sheep (persons who do not fit nicely into preconceived identity and behavioral categorizations), Harrell transforms them from errors into rich sources of knowledge. As well (and as noted earlier), critical computing enables empowerment and agency, where agency is not the freedom to do anything one wants but rather the situated mechanisms for user action within the context

of cultural phantasms. By thinking expressive, cultural, and critical computing together, Harrell shows how embodied individual experiences are created and how the social and the computational are linked together through the phantasmal.

As well as this new type of artificial intelligence, new theories of connection—which do not presume a dangerously banal and reciprocal notion of friendship—are needed. Rather than similarity as breeding connection, we need to think, with Ahmed, through the generative power of discomfort. We need to queer homophily, a concept that should in its very nature be queer. Ahmed views queerness as an inability to be comfortable in certain norms:

> To feel uncomfortable is precisely to be affected by that which persists in the shaping of bodies and lives. Discomfort is hence not about assimilation or resistance, *but about inhabiting norms differently.* The inhabitance is generative or productive insofar as it does not end with the failure of norms to be secured, but with the possibilities of living that do not "follow" those norms through. (emphasis in original, 155).

To be uncomfortable, then, is to inhabit norms differently, to create new ways of living with others—different ways of impressing upon others. Working with Ahmed and others, we can imagine new defaults, new forms of engagement. Different, more inhabitable, patterns.

We also need to examine theoretical moves and assumptions within the humanities. That the humanities and cultural theory more generally have moved away from questions of cultural difference and identity at a time when such an engagement could not be more crucial is mind-boggling. The various turns toward "less coarse" and "static" concepts such as nonhuman allure (themselves inspired by networks and new media), not to mention the embrace of an instrumentalist technological logic that demeans critical analysis and celebrates digital tinkering, are oddly contradictory and self-defeating. The early twenty-first century has witnessed a

move away from theories of performativity, mutability, and deep interpretation, just when such theories are crucial to unpacking, re-imagining and remaking the retrograde identity politics embedded within the world of networks. By refusing to analyze and engage these patterns—by refusing to use the "old" keys in our pocket—we lock ourselves into a future we allegedly oppose.

The future lies in the new patterns we can create together, new forms of relation that include liveable forms of indifference. The future lies in unusual collaborations that both respect and challenge methods and insights, across disciplines and institutions.

Notes

1   For an overview, see Sweeney and Haney 1992. During this same period, this was made clear in the disparity between jail sentences given to two U.S. male college athletes for sexually assaulting unconscious women. Corey Batey, a nineteen-year-old African American football player at Vanderbilt was sentenced to a mandatory minimum sentence of fifteen to twenty-five years; Brock Turner, a nineteen-year-old swimmer at Stanford was sentenced to six months, which could be shortened for good behavior (see King 2016).

2   These editors of *Network Science* made the following claims in their introduction to the inaugural issue:

>   Claim 1: Network science is the study of network models.
>   Claim 2: There are theories about network representations and network theories about phenomena: both constitute network theory.
>   Claim 3: Network science should be empirical—not exclusively so, but consistently—and its value assessed against alternative representations.
>   Claim 4: What sets network data apart is the incidence structure of its domain.
>   Claim 5: At the heart of network science is dependence, both between and within variables.
>   Claim 6: Network science is evolving into a mathematical science in its own right.
>   Claim 7: Network science is itself more of an evolving network than a paradigm expanding from a big bang. (Brandes et al. 2013, 1–15)

3   Barabási's description resonates with cyberpunk fiction, which posits artificial intelligence and supreme cowboy hackers as capable of detecting "patterns . . . in the dance of the street" and thus foresee events that elude mere humans (see Gibson 1984, 250).

4   As Duncan Watts notes: "The truth is that most of the actual science here com-

prises extremely simple representations of extremely complicated phenomena. Starting off simple is an essential stage of understanding anything complex, and the results derived from simple models are often not only powerful but also deeply fascinating. By stripping away the confounding details of a complicated world, by searching for the core of a problem, we can often learn things about connected systems that we would never guess from studying them directly. The cost is that the methods we use are often abstract, and the results are hard to apply directly to real applications. It is a necessary cost, unavoidable in fact, if we truly desire to make progress" (Watts 2004).

5   The example they give of the difference between network science and statistic is quite illuminating: "While the range of attributes is structured, in much of science, the domain on which variables are defined is assumed to have no structure, i.e., simply a set. This may be for good reason. If we are interested in associations between, say, education and income controlled for age, we actually do not want there to be relations between individuals that also moderate the association. Much of statistics is in fact concerned with detecting and eliminating such relations. Network science, on the other hand, seeks to understand the correspondence and impact of these relations, rather than control for any variable" (Brandes et al. 2013, 8).

6   As Easley and Kleinberg explain, "the pattern of connections in a given system can be represented as a network, the components of the system being the network vertices and the connections the edges. Upon reflection it should come as no surprise (although in some fields it is a relatively recent realization) that the structure of such networks, the particular pattern of interactions, can have a big effect on the behavior of a system. . . . A network is a simplified representation that reduces a system to an abstract structure capturing only the basics of connection patterns and little else (Easley and Kleinberg 2010, 2).

7   They write: "in a network setting, you should evaluate your actions not in isolation but with the expectation that the world will react to what you do." This makes "cause-and-effect relationships . . . quite subtle" and may only become evident at the population level" (Easley and Kleinberg 2010, 5).

8   Pierre Bourdieu defined social capital as: "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition—or in other words, to membership in a group" (Bourdieu 1986). Social capital is a form of credit or credentialing that relies on reciprocal and networked acknowledgement and exchange. This form of capital, he stresses, exists "only in the practical state, in material and/or symbolic exchanges which help to maintain them." The ties, that is, are dynamic and constantly enacted.

9   As Cramer writes: "The reduction of audience members to countable numbers—data sets, indices—is thus a self-fulfilling prophecy of stability" (Cramer in this volume).

10   By 1977, homophily was already accepted as an axiomatic if problematic aspect of society. In an equally key early text, *Inequality and Heterogeneity: A Primitive Theory of Social Structure,* Peter Blau outlined what would become "contact

theory": the theory that contact creates integration. An ambitious attempt to create a roadmap of "macrosociological theory" (written in the spirit of Karl Marx and Georg Simmel), it argued for the importance of "weak ties" and heterogeneity to combat inequality within society. As he put it, heterogeneity and inequality were "complementary opposites" and "there can be too much inequality, but cannot be too much heterogeneity" (Blau 1977, 11). Blau argued strongly for the replacement of "strong ingroup bonds," which "restrain individual freedom and mobility . . . and sustain rigidity and bigotry" with "diverse intergroup relations" (85). These heterogeneous relations, "though not intimate, foster tolerance, improve opportunities, and are essential for the integration of a large society" (85). In terms that resonated with Jameson's description of postmodernism and the possibilities of "cognitive mapping," he states, "the loss of extensive strong bonds in a community of kin and neighbors undoubtedly has robbed individuals of a deep sense of belonging and having roots, of profound feelings of security and lack of anxiety. This is the price we pay for the greater tolerance and opportunities that distinguish modern societies, with all their grievous faults, from primitive tribes and feudal orders. The social integration of individuals in modern society rests no longer exclusively on strong bonds with particular ingroups but in good part on multiple supports from wider networks of weaker social ties, supplemented by a few intimate bonds" (85). This insight itself draws from the work of another early progenitor of network science, Mark Granovetter's 1973 theorization of "weak ties" as essential to information dissemination and success. For more on this in relation to networks as dissolving postmodern confusion, see Chun (2016). Tellingly, Blau's argument assumes—and indeed takes as axiomatic—the fact that ingroup interactions are greater than intergroup ones (Axiom A1.1). It also divides and identifies individuals based on structural parameters, such as "age, race, education, and socioeconomic status," some of which Blau considers "inborn" (1977, 6).

11 For instance, Lenore Newman and Ann Dalez state: "We feel more comfortable with those like ourselves, even in virtual communities." (2007, 79–90).

12 In 1972, the NAACP filed a class action lawsuit against the Boston School Committee—Bostong is contiguous with Cambridge, Massachusetts, which is where Harvard is located.

13 Schelling writes: "economists are familiar with systems that lead to aggregate results that the individual neither intends nor needs to be aware of, results that sometimes have no recognizable counterpart at the level of the individual. The creation of money by a commercial banking system is one; the way savings decisions cause depressions or inflations is another. Similarly, biological evolution is responsible for a lot of sorting and separating, but the little creatures that mate and reproduce and forage for food would be amazed to know that they were bringing about separation of species, territorial sorting, or the extinction of species" (Schelling 1971, 145). Schelling also uses the term "incentives" to explain segregation: from preferences to avoidance to economic constraints (148).

14   At the start of this article, Schelling explains: "This article is about the kinds of segregation—or separation, or sorting—that can result from discriminatory individual behavior. By 'discriminatory,' I mean reflecting an awareness, conscious or unconscious, of sex or age or religion or color or whatever the basis of segregation is, an awareness that influences decisions on where to live, whom to sit by, what occupation to join or avoid, whom to play with or whom to talk to" (144).

References

ACORN. 2013. "What Is ACORN?" *Caci.* Accessed March 1, 2016. http://acorn.caci.co.uk.

Agre, Phil. 1994. "Surveillance and Capture: Two Models of Privacy." *The Information Society* 100: 101–27.

Ahmed, Sara. 2004. *The Cultural Politics of Emotion.* London: Routledge.

Al Zamal, Faiyaz, Wendy Liu, and Derek Ruths. 2012. "Homophily and Latent Attribute Inference: Inferring Latent Attributes of Twitter Users from Neighbors." *Proceedings of the Sixth International AAAI Conference on Weblogs and Social Media*. https://www.aaai.org/ocs/index.php/ICWSM/ICWSM12/paper/viewFile/4713/5013.

Angwin, Julio, Jeff Larson, Surya Mattu, and Lauren Kirchner. 2016. "Machine Bias: There's Software Used Across the Country to Predict Future Criminals. And It's Biased against Blacks." *ProPublica.* Accessed May 23, 2016. https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing.

Aral, Sinan, and Dylan Walker. 2012. "Identifying Influential and Susceptible Members of Social Networks." *Science* 337: 337–41.

Aral, Sinan, Lev Muchnik, and Arun Sundaraajan. 2013. "Engineering Social Contagions: Optimal Network Seeding and Incentive Strategies." *Network Science* 1, no. 2: 125–53.

Barabási, Albert-László. 2010. *Bursts: The Hidden Patters behind Everything We Do, from Your E-mail to Bloody Crusades.* New York: Plume.

Bernstein, Elizabeth. 2007. *Temporarily Yours: Intimacy, Authenticity, and the Commerce of Sex.* Chicago: University of Chicago.

Blarr, Alistair. 2015. "Google Mistakenly Tags Black People as 'Gorillas,' Showing Limits of Algorithms." *The Wall Street Journal.* Accessed July 1, 2015. http://blogs.wsj.com/digits/2015/07/01/google-mistakenly-tags-black-people-as-gorillas-showing-limits-of-algorithms/.

Blau, Peter M. 1977. *Inequality and Heterogeneity: A Primitive Theory of Social Structure.* New York: The Free Press.

Bourdieu, Pierre. 1986. "The Forms of Capital." In *Handbook of Theory and Research for the Sociology of Education,* edited by John G. Richardson, 241–58. New York: Greenwood.

Brandes, Ulrik, et al. 2013. "What Is Network Science?" *Network Science* 1, no. 1: 1–15.

Brown, Wendy. 2015. *Undoing the Demos: Neoliberalism's Stealth Revolution*. Cambridge, Mass.: MIT Press.

Burt, Ronald S. 2002. "Chapter 7: The Social Capital of Structural Holes." In *The New*

Economic Sociology: Developments in an Emerging Field, edited by Marshall Meyer, Maruo F. Guillen, Randall Collins, and Paula England, 148–92. New York: Russell Sage.

Burt, Ronald S. 1992. *Structural Holes: The Social Structure of Competition*. Cambridge, Mass.: Harvard University Press.

Butler, Judith. 1988. "Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory." *Theater Journal* 40, no. 4: 519–31.

Butler, Judith. 1990. *Gender Trouble: Feminism and the Subversion of Identity.* London: Routledge.

Butler, Judith. 1997. *Excitable Speech: A Politics of the Performative*. London: Routledge.

Cadwalladr, Carole. 2018. "'I Made Steve Bannon's Psychological Warfare Tool': Meet the Data War Whistleblower," *The Guardian*. Accessed July 5, 2018. https://www .theguardian.com/news/2018/mar/17/data-war-whistleblower-christopher-wylie -faceook-nix-bannon-trump.

Centola, Damon M. 2013. "Homophily, Networks, and Critical Mass: Solving the Start-up Problem in Large Group Collective Action." *Rationality and Society* 15 (1): 3–40.

Centola, Damon, Juan Carlos González-Avella, Víctor M. Eguíluz, and Maxi San Miguel. 2007. "Homophily, Cultural Drift, and the CO-Evolution of Cultural Groups." *The Journal of Conflict Resolution* 51, no. 6: 905–29.

Chun, Wendy Hui Kyong. 2016. *Updating to Remain the Same: Habitual New Media.* Cambridge, Mass.: MIT Press.

Crawford, Kim, and Jason Schultz. 2014. "Big Data and Due Process: Toward a Framework to Redress Predictive Privacy Harms." *Boston College Law Review* 55, no. 1: 93–128. http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article= 3351&context=bclr.

Crenshaw, Kimberlé. 1991. "Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color." *Stanford Law Review* 43, no. 6: 1241–99.

Derrida, Jacques. 1988. "Signature, Event, Context." In *Limited Inc.*, translated by Samuel Weber, 1–23. Evanston, Ill.: Northwestern University Press.

DiMaggio, Paul, and Filiz Garip. 2012. "Network Effects and Social Inequality." *Annual Review of Sociology* 38:93–118.

Dyer, Richard. 1997. *White: Essays on Race and Culture.* London: Routledge.

Easley, David, and Jon Kleinberg. 2010. *Networks, Crowds, and Markets: Reasoning about a Highly Connected World*. Cambridge: Cambridge University Press.

Fourcade, Marion, and Kieran Healy. 2016. "Seeing Like a Market." *Socio-Economic Review* 15, no. 1: 1–21.

Frucci, Adam. 2009. "HP Face-Tracking Webcams Don't Recognize Black People." *Gizmodo*. Accessed December 21, 2009. http://gizmodo.com/5431190/hp-face -tracking-webcams-dont-recognize-black-people.

Gibson, William. 1984. *Neuromancer.* New York: ACE.

Gilroy, Paul. 2000. *Against Race: Imagining Political Culture beyond the Color Line.* Cambridge, Mass.: Harvard University Press.

Gorner, Jeremy. 2013. "Chicago Police Use 'Heat List' as Strategy to Prevent Violence." *The Chicago Tribune.* Accessed August 21, 2013. http://articles.chicagotribune

.com/2013–08–21/news/ct-met-heat-list-20130821_1_chicago-police-commander
-andrew-papachristos-heat-list.

Granovetter, Mark. 1973. "The Strength of Weak Ties." *American Journal of Sociology*
78, no. 6: 1360–80.

Hale, Grace Elizabeth. 1998. *Making Whiteness: The Culture of Segregation in the South,
1890–1940.* New York: Pantheon Books.

Harrell, D. Fox. 2013. *Phantasmal Media: An Approach to Imagination, Computation, and
Expression.* Cambridge, Mass.: MIT Press.

Harris, Meena. 2016. "Talking with Black Women Engineers about Diversity in Silicon
Valley." *Lenny.* Accessed March 1, 2016. http://www.lennyletter.com/work/a283/
talking-with-black-women-engineers-about-diversity-in-silicon-valley/.

Hart, Vi, and Nick Case. 2017. "Parable of the Polygons." Accessed June 29, 2017.
http://ncase.me/polygons/

Healy, Kieran. 2015. "The Performativity of Networks." *European Journal of Sociology*
52, no. 2: 175–205.

Ibarra, Herminia. 1993. "Personal Networks of Women and Minorities in Manage-
ment: A Conceptual Framework." *The Academy of Management Review* 18, no. 1:
56–87.

Ingram, Matthew. 2016. "Why Getting Rid of Human Editors Won't Solve Facebook's
Bias Problem." *Fortune.* Accessed August 29, 2016. http://fortune.com/2016/08/29/
facebook-trending-human-bias/.

Jackson, Matthew O. 2008. "Average Distance, Diameter, and Clustering in Social Net-
works with Homophily." In *Internet and Network Economics: Proceedings of the 4th
International Workshop WINE 2008,* edited by Christos Papdimitriou and Shuzhong
Zhang, 4–11. Berlin: Springer-Verlag.

Jameson, Frederic. 1990. "Cognitive Mapping." In *Marxism and the Interpretation of
Culture,* edited by Cary Nelson and Lawrence Grossberg, 347–60. Urbana and
Chicago: University of Illinois Press.

Jameson, Frederic. 1991. *Postmodernism, or the Cultural Logic of Late Capitalism.*
London: Verso.

Kandel, Denise B. 1978. "Homophily, Selection, and Socialization in Adolescent
Friendships." *American Journal of Sociology* 84, no. 2: 427–36.

King, Shawn. 2016. "Brock Turner and Cory Batey, Two College Athletes Who
Raped Unconscious Women, Show How Race and Privilege Affect Sentences."
New York Daily News. Accessed June 7, 2016. http://www.nydailynews.com/news/
national/king-brock-turner-cory-batey-show-race-affects-sentencing-article-1
.2664945.

Lartey, Jamiles. 2016. "Predictive Policing Practices Labeled as 'Flawed' by Civil Rights
Coalition." *The Guardian.* Accessed August 31, 2016. https://www.theguardian
.com/us-news/2016/aug/31/predictive-policing-civil-rights-coalition-aclu.

Lazarsfeld, Paul F., and Robert K. Merton. 1954. "Friendship as Social Process: A Sub-
stantive and Methodological Analysis." In *Freedom and Control in Modern Society*,
edited by Morroe Berger, Theodore Abel, and Charles H. Page, 18–66. Toronto:
D. Van Nostrand Company, Inc.

Lee, Odelia. 2009. "Camera Misses the Mark on Racial Sensitivity." *Gizmodo.* Accessed

May 15, 2009. http://gizmodo.com/5256650/camera-misses-the-mark-on-racial -sensitivity.

Lyotard, Jean-François. 1984. *The Postmodern Condition: A Report on Knowledge.* Minneapolis: University of Minnesota Press.

Marsden, Peter V. 1988. "Homogeneity in Confiding Relations." *Social Networks* 10, no. 1: 57–76.

McPherson, Miller, Lynn Smith-Lovin, and James Cook. 2001. "Birds of a Feather: Homophily in Social Networks." *Annual Review of Sociology* 27:415–44.

Nelson, Alondra. 2016. *Social Life of DNA: Race, Reparations, and Reconciliation after the Genome.* Boston: Beacon Press.

Newman, Lenore, and Ann Dalez. 2007. "Homophily and Agency: Creating Effective Sustainable Development Networks." *Environment, Development, and Sustainability* 9:79–90.

Noble, Safiya Umoja. 2018. *Algorithms of Oppression: How Search Engines Reinforce Racism.* New York: New York University Press.

Omi, Michael, and Howard Winant. 1994. *Racial Formation in the United States: From the 1960s to the 1990s*, 2nd edition. New York: Routledge.

O'Neil, Cathy. 2016. *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy.* London: Penguin.

Ooka, Emi, and Barry Wellman. 2006. "Does Social Capital Pay Off More within or between Ethnic Groups? Analyzing Job Searches in Five Toronto Ethnic Groups." In *Inside the Mosaic,* edited by Erik Fong, 199–226. Toronto: University of Toronto Press.

Phillips, Whitney. 2015. *This Is Why We Can't Have Nice Things: Mapping the Relationship between Online Trolling and Mainstream Culture*. Cambridge, MA: MIT Press.

Pinboard. 2016. "Machine Learning Is Money Laundering for Bias." Accessed August 29, 2016. https://twitter.com/pinboard/status/744595961217835008.

Robinson, David, and Logan Koepke. 2016. "Stuck in a Patter: Early Evidence on 'Predictive Policing' and Civil Rights." *Upturn.* Accessed August 30, 2016. https://www .teamupturn.com/reports/2016/stuck-in-a-pattern.

Rothstein, Richard. 2017. *The Color of Law: A Forgotten History of How Our Government Segregated America.* New York and London: Liveright Publishing Corporation, a Division of W.W. Norton & Company.

Rouvroy, Antoinette. 2011. "Technology, Virtuality, and Utopia: Governmentality in an Age of Autonomic Computing." In *The Philosophy of Law Meets the Philosophy of Technology: Autonomic Computing and Transformations of Human Agency,* edited by Mireille Hildebrandt and Antoinette Rouvroy, 136–57. Milton Park, UK: Routledge.

Saunders, Jessica, Priscilla Hunt, and John S. Hollywood. 2016. "Predictions Put into Practice: A Quasi-Experimental Evaluation of Chicago's Predictive Policing Pilot." *Journal of Experimental Criminology* 22, no. 3: 347–71. http://link.springer.com/ article/10.1007/s11292–016–9272–0.

Schelling, Thomas C. 1971. "Dynamic Models of Segregation." *Journal of Mathematical Sociology* 1:143–86.

Silver, Nate. 2012. *The Signal and the Noise: Why So Many Predictions Fail—but Some Don't.* New York: Penguin Books.

Sweeney, Laura T., and Craig Haney. 1992. "The Influence of Race on Sentencing: A

Meta-Analytic Review of Experimental Studies." *Behavioral Sciences and the Law* 10, no. 2: 179–95.

Thielman, Sam. 2016. "Facebook Fires Trending Team, and Algorithm without Humans Goes Crazy." *The Guardian.* Accessed August 29, 2016. https://www.theguardian .com/technology/2016/aug/29/facebook-fires-trending-topics-team-algorithm.

Watts, Duncan J. 2004. *Six Degrees: The Science of a Connected Age* (Kindle Locations 191–94). W. W. Norton. Kindle Edition.

Wimmer, Andreas, and Kevin Lewis. 2010. "Beyond and Below Racial Homophily: ERG Models of a Friendship Network Documented on Facebook." *American Journal of Sociology* 116, no. 2: 642–83.

CHAPTER 1   Orientations Toward Objects

> In perception properly so-called, as an explicit awareness (*Gewahren*), I am turned towards the object, to the paper, for instance, I apprehend it as being this here and now. The apprehension is a singling out, every perceived object having a background in experience. Around and about the paper lie books, pencils, ink-well, and so forth, and these in a certain sense are also "perceived," perceptually there, in the "field of intution."
>
> Edmund Husserl, *Ideas*

Phenomenology is often characterized as a "turn toward" objects, which appear in their perceptual "thereness" as objects given to consciousness. Rather than consciousness being seen as directed toward itself, it is understood as having objects in its view—as being shaped by that which appears before it in "this here and now." But in turning toward objects, what actually appears within phenomenological writing? If phenomenology apprehends what is given to consciousness, then what is given within the writing about that apprehension? Or, in simpler terms, what objects appear within phenomenology as objects that the reader, in turn, can apprehend?

In Husserl's *Ideas* objects do appear for sure, though we cannot assume that they record an experience, in the sense that we cannot assume that Husserl saw or even "could see" the object at the moment of writing. As with much philosophy, the object appears in the language of "say" or "for instance": that is, "say, I see this"; or "for instance, I see that." Such words preface the example as illustration and not anecdote—the point is not whether or not this *really* happened. The object appears not as a thing to which we should, as readers, direct

our attention; it is not so much *a thing* as a way of saying something. And yet objects still become apprehended in the reading *as if* they were what Husserl was himself directed toward; the *as if* makes the objects matter not "in themselves," or even "for themselves," but as that which the writing is "around." The objects do not take the shape of an event, in the sense of recording something that happens or is happening, even though they allow phenomenology to take the shape that it does.

And yet, as Husserl notes, the object that is "singled out," or becomes available as a singular given, is "the paper," earlier described as "this white paper" (116). The object is an object that one imagines "would have been" in front of Husserl in the moment of writing, or even that "must have been" before him if the writing were to be written. We know enough about the "timing" of Husserl's writing to know, for instance, that what was in front of him was paper rather than a screen. Of course, the paper that Husserl might apprehend is not available to the reader. The paper can only be "missed" given that it is first apprehended as an object in the writing, which itself is dependent on the availability of paper. This paper weaves together the book I read *as* Husserl's book, and it was not available or "thrown" into Husserl's world as that which could appear to him. This paper, which was not given to him, must nevertheless be given in order for Husserl's writing to be given to me. I read writing printed on paper, and *on* the paper I read *about* the paper that is apprehended by Husserl. The paper is also "in" the writing, and hence the writing is "around" the paper. Around the paper are other objects, which are not singled out and thus form the "background" against and through which the paper appears. These again are tools of writing: inkwell, books, and pencils. The field of background intuition, against which the object becomes posited as given (the paper) provides for Husserl the very "stuff" for writing, the very materials out of which his phenomenology is borne.

How does the "matter" of the paper matter? How does the orientation of the paper, which is "on" the writing table, also function as an orientation device, which both shows the "direction" of phenomenology and also takes it in a certain direction? In this chapter I explore the concept of orientation by engaging with the work on objects by Husserl, Heidegger, and Merleau-Ponty, as well as Marx. By reflecting specifically on "the table" as an object that matters within phenomenology, I also offer an account of gender as orientated. My aim is not to develop a phenomenology of sexual difference, as this

has already convincingly been off   auvoir
1989; Young 1990, 2005; Heinämaa 2003; Fisher and Embree 2000). Instead,
by showing how phenomenology faces a certain direction, which depends on
the relegation of other "things" to the background, I consider how phenome-
nology may be gendered as a form of occupation.

Objects of Perception

The radical claim that phenomenology inherits from Franz Brentano's psy-
chology is that consciousness is intentional: it is directed toward something.
This claim immediately links the question of the object with that of orienta-
tion. First, consciousness itself is directed or orientated toward objects, which
is what gives consciousness its "worldly" dimension. If consciousness is about
how we perceive the world "around" us, then consciousness is also embodied,
sensitive, and situated. This thesis does not simply function as a general thesis,
but can also help show us how bodies are directed in some ways and not others,
as a way of inhabiting or dwelling in the world.

We are turned toward things. Such things make an impression upon us. We
perceive them as things insofar as they are near to us, insofar as we share a
residence with them. Perception hence involves orientation; what is perceived
depends on where we are located, which gives us a certain take on things.
Merleau-Ponty makes this point directly when he suggests that "the word
perception indicates a direction rather than a primitive function" (1962: 12).
Perception is a way of facing something. I can perceive an object only insofar as
my orientation allows me to see it (it must be near enough to me, which in turn
means that I must be near enough to it), and in seeing it, in this way or that, it
becomes an "it," which means I have already taken an orientation toward it.
The object is an effect of towardness; it is the thing toward which I am directed
and which in being posited as a thing, as being something or another for me,
takes me in some directions rather than others.

For example, say I perceive something before me. In perceiving the object
as an object, I perceive the object *in a certain way*, as being some kind of thing.
Perceiving an object involves a way of apprehending that object. So it is not
just that consciousness is directed toward objects, but also that I take different
directions toward objects: I might like them, admire them, hate them, and so
on. In perceiving them in this way or that, I also take a position upon them,

which in turns gives me a position. I might perceive an object as beautiful, for instance. Such a perception affects what I do: if I have this impression, then I might pick up the object, or get closer to it, and even press it nearer to me. Orientations involve directions toward objects that affect what we do, and how we inhabit space. We move toward and away from objects depending on how we are moved by them. For Husserl, the interpretation of the object as having this or that property is a secondary act involving what he calls a "twofold directedness" (1969: 122).[1] First, I am directed toward an object (I face it), and then I take a direction toward it (for instance, I might or might not admire it). While directionality might be twofold, this "twofoldness" does not necessarily involve a sequence in time: in seeing the object I already apprehend it in a certain way, as a concrete "it" that has qualities that might attract or repel me, or even leave me indifferent, which might affect how "it" enters my view and whether it stays in view or passes from view.[2] Turning toward an object turns "me" in this way or that, even if that "turn" does not involve a conscious act of interpretation or judgment.

We might ask, then, which way does Husserl turn? If Husserl turns toward certain objects in his writing, then what does this tell us *in turn* about his phenomenology? Let us start where he starts in his first volume of *Ideas*, which is with the world as it is given "from the natural standpoint." Such a world is the world that we are "in," as the world that takes place around us: "I am aware of a world, spread out in space endlessly" (1969: 101). This world is not simply spread out; rather, it has already taken certain shapes, which are the very form of what is "more and less" familiar: As Husserl states: "For me real objects are there, definite, more or less familiar, agreeing with what is actually perceived without being themselves perceived or even intuitively present. I can let my attention wander from the writing-table I have just seen and observed, through the unseen portions of the room behind my back to the veranda, into the garden, to the children in the summer-house, and so forth, to all the objects concerning which I precisely 'know' that they are there and yonder in my immediate co-perceived surroundings" (101).

The familiar world begins with the writing table, which is in "the room": we can name this room as Husserl's study or as the room in which he writes. *It is from here that the world unfolds.* He begins with the writing table and then turns to other parts of the room, those that are, as it were, behind him. To make this turn, we might suppose that he would have to turn around if he is to

face what is behind him. But, of course, Husserl does not need to turn around as he "knows" what is behind him. And yet his mind wanders, as if thoughts are actions that demand that he turn around to face or "attend" to what is behind him. The verb "wander" helps us track the significance of "attention" as a mode of "turning toward." To "wander" can mean to ramble without certain course, to go aimlessly, to take one direction without intention or control, to stray from a path, or even to deviate in conduct or belief. So Husserl in attending to what is behind him is deviating from his proper course. The behind is here the "point" of deviation, such that when Husserl considers what is behind his back, he is turning his attention away from what he faces.

We are reminded that what we can see in the first place depends on which way we are facing. What gets our attention depends too on which direction we are facing. The things that are behind Husserl are also behind the table that he faces: it is "self-evident" that he has his back to what is behind him. We might even say that it is the behind that converts "the back" into the background. A queer phenomenology, I wonder, might be one that faces the back, which looks "behind" phenomenology, which hesitates at the sight of the philosopher's back. Having begun here, with what is in front of his front and behind his back, Husserl then turns to other spaces, which he describes as rooms, and which he "knows" are there insofar as they are already given to him as places by memory. These other rooms are co-perceived: that is, they are not singled out and they do not have his attention, even when he evokes them for the reader. They are made available to us only as background features of this domestic landscape.

Husserl's writing makes an impression on me when he offers this glimpse of the domesticity of his world. How I long for him to dwell there by lingering on the folds of the materials that surround him. How I long to hear about the objects that gather around him, as "things" he does "things" with. This is not a desire for biography, or even for an impossible intimacy with a writer who is no longer with us. This is, rather, a desire to read about the particularity of the objects that gather around the writer. It is also a desire to imagine philosophy as beginning here, with the pen and the paper, and with the body of the philosopher, who writes insofar as he is "at home" and insofar as home provides a space in which he does his work.

Yes, we are invited, at least temporarily, to imagine the world that is his home; to give it a face and a form. I see his desk in the corner. I see him at his

desk—leaning, writing, pressing pen to paper, creating the lines that make these impressions available to me. I see a leather chair to one side. I have such an image, such an impression already in mind. The study, the room dedicated to writing or other forms of contemplation, conjures up such a vivid image of a masculine domain at the front of the house. I imagine the furniture (dark, polished), the materials (leather, wood), and the feel of the room (serious, intense), even though I know I do not and will not know how he arranged his room. His words help to create these impressions. But my impression of this study does not begin with the words written on this paper. My impressions are affected by other books I have read in my own literary genealogy, especially nineteenth-century women's writing, which is saturated with images of domestic space. The study, the parlor, the kitchen: these rooms provide the settings for drama; they are where things happen.

The family home provides, as it were, the background against which an object (the writing table) appears in the present, in front of Husserl. The family home is thus only ever *co-perceived*, and allows the philosopher to do his work. This familiar place, the family home, is also a practical world: "Things in their immediacy stand there as objects to be used, the 'table with its books,' the 'glass to drink from,' the 'vase,' the 'piano,' and so forth" (1969: 103). If Husserl is facing the writing table, then this "direction" also shows us the nature of the work that he does for a living. It is the table, with its books, which first gets his attention. As Diana Fuss reminds us, "the theatre of composition is not an empty space but a place animated by the artefacts, momentos, machines, books, and furniture that frame any intellectual labour" (2004: 1).

The objects that first appear as the "more and less familiar" function as signs of orientation: being orientated toward the writing table might ensure that you inhabit certain rooms and not others, and that you do some things rather than others. In the following sections I will take up the significance of this example in terms of "doing things" and "inhabiting spaces." Being orientated toward the writing table not only relegates other rooms in the house to the background, but also might depend *on the work done to keep the desk clear.* The desk that is clear is one that is ready for writing. One might even consider the domestic work that must have taken place for Husserl to turn to the writing table, and to be writing on the table, and to keep that table as the object of his attention. We can draw here on the long history of feminist scholarship about the politics of housework: about the ways in which women, as wives and

servants, do the work required to keep such spaces available for men and the work they do (Gilman 2002).[3] To sustain an orientation toward the writing table might depend on such work, while it erases the signs of that work, as signs of dependence. In Ruth Madigan and Moira Munro's critique of the town house, they note how its interior design "reflected the internal hierarchy of the bourgeois family with the public 'masculine' domain at the front of the house, and the private 'feminine' domain confined to the rear" (1990: 7). What is behind Husserl's back, what he does not face, might be the back of the house—the feminine space dedicated to the work of care, cleaning, and reproduction. Such work is often experienced as "the lack of spare time" (Davies 2001: 141); for example, the lack of time for oneself or for contemplation. To what extent does philosophy depend on the concealment of domestic labor and of the labor time that it takes to reproduce the very "materials" of home?

It is interesting to note, for instance, that in Husserl's writing, the familiar slides into the familial; the home is a family home as a residence that is inhabited by children. They are in the summer house, he tells us. The children evoke the familial only through being "yonder"—through being at a distance from the philosopher who in writing "about" them is doing his work. They are outside the house yet also part of its interior, near the "veranda," which marks "the edge," a line between what is inside and what is outside. In a way, the children who are "yonder" point to what is made available through memory or even habitual knowledge: they are sensed as being there, behind him, even if they are not seen by him at this moment in time. The children might be in the background because others (wives, mothers, nannies) care for them. They do not distract him from his work.

We can think, in other words, of the background not simply in terms of what is around what we face, as the "dimly perceived," but as produced by acts of relegation: some things are relegated to the background in order *to sustain* a certain direction; in other words, in order to keep attention on what is faced. Perception involves such acts of relegation that are forgotten in the very preoccupation with what it is that is faced. We can pose a simple question: Who faces the writing table? Does the writing table have a face, which points it toward some bodies rather than others? If such acts of facing depend on relegating the children or other dependants to the background, then the answer to this question would not simply involve a biographical approach, but would consider how other forms of social orientation affect how bodies

arrive at the table. One could read Husserl alongside other writers who have written about writing. Let's consider Adrienne Rich's account of writing a letter: "From the fifties and early sixties, I remember a cycle. It began when I had picked up a book or began trying to write a letter . . . The child (or children) might be absorbed in busyness, in his own dream world; but as soon as he felt me gliding into a world which did not include him, he would come to pull at my hand, ask for help, punch at the typewriter keys. And I would feel his wants at such a moment as fraudulent, as an attempt moreover to defraud me of living even for fifteen minutes as myself" (Rich 1991: 23).[4]

We can see from the point of view of this mother, who is also a writer, a poet, and a philosopher, that giving attention to the objects of writing, facing those objects, becomes impossible: the children, even if they are behind you, literally pull you away. This loss of time for writing feels like a loss of your own time, as you are returned to the work of giving your attention to the children. Attention involves a political economy, or an uneven distribution of attention time between those who arrive at the writing table, which affects what they can do once they arrive (and of course, many do not even make it). For some, having time for writing, which means time to face the objects upon which writing happens, becomes an orientation that is not available given the ongoing labor of other attachments, which literally pull you away. So whether we can sustain our orientation toward the writing table depends on other orientations, which affect what we can face at any given moment in time.

By reading the objects that appear in Husserl's writing, we get a sense of how being directed toward some objects and not others involves a more general orientation toward the world. The objects that we direct our attention toward reveal the direction we have taken in life. Other objects, and indeed spaces, are relegated to the background; they are only ever co-perceived. This relegation of unseen portions and the rooms to the background, as the fringe of the familiar, which is not the object of attention, is followed by a second act of relegation. For although Husserl directs our attention to these other rooms, *even if only as the background to his writing table,* he also suggests that phenomenology must "bracket" or put aside what is given, what is made available by ordinary perception. If phenomenology is to see the table, he suggests, it must see "without" the natural attitude, which keeps us within the familiar—indeed, within the space already "decided" as "being" the family home.

So this turn toward objects within phenomenology (which as we see is about some objects and not others) is not about the characteristics of such objects, which we can define in terms of type, the kind of objects they are, or their function, which names not only the "tendency" of the objects, what they do, but also what they allow us to do: the paper (what I write on), the pencil (what I write with), and so on. The social and familiar character of objects is "bracketed" by Husserl, as what is posited by the natural attitude, the attitude that in turn is inherited by psychologism and that takes for granted what is given to the subject as given (Husserl 1969: 16). The natural attitude does not "see the world," as it takes for granted what appears; what appears quickly disappears under the blanket of the familiar. In such a world, everything is orientated around me, as being available and familiar to me (Schutz and Luckmann 1974: 4). To see the paper, for instance, as simply the material that is available to write upon (the paper is white paper, even blank paper, as that which is *ready* for me to write upon), would not be to perceive the paper *as an object*. Phenomenology, in Husserl's formulation, can only come into being as a first philosophy, if it suspends all that gathers together as a natural attitude, not through Cartesian doubt but through a way of perceiving the world "as if" one did not assume its existence as taking some forms rather than others (1969: 107–10). If the objects of phenomenology are domesticated objects—that is, objects one imagines as "being available" within the familiar space provided by the home—then the domesticity of the setting is not allowed to reveal itself. Or, if signs of domesticity appear then, they also quickly disappear, and seemingly must do so if phenomenology is to do its work.

This domestic world, which surrounds the philosopher as he moves his attention "backward" from the space in which he writes, must be "put aside," or even "put to one side," in his turn toward objects as objects of perception. It is this world, which is familiar to him, that is given in the form of familiarity. What does it mean to assume that bracketing can "transcend" the familiar world of experience? Perhaps to bracket does not mean to transcend, even if we put something aside. We remain reliant on what we put in brackets; indeed, the activity of bracketing may sustain the fantasy that "what we put aside" can be transcended in the first place.[5] The act of "putting aside" might also confirm the fantasy of a subject who is transcendent, who places himself above the contingent world of social matter, a world that differentiates objects and subjects according to how they already appear. We could question not only

the formal aspects of the bracket (which creates the fantasy that we can do without what we put to one side), but also with the content of what is bracketed, with "what" is "put aside."[6] What is "put aside," we might say, is the very space of the familiar, which is also what clears the philosopher's table and allows him to do his work.

The objects that appear within phenomenology also disappear in the "passing over" of what is given as familiar (the paper is first named, and then would become something other than *that* as if it were *that* then I would be writing on the paper, rather than seeing it). This disappearance of familiar objects might make more than the object disappear. The writer who does the work of philosophy might disappear, if we are to erase the signs of "where" it is that he works. Feminist philosophers have shown us how the masculinity of philosophy is evidenced in the disappearance of the subject under the sign of the universal (Bordo 1987; Irigaray 1974; Braidotti 1991). The masculinity might also be evident in the disappearance of the materiality of objects, in the bracketing of the materials out of which, as well as upon which, philosophy writes itself, as a way of apprehending the world.

We could call this the fantasy of a "paperless" philosophy, a philosophy that is not dependent on the materials upon which it is written. As Audre Lorde reflects, "A room of one's own may be a necessity for writing prose, but so are reams of paper, a type writer and plenty of time" (1984: 116). The fantasy of a paperless philosophy can be understood as crucial not only to the gendered nature of the occupation of philosophy but also to the disappearance of political economy, of the "materials" of philosophy as well as its dependence on forms of labor, both domestic and otherwise. In other words, the labor of writing might disappear along with the paper. The paper here matters, both as the object upon which writing is written, but also as the condition of possibility for that work. If the suspension of the natural attitude, which sees itself as seeing beyond the familiar, or even seeing through it, involves *putting the paper aside,* then it might involve the concealment of the labor of philosophy, as well as the labor that allows philosophy to take up the time that it does. Rather than the familiar being posited as that which must be suspended in order to see, we might consider what "it" is that we "overlook" when we reside within the familiar.[7] We would look, then, at what we do with things, how the arrival of things may be shaped by the work that we do, rather than put aside what it is that we do.

Let us return to the table. Husserl begins again by taking up the matter of the table. He has put aside the knowing glance of the natural attitude, which would see the table as a writing table, in this room, in this house, in this world. How does the object appear when it is no longer familiar? As he puts it: "We start by taking an example. Keeping this table steadily in view as I go round it, changing my position in space all the time, I have continually the consciousness of the bodily presence out there of this one and the self-same table, which in itself remains unchanged throughout" (1969: 130).

We can see here how Husserl turns to "the table" as an object by looking at it rather than over it. The writing table, if we are to follow this line, would not be seen (even if we face it, it is in the background as what is more and less familiar). For Husserl, then to see the table means to *lose sight of its function.* The bracket means "this table" becomes "the table." By beginning with the table, on its own, as it were, the object then appears self-same. It is not that the object's self-sameness is available at first sight. Husserl moves around the table, changing his position. For such movement to be possible, consciousness must flow: we must not be interrupted by other matters. This flow of consciousness is made possible by having the time and space to attend to the table. Putting that point to one side (we can labor points, too, after all), we might follow his gaze. Apprehending the table as an object means that I must walk around it and approach it as if I had not encountered it before; seeing it *as an object* means not describing the table as occupying a familial order, as the writing table, or any other kind of table. Such biographical or practical knowledge must be bracketed, which Husserl describes as "*to put out of action*" (1969: 110). And in the bracketing, I do not see the table as my field of action but rather see it as an object, *as if* I did not already know it or even know what I do with it. I do not see "it" in one look, but only as a series of profiles of "it," which nevertheless allow me to posit "it" as more than what I see in any one look. As Husserl elaborates:

> I close my eyes. The other senses are inactive in relation to the table. I have now no perception of it. I open my eyes and the perception returns. The perception? Let us be more accurate. Under no circumstances does it return to me individually the same. *Only the table is the same,* known as identical through the synthetic consciousness, which connects the new experience with the recollection. The perceived thing can be, without being perceived, without my being aware of it even as a potential only (in the way, actuality, as previously described) and

perhaps even without itself changing at all. But the perception itself is what it is within the steady flow of consciousness, and is itself constantly in flux; the perceptual now is ever passing over into the adjacent consciousness of the just-past, a new now simultaneously gleams forth, and so on. (130; emphasis added)

This argument suggests that the table as object is given as "the same," as a givenness that "holds" or is shaped by the "flow" of perception. Indeed, this is precisely Husserl's point: the object is intended through perception. As Robert Sokolowski describes, "When we perceive an object, we do not just have a flow of profiles, a series of impressions; in and through them all, we have one and the same object given to us, and the identity of the object is intended and given" (2000: 20). The "intending" of the object through which it becomes more than just one impression involves, in Husserl's terms, synthetic consciousness—that is, the connection of the new impression with what has gone before, in the very form of an active "re-collection" or synthesis. Significantly, the object becomes an object of perception only given the work of recollection, such that the "new" exists in relation *to what is already gathered by consciousness*: each impression is linked to the other, so that the object becomes more than the profile that is available in any moment.

Given this, the story of the sameness of the object involves the specter of absence and nonpresence. For despite the self-sameness of the object, I do not see it as "the self-same." I never see it as such; what "it is" cannot be apprehended as *I cannot view the table from all points of view at once*. The necessity of moving around the object, to capture more than its profile, shows that the object is unavailable to me, which is why it must be intended. It is a table, so I am hardly surprised to walk around, and from each view, to see a profile that matches what I expect to see. It might have four legs, or a wooden top—all of the things I would expect it to have if it is a table.

The table's sameness can only be intended. Husserl then makes what is an extraordinary claim: *only the table remains the same*. This is, in part, extraordinary given the implication that all other things fluctuate. The table is the only thing that keeps its place in the flow of perception. This already makes the table a rather queer object (as I will explore in the conclusion of this book). We can take what is powerful about Husserl's thesis of intentionality and suggest that the sameness of the table is spectral: the table is only the same given that we have conjured its missing sides. Or, we can even say that we have *conjured its behind*. I want to relate what is "missed" when we "miss" the table to the spectral-

ity of history, what we miss may be behind the table in another sense: what is behind the table is what must have already taken place for the table to arrive.

Objects That Arrive

As noted above, phenomenology for Husserl means apprehending the object as if it were unfamiliar, so that we can attend to the flow of perception itself. What this flow of perception shows is the partiality of absence as well as presence: what we do not see (say, the back or side of the object), is hidden from view and can only be intended. The partiality of perception is not only about what is not in view (say, the front and the back of the object), but also what is "around" it, which we can describe as the background. The figure "figures" insofar as the background both is and is not in view. We single out this object only by pushing other objects to the edges or "fringes" of vision.

Husserl suggests that inhabiting the familiar makes "things" into backgrounds for action: they are there, but they are there in such a way that I don't see them. The background is a *dimly apprehended depth or fringe of indeterminate reality*" (1969: 102). We can thus see that although Husserl faces his writing table, this does not mean the table is perceived as an object. Even though the table is before him, it might also be in the background. We might not even "see" the writing table when we write upon it. My argument in the previous section hence needs some qualification: even when Husserl faces the writing table, it does not necessarily follow that the table is "in front" of him. What we face can also be part of the background, suggesting that the background may include more and less proximate objects. It is not incidental that when Husserl brings "the table" to the front that the writing table disappears. Being orientated toward the writing table might even provide the condition of possibility for its disappearance.

Husserl's approach to the background as what is "unseen" in its "thereness" or "familiarity" is extremely useful, even if he puts the familiar to one side. It allows us to consider how the familiar takes shape by being unnoticed. I want here to extend his model by thinking about the "background" of the writing table in another sense. Husserl considers how this table might be *in* the background, as well as the background that is *around* the table, when "it" comes into view. I want to consider how the table itself may *have* a background. The background would be understood as that which must take place in order for

something to appear. We can recall the different meanings of the word "background." A background can refer to the "ground or parts situated in the rear" (such as the rooms in the back of the house), or to the portions of the picture represented at a distance, which in turn allows what is "in" the foreground to acquire the shape that it does, as a figure or object. Both of these meanings point to the "spatiality" of the background. We can also think of background as having a temporal dimension.[8] When we tell a story about someone, for instance, we might give information about their background: this meaning of "background" would be about "what is behind," where "what is behind" refers to what is in the past or what happened "before." We might speak also of "family background," which would refer not just to the past of an individual but also to other kinds of histories, which shape an individual's arrival into the world, and through which "the family" itself becomes a social given (see chapter 2). Indeed, events can have backgrounds: a background is what explains the conditions of emergence or an arrival of something as the thing that it appears to be in the present.

So, if phenomenology is to attend to the background, it might do so by giving an account of the conditions of emergence for something, which would not necessarily be available in how that thing presents itself to consciousness. If we do not see (but intend) the back of the object, we might also not see (but intend) its background in this temporal sense. In order to see what the "natural attitude" has in its sight, we need to face the background of an object, redefined as the conditions for the emergence not only of the object (we might ask: How did it arrive?), as well as the act of perceiving the object, which depends on the arrival of the body that perceives. The background to perception might involve such intertwining histories of arrival, which would explain how Husserl got near enough to his table for it to become not only the object on which he writes, but also the object around which his phenomenology is written. After all, phenomenology has its own background, its own conditions for emergence, which might include the very matter of the table.

So how does the object arrive into one's field of vision? What is behind its arrival? Such a question implies that the "availability" of objects is an effect of actions, which are not necessarily perceivable on the surface of the object. The question is not a simple one; it cannot be answered by providing a biography of the object as if the object had an independent existence from the "points" at which they are viewed. Despite this, objects move in and out of view such that they do have an existence that is more than how they present or reveal them-

selves. As Arjun Appadurai suggests, "We have to follow the things themselves, for their meanings are inscribed in their forms, their uses, their trajectories" (1988: 5). If phenomenology turns us toward things, in terms of how they reveal themselves in the present, then we may also need to "follow" such things around. We may need to supplement phenomenology with an "ethnography of things." The question of where an object "goes" would not then vacate the position of subjects, those to whom they present themselves as a figure, or background within familiar forms of the social. The story of the object's travel would involve "co-perception," to use Husserl's term. So our question, as an "ethno-phenomenological" one, would be: How did I or we arrive at the point where it is possible to witness the arrival of the object? How is the arrival a form of witnessing in which "what arrives" becomes a "what" only in the event of being apprehended as a "what"?

At least two entities have to arrive to create an encounter, a "bringing forth" in the sense of an occupation. So, this table and Husserl have to "co-incide," for him to write his philosophy about "the table." The dash in "co-incidence" must be highlighted here to avoid turning the shared arrival into a matter of chance. To "co-incide" suggests how different things happen at the same moment, a happening that bring things near to other things, whereby the nearness shapes the shape of each thing. Simultaneous arrivals are not necessarily a matter of chance; arrivals are determined, at least in a certain way, as a determination that might determine what gets near, even if it does not decide what happens *once we are near*. If being near to this or that object is not a matter of chance, what happens in the "now" of this nearness remains open, in the sense that we don't always know things affect each other, or how we will be affected by things (Deleuze 1992: 627).⁹

So, we can ask: How did the table arrive at the point, where Husserl could face the paper that is on it? How did he arrive at the table as the tool that "brings forth" his philosophy and is itself "brought forth" as the very materials on which his philosophy is written? How is the object, in Derrida's term, an "arrivant"? For Derrida, the arrivant signifies the "perhaps" of the "what arrives?" As he puts it: "What is going to come, *perhaps*, is not only this or that; it is at last the thought of the *perhaps* itself. The *arrivant* will arrive *perhaps*, for one must never be sure when it comes to *arrive*; but the *arrivant* could also be the *perhaps* itself, the unheard of, totally new experience of the *perhaps*" (1997: 29, see also Derrida 1994b: 33–34). To say the object is an arrivant is to signal not only that it is nearby but also that its nearness is not simply given.

The "bringing forth" of the object involves, for sure, its arrival; in coming into being it comes "here," near enough to me, or to you, as it must do if it is to be seen as this or that object. Nothing is not brought forth "without" coming to reside somewhere, where the somewhere (say, the house, the room, or the skin) shapes the surface of "what" it "is" that is brought forth. In "having arrived" how does the object become "what," where "what" is open to the "perhaps" of the future?

Heidegger turns to the etymology of the object when he considers how the object "is" insofar as "it is thrown." The word "thrown" risks turning the arrival of the object into an event, a happening, which is here insofar as it is "now." Lefebvre offers a critique of Heidegger's concept of "thrownness," which understands production as "causing to appear" (1991: 122). I would also suggest that the arrival of an object does not just happen in a moment; it is not that the object "makes an appearance," even though we can be thrown by an object's appearance. An arrival takes time, and the time that it takes shapes "what" it is that arrives. The object could even be described as the transformation of time into form, which itself could be redefined as the "direction" of matter. What arrives not only depends on time, but is shaped by the conditions of its arrival, by how it came to get here. Think of a sticky object; what it picks up on its surface "shows" where it has traveled and what it has come into contact with. You bring your past encounters with you when you arrive. In this sense an arrival has not simply happened; an arrival points toward a future that might or "perhaps" will happen, given that we don't always know in advance "what" we will come into contact with when we follow this or that line. At the same time, the arrival only becomes an arrival insofar as it has happened; and the object may "appear" only as an effect of work that has already taken place.

Our question could be reformulated as: What work goes into the making of things, such that they take form as this or that thing? Marxism provides a philosophy for rethinking the object as not only in history, but as an effect of history. The Marxian critique of German idealism begins after all with a critique of the idea that the object is "in the present," or that the object is "before me." As Marx and Engels put it, in their critique of Feuerbach:

> He does not see how the sensuous world around him is, not a thing given direct
> from all eternity, remaining ever the same, but the product of industry, and of
> the state of society; and indeed, in the sense that it is a historical product, and
> the result of the activity of a whole succession of generations, each standing on

the shoulders of the preceding one, developing its industry and its intercourse, modifying its social system according to its changed needs. Even the objects of the simplest "sensuous certainty" are only given him through social demands, industry and commercial intercourse. The cherry-tree, like almost all fruit-trees, was, as is well known, only a few centuries ago transplanted by *commerce* into our zone, and therefore only *by* this action of a definite society in a definite age it has become "sensuous certainty" for Feuerbach. (1975: 170)

If phenomenologists were simply to "look at" the object that they face, then they would be erasing the "signs" of history. They would apprehend the object as simply there, as given in its sensuous certainty rather than as "having got here," an arrival that is at once the way in which objects are binding and how they assume a social form. So objects (such as the cherry tree) are "trans-planted." They take the shape of a social action, which is forgotten in the givenness of the object. The temporality of "what comes before" is erased in the experience of the object as "what is before" in the spatial sense. For Marx and Engels, actions are generational and intergenerational (the point is not about individual action). What passes through history is not only the work done by generations, but the "sedimentation" of that work is the condition of arrival for future generations. Objects take the shape of this history; objects "have value" and they take shape through labor. They are formed out of labor, but they also "take the form" of that labor. What Marxism lets us do is to rearticulate the historicity of furniture, among other things.[10] History cannot simply be perceived on the surface of the object, even if how objects surface or take shape is an effect of such histories. In other words, history cannot simply be turned into something that is given in its sensuous certainty, as if it could be a property of an object.

If idealism takes the object as given, then it fails to account for its conditions of arrival, which are not simply given. Idealism is the philosophical counterpart to what Marx would later describe as commodity fetishism. I want to suggest that it is not just commodities that are fetishized: objects that I perceive as objects, as having properties of their own, as it were, are produced through the process of fetishism. The object is "brought forth" as a thing that is "itself" only insofar as it is cut off from its own arrival. So it becomes that which we have presented to us, only if we forget how it arrived, as a history that involves multiple forms of contact between others. Objects appear by being cut off from such histories of arrival, as histories that involve multiple genera-

tions, and the "work" of bodies, which is of course the work of some bodies more than others.

Let us turn to Marx's model of "commodity fetishism." In *Capital* he suggests that commodities are made up of two elements, "matter and labour," where labor is understood as "changing the form of matter" (1887: 50). The commodity is assumed to have value, or a life of its own, only if we forget the labor: "It becomes value only in its congealed state, when embodied in the form of some object" (57). The commodity, in other words, both transforms labor into an object and takes the very "form" of labor. Interestingly, Marx also uses the example of "the table" (although we don't know what kind of table he refers to). He suggests that the table is made from wood (which provides, as it were, the matter), and that the work of the table—the work that it takes to "make the table"—changes the form of the wood, even though the table "is" still made out of wood. As he states: "It is as clear as noon-day that man, by his industry, changes the forms of the material furnished by nature in such a way as to make them useful to him. The form of wood, for instance, is altered by making a table out of it, for all that, the table continues to be that common every-day thing, wood. But, as soon as it steps forth as a commodity, it is changed into something transcendent" (76).

The Marxian critique of commodity fetishism notably relies here on a distinction between matter and form, between the wood and the table. The "becoming table" of the wood is not the same as its commodification. The table has use value, even after it has transformed the "form" of the wood. The table can be used, and in being used the value of the table is not exchanged and made abstract. The table has use value until it is exchanged. One problem with this model is that the dynamism of "making form" is located in the transformation of nature into use value: we could also suggest that the "wood" (nature/matter) has acquired its form over time. Nature then would not be simply "there," waiting to be formed or to take form. Marx and Engel's earlier critique of idealism involves a more dynamic view of the "facts of matter": even the trees, which provide the wood, are themselves "brought forth" as effects of generational action. The wood is itself "formed matter" insofar as trees are not simply given but take shape as an effect of labor ("transplanted by commerce").[11] The orientation of this table, how it appears as a table for work, depends on these multiple histories of labor, redefined as matter taking form.[12]

It is not surprising that Derrida offers a critique of the Marxian distinction

between use value and exchange value (1994a: 149), by turning toward the table. As he suggests: "The table is familiar, too familiar." For Derrida, the table is not simply something we use: "The table has been worn down, exploited, overexploited, or else set aside and beside itself, no longer in use, in antique shops or auction rooms" (149). He thus suggests that "the table in use" is as metaphysical as "table as commodity": use value as well as exchange value involves fetishism (162). While I agree with this argument, we might note that for Marx the table in use is not simply: it involves the "trans-formation" of matter into form. Use value is hence not a simple matter for Marx, even if he locates the transcendental in the "queer" commodity.[13]

What a Marxist approach could allow us to do, if we extend Marx's critique of the commodity to the very matter of wood as well as the form of the table, is to consider the history of "what appears" and how it is shaped by histories of work. The commodity might be one moment in the "life history" or career of an object (Appadurai 1988: 17). The table as an object also moves around; it acquires new forms; it is put to different uses. For example, I buy the table (for this or that amount of money) as a table "for" writing. I have to bring it to the space where it will reside (the study, or the space marked out in a corner of another room). Others bring it for me: they transport the table. They bring it up the stairs. I wince as the edge of the table hits the wall, leaving a mark on both the wall and the table—which shows, too, what the table came into contact with during the time of its arrival. The table, having arrived, is nestled in the corner of the room. I use it as a writing desk. Having arrived, I turn to the table and sit on the chair which is placed alongside it. The chair allows me to reach the table, to cover it with my arms, and to write upon it. And yet, I am not sure what will happen to the table in the future. I could put the table to a different use (I could use it as a dining table if it is big enough "to support" this kind of action), or I could even forget about the table if I ceased to write, whereupon it might be "put aside" out of reach. The object is not reducible to the commodity, even when it is bought and sold: indeed, the object is not reducible to itself, which means it does not "have" an "itself" that is apart from its contact with others. The actions performed on the object (as well as with the object) shape the object. The object in turn affects what we do, as I will discuss in the section following.

Going back to the table, we would remember that the table was made by somebody; and that there is a history to its arrival, as a history of trans-

portation, which could be redescribed as a history *of changing hands*. As Igor Kopytoff puts it, we can have a cultural biography of things, which would show how "they are culturally redefined and put to use" (1988: 67).[14] This table, you might say, has a story. What a story it could tell. What we need to recall is how the "thisness" of this table does not, as it were, belong to it: what is particular about this table, what we can tell through its biography, is also what allows us to tell a larger story: a story not only of "things" changing hands, but of how things come to matter by taking shape through and in the labor of others.[15]

Such histories are not simply available *on* the surface of the object, apart from the scratches that might be left behind. Histories shape "what" surfaces: they are behind the arrival of "the what" that surfaces. Histories are in this sense spectral; just like Husserl's "missing sides." We do not know, of course, the story of Husserl's table, how it arrived, or what happened to the table after he stopped writing. But having arrived, we can follow what the table allowed him to do by reading his philosophy as a philosophy that turns to the table. So even if the "thisness" of the table disappears in his work, we could allow its "thisness" to reappear by making this table "matter" in our reading.

Doing Things

The object has arrived. And, having arrived, what then does it do? I want to suggest that objects not only are shaped by work, but that they also take the shape of the work they do. To think about how objects are "occupied" we can begin by considering how we are busy "with" them. Whether we "take" up different objects depends on how we are already occupied and on the kind of work that we do. We say that we occupy space; that we have an occupation. We are occupied with objects, which present themselves as tools to extend "the reach" of our actions. We are occupied when we are busy. We are booked up; we are using up time when we are occupied with something. We might be preoccupied by something, which means we don't notice something else. The word "occupy" allows us to link the question of inhabiting or residing within space; to work, or even to having an identity through work (an occupation); to time (to be occupied with); to holding something; and to taking possession of something *as* a thing. How are we occupied with objects? How does an occupation orientate us toward some objects and, in that towardness, to some ways of living over others? How does this orientation take up time as well as space?

It is no accident that Heidegger poses this question of occupation, of what it is that we do, by turning to the table. In *Ontology: The Hermeneutics of Facticity* (1999),[16] Heidegger contrasts two ways of describing tables. In the first model, the table is encountered as "a thing in space—as a spatial thing" (68). Although Heidegger evokes Husserl's description of "the table," Husserl is not named, or at least not at this point. As Heidegger states: "Aspects show themselves and open up in ever new ways as we walk around the thing" (68). Heidegger suggests that this description is inaccurate not because it is false (the table might after all appear in this way) but because it does not describe how the significance of such things is not simply "in" the thing, but rather a "characteristic of being" (67–68). For Heidegger what makes "the table" what it is, and not something else, is what the table allows us to do.

The words by Heidegger that follow form one of the richest phenomenological descriptions of the table as it is experienced from the points of view of those who share the space of its dwelling: "What is there in *the* room there at home is *the* table (not 'a' table among many other tables in other rooms and houses) at which one sits *in order to* write, have a meal, sew, or play. Everyone sees this right away, e.g. during a visit: it is a writing table, a dining table, a sewing table—such is the primary way in which it is being encountered in itself. This characteristic of 'in order to do something' is not merely imposed on the table by relating and assimilating it to something else which it is not" (69).[17] In other words, what we do with the table, or what the table allows us to do, is essential to the table. The table provides a surface around which a family gathers: Heidegger describes his wife sitting at the table and reading, and "the boys" busying themselves at the table.[18] The "in order to" structure of the table, in other words, means that the people who are "at" the table are also part of what makes the table itself. Doing things "at" the table is what makes the table what it is and not some other thing.

We could perhaps then redescribe the table as a tool, as something we do something with. In *Being and Time* Heidegger offers us a powerful reading of tools as he does in his later work on technology. In the former, Heidegger considers the "pragmatic" character of things, which is obscured by the presentation of things as "mere things," and he considers such things as forms of equipment. As he suggests, "In our dealings, we come across equipment for writing, sewing, working, transportation" (1973: 97). In ordering his phenomenology around equipment, Heidegger departs from Husserl by suggesting that the pragmatic orientation of things is associated within their being, or what he

describes as the "equipmentality" of objects. Equipmentality is about what "things" or "objects" allow bodies to do: they have an "in-order-to" structure, which assigns or refers to something. So what makes the object "itself" is what it allows us to do, and that "doing" takes the object out of itself and makes it "point" toward something, whether that something is an action or other objects. So the writing table is Husserl's equipment: it "points toward" writing as well as to other objects, which gather around writing as tools that allow this kind of work: the inkwell, pencils, and so on. The writing table might also point toward the writing body, as that which becomes "itself" once it "takes up" the equipment and "takes up" time and space, in doing the work that the equipment allows the body to do.

What objects do is what brings them forth in the shape they have. The wheel can roll, the desk can hold a computer, the pen can write, the jug can pour. The use of "can" here might help remind us that "usefulness" is not merely instrumental but is about capacities that are open to the future. The capacity is not so much "in" the tool, but depends on how the tool is taken up or "put to use." Heidegger makes exactly this point in his later work on technology. It is not just that the object tends toward something, where the tendency supports an action, but that the shape of the object is itself shaped by the work for which it is intended. For Heidegger, the thing "is not merely an aggregate of traits, nor an accumulation of properties by which the aggregate arises," rather it "is that around which the properties have been assembled" (1975: 22–23). We can see in this model of property as assemblage, how the thing becomes something that "has" properties. The thing would be a thing insofar as it is being used as the thing that it was brought into the world to be: "The peasant woman wears her shoes in the field. *Only here are they what they are*" (33).

Technology does not simply refer to objects that we use to extend capacities for action. Technology (or *techne*) becomes instead the process of "bringing forth" or, as Heidegger states, "to make something appear, within what is present, as this or as that, in this way or that way" (159). The object is an effect of "bringing forth," where the "bringing forth" is a question of the determination of form: the object itself has been shaped for something, *which means it takes the shape of what it is for*. The object is not just material, although it is material: the object is matter given some form or another where the form "intends" toward something. The table has a horizontal surface, which "supports" the action for which it is intended. This "tending toward" is what

shapes its form, which then allows us to recognize the object as this object and not another. Form takes shape through the "direction" of matter toward an action. So we do things "on the table," which is what makes the table what it is and take shape in the way that it does. *The table is assembled around the "support" it gives.*

And yet, objects do not only do what we intend them to do. Heidegger differentiates between using something and perceiving something, which he describes in terms of grasping that something thematically (98). The example he uses is the hammer. When the hammer hammers, then it is "ready-to-hand." The nearness of the hammer, the fact that it is available to me, is linked to its usefulness; it is near as it enables me to perform a specific kind of work. Such "ready-to-hand-ness" is interesting to Heidegger, insofar as it is something to do with what the hammer "is." Indeed, Heidegger suggests that the object as practice, as something we do something with, involves *"its own kind of sight"* (99) which is a different sight than looking at the hammer as if it were not something that simply hammered. Heidegger thus suggests that when the ready-to-hand is not "handy," we see it differently; it becomes "present-to-hand." So the hammer breaks, and it is not that I no longer see what the object really is (for it "is" a hammer), but that I see it in a different way, as something that does not move toward something: "When equipment cannot be used, this implies the constitutive assignment of the 'in-order-to' to a 'toward-this' has been disturbed . . . But when an assignment has been disturbed—when something is unusable for some purpose—then the assignment becomes explicit" (105). What difference does this "making explicit" make? Heidegger moves on:

> The entity which is held in our fore-having—for instance, the hammer—is proximally ready-to-hand as equipment. If this entity becomes the "object" of an assertion, then as soon as we begin this assertion, there is already a change over in the fore-having. Something *ready-to-hand with which* we have to do or perform something, turns into something *"about which"* the assertion that points it out is made. Our fore-sight is aimed at something present-to-hand in what is ready-to-hand. Both *by* and *for* this way of looking at it [*Hin-sicht*], the ready-to-hand becomes veiled as ready-to-hand. Within this discovering of presence-at-hand, which is at the same time a covering up of readiness-to-hand, something present-at-hand which we encounter is given a definite character in its Being-present-at-hand-in-such-and-such-a-manner. Only now are we given any access to *properties* or the like. (200)

So it is when the hammer is broken, or when I cannot use it, that I become aware of the hammer as an object-in-itself, rather than as object, which refers beyond itself to an action that I intend to perform. So at this moment of "failure" the hammer is perceived as having properties; as being, for instance, "too heavy." The hammer ceases to be a means to do something (where the object is the action) and becomes the object that we attend to, or are concerned with. While this model does not designate the usefulness of objects, and their familiarity as functional things as "the natural attitude," which must be bracketed by phenomenology, it does distinguish between using something and perceiving something, although use is given its own kind of sight.

What is being revealed when technologies are no longer ready for action? For Heidegger, it is properties that are revealed. He suggests that when the hammer ceases to hammer, that is, we cease to be able to hammer with it, then we become aware of it as having a specific form: "The hammer is too heavy." In other words, we only feel the heaviness of the hammer at the moment in which we cannot use the hammer to perform the action: when the hammer does not hammer. But clearly this propositional statement about the hammer—"The hammer is too heavy"—is still a statement that "points" toward what the hammer "should" do. In other words, the heaviness of the hammer *still refers to the action that the hammer itself directs us toward*. The hammer is too heavy for what? It is too heavy to hammer "with," after all. The "too heavy" suggests that the hammer does not allow me to hammer. The judgment about the hammer, which gives it a property as being this or that kind of thing, still perceives the hammer in terms of what it can or should do, even in the moment of the failure of the hammer to perform its action.

So when something is no longer ready for action it does follow that we have access to its properties, as if they are independent of the histories of action that bring such objects forth, as the "what" that is near. This is not to say that it does not make a difference to how we perceive things when those things are and are not "put to use." Rather, it is to say that the failure of things to be put to use does not mean an access to properties of things that are independent of their use. Indeed, we might want to question the presumption that things have properties, which do not point toward their "assignment" in a familiar and social order.

So what does it mean to say that an object fails to do the work for which it was intended? This failure might not simply be a question of the object itself

failing. For the hammer might be too heavy for you to use but perfectly adequate for me. A hammer might be broken and not enable me to do one thing, but it could still let me do something else. Failure, which is about the loss of the capacity to perform an action for which the object was intended is not a property of an object (though it tends to be attributed in this way and there is no doubt that *things can go wrong*), but rather of the failure of an object to extend a body, which we can define in terms of the extension of bodily capacities to perform actions. The body cannot extend itself through the object in a way that was intended, although of course "intention" should not then become a presumed property of things (a child who picks up the broken hammer and begins to play a game is still doing something). The experience of this "nonextension" might then lead to "the object" *being attributed* with properties, qualities and values. In other words, what is at stake in moments of failure is not so much access to properties but attributions of properties, which become a matter of how we *approach* the object. So if I state, "The hammer is too heavy," then I mean, "The hammer is too heavy for me to hammer with." The moment of "non-use" is the moment in which the object is attributed as having properties, and it is the same moment in which objects may be judged insofar as they are inadequate to a task, the moment when we "blame the tool."[19]

Let us return now to the table. The table has a certain form, as we know. It is made of something (perhaps wood). The matter and the form of the table are dependent on histories of labor, which are congealed in and as the very "thing" of the table. The table is an effect of work, and it also points to work in the very form that it takes. Different tables have different functions: we do things with them by performing actions upon them. If our object is a writing table, then our table is specifically adapted for convenience in writing or reading, perhaps something made with a sloping top and generally fitted drawer and compartments. The word table, we might note, is derived from the Latin *tabula*, which primarily means a "board," especially one used for games or for writing. In its earliest English usages, "table" meant a "surface," in particular a "surface for writing," before the "table" became the name of the familiar article of furniture that we could describe as an "object with a horizontal surface." The shape of the table depends at least to some extent on what it allows us to do: the horizontal surface should be at the height appropriate for its work. The writing table is higher than the coffee table, for instance, as a

difference determined in part by function, or by what each table is being asked to do. A coffee table at the height of my waist would amount to a failed orientation, as I could not extend myself through it, by using it as something on which to place my coffee cup while I am sitting down on the sofa. The table is both an effect of work and also what allows us to work: whether the table "works" depends upon whether we can do, when we make use of the table, the work we intend to do.

The failure of objects to work could be described as a question of fit: it would be the failure of subjects and objects to work together. So the appropriateness of the height of the table is itself dependent on the body that uses it: Husserl's table could be too high or too low for me, depending on our differences of height. Husserl's writing table would work for him only if it were placed in a way that enabled him to write. If this table does not work for me, I would "turn toward" it a different way. I might then attribute my failure to write to the table, such that it becomes the cause of the failure. Such a turning would be felt as a frustration, through which the table might be perceived as "too this or too that," or even as a bad object. The perception of the object as having qualities is not then a perception of what is proper to the object. The failure would be the failure of the object to enable the action with which it is identified. The table is "too high," which means I cannot write at the table: the "tooness" refers not to the table's presence for itself but to how it is or is not ready for me.

I am not suggesting here that the objects do not have properties that may be revealed when they are put into action (a "putting into" that can also involve the failure to act). Objects do have qualities that make them tangible in the present. But these characteristics are not simply "in" the objects but instead are about how the objects work and are worked on by others. The example of the hammer that is too heavy or the table that is too high shows us how the position of the object, and indeed the qualities perceived in an object as given, refer us to the relations between objects and the subjects that make use of them. This does not vacate or empty the object as "just" a vehicle for subjects. Those qualities only come to matter in terms of how the objects and subjects work together; they cannot be assigned to the subject or object, although in everyday experience such assignments do happen. Failure can of course be attributed to subjects as well as to objects: the subject can turn away from the object and toward itself. I could say, for example, I am too short for this table,

as well as this table is too high for me. To orientate oneself can mean to adjust one's position, or another's position, such that we are "facing" the right direction: we know where we are through how we position ourselves in relation to others. Work also involves adjustments: we might move this way or that, so we can work with this or that object: work involves a direction toward the object, which then works for us. The failure of work is not, then, "in" the thing or "in" the person but rather is about whether the person and the thing face each other *in the right way.*

When things are orientated they are facing the right way: in other words, the objects around the body allow the body itself to be extended. When things are orientated, we are occupied and busy. The "point" of this occupation might even make the face of the object recede from view. Occupation is hence not just about "any body," for an object tends toward some bodies more than others, depending on "the tendencies" of bodies. Objects may even take the shape of the bodies for whom they are "intended," in what it is that they allow a body to do. The writing table thus "tends toward" the writer. An action is possible when the body and the object "fit." So it is not simply that some bodies and tools *happen* to generate specific actions. Objects, as well as spaces, are made for some kinds of bodies more than others. Objects are made to size as well as made to order: while they come in a range of sizes, the sizes also presume certain kinds of bodies as having "sizes" that will "match." In this way, bodies and their objects tend toward each other; they are orientated toward each other, and are shaped by this orientation. When orientation "works," we are occupied. The failure of something to work is a matter of a *failed orientation:* a tool is used by a body for which it was not intended, or a body uses a tool that does not extend its capacity for action.

Inhabiting Spaces

How do bodies "matter" in what objects do? To consider this question we can return to the table. We already know how Husserl's attention wanders: from the writing table and only then toward other spaces: the darkness of the unseen portions of the room. What he sees is shaped by a direction he has already taken, a direction that shapes what is available to him in the sense of what he faces and what he can reach. What he faces also shapes what is behind him, and what is available as the background to his vision. So his gaze might fall on

the paper, which is on the table, given that he is sitting at the desk, the writing table, and not at another kind of table, such as the kitchen table. Such other tables would not, perhaps, be the "right" kind of tables for the making of philosophy. The writing table might be the table "for him," the one that would provide the right kind of horizontal surface for the philosopher. Such a table in turn would face him; as the writing table it would face the one who writes. There are also objects that gather around the scene of writing, as "would be" tools of the philosopher, and these objects are "within sight" for the philosopher, and perhaps must be, if philosophy is to endure. So the philosopher faces these objects, more than others, in the labor of doing philosophy, even if the approach taken makes the objects disappear.

I have suggested that the orientation of objects is shaped by what objects allow me to do. In this way an object is what an action is directed toward. In this section, I want to consider how actions take place in space. Clearly, action depends on the object being near enough: "I see it only if it is within the radius of my action" (Merleau-Ponty 1968: 7). At the same time, while objects have to be near enough to complete specific actions, such actions are what bring objects near to me. So, you can only write on the writing table if the table is within reach, but the reachability of the table might be an effect of what you already do for a living. It exists for you insofar as it is near. In other words, the nearness of certain objects is an effect of the work the body does, and the work the body does is what makes certain objects near. Action depends on how we reside in space with objects: what Husserl was to call in his later work, "the near sphere" and the "core sphere" as "the sphere of things which I can reach" (2002: 149).

The relation between action and space is hence crucial. It is not simply that we act in space; spatial relations between subjects and others are produced through actions, which make some things available to be reached. Or, as Lefebvre suggests: "Activity in space is restricted by that space; space 'decides' what actually may occur, but even this 'decision' has limits placed upon it" (1991: 143). So the space of the study is shaped by a decision (that this room is *for* this kind of work), which itself then "shapes" what actions "happen" in that space. The question of action is a question then of how we inhabit space. Given this, action involves the intimate co-dwelling of bodies and objects. This is not to say that bodies are simply objects alongside other objects. As Merleau-Ponty shows us, bodies are "not the same" as other kinds of objects

precisely given their different relation to space. The body, he suggests, is "no longer merely an object in the world," rather "it is our point of view in the world" (1964: 5). Returning to Husserl's table, we can consider how the body moves around the object; and that very motility is remarkable in its difference from *that which it moves around*. As Merleau-Ponty suggests: "We grasp external spaces through our bodily situation. A 'corporeal' or postural schema gives us a global, practical and implicit notion of the relation between our body and things, and our hold on them. A system of possible movements, or 'motor projects' radiates from us to the environment. Our body is not in space like things; it inhabits or haunts space. It implies itself to space like a hand to an instrument and when we wish to move about we do not move the body as we move an object" (5).

The language here implies that bodies provide us with a tool, as that through which we "hold" or "grasp" onto things, but elsewhere Merleau-Ponty suggests that the body is not itself an instrument but a form of expression, a making visible of our intentions (1964: 5). What makes bodies different is how they inhabit space: space is not a container for the body; it does not contain the body as if the body were "in it." Rather bodies are submerged, such that they become the space they inhabit; in taking up space, bodies move through space and are affected by the "where" of that movement. It is through this movement that the surface of spaces as well as bodies takes shape. Recalling Husserl, his encounter with the table involves moving around it. Of course, bodies are not the only kinds of objects that move. But when they move, we move. The table would become available to me, within my reach, only insofar as my bodily posture orientates me toward it and even spreads over it. The profile of the table is shaped by the profile of the body, even if that profile "disappears" from view.

Of course, when Husserl "grasps" his table from the series of impressions, as being more than what he sees at any point in time, it is his "eyes" that are doing the work: he "closes his eyes" and "opens his eyes" (1969: 130). The object's partiality is seen, even if the object is unavailable in a single sight. Interestingly, in the second volume of *Ideas* Husserl attends to the lived body (*Leib*) and to the intimacy of touch.[20] The table returns, as we would expect. And yet, what a different table we find if we reach for it differently. In this moment, it is the hands rather than the eyes that reach the table: "My hand is lying on the table. I experience the table as something solid, cold,

smooth" (1989: 153). Husserl conveys the proximity between bodies and objects as "things" that become more than "matter" insofar as they can be sensed and touched; insofar as they make impressions. Bodies are "something touching which is touched" (155). The locations of sensation on the skin surface shows that the sensation is not "in" the object or the body but instead takes shape as an effect of their encounter. As Rosalyn Diprose suggests, the world described by phenomenology is an "interworld," or an "open circuit" between the perceiving body and its world (2002: 102).

Phenomenology hence shows how objects and others have already left their impressions on the skin surface. The tactile object is what is near me, or what is within my reach. In being touched, the object does not "stand apart"; it is felt "by" the skin and even "on" the skin. In other words, we perceive the object as an object, as something that "has" integrity, and is "in" space, only by haunting that very space; that is, by co-inhabiting space such that the boundary between the co-inhabitants of space does not hold. The skin connects as well as contains. The nonopposition between the bodies that move around objects, and objects around which bodies move, shows us how orientations involve at least a two-way "approach," or the "more than one" of an encounter.[21] Orientations are tactile and they involve more than one skin surface: we, in approaching this or that table, are also approached by the table, which touches us when we touch it. As Husserl shows us, the table might be cold and smooth and the quality of its surface can only be felt once I have ceased to stand apart from it. This body with this table is a different body than it would be without it. And, the table is a different table when it is with me than it would be without me. Neither the object nor the body have integrity in the sense of being "the same thing" with and without others. Bodies as well as objects take shape through being orientated toward each other, as an orientation that may be experienced as the co-habitation or sharing of space.[22]

Bodies are hence shaped by contact with objects and with others, with "what" is near enough to be reached. Bodies may even take shape through such contact, or take the shape of that contact. What gets near is both shaped by what bodies do, which in turn affects what bodies can do. Paul Schilder's work on body image places an emphasis on how bodies are shaped by what is and is not brought near to them. As he suggests: "The space around the body-image may either bring the objects nearer to the body or the body nearer to the objects. The emotional configuration determines the distance of objects from

the body" (1950: 216). Bringing objects near to bodies, which also brings bodies near to objects, involves acts of perception about "what" can be brought near to me. For instance, the nearness of the philosopher to his paper, his ink, and his table is not simply about "where" he does his work and the spaces he inhabits, as if the "where" could be separated from "what" he does. The nearness of such objects is required by his work, which is also "what" he does for a living. So the objects are near as the instruments of philosophy, which shape the kind of body that philosophy acquires as well as the body of the philosopher.

We can continue with the example of the table. As an object it also provides a space, which itself is the space for action, for certain kinds of work. As we know, Husserl's table in the first volume of *Ideas* is the writing table, and his orientation toward this table, and not others, shows the orientation of his philosophy, even at the very moment that "this" table disappears.[23] Around the table a horizon or fringe of perception is "dimly" apprehended. When Husserl writes, the writing table itself may only be dimly perceived. The horizon is what is "around" as the body does its work. As Don Ihde notes: "Horizons belong to the boundaries of the experienced environmental field. Like the 'edges' of the visual field, they situate what is explicitly present, while in phenomena itself, horizons recede" (1990: 114). The horizon is not an object that I apprehend: I do not see it. The horizon is what gives objects their contours, and it even allows such objects to be reached. Objects are objects insofar as they are within my horizon; it is in the act of reaching "toward them" that makes them available as objects for me. The bodily horizon shows what bodies can reach toward by establishing a line beyond which they cannot reach; the horizon marks the edge of what can be reached by the body. The body becomes present as a body, with surfaces and boundaries, in showing the "limits" of what it can do.

We might think that we reach for whatever comes into view. And yet, what "comes into" view, or what is within our horizon, is not a matter simply of what we find here or there, or even where we find ourselves as we move here or there. What is reachable is determined precisely by orientations that we have already taken. Some objects don't even become objects of perception, as the body does not move toward them: they are "beyond the horizon" of the body, and thus out of reach. The surfaces of bodies are shaped by what is reachable. Indeed, the history of bodies can be rewritten as the history of the reachable.

Orientations are about the direction we take that puts some things and not others in our reach. So the object, which is apprehending only by exceeding my gaze, can be apprehended only insofar as it has come to be available to me: its reachability is not simply a matter of its place or location (the white paper on the table, for instance), but instead is shaped by the orientations I have taken that mean I face some ways more than others (toward this kind of table, which marks out the space I tend to inhabit).

Phenomenology helps us to explore how bodies are shaped by histories, which they perform in their comportment, their posture, and their gestures. Both Husserl and Merleau-Ponty, after all, describe bodily horizons as "sedimented histories" (see Steinbock 1995: 36). This model of history as bodily sedimentation has been taken up by social theorists; for Pierre Bourdieu, for example, such histories are described as the habitus, as "systems of durable, transposable, dispositions" (1977: 72) which integrate past experiences through the very *"matrix of perceptions, appreciations and actions"* that are necessary to accomplish "infinitely diversified tasks" (83).[24] For Judith Butler, it is precisely how phenomenology exposes the "sedimentation" of history in the repetition of bodily action, that makes it a useful resource for feminism (1997a: 406). What bodies "tend to do" are effects of histories rather than being originary.

We could say that history "happens" in the very repetition of gestures, which is what gives bodies their tendencies. We might note here that the labor of such repetition disappears through labor: if we work hard at something, then it seems "effortless." This paradox—with effort it becomes effortless—is precisely what makes history disappear in the moment of its enactment. The repetition of the work is what makes the work disappear. It is important that we think not only about *what* is repeated, but also about how the repetition of actions takes us in certain directions: we are also orientating ourselves toward some objects more than others, including not only physical objects (the different kinds of tables) but also objects of thought, feeling, and judgment, as well as objects in the sense of aims, aspirations, and objectives. I might "orientate" myself around writing, for instance, not simply as a certain kind of work (although it is that, and it requires certain objects for it to be possible), but also as a goal: writing becomes something that I aspire to, even as an identity (becoming a writer). So the object we aim for, *which we have in our view*, also comes into our view through being held in place as that we seek to be: the action searches for identity as the mark of attainment (the writer "becomes" a

writer through the work of writing). We can ask what kinds of objects bodies "tend toward" in their tendencies, as well as how such tendencies shape what bodies tend toward.

Of course, I too am working on a table, though for me the kitchen table as much as the writing table provides the setting for action: for cooking, eating, as well as writing. I have a study space and I work on a table in that space. As I type this now, I am using a keyboard placed on a computer table that resides in the study, which as noted above is a space that has been set aside for this kind of work. This particular table is designed for the computer, and for working on the computer. I fit into this space in a certain way by sitting on the chair, which is before the table. Objects and bodies "work together" as spaces for action; so here I type as I face this object, and it is what I am working on. I am touching the object, as well as the keyboard, and I am aware of it, as a sensuous given that is available for me. In repeating the work of typing, my body also feels a certain way. My neck gets sore, and I stretch to ease the discomfort. I pull my shoulders back every now and then as the posture I assume (a bad posture I am sure) is a huddle: I huddle over the table as I repeat the action (the banging of keys with the tips of my fingers); the action shapes me and leaves its impression, through bodily sensations, prickly feelings on the skin surface, and the more intense experience of discomfort. I write, and in performing this work I might yet become my object—become a writer, with a writer's body, and a writer's tendencies (the sore neck, the sore shoulders, are sure signs of having done this kind of work).

Repetitive strain injury (RSI) can be understood as the effect of such repetition: we repeat some actions, sometimes over and over again, and this is partly about the nature of the work we might do. Our body takes the shape of this repetition; *we get stuck in certain alignments as an effect of this work.* For instance, my right ring finger has acquired the shape of its own work: the constant use of a pen, in writing, has created a lump, which is the shape that is shaped by the work of this repetition; my finger almost looks "as if" it has the shape of a pen as an impression upon it. The object on which and through which I work hence leaves its impression: the action, as intending, as well as tending toward the object, shapes my body in this way and that. The work of repetition is not neutral work; *it orients the body in some ways rather than others.* The lump on my finger is a sure sign of an orientation I have taken, not just toward the pen-object, or the keyboard, but also toward the world, as someone

who does a certain kind of work for a living. Husserl's writing also "shows" his orientation: the tables that appear first are the writing tables, as proper objects of philosophy, which itself is shaped by the orientations taken toward its objects, as objects of thought. Orientations shape what bodies do, while bodies are shaped by orientations they already have, as effects of the work that must take place for a body to arrive where it does.

Bodies hence acquire orientation through the repetitions of some actions over others, as actions that have certain "objects" in view, whether they are physical objects required to do the work (the writing table, the pen, the keyboard) or the ideal objects that one identifies with. The nearness of such objects, their availability within my bodily horizon, is not casual: *it is not just that I find them there, like that*. Rather, the nearness of such objects is a sign of an orientation I have already taken toward the world as an orientation that shapes what we call, inadequately, "character." Bodies tend toward some objects more than others given their tendencies. These tendencies are not originary but instead are effects of the repetition of the "tending toward." I will discuss in the next chapter the paradoxical temporality of such tendencies in relation to sexual orientation; here it will suffice to say that it makes sense to consider how bodies come to "have" certain orientations over time and that they come to be shaped by taking some directions rather than others and toward some objects rather than others.

The field of positive action, of what this or that body does do, also defines a field of inaction, of actions that are possible but that are not taken up, or even actions that are not possible because of what has been taken up. Such histories of action or "take up" shape the bodily horizon of bodies. Spaces are not only inhabited by bodies that "do things," but what bodies "do" leads them to inhabit some spaces more than others. If spaces extend bodies, then we could say that spaces also extend the shape of the bodies that "tend" to inhabit them. So, for instance, if the action of writing is associated with the masculine body, then it is this body that tends to inhabit the space for writing. The space for writing—say, the study—then tends to extend such bodies and may even take their shape. Gender becomes naturalized as a property of bodies, objects, and spaces partly through the "loop" of this repetition, which leads bodies in some directions more than others as if that direction came from within the body and explains which way it turns.

Here again we can return to the table—to the writing table, more specifi-

cally. In a way, the writing table waits for the body of the writer. In waiting for the writer the table waits for some bodies more than others. This waiting "orientates" the table to a specific kind of body, the body that would "take up" writing. I have already described such a body as a masculine body by evoking the gendered form of its occupation. Now, clearly, gender is not "in" the table or necessarily "in" the body that turns to the table. Gender is an effect of how bodies take up objects, which involves how they occupy space by being occupied in one way or another. We might note, for instance, in Heidegger's *Ontology* (1999) that the table as a thing on which we do things allows for different ways of being occupied. So Heidegger writes on the table, his wife sews, and his children play. What we do on the table is also about being given a place within a familiar order (as I explore in the next chapter). Bodies are shaped by the work they do on the table, where work involves gendered forms of occupation.

In light of this we can consider Charlotte Perkin Gilman's work on the "home," where she speaks of the shaping of women's bodies through how they inhabit domestic interiors. As she notes: "See it in furnishing. A stone or block of wood to sit on, a hide to lie on, a shelf to put the food on. See that block of wood change under your eyes and crawl up history on its forthcoming legs—a stool, a chair, a sofa, a settee, and now the endless ranks of sittable furniture wherewith we fill the home to keep ourselves from the floor withal . . . If you are confined at home you cannot walk much—therefore you must sit—especially if your task is a stationary one. So, to the home-bound woman came much sitting, and much sitting called for ever softer seats" (2002: 27–28). Gilman is writing here specifically about furnishings in the Orient, and she contrasts the soft bodies and chairs of this imagined interior with the domestic interiors in the West, which give women more mobility. I will take up the matter of orientalism in chapter 3; suffice to say here that Gilman shows us how orientations involve inhabiting certain bodily positions: sitting, walking, lying down, and so on. Such forms of occupation or of being occupied shape the furniture: the chairs become soft to provide seating for the body that sits. In turn, the body becomes soft as it occupies the soft seat, taking up the space made available by the seat. Such positions become habitual: they are repeated, and in being repeated they shape the body and what it can do. The more the body sits, the more it tends to be seated.

The point is simple: what we "do do" affects what we "can do." This is not

to argue that "doing" simply restricts capacities. In contrast, what we "do do" opens up and expands some capacities, as an "expansion" in certain directions that in turn might restrict what you can do in others. A case in point would be "handedness": the more we use one side of the body, the harder it is to use the other side. As Robert Hertz suggests, the cultural preference for the right side means that the "left hand is repressed and kept inactive" (1973: 5) and the right hand is given "more intensive work," which "favours its development" (4). We acquire our tendencies as an effect of the direction of energy to this or that side. The more we work certain parts of the body, such as this or that muscle, the more work they can do. At the same time, the less we work other muscles, then the less they can do. So if gender shapes what we "do do," then it shapes what we can do. Gender could thus be described as a bodily orientation, a way in which bodies get directed by their actions over time.

It is worth noting here that Iris Marion Young's phenomenological model of female embodiment places a key emphasis on the role of orientation. Indeed, Young argues that gender differences *are* differences in orientation. As she suggests, "even in the most simple body orientations of men and women as they sit, stand, and walk, we can observe a typical difference in body style and extension" (2005: 32). This is not to say that orientations are themselves simply given, or that they "cause" such differences. Rather, orientations are both an effect of such differences as well as a mechanism for their reproduction. Young suggests that women have an "inhibited intentionality" in part because they do not get behind their bodies, as women see their bodies as "objects" as well as "capacities" (35). So becoming a woman means "throwing like a girl." Women may throw objects, and are thrown by objects, in such a way that they take up less space. To put it simply, we acquire the shape of how we throw, as well as what we do. Or as Linda McDowell and Jo Sharpe suggest: "The body, its size, shape, gestures, the very space it takes up, those masculine and feminine norms which mean that men sprawl and women don't; the differences in physicality that construct and reflect gender norms create ways of being in space" (1997: 203).

Gender is an effect of the kinds of work that bodies do, which in turn "directs" those bodies, affecting what they "can do." At the same time, it is not always decided which bodies inhabit which spaces, even when spaces extend the form of some bodies and not others. Julia Wardhaugh argues that there is an increasing "recognition that rooms or spaces in the family home are not

effectively gendered even when they are designed to meet the requirements of men or women (for example, the height of kitchen benches). Rather it is the activities that are performed in these spaces at given times and in given relationship contexts that reflect and/or subvert ideas about gender" (1999: 92). In other words, even if what we "do do" affects what we "can do," other things remain possible. For instance, bodies can take up spaces that do not extend their shape, which can in turn work to "reorientate" bodies and space. In the following two chapters I will discuss failed orientations as the "queer effect" of oblique or diagonal lines, created by bodies out of place. Here I wish simply to say that when women write, when they take up space as writers, their bodies in turn acquire new shapes, even if the effect is no longer quite so queer.

As Virginia Woolf shows us in *A Room of One's Own*, for women to claim a space to write is a political act. Of course, there are women who write. We know this. Women have taken up spaces orientated toward writing. And yet, the woman writer remains just that: the woman writer, deviating from the somatic norm of "the writer," as such. We know too that there are women philosophers, and how they still cause trouble as "bodies out of place" in the "home" of philosophy, which itself is shaped by taking some bodies and not others as its somatic norm (Alcoff 1999). So what happens when the woman philosopher takes up her pen? What happens when the study is not reproduced as a masculine domain by the collective repetition of such moments of deviation?

Tables might even appear differently if we follow such moments of deviation and the lines they create. For Virginia Woolf, the table appears with her writing on it, as a feminist message inscribed on paper: "I must ask you to imagine a room, like many thousands, with a window looking across people's hats and vans and motor-cars to other windows, and on the table inside the room a blank sheet of paper on which was written in large letters Women and Fiction and no more" (1991: 24). The table is not simply what Woolf faces but is also the "site" upon which she makes her feminist point: that we cannot address the question of women and fiction without asking the prior question of whether women have space to write. It is worth recalling here the feminist publisher named Kitchen Table press. We could say that the kitchen table provides the kind of surface on which women tend to work. To use the table that supports domestic work to do political work (including the work that makes explicit the politics of domestic work) is a reorientation device. The

kitchen table supports feminist writing, and feminist books appear under its name.

If making a feminist point returns us to the table, then the terms of its appearance will be different. It might be that quite a different table comes into view. In Iris Marion Young's *On Female Body Experience* the table arrives into her writing in the following way: "The nick on the table here happened during that argument with my daughter" (2005: 159). Here, the table records the intimacy of the relationship between mother and daughter; such intimacies, as the surfacing of conflict, are neither "put to one side" nor take place "on an-other side" of the table.[25] Tables for feminist philosophers might not bracket or put aside the intimacy of familial attachments; such intimacies are at the front; they are "on the table" rather than behind it. We might even say that feminist tables are shaped by such attachments; such attachments shape the surface of tables and how tables surface in feminist writing.

Of course, the woman philosopher still has to arrive, to get near enough to the writing table. It takes time, this arrival into the "scene" of writing, just as it takes time and work to keep one's attention on the writing table. Such an arrival is dependent on contact with others, and even *access* to the "occupation of writing," which itself is shaped by political economies as well as personal biographies. And yet, she arrives.[26] Having arrived, she might do a different kind of work given that she may not put these other attachments "behind" her.

So, yes, we can remember that some spaces are already occupied. They even take the shape of the bodies that occupy them. Bodies also take the shape of the spaces they occupy and of the work they do. And yet sometimes we reach what is not expected. A space, however occupied, is taken up by somebody else. When bodies take up spaces that they were not intended to inhabit, something other than the reproduction of the facts of the matter happens. The hope that reproduction fails is the hope for new impressions, for new lines to emerge, new objects, or even new bodies, which gather, in gathering around this table. The "new" would not involve the loss of the background. Indeed, for bodies to arrive in spaces where they are not already at home, where they are not "in place," involves hard work; indeed, it involves painstaking labor for bodies to inhabit spaces that do not extend their shape. Having arrived, such bodies in turn might acquire new shapes. And spaces in turn acquire new bodies. So, yes, we should celebrate such arrivals. The "new" is what is possible when what is behind us, our background, does not simply ground us or keep us

in place, but allows us to move and allows us to follow something other than the lines that we have already taken. Yes, women philosophers do gather and have gathered, creating their impressions. Our task is to recall their histories of their arrival, and how this history opens up spaces for others that have yet to be cleared.

The background to the object, which allows it to be put to work, depends upon work that is repeated over time that is often "hidden from view." Perhaps where Husserl's gaze fails to wander is into other spaces, such as the space of the kitchen —that is, as spaces that are often associated with the "work" that tends toward the body in terms of caring for it and sustaining it. Does Husserl's gaze avoid wandering there insofar as those spaces are shaped by concealed labor; as the labor that gives him the capacity to "think" about the writing table? In a way, a queer phenomenology is involved in the project of "turning the tables" on phenomenology by turning toward other kinds of tables. Turning the tables would also allow us to return, a loving return we might even say, to the objects that already appear within phenomenology, such as Husserl's table, now so worn. Such tables, when turned, would come to life as something to think "with" as well as "on."

What lines, we might ask, will cover the page when the woman philosopher inhabits the space by the writing table and takes up her pen? And, yes, what happens when I take up my space, by writing on the table about the table, nestled in the corner of the room? What happens, when I write about writing, when I write about the tables that appear as objects within phenomenology? It is no accident that I am writing about how such objects matter. I turn back toward my table, and begin writing again.

ARTIFICIAL INTELLIGENCE: WARPED, COLORFUL FORMS AND THEIR UNCLEAR GEOMETRIES
RAMON AMARO

In *The Ceremony Found: Towards the Autopoetic Turn/Overturn, its Autonomy of Human Agency and Extraterritoriality of (Self-)Cognition*, Sylvia Wynter introduces the concept of autopoetically instituted living. For Wynter, autopoetic instituted living is a dynamic site of empirical ordering, set forth by the conditions of colonialism and the extension of the humanist project into the construction of the ideal form of Man. The architecture of this project was dependent upon, as Kara Keeling has argued, the positioning of the racialised body as visible only in as much as they could be brought into being via empirical forms of knowledge. As consequence—returning to Wynter—these spatio-temporal coordinates are not only predicated on the humanist imaginary, but also constitute a "lawlike correlation between our modes of knowledge production and the auto-institution of our social realities."[1]

The auto-institution of social reality is an important notion in Wynter's thesis, as it illuminates the colonial relation as the product of an extensive network of data that are extracted from the site of the colonial co-ordinate—a co-ordinate that comprises what she calls the bioepisteme, an operative function that replicated the ordering of social reality through data and the imaginary of hierarchy. For Wynter, however, this system is recurrent, organic, and self-producing of the relations found within it.

In this case, the continual reinstatement of whiteness as the centre of species relation. This centering enacts a fictive mode of truth, or what Lewis Gordon defines as a white prototypicality that understands itself as the standard through which the ideal model of species exists.[2] Gordon turns to Wynter's interpretation of Fanon to illustrate the psychic strain this imposes on the racialised figure within an autopoietically instituted living system.

Humberto Maturana, Francisco Varela and Ricardo Uribe developed the concept of autopoiesis to explain the phenomenon of living organisms and their cognitive capacities.[3] An autopoietic system, therefore, is an enclosed and autonomous system that distinguishes living from non-living systems. It describes living organisms as 'self-producing' and the nature of perception and intelligence as subject-dependent. Autopoiesis is also a generative process of recursive re-creation, particularly of the self. According to Maturana, Varela and Uribe, an autopoietic system is realised in a particular structure and is independent of its environment.[4]

A key point of the concept of autopoiesis is the relation Maturana, Varela and Uribe establish between closed recurrent systems and cognition.

1. Sylvia Wynter. "The Ceremony Found: towards the autopoetic turn/overturn, its autonomy of Human agency and extraterritoriality of (self-)cognition," in Black Knowledges/Black Struggles, ed. by Jason R. Ambroise and Sabine Broeck. Liverpool: Liverpool University Press, 2015, 203.

2. Lewis R. Gordon., "Is the Human a Teleological Suspension of Man? Phenomenological Exploration of Sylvia Wynter's Fanonian and Biodicean Reflections," in *After Man, Towards the Human: Critical Essays on the soul of Sylvia Wynter*, ed. by Anthony Bogues. Kingston: Ian Randle, 2006.
3. Humberto R. Maturana,. Francisco J. Varela. *Autopoiesis and Cognition: The Realization of the Living*. Boston Studies in the Philosophy of Science, v. 42. Dordrecht, Holland ; Boston: D. Reidel Pub. Co, 1980.
4. For a detailed description of Maturana and Varela's concept of autopoiesis, see John Mingersn. "The Cognitive Theories of Maturana and Varela." Systems Practice 4, no. 4 (August 1991): 319–38.

In general, cognition refers to the assimilation and use of knowledge, and as such is limited to beings with complex nervous systems.[5] Although research on cognition has advanced significantly, Maturana, Varela and Uribe believe that both cognition and perception are linked in the operation of the nervous system, which is realised through the autopoiesis of the organism. Since the survival of autopoietic systems depends on the continuation of recurrent interactions, consequently, the organism retains a knowledge, if only implicitly, that extends to cover the organism's various interactions. In other words, as Maturana et. al. describe, the organisation of cognitive systems themselves define the domains through which they act.[6]

In applying the autopoietic schema to the colonial imaginary, Wynter grasps the layered patterns of global systems of knowledge, such as colonial and imperial expansion, which function as categorical systems that both produce and reinforce cultural and political ideologies through a series of code.[7] Wynter surmises that the enactment of the code of what constitutes colonised life operates at the level of the psyche which is furthermore entangled in a society's system of learning. It is believed that these codes must necessarily correlate or even determine the study of humans, nature and the terms of social praxis.

5. John Mingers. "The Cognitive Theories of Maturana and Varela." Systems Practice 4, no. 4 (August 1991): 319–38.
6. Humberto R. Maturana and Francisco J. Varela. *Autopoiesis and Cognition: The Realization of the Living.*
7. David Marriott. "Inventions of Existence: Sylvia Wynter, Frantz Fanon, Sociogeny, and 'the Damned'." The New Centennial Review 11, no. 3 (2012): 45-89.

Wynter also associates the construction of autopoietic social praxis with the instrumentalisation of science. To do so, she turns to the episteme—a scientific term also adopted by Foucault in *Archaeology of Knowledge* to describe the coexistence of a set of relations that form the conditions of possibility (or knowledge) in a given historical period.[8] Foucault initially restricts the episteme to the distribution of scientific knowledge as a mode of power, but expands the concept in later writings to account for other forms of knowledge produced outside of scientific academy. As Foucault has argued, they remain invisible, concealed or 'epistemologically unconscious'.[9] Foucault has shown that the episteme operates under discrete forms of mundane practices and solutions. Furthermore, the episteme is a means by which the Other is not only brought into being, but made visible as difference in itself. Here, the Other embodies the normalising forces of power—in this sense instrumental reason, which is executed under the democratisation of calculus. By this, Foucault means the integration of dynamic modes of ordering and organisation in society. These forces are strengthened through the enforcement of the right to disseminate rhetorical truths.

An immediate parallel is drawn between Foucault's outline of power and subject composition and Fanon's assessment of colonialism as well as the constitution of the colonial subject—a proposal

8. Michel Foucaultl. *Archaeology of Knowledge.* New York: Routledge, 2002, 211.
9. Keith Alber Sandiford t. *Theorizing a Colonial Caribbean-Atlantic Imaginary: Sugar and Obeah.* Routledge Research in Atlantic Studies 5. New York: Routledge, 2011.

Fanon puts forth in his Tunis lectures, arguably prior to Foucault's notion of biopolitics. While both Fanon and Foucault are concerned with the distribution of power, their schematics depart in their unique treatments of the initial conditions from which the Other is constituted. On the one hand, Foucault presupposes a more general distribution of the means of power that brings the Other into view. Although Fanon does not mention Foucault explicitly, he is critical of discourse that prioritises the means of subjection as universally embodied.

Fanon places particular emphasis on the construction of race as the negation of being, where the subject is brought into being only as much as it can be disregarded as a non-subject or the subject of non being. In *Black Skin, White Masks*, he argues that this epistemic relation—or what he describes as a 'drama' of discovery—precedes the Enlightenment principles of Man and the fantasy of a world built in his image. Fanon, like Foucault, situates surveillance as a mode of visibility, a technology through which colonialism distributes power as a suspicion of the Other. For Fanon, the colonial view is as much a part of the constitution of the colonised as is the embodied effects of biological sorting. This composition extends beyond the corporeal body and into the universal perception of blackness, which is exposed by stereotypes and emboldened by the distributed power of interpellation. It re-articulates the framing of life and death, put forward by Foucault and Mbembe, as that which instead exhausts simultane-

ously within the composition of the colonised. The colonised body, in this sense, lives as a universal form of history yet is exposed as the negation of life itself in the physiological expression of the present.

The result is what Simone Browne calls 'digital epidermalization', or methods by which power is exercised through the disembodiment of the Other under the gaze of surveillance and other technologies.[10] Here, Browne demonstrates the fragility of the technological gaze which is enacted under the alienating logics of truth and categorical reasoning. Nonetheless, in doing so, Browne builds upon the dissonant relationship blacks have had historically with Anglo-centric technologies. As Browne argues, understanding this relation is fundamental to any discourse on surveillance and the ethics of technology. This is particularly important considering the prevalence of discourse today that centres the technical object as the subject of investigation without thorough (if any) insight into how these technologies and the social space are shaped by colonialism and imperial expansion. By connecting data to power and knowledge, researchers can be implored to consider how data might replicate the immediacies of discrimination and determinacy. As Browne has shown, the logics of classification are enduring in their ability to stall the building of self-knowledge in the present while also regulating the existence of

10. Simone Browne. *Dark Matters: On the Surveillance of Blackness*. Durham, North Carolina: Duke University Press, 2015.

certain bodies, even after death. They also speak to the immediate shaping of public space.

In *The Panoptic Sort: Political Economy of Personal Information*, Oscar H. Gandy also considers the roles data and classification play in "the reduction of life chances" under, what he terms "a panoptic sort of data."[11] Gandy conceives of the panoptic sort as a type of data that extends beyond general surveillance and the panoptic paradigms of disciplinary power, as theorised by Foucault. The panoptic sort is an 'all-seeing' discriminatory apparatus that classifies individuals on the basis of their estimated economic or political value, and is continually optimised for the efficient transfer of value into data and information that, as argued above, dislocates and reassembles bodies under the temporal and spatial objectives of the institutions that 'own' and circulate the data.[12]

For Gandy, statistical classifications re-configure the universal position of surveillance, as they typically have a disproportionate effect on black and racialised individuals. As such, they become the classification of blacks which then becomes a key characteristic of capital exchange, as well health, education, and other institutional policies. As Haggerty and Ericson describe, "the moving about between environments and activities that has become a key

characteristic of post-modern life, has also become a source of value to be realised on the market for commodified information."[13]

With the power of statistics, Gandy warns that while data renders individuals visible for governance, it has very real and immediate effects on the life chances of black and racialised people. According to Gandy, the regulatory of effects of data—as marked by race, gender, and socioeconomic bias—disadvantage some populations while privileging others, even though both are often read, discursively, as if they exist under the same universal scope of power.[14] Transactions of the every day, from credit card transactions, online payments and browsing habits, customer reward programmes, barcode scans, digital access points, biometric sampling to job applications and drug testing are just a few examples of the means by which blacks are targeted for exploitation, discrimination, redlining, criminality and suspicion, as described in the Introduction. As Gandy suggests, any discourse on the biopolitical impact of data should extend beyond the general sites of data to consider how the inequitable distribution of power aligns with the inequitable impositions of race and capitalism.

Gandy's critique of statistics is warranted, given the role mathematics has played in the ordering of life. Laplace had already shown that early studies in probability theory by Pascal and Fermat

11. Oscar H Gandy.. *The Panoptic Sort: A Political Economy of Personal Information*. Critical Studies in Communication and in the Cultural Industries. Boulder: Westview Press, 1993.
12. Kevin D. Haggerty ,and Richard V Ericson.. "The Surveillant Assemblage." *British Journal of Sociology* 51, no. 4 (December 1, 2000): 605–22. See l:so: David Lyon: . *Surveillance after September 11*. Themes for the 21st Century. Malden, Mass: Polity Press in association with Blackwell Pub. Inc, 2003.

13. Kevin D. Haggerty and Richard V. Ericson.. "The Surveillant Assemblage.
14. See also: Solon Barocasn. "Data Mining and the Discourse on Discrimination." In Proceedings of the Data Ethics Workshop, 4, 2014.

could be used to demonstrate universal lines of reason.[15] Although Pascal and Fermat were primarily interested in assessing probability through gambling risk, it was Laplace who first introduced the idea of statistical succession, or the notion that an underlying probability could be estimated with few direct observations. Interestingly, Laplace experimented with his proposition using the court of law. By applying the rule of succession to data collected from archived jury decisions, Laplace theorised that one could state, with a given amount of certainty, the likelihood a juror would assign innocence or guilt.

Laplace's model introduced elements of perceived certainty into an otherwise dynamic and contingent legal system. His model was one of pre-emption. It made use of mathematics to correlate seemingly disparate details of dynamic life. In the case of jury decision, the formula took into account historical data on various types of material evidences and their influences on individual juror perception. The rule of succession did not stand in for the law of the people, as was thought desirable, but for a new overriding law of nature that, as Laplace argued, was more robust than its more contingent human counterparts. Laplace believed that if one could only funnel the patterns of nature into symbolic form, then other behavioural phenomena, from the single jury decision to the regular movement of sun, could be

calculated and predicted with verifiable certainty. Laplace describes the extraordinary justification of this embrace as such:

> *Given for one instant an intelligence which could comprehend all the forces by which nature is animated and the respective situation of the beings who compose it—an intelligence sufficiently vast to submit these data to analysis—it would embrace in the same formula the movements of the greatest bodies of the universe and those of the lightest atom; for it, nothing would be uncertain and the future, as the past, would be present to its eyes.*[16]

Laplace's attempt at regulating the dynamism of human decision-making might have been a failed scientific project, but he had succeeded in reinforcing a mode of thought; that the phenomenon of individual life, despite its seemingly erratic unfolding, was merely a derivative of a single, simple substance of nature. As result, the individual state of being was thought to materialise at the limits of scientific observation. It was furthermore subordinated to an existence, a law, above and beyond the specificities of each individual's life. Laplace's magic theory had great influence on later statistical theory in the management and organisation of variability. For instance, in Bayesian probability (which is a simple mathematical formula that reduces complex variables into symbolic representations of probable truths), variable

---

15. Ian Hacking. *The Taming of Chance. Ideas in Context.* Cambridge; New York: Cambridge University Press, 1990.

16. Marquis De Laplace, as quoted in Hacking, 12.

estimates can be adjusted on the basis of dynamic observational assumptions. This result is the further simplification of data into more manageable variables that are easier to calculate. Bayesian reasoning is an essential tool in machine learning and artificial intelligence research today, which operates in highly complex and contingent environments. It is an attractive tool for machine learning and AI researchers, since the techniques enhance computational speed while optimising algorithmic power.

Given Laplace's prior attempts to substantiate a new theory of probability theory from within the criminal justice system, it is no surprise that statistics has found its way into the contemporary racialised episteme of machine learning, the cousin of statistics. In machine learning and artificial intelligence, probabilities raise additional concerns about scale. Large scale applications can consist of hundreds or thousands of variable inputs, each holding their own margins of error. Stacking these errors risks the extension of probabilistic determinations beyond what is justifiable. Nonetheless, Abu-Mostafa, et. al. argue that a probabilistic view can produce satisfactory results without assumptions outside of those produced independent of the hypothesis.[17] Advocates assert that, in many cases, experts are trained to intuit the forms of uncertainty present. They insist that as long as engineers use the same distributions consistently for each problem set in

each stage of learning, prior knowledges are unnecessary in the production of insight. They assert that debates on the subjective are mis-aligned with the aims of probabilistic learning, as probabilities are not expected to replicate target functions perfectly from their origin. Instead, they contend that probabilities are meant to approximate correlation in controlled environments, with an awareness that performance outside of the laboratory may vary.

To the contrary, critics assert that the fragility of these types of Humean hypotheses originate in the priority they place on scientific judgement. Humean inductive reasoning prioritises the number of observable instances in establishing a relationship with the production of knowledge. For Hume, scientific judgement is based on the probability of observable outcome: the more instances, the more probable the predicted conclusion.

Michael Wood has written that without a more complete understanding of the role of the subjective within the determination of probabilities, they remain assessments of ignorance and judgement. Wood states: "if, for practical reasons, samples are not selected randomly, the question then arises of whether they can reasonably be regarded as if they were selected randomly. This is a matter of judgement."[18] The matter of judgement is what Gandy sees as the fundamental determinant of subject position. "How we evaluate people, places and

17. Yaser S. Abu-Mostafa, , Malik Magdon-Ismail, and Hsuan-Tien Lin. *Learning from Data: A Short Course*. S.l.: AMLbook.com, 2012.

18. Michael Wood. *Making Sense of Statistics: A Non-Mathematical Approach*. Nachdr. Palgrave Study Guides. Basingstoke: Palgrave, 2004.

things in terms of their departure from what we have defined as the norm," Gandy states, "is often a fundamental determinant of the position they will come to occupy in still other distributions that we have yet to consider."[19]

It is worth it at this juncture to return to the wider logic of enumeration that have informed these processes, what Wynter describes as the *eugenic descent*, or the operational decline imposed by the colonial episteme. Wynter's adoption of this point of reference extends the artificiality of regulated attributes into the substances of class, sexual orientation and race. Her claim is sustained by the creation of what she describes as eugenic/dysgenic selection.[20] The coherence of racialised attributes, in this sense, what I call the fictive substance of race, links the dynamic instrumentalisation of coherence found in the bioepistemic to the "discursive negation of co-humaness." In this way, I draw closer to validating Fanon's claim that colonial perception is a discursive practice that is self maintaining in its capacity to empirically self-justify.

He also stipulates that the apparatuses of empiricism, such as the assembly line and the discretisation of time, are appropriated to enact the management and organisation of space. These apparatuses speak to the materialisation of certain components and process. They are not, however, a suffi-

cient account of the logics that enable the operation of empirical apparatuses. I argue that the empirical objects and processes that Wynter and Fanon describe are underwritten by the accumulation, management and classification of data derived from the system of observation. This is an important claim since Wynter and Fanon are less explicit about the origin of empirically-enabled data.

I posit that these violences are crucial components, even unwittingly, in the operation of artificial intelligence and machine learning. My goal—given the roles of bioepistemic epidermalization (Wynter/Fanon/Browne) and white prototypicality (Gordon) in organising space and time—is to understand what capacities machine learning and AI then have to reinforce or reinstate the colonial imaginary. This is important since, as Adrian Mackenzie argues, "Machine learners today circulate into domains that lie afield of the eugenic and psychology laboratories, industrial research institutes, or specialised engineering settings in which they first took shape."[21] In this way, our contemporary encounters with data extend well beyond notions of design, ease of use, personal suggestion, surveillance or privacy. They take on new meaning if we consider the underlying principles of mathematics as the engine that drives data towards languages of normality and truth prior to any operational discomforts or violences.

19. Oscar H. Gandy. *Coming to Terms with Chance: Engaging Rational Discrimination and Cumulative Disadvantage*. London: Routledge, 2016, 4.
20. Sylvia Wynter. "The ceremony Found: towards the autopoetic turn/overturn, its autonomy of Human agency and extraterritoriality of (self-)cognition."

21. Adrian Mackenzie. *Machine Learners: Archaeology of a Data Practice*. Cambridge, MA: The MIT Press, 2017, 6.

So what are we to do in our current empirical reality, or I could say data-informed lives? How are we to disrupt the distributions of power that are amplified by data and advanced learning systems? It is here that I think through the object—the black object as the technical object—as a site of affirmative potential or a kinetic dissonance and dynamic incoherence at the very basis of being. If we are to consider the photogenic object in contemporary spaces of algorithmic culture, it is apparent that the black technical object is always-already pre-conditioned by an affective prelogic of race that functions on the level of the psyche.[22] The possibility of an affirmative engagement between the black technical object and the algorithm, as a technical object, is then limited by the necessity to reconcile the psychic potential of the racialised individual with that of a pre-determined technical structure. Although the immediacy of computation's lack of diversity—in terms of institutional value and algorithmic function—cannot be understated, a call to make black technical objects compatible to machine learning and artificial intelligence algorithms risks the further reduction of the lived potentiality of black life. As I have argued, the consequences for the black technical object are immense.

It must be asked if the black technical object can be conceptualised as outside of the dialectic between human and machine? Is there such a thing, borrowing from Fred Moten, as an aspirational black life that can gain a right of refusal to representation? As such, would a universal computational gaze limit the self-determination of those that have little or no desire for inclusion in machine perception? Without a wider scope, debates on these matters remain incomplete in their characterization of algorithmic prejudices and social discriminations. Attempts at reconciling this arguably unsettled debate rely on a commitment to sufficiently characterise the constitution of a more affirmative process of machinic existence that can gain a totality in relation to artificial modes of perception. The proposal asks us to consider what is overlooked in machine learning and AI research, and instead consider it as already an act of colonial thought. In doing so, my hope is to dislodge both the ontological and functional processes of machine learning and AI from their roots in substantialist metaphysics and Aristotelian modes of truth. Machine learning and AI here necessitate a new reflexive position that can generate alternative levels of operation.

A revision of this field demands a return to the system of relation from the perspective of a multivalent—non white centred—mode of reality. I draw on Gilbert Simondon's concept of *psychic and collective individuation* to argue that the reconciliation of black being—the black technical object, as such, does not deny historical negation, but can ,through this duress generate new forms of being and becom-

22. Ramon Amaro.. 'As If,' e-flux architecture, 97, accessed April 26, 2019, www.e-flux.com/architecture/becoming-digital/248073/as-if/.

ing. Simondon argues that "psychic and collective individuation incessantly and persistently creates being as it advances, maintaining in each created or individuated scope of being."[23] I locate my argument here to suggest that although *difference* brings forth a consistency of relations between objects (be they human, technological, or structural), these relations are not pre-determinate. To the contrary, *difference* presupposes the material presence of contradiction and incompatibility. Here, we can imagine a technical object—a black technical object—that develops an indifference to description or any other form of artificial representation. It would maintain—as has been illustrated in the black abstract painting of Jack Whitten, a radical diversion from the prototypical figure to confront and dismantle the hard structures of Truth.

Here, if symbolism is enacted, it is not in the service of mathematics, but in the abstraction of black life. As Whitten states in his 1970s painting 'Homage to Malcolm X', it would have to be something that would enact "that feeling of going deep down into something and in doing that I was able to capture the essence of what" —these are my words now, blackness is all about. Black being, as such, actualises as an experience that is lived from both within and in excess of artificial modes of perception and the fictive imaginaries of race. The act of transformation here challenges the state of homo-

geneity and the perceived stability of categories to instead engage in a transformative politics of affirmative self belonging—what bell hooks might call a 'communion',where the entropic individual exceeds the barriers of social relations to enter an alternative space of becoming—made possible by a reimagining of the self. In other words, the unusable, uncommon, and thus incomputable individual potentialises the social space toward new ways of relating and relation. As journalist Alex Greenberger writes of Whitten's work:

> *Whitten utilized an unconventional process for which he would lay the canvas on the floor, drag a squeegee across to mix his color, and then let the paint dry. Paint was piled on as much as a quarter-inch thick in many of them, and all of the tones Whitten chose were left visible. With their warped, colorful forms and their unclear geometries, they resemble long-exposure photographs of things in motion... Whitten relinquished some control over his canvases, leaving the final results to chance in some respects. To test the ways that time and tools affected the painting process became Whitten's mandate.*

What if we were to take Whitten's mandate at face value as we confront the duress of the machine—in much of the same way that Whitten addressed the suffocating atmosphere of race and racism in the 1960s? What if machine learning were less 'gestural'

23. David Scott. Gilbert *Simondon's Psychic and Collective Individuation: A Critical Introduction and Guide*. Edinburgh: Edinburgh University Press, 2014, 77.

forms of abstraction, using Whitten's words, but closer to what he has called 'conceptual painting'—where there is no destination towards the reinstatement of a pre-existent human category, but a journey towards the conditions by which something new can emerge.

Abu-Mostafa, Yaser S., Malik Magdon-Ismail, and Hsuan-Tien Lin. *Learning from Data: A Short Course*. S.l.: AMLbook.com, 2012.

Amaro, Ramon. 'As If,' *e-flux architecture*, 97, accessed April 26, 2019, www.e-flux.com/architecture/becoming-digital/248073/as-if/.

Barocas, Solon. "Data Mining and the Discourse on Discrimination." In *Proceedings of the Data Ethics Workshop*, 4, 2014.

Browne, Simone. *Dark Matters: On the Surveillance of Blackness*. Durham, North Carolina: Duke University Press, 2015.

Foucault, Michel. *Archaeology of Knowledge*. New York: Routledge, 2002, 211.

Gandy, Oscar H. *Coming to Terms with Chance: Engaging Rational Discrimination and Cumulative Disadvantage*. London: Routledge, 2016, 4.

Gandy, Oscar H. *The Panoptic Sort: A Political Economy of Personal Information. Critical Studies in Communication and in the Cultural Industries*. Boulder: Westview Press, 1993.

Gordon, Lewis R. Gordon, "Is the Human a Teleological Suspension of Man? Phenomenological Exploration of Sylvia Wynter's Fanonian and Biodicean Reflections," in *After Man, Towards the Human: Critical Essays on the soul of Sylvia Wynter*, edited by Anthony Bogues. Kingston: Ian Randle, 2006.

Hacking, Ian. *The Taming of Chance. Ideas in Context*. Cambridge; New York: Cambridge University Press, 1990.

Haggerty Kevin D., Ericson, Richard V. "The Surveillant Assemblage." British Journal of Sociology 51, no. 4 (December 1, 2000): 605–22.

Mackenzie, Adrian. *Machine Learners: Archaeology of a Data Practice*. Cambridge, MA: The MIT Press, 2017, 6.

Marriott, David. "Inventions of Existence: Sylvia Wynter, Frantz Fanon, Sociogeny, and 'the Damned'." The New Centennial Review 11, no. 3 (2012): 45-89.

Maturana, Humberto R., and Francisco J. Varela. "Autopoiesis and Cognition: The Realization of the Living". Boston Studies in the Philosophy of Science, 42. Dordrecht, Holland ; Boston: D. Reidel Pub. Co, 198.

Mingers, John. "The Cognitive Theories of Maturana and Varela." Systems Practice 4, no. 4 (August 1991): 319–38.

Sandiford, Keith Albert. *Theorizing a Colonial Caribbean-Atlantic Imaginary: Sugar and Obeah*. Routledge Research in Atlantic Studies 5. New York: Routledge, 2011.

Scott, David. *Gilbert Simondon's Psychic and Collective Individuation: A Critical Introduction and Guide*. Edinburgh: Edinburgh University Press, 2014, 77.

Wood, Michael. *Making Sense of Statistics: A Non-Mathematical Approach. Nachdr. Palgrave Study Guides*. Basingstoke: Palgrave, 2004.

Wynter, Sylvia. "The Ceremony Found: towards the autopoetic turn/overturn, its autonomy of Human agency and extraterritoriality of (self-)cognition," in *Black Knowledges/Black Struggles*, edited. by Jason R. Ambroise and Sabine Broeck. Liverpool: Liverpool University Press, 2015, 203.

Ramon Amaro is Lecturer in Visual Cultures at Goldsmiths, University of London. Ramon completed his PhD in Philosophy at Goldsmiths, while holding a Masters degree in Sociological Research from the University of Essex and a BSe in Mechanical Engineering from the University of Michigan, Ann Arbor. His research interests include machine learning, design / engineering, black study, and philosophies of being.

Black Feminist Calculus Meets Nothing to Prove

A Mobile Homecoming Project Ritual toward the Postdigital

Alexis Pauline Gumbs and Julia Roxanne Wallace

There is something to be said for prophecy. We are the future predicted by the careful calculations of our ancestors, their specific choices about when to breathe, when to sleep, who to be, where to go, and for how long. We are the echoes of their scratch work, their sacred carrying, their held lines and ink conclusions. Reading groundbreaking black feminist texts like *Home Girls, Some of Us Are Brave,* and *This Bridge Called My Back* published at the same time that we were being born, we know we were an expected audience, a faith-based prophecy come true. We trust the calculations of generations of named and unnamed black feminists. We are proof.

We are Alexis Pauline Gumbs and Julia Roxanne Wallace. Born on the cusp of the 1980s, we have been traveling the United States in a 1988 Winnebago on a journey called the Mobile Homecoming. We go to towns and cities looking for and finding black feminist LGBTQ (lesbian, gay, bisexual, transgender, and questioning) visionaries, making family, and amplifying the brilliance that allows us to exist. We are a digital family reunion on wheels, dancing and offering praise poetry and drumbeats, gathering in circles, replaying past strategies for community building, and generating shareable media to share our practices and the priceless brilliance of our community with the world.

To explain this process in the context of the black lesbian feminist and feminist of color genealogies that generate our being, we turn to what we call "black feminist calculus," a process that engages limits, the possibility of equality, and the potential for proof through a poetic practice of being profoundly present to the complexity of our community. This chapter will explain a theory of black feminist calculus and look at how the intergenerational range of very old and very new technologies that we quilt together in our project allows a ritual view of a profoundly connected, spiritually aligned postdigital future.

Black Feminist Calculus: A Primer.
Relevance of Identity, Equality, and Limits

> If black women were free, it would mean that everyone else would have to be free since our freedom would necessitate the destruction of all systems of oppression.

> —Combahee River Collective[1]

Neither of us was taught calculus, algebra, or any other form of math in school in a way that resonated with the limits, equalities, and imbalances that were most relevant to our survival. Black feminist calculus is based on a method for reading black feminist poetry circa 1979 developed by Alexis Pauline Gumbs.[2] Neither of us are mathematicians, and we suspect that most of our readers are not either, but we want to explain this in a way that is accessible. The way we look at it, the desire to amplify the black feminist brilliance of black LGBTQ people across generations is a polynomial, a problem with many variables to address. And calculus, the study of limits, feels particularly compelling to us because our expansive vision has faced many predictable limits from the very beginning. In fact, the limits that our project faces are historical; they precede us. Our practice of black feminist calculus is an attempt to create balance in the midst of contradictory precedents.

As we explain on our website in our essay about safety on the road as we travel the United States:

> We are black and queer, so our histories of travel are not only voluntary, they are compelled and circumscribed by violence, hate and inequality. We hold the legacies of people on the run. We come from travelers who did not choose their jour-

ney to this continent. We come from travelers who dare not run out of gas because segregation and racial hatred in the South meant they could not stop without risking their lives. We come from travelers who were pushed off their land with the threat of lynching and the sanction of law. We come from travelers whose neighborhoods got trampled by new highway plans. We come from travelers who were kicked out of their homes for daring to love across boundaries.[3]

The limits we face as black feminist time and space travelers cannot be ignored; they must be addressed and accounted for in our actions and choices. At every step we are challenged to bring our boundless love and our constricted circumstances into balance. For this we use the technology of the equation.

Algebra teaches us that an equation is an equality that is not an identity. In math, identity means $1 = 1$ or $x = x$; in words, it means that the values on either side of the equal sign are the same. Algebra is about the equality of free variables. For example:

$$(x + 1)^2 = x^2 + 2x + 1.$$

This balance will work no matter what integer you plug in for x. The values on each side are the same. So there is no question that the sides of the equation are equal; it can be proven using any number. However, for what some mathematicians would distinguish as a real equation like

$$(x + 1)^2 = 2x^2 + x + 1,$$

the equality is only true if x equals either zero or one. This equation resonates with us, because equality is only maintained for very specific values—zero and one, which also happen to be the numbers that make up the binary code, the basis of contemporary digital technologies.

This problem with forms of equality that only balance out within a binary is an issue that we need black feminist calculus to address. For example, what happens when our community rejects binary gender forms, when we reject validated state forms of recognition, when we don't have access to contemporary digital forms of cultural capital, when the funding in the technology field generally goes to established mainstream organizations controlled by white folks, men, and straight folks, when as organizers of the project we refuse to conform to being either a

501(c)3 nonprofit organization or a traditional documentary film project?

Equations like the one above beg the mathematician to ask the question: Who does the existing relationship work for? *What brings balance on both sides of the equation in the current paradigm?* The answer is that it only works for zero and one. It does not work for two, three, four, or for most of us who do not conform. The queerness of our community and the queerness of our project require a transformative intervention into value. This is what we call black feminist calculus, and it inspires us to introduce new or unlikely variables into the project. For example, this is how we explain the way our use of the Revolutionary Mobile Homecoming Vehicle Sojourner addresses the limits our communities face:

> We come from travelers nonetheless, people who needed to be both mobile and at home, and who often had to choose between the two. So for us the "R" in RV stands for Revolutionary, for Resource, for Road-less-traveled, for Respect, for Re-imagining, for Reality. Thinking about what an RV could have meant for our ancestors and for some of our contemporaries who are running for their lives makes us accountable. We want our journey to be healing for us, and to provide a healing example for others about what movement can mean, where love can live, how home can survive.[4]

Poetic Calculation

The process of addressing limits can be applied to any technology. When you address the interaction of a boundless reality with a limited system through a technology called "language," it is called "poetics." Our process of creating praise poems for the visionaries that we honor and interview as part of the Mobile Homecoming project is an example of poetic calculation. Our love for each of these visionaries exceeds words, deserves new languages, and certainly goes beyond the boundaries of English, a language shaped by the logic of capitalism. However, we continue to create praise poems in English (the primary language of most of our participants). We want to live in a future where everyone chooses their most sacred words to honor the miracle of our elders, and so we enact that practice today, as proof. What follows traces the logic of some of our calculations as we create the Mobile Homecoming through a few selected praise poems for our participants as we journeyed through the desert.

Deciding Where to Start

A crucial step in every calculation is deciding where to start. In the Mobile Homecoming project we start with listening and we start from a place of love. The value of love and presence in our project leads to tangible decisions that prioritize the communities that inspire us. For example, unlike many projects, we made a decision early on that the fate of our project would not be determined by external funding sources and grants but rather by a grassroots community of sustainers who are part of the community the Mobile Homecoming hopes to empower and reflect and with which we are building power.

Placing the financial fate of our community in the hands of our own multiply oppressed community was an act of faith, and the fact that our community donated money to buy a retro RV and to fund the project to travel across the country conducting interviews and hosting events is an affirmation that the work we are doing is valued and needed by our communities. Our interdependence with our beloved community for the basic needs of the project and the basic needs of our lives addresses the limits of a community specifically disempowered by capitalist oppression by valuing contributions and support beyond the financial. We have received blessings, sacred stones, countless meals, places to sleep, names, connections, advice, energy healing, and infinite forms of support that affirm the value of our community members as crucial parts of a whole beyond their individual wealth or lack thereof.

Our values also inform where we start in terms of our methodology. Even though capitalism teaches us to fetishize products, we understand that the deepest value of our project does not come from the media products we create to make our experience and the brilliance of our community shareable. The resounding value of our project is the practice of orienting ourselves and our communities to intergenerationality composed of the practices of sharing time, space, affirmation, and recognition *within* our community. The community itself, created through these acts of trust, faith, and love, is the most important result of our project. This is revolutionary because our calculations, our everyday choices about when to press record and when not to, when to answer our phones, who to partner with, how often to say yes, who to eat with, and where to sleep are governed by the fact that we start from this community that created us, and our ultimate accountability is to the lifecycle of this community, not the values of the dominant class or the goal of gaining recognition and validation from a dominant audience. At the same

time, starting with our community gives us access to the brilliance of all communities and the clarity that all oppressed communities have been intentionally fragmented and could benefit from intergenerational rituals and story sharing. The poetic result of our calculations shows us that through black feminist accountability to the intersectionally oppressed visionaries that have made our lives possible, we approach the common needs of a planetary community. Or the Combahee River Collective already taught us that, in order for us to be free, everyone has to be free and all forms of oppression must end. This poem for Alpha Thomas, a powerful elder in the South Dallas community, demonstrates the power of an intentional start:

> For Alpha Thomas
> Dallas, TX
>
> Elder at the South Dallas Cultural Center
> National Public Health Activist and Advocate
> and Revolutionary Butch Mother
>
> start here
> in the place where
> need walks
> and answers keep
>
> start here
> where self unbound
> shares
> heart to opening face
>
> start here
> in the unsafe
> posture of reality stretched
> the complexity of your back bone
>
> start right here
> out front
> where life is hungry
> because love is just so visible
>
> i believe a person
> could end up anywhere

invent their own omega
but that start
right here
in
alpha

teaches the muscle for
moving through.

Alexis wrote this poem in celebration of Alpha's accomplishment and the achievement of her existence, and we presented it to her the first day we spent with her at the South Dallas cultural center along with a dance and drum affirmation to her name. Alpha later shared her amazing collection of T-shirts, newspaper clippings, and photos of the history of the black LGBTQ community in Dallas and around the country and performed her own poem about surviving breast cancer. Our experience with Alpha proves the value of a good start on many levels.

Choosing an Approach

Another important step in complex math, after deciding where to start or aligning on an order of operations, is to choose an approach. What is the theory that will measure the accountability of our actions? For the Mobile Homecoming a particular understanding of the meaning of intergenerationality governs our actions. As we explain on our website: "We exist because they intended us."

An Ethics of Accountability

This project is about affirming and producing family on the queer terms of choice. Just as much as our biological ancestors and elders have shaped our organs by providing us with their DNA, our chosen ancestors, elders, and mentors have also created us. By being themselves, by refusing to accept the limits imposed on their love, by believing despite everything that love and transformation were possible, and by creating a future worthy of themselves, they have built a world in which it is possible and easier for us to be our wild and growing selves. We know that family doesn't flow in one direction. We know that the past, the present, and the future re-create each other at each moment of encounter. We know

that nothing is as natural as it seems. We understand that everything is contingent, so we take nothing for granted. We, therefore, choose our people with as much tenacity as they chose themselves. We choose ourselves with the same force with which they chose us.

We also understand that the choices of our elders to transform the meanings of life, family, and community have come with consequences. Many of our elders have been excluded from institutions such as their birth families, their religious communities, and the healthcare and social services institutions that have traditionally marginalized people of color whose family forms do not conform to any codes. Our elders have often been denied the emotional, spiritual, and financial support that they need. Just as our elders created alternative institutions of mutual support, we know that it is our responsibility to embrace and care for these warriors and to mend and dress any wounds they have incurred along the way. We are responsible for the physical, spiritual, emotional, and financial well-being of our elders. Our heroes and heroines need not become martyrs before they earn our praise. Thus the urgency of our project. They deserve to be lifted up, body, soul, and spirit RIGHT NOW.

Math and all of the social calculations we make depend on a basic theory of how things are related. Every math problem starts from a belief about the relationship between one and two, two and three, n and the nth degree. In our project our basic theory of how we are related to our black LGBTQ community involves a reclamation and celebration of family. We believe that we share not only intersecting oppressions but also a life thread of brilliance that sustains us and connects us. Our encounters with Priscilla Hale, a member of our chosen family who also codirects ALLGO, a visionary LGBTQ people of color organization based in Austin, Texas, exemplify this belief in the everyday organic practice of being family and creating community.

For Priscilla Hale

Codirector of Allgo
Building LGBTQ People of Color Alliances in Texas

heirloom seed
mother of thousands
you are a lesson in roots
and growth
in hands interlocked underground
in fists breaking through soil

you are the answer
to the question
of what happens
when we stay

you are the event
of guerilla gardening
guided and gathering
conditions for growth

the way you convene ceremony
is art
the way you abandon the profane
is elegance

and the way this community flowers
into love
is proof.

At a transformative brunch at the home of Priscilla and her partner
and fellow codirector of ALLGO, Rose Pulliam, we experienced both
the literal garden at their home and the careful nurturing of intergen-
erational community that they develop through shared meals, laughter,
and collaborative work. Priscilla used and articulated the art of a well-
timed shared meal as a crucial technology for community building and
knowledge sharing.

On Technology. The Necessity of the Digital (Approaching the Limit):

She used her skills not to advance her own status, but to help her fel-
low slaves, and this under the most difficult circumstances. . . . The
knowledge she conveyed had a politically and materially transform-
ing function, that is, it empowered people to gain freedom.

—Laura Haviland[5]

Driving through a treacherous national park, misguided by GPS technol-
ogy, using 1980s gas crisis technology in the form of our retro RV to drive,
we finally reached eighty-seven-year-old Vera Martin in Apache Junction,
Arizona, where she lives in a lesbian modular trailer park. The necessity

of the digital and betrayal of the digital converge. After spending the day with Ms. Vera we knew that we needed to share her insights into self-affirmation beyond religious violence, revolution, youth empowerment, and the urgency of our present moment as quickly as possible with all the communities we could reach. It is simply not acceptable to us that the only people able to hear from Ms. Vera would be those with the bad sense to brave Arizona and seek out the lesbian RV park where she is one of two black residents, in a town that is explicitly limited to those over fifty-five (literally, we had to camp forty-five minutes away). The short social media shareable videos that we made almost immediately from key moments in our interview with Ms. Vera demonstrate some of the value of making a digital copy of an irreplaceable in-person experience. Our communities could not be in Ms. Vera's tiny living room with us, but it was important for us to transmit the next best DSLR (digital single-lens reflex) high-resolution thing! As our praise poem emphasizes, Ms. Vera's words are not to be ignored. I wrote this poem about the experience of watching Ms. Vera laugh and count her beliefs on her fingers.

A Catalog of Belief

For Vera Martin
Elder in Black Gay and Lesbian Leadership Forum
and Founder of Old Lesbians Organizing For Change

i believe that laughter is eternal life.

i believe that great grandmothers chosen or given are magical
on gp.

i believe that numbers remember themselves when counted
    in our bodies.

i believe that every mystery is at best only equal to the
    radical unlikeliness
of you
who fled the rule of rape in louisiana
and the reality of boredom in northern california
living
in a lesbian RV park in Arizona
off Rosa Parks street.

and i best believe
that I best better listen
to everything ms. Vera says
and do what she asks
and smile.

i believe in you.

As we alluded to earlier, we find the digital useful as part of an intergenerational range of technologies; however, we are acutely aware of the limits of the binary, both conceptually and experientially. One of the unfortunate things about binary is that it inevitably cuts out some of the data, even though often that data is imperceptible to the average ear or eye. The ones and zeros are a very tiny rounding down of numbers that are more diverse. The tip of the wave is cut off of any digital transmission, prompting the question: What quality do we lose in our access to the ability to make an easier copy? What does it mean to treat our once in a lifetime experience with Ms. Vera as something that can be replicated? Does the binary recoding of our experiences lead us to round down our engagement with each other, treating each other as interchangeable copies and losing the opportunity to honor our irreplaceable differences?

A major question that our use of the digital, our intimate experiences of the limits of the digital, and our work on a project that centers the experiences of oppressed and invalidated people is that the relationship between zero and one resonates with the process of affirming the subjectivity of oppressed people. It is affirming and validating for self-identified LGBTQ people of color to look at Ms. Vera, an eighty-seven-year-old energetic, critical, and laughing elder and to understand that they too might survive to critique and transform a new day. On a larger scale, our project could be understood to play a role in a broader validation project where a whole community of people who are constantly dehumanized by oppression or seen as zeros can affirm that, as Jesse Jackson quipped, we are somebody (one). We understand the civil rights struggles of our intersectionally oppressed communities in this context. In a system where you are either granted the rights of personhood, or not, we are forced to strive for recognition, to prove that we are not nothing, that we exist.

However, before Jesse Jackson said, "I am somebody," Fred Hampton, Chicago leader of the Black Panther Party for Self-Defense, led

masses of people in chanting, "I am a revolutionary." The fact is that our project, largely propagated by digital means, has confronted us with the truth that the value of our community and the brilliance of the individuals within it exceed the binary. Who we are is not limited to what the system that recognizes or punishes us can understand. We are nothing and everything. We are both zero and one, where zero is the circle that connects us to each other and one is the unity of our profound connection to each other and all life. And we are every other number too. The truth is that our digital project, because of the accountability of our calculations, leads us to postdigital implications.

Toward the Postdigital

In her articulation of a jazz aesthetic and its relationship to black queerness, performance studies scholar and Mobile Homecoming interviewee Omi Oshun explicitly breaks down the presumptions of binary reality. For her, black queerness means that life is not a choice between "this or that" (i.e., the zero and one that binary code depends on) but rather an understanding of this *and* that, the simultaneity of being that is not mutually exclusive. Black queerness is an experience of being within limiting the self to a binary. Omi Oshun's insight reflects an earlier assertion by black feminist poet Lucille Clifton in her unpublished manuscript on black astrology, which is that black life on the planet is a message that the spiritual and physical, the eternal and the temporal, all of the binaries that we can imagine, do not hold. We are all of these things at once. In our performance for Omi Oshun we presented a poem ritual affirming that "this is that," affirming the unity being and the miracle of being present in the same space as Omi.

For Omi Oshun/Joni Jones

Performance Studies Scholar
Performer
Cofounder of The Austin Project
Coauthor of Experiments in the Jazz Aesthetic

this is that
unspared moment
when we celebrate the truth

when we stand on it
when we look it in the eye and ask it how it got here
when we raise our eyebrows tempting it to leave

this is that
ruthless moment
of truth unsparing
so we wear it
so we pick it up
so we admit we cannot climb over it

this is that
tea-stained moment
when we sit down with the truth
a friend we have been avoiding
a mirror unclothed

this is that
destined moment
when we walk out our warrior
make up our mothering
remember our presence

this is that
this and that
moment when we choose
that this
experience we are calling self
could be anything
and must be now.

Coda

They dreamed dreams that no one knew—not even themselves, in any coherent fashion—and saw visions no one could understand. . . . They waited for a day when the unknown thing that was in them would be made known; but guessed somehow in their darkness, that on the day of their revelation they would be long dead.

—Alice Walker[6]

The urgency of our project and the imperative to transform is based on another mathematical principle: that there is such a thing as truth. We believe the interconnected digital reality that we navigate today is ultimately a metaphor. And we have decided that instead of affirming a metaphor that would insist that life imitates code and exists in binary terms, we see circles and oneness. We move beyond yes and no to a more complicated system of divination. We gather in circles and affirm our connection to each other. We invoke alignment where there seemed to be only the possibility of equality. We practice radical presence accountability and love toward a postdigital reality where our alignment is apparent and our access to each other is not limited by space, time, or access to capital. We invite this reality through our use of a relatively old piece of technology, our RV:

> Our RV will not only travel through space, it will travel through time, sitting in the untimely place where this anomaly, this miracle, queer black initiates, media makers, adventurers transmitting history and reframing the future in a mobile home, is possible. We see the RV itself as surrounded in two-way windows, as we take in the lessons that the land and the people have to offer and transmit the insights of our journey out to the world. What would it mean to have a vehicle that is both state of the art and ancient[?] Where wireless streams, and ancestor lessons echo at the same time, where the turning of the wheel is a historical function, fueled by futuristic faith?[7]

We have something to prove and nothing to prove, all at the same time. This is that prophecy. We'll see you there.

Ritual Proof

as in love evidence
check my footwork
watch what it do

Ritual Proof

as in meditation
for clarity for correction

Ritual Proof

as in a path that leads to truth and discovery
as in a measure of power of transcendence of presence
as in an act of resistance of resilience

Ritual Proof

calculus style
as in what is the limit
of this life
this legacy
seen and unseen
echoed in story
hiccupped in common care
reflected through our sanctified soul

How far do we have to go
For our oneness
how still
how silent must we listen
to move, live and thrive forever
as one
as family
with nothing
to prove.

Notes

1. Combahee River Collective Statement (repr. in Hull, Scott, and Smith, *Some of Us Are Brave*), 18.

2. Presented at the Continuing Relevance of the 1970's and published on iTunes U by *Polygraph Journal*, http://www.duke.edu/web/polygraph/events.html.

3. "Safety: Abolitionist Vision," http://www.mobilehomecoming.org/about-2/safety-an-abolitionist-vision.

4. "How We Roll," http://www.mobilehomecoming.org/about-2/revolutionary-vehicle.

5. Laura S. Haviland, "A Woman's Life Work, Labors and Experiences" (repr. in Hull, Scott, and Smith, *Some of Us Are Brave*), xix–xx.

6. Alice Walker, "In Search of Our Mother's Gardens" (repr. in Hull, Scott, and Smith, *Some of Us Are Brave*).

7. "How We Roll," http://www.mobilehomecoming.org/about-2/revolutionary-vehicle.

References

Hull, Gloria, Patricia Bell Scott, and Barbara Smith, eds. *All the Women Are White, All the Blacks Are Men, but Some of Us Are Brave: Black Women's Studies*. New York: Feminist Press, 1982.

Denise Ferreira da Silva

1 (life) ÷ 0 (blackness) = & − & or & / &: On Matter Beyond the Equation of Value

1. A thing, affair, concern
2. That which constitutes or forms the basis of thought, speech, or action
3. In purely physical application
4. The substance, or substances collectively, of which something consists; constituent material, esp. of a particular kind. [rare]
Contrasted with form:
22. Philos.
a) In Aristotelian and scholastic philosophy: that component of a thing which has bare existence but requires an essential determinant (form) to make it a thing of a determinate kind.
b) In scholastic philosophy: the result of the first act of creation, i.e. substance without form. Obs
c) In Kantian philosophy: the element in knowledge supplied by or derived from sensation, as distinct from that which is contributed a priori by the mind (the forms of intuition and the categories of the understanding).[1]

What if blackness referred to rare and obsolete definitions of *matter*: respectively, "substance … of which something consists" and "substance without form"? How would this affect the question of value? What would become of the economic value of *things* if they were read as expressions of our modern grammar and its defining logic of obliteration? Would this expose how the *object* (of exchange, appreciation, and knowledge) – that is, the economic, the artistic, and the scientific thing – cannot be imagined without presupposing an ethical (self-determining) thing, which is its very condition of existence and the determination of value in general?[2] Black Lives Matter, as both a movement and a call to respond to everyday events of racial violence (the killing of unarmed black persons by police) that rehearse the ethical syntax that works through/as the liberal democratic state,[3] signals a political subject emerging in the scene of obliteration through a sentence without a (self-determined) subject.

What I do in this text is activate blackness's disruptive force, that is, its capacity to tear the veil of transparency (even if briefly) and disclose what lies at the limits of justice. With a thought experiment that I call the Equation of Value, designed to help the imagination break away from the enclosures of modern thought, this speculative exercise reaches for The Thing,[4] which is the referent of blackness, or that which in it is exposed as the excess that justifies otherwise untenable racial violence.[5]

When taken not as a category but as a

referent of another mode of existing in the world, blackness returns The Thing at the limits of modern thought. Or, put differently, when deployed as method, blackness fractures the glassy walls of *universality* understood as *formal determination.* The violence inherent in the illusion of that value is both an effect and an actualization of self-determination, or autonomy. My itinerary is simple. It begins with considerations of the role of *determinacy* – formal determination articulated as a kind of efficient causation – in modern thought, and closes with a proof of the Equation of Value, intended to release that which in blackness has the capacity to disclose another horizon of existence, with its attendant accounts of existence.

"Without Properties"

In her 2014 installation *In Pursuit of Bling*, Otobong Nkanga worked with mica and other minerals that glitter-image colonial violence, thereby making it impossible not to *see* the hole in the Green Hill (the site of a German mining operation in Namibia) – especially when I think about the minerals used in everything around me regardless of where they come from, precisely because they come from another "place of

obscurity."[6] Listening to the artist's comments on these minerals, I wonder about the many ways in which her intention activates blackness's creative capacity, which at first manifests as a disruptive force. I find this in her distinction between what she terms "space of shine" and "places of obscurity," which comes through in images, artifacts, and movements – exhibitions and performances – and which exposes obvious but frequently obscured linkages between spaces of plenty and places of scarcity. Much like blacklight, Nkanga's intention seeps through *In Pursuit of Bling*, illuminating that which must remain obscure for the fantasy of freedom and equality to remain intact.[7]

In Pursuit of Bling, however, inhabits an artistic scene still framed by what the postcolonial literature scholar and critic David Lloyd calls "Western aesthetic culture," which not only produces the "disposition of the subject," as figured in Kant's disinterested "subject of judgement" or "the Subject without properties," but also provides the very condition of possibility for the notion of a "common or public" domain that holds the Kantian rendering of humanity as an ethical entity.[8] When describing *In Pursuit of Bling*, Nkanga notes that its chapters do several things, including to "look

Otobong Nkanga, *In Pursuit of Bling – Coalition*, 2014. Lambda print. 60 x 40 cm. Courtesy Lumen Travo Gallery.

Installation view of Otobong Nkanga, *In Pursuit of Bling,* 2014. Courtesy Lumen Travo Gallery.

at the notion of power" (by which she means colonial and imperial power as well as capitalism) "through the notion of shine." Reading the work with her intention, I find that it does more than comment on power. For *In Pursuit of Bling*, like other works in her portfolio,[9] performs both as an item in the anticolonial arsenal and a site of confrontation; that is, it works for the exposure of how colonial violence remains active in the global present. In doing so, it punctures the presumed transparency of the subject of aesthetic culture, whose whole ethical framework rests on a formulation of universality held by our modern formalized syntax. For the most part, what I do here is try to emulate Nkanga's artistic intervention into Western aesthetic culture with an analytic formal artifact – that is, the proof of the Equation of Value – which might implode the basis of the ethical grammar that cannot but provide a negative answer for the never-asked question for which Black Lives Matter demands a different answer.

Hence, I do not engage with what Sylvia Wynter claims to be the core of racial subjugation, namely, the hierarchical division of the human between rational/irrational, or "selected/dysselected."[10] My critical move here is not about ideological unveiling (as in exposing how European Man "overrepresents" the human, thus disavowing all other modes of being human); nor does it attempt to delineate an outside space from which to expose that "other" side of the "color line" dividing white/European (human) from nonwhite/non-European (nonhuman). For I am not interested in a transcultural (transcendental or physiological or symbolic) human attribute that would be both the condition of possibility for what is activated in Western European being and all other modes of being, and that which has already been mapped by anthropology, cognitive science, or neurology. My attention to Nkanga's intention immediately takes me away from the usual analytical path. It takes me further in/down/through but beyond the observed divisions, beyond what the artist has already offered in the minerals which in her work expose the links between "places of shine"/"spaces of obscurity," after and against that which gives meaning to the "/" that signals it. More particularly, I am interested in the ethical indifference with which racial violence is met – an indifference signaled by how the obvious question is never (to be) asked because everyone presumes to know why it can only have a negative answer. For this reason, I move to expose how determinacy, which along with *separability* and *sequentiality* constitutes *the* triad sustaining modern thought, operates in the ethical syntax in which this indifference makes

sense as a (common and public) moral stance.[11]

When considering the "Subject without properties" it is always helpful to recall its genealogy, in particular how it emerged in efforts to answer another question that very few thinkers explicitly formulated: How to describe the world in such as way as to make it possible to establish that the human mind can know the truth of things in it without the need for divine revelation? This genealogy usually opens with Francis Bacon and René Descartes as crucial players in assembling tools and scientific programs intended to ensure just that. What interests me in their attempts is the account of causality they compile through a selective appropriation of Aristotle's famous four causes, namely, material, formal, final, and efficient.[12]

Bacon and Descartes emphasize *efficient causality* – that is, the idea of cause and effect – in modern knowledge. Though each grabs onto efficient causality for different reasons – or, to put it better, in the effort to address different issues – both do so in the preambles to knowledge programs devised to break through the mold of medieval scholasticism held together by authority, syllogism, and an image of the world governed by Aristotle's final and formal causes. Like his contemporaries, Bacon postulated that scientific knowledge should deal with what was known as "secondary causes," through which the divine author performs his work in/as nature. In the *New Organon* (1620), Bacon, advancing an ambitious knowledge program intended to replace Aristotelian orthodoxy, claims that material and efficient causes are all that matter for understanding the book of "God's Work," i.e., for understanding nature. Drawing from pre-Socratic philosophers such a Democritus, Bacon describes the elements constituting the world as "corpuscles" (atoms), which carry in themselves the force – or what he calls "form" – imprinted on them by the divine author. Nevertheless, while celebrated for introducing the inductive and experimental methods into Western science, Bacon does not occupy the same position as Descartes, precisely because, in addition to providing an acceptable ground for the claim that the human mind alone can decipher the book of nature, Descartes successfully demonstrated that the mind itself was such a ground when he established its existence and essence as the *formal* (thinking) thing, or *res cogito*.

Not surprisingly, *formalization* is the most evident contribution Descartes made to modern knowledge. For Descartes locates efficient causality in the very movement of thought that establishes *I think, therefore I am* as the ultimate ground for ontological and epistemological statements.[13] He was not the first or the only one to make a case for replacing syllogistic logic with

mathematical necessity; Galileo had done the same. Nevertheless, *effectivity*, or efficient causality, was central to his claim that the mind has direct access to truth because it is supported by how adequately its workings are captured by mathematical tools and reasoning. Effectivity also governs Descartes's investigations of nature. For instance, in "The Treatise on Light," Descartes, like Bacon and other philosophers of that era, privileges the investigation of nature from the point of view of the examination of what Galileo called "local motion," that is, the spatial dislocation of bodies:

> Someone else may if he wishes imagine the "form" of fire, the "quality" of heat, and the "action" of burning to be very different things in the wood. For my own part, I am afraid of going astray if I suppose there to be in the wood anything more than what I see must necessarily be there, so I am satisfied to confine myself to conceiving the motion of its parts. For you can posit "fire" and "heat" in the wood and make it burn as much as you please: but if you do not suppose in addition that some of its parts move or are detached from their neighbors then I cannot imagine that it would undergo any alteration or change.[14]

In sum, the emergence of modern science can be described as a shift from a concern with forms of nature, which prevailed in scholastic thought, to an inquiry into the efficient causes of changes in the things of nature. For Descartes, as for Galileo and later for Newton, change (as motion in space and alteration) results from the operation of efficient causes, the effects of which can be mapped mathematically. Resting on the two onto-epistemological components of effectivity and necessity, the "Subject without properties" (i.e., the Cartesian cogito) began a trajectory that would extend beyond the confines of knowledge to become the ruler of modern economic, juridical, ethical, and aesthetic scenes.

The Ethical Scene of Value

> Negroes are enslaved by Europeans and sold to America. Bad as this may be, their lot in their own lands is even worse, since there a slavery quite as absolute exists; for it is the essential principle of slavery, that man has not yet attained a consciousness of his freedom, and consequently sinks down to a mere Thing – an object of no value.[15]

The call for Black Lives (to) Matter hides the question it answers: Why don't black lives

matter? More precisely, it exposes how this question already contains the Kantian program and its equation of the universal and the formal – through articulating determinacy as efficient causation, or effectivity – which guides modern ethical, economic, and juridical formations. For, as a tool of modern knowledge, the category of blackness figures the operation of efficient and formal causes (that is, anatomic forms and organic processes) in the production of a racial subject destined to obliteration. Efficient and formal causes are conjoined in Kant's account of knowledge and the figuring of reality, which is putatively a philosophical presentation of Newton's natural philosophy. In it, the world becomes an effect, that is, the result of determination – of judgements or decisions reached by the pure intuitions and the categories of the understanding, that is, the tools available to the mind to access the Truth of the things of the world. This is so because, when he repeats Galileo's and Bacon's rejection of final and formal causes – in the famous statement that science is not interested in the Thing-in-itself (essence) – Kant defines the limits of knowledge as that which in things – now objects – is available to the senses (movements and alterations). Furthermore, repeating Descartes's assertion that the mind can only know with certainty that which is akin to it – that is, the abstract or the formal – Kant consolidates modern thought when he elevates the formal (as the pure or transcendental) to that moment that is before and beyond what is accessible to the senses. Only there, as Descartes had stated about a century before, is the mind comfortable dealing with the sort of objects – numbers and geometrical forms – which it can handle without reference to space-time. For only objects exhibiting such attributes can allow for the kinds of statements Kant considers proper to knowledge, that is, statements that add to what is known about something without drawing from experience. My objective in rehearsing this argument in this context is simply to highlight how, while formalization remains central to modern thought, effectivity constitutes the main descriptor of the world, as knowledge becomes interested in what happens (events, movements, and alteration). More importantly, effectivity refers both to the senses' *access* to the things of the world (being affected or moved by them) and to the mind's *capacity* to resolve the manifold into the basic tools (categories) that the understanding has available for the "higher" moments of cognition – that is, abstraction and reflection – as well as for the task of knowledge – that is, determination.

Among other things, in Kant's account of knowledge Descartes's formal thing (the cogito)

not only knows itself (its existence and essence) without the aid of its body, but also envelops Bacon's material and efficient causes, and takes the lead in the task of classifying and measuring nature. For instance, in his *Lectures on Logic* we find Kant employing the categories of the understanding in a description of Bacon's method for producing his tables; in this description, Kant subsumes Bacon's method into his own rendering of Descartes's "formal I" as a transcendental (a priori, pure, or formal) condition for knowledge.[16] Of course, the reference to Bacon's program is more evident in what is called Kant's "pre-critical" work. However, determination – that is, the attribution of one, and just one, predicate to a subject – remains central in his rendering of knowledge as a matter of judgement (that is, of decision), as well as in the very definition of the critical task, which privileges the exposure of grounds. In any event, as noted before, determination is crucial to Kant's notion of synthetic judgements a priori, as it is the term he uses for what Descartes called the "nexus" of consequences that the rational mind follows when attempting to establish something with certainty.[17] There is no question that determination is a task of the mind.[18]

In sum, determinacy as deployed in Kant's knowledge (scientific) program remains the core of modern thought: it is presupposed in accounts of the juridical and ethical field of statements (such as the human-rights framework) which (a) presume a *universal* that operates as an a priori (formal) determining force (effectivity), and which (b) produce *objects* for which "Truth" refers to how they *relate* to something else – relationships mediated by abstract determinants (laws and rules) that can only be captured by the rational things' (including the human mind/soul) "principles of disposition."

With the consolidation of the Kantian knowledge program starting in the nineteenth century, knowing and all other activities of the mind are reduced to determinacy: namely, the assignation of *value* that refers to a universal (scale or grid), while the object of knowledge becomes a unity of formal qualities (properties, variables, etc.), that is, an effect of judgements that produce it through measurement (degree) and classification (position). Precisely this notion of effectivity lies at the core of the modern ethical program and accounts for how difference plays into it. For there too the assignation of value results not from direct comparison – the juxtaposition of two or more things – but from

Frontispiece of Francis Bacon's book *Sylva Sylvarum: or, A natural history, in Ten Centuries* (1669).

Detail of the installation Otobong Nkanga, *In Pursuit of Bling,* 2014. Courtesy Lumen Travo Gallery.

the operation of a universal (formal or transcendental) mediator – the universal unit of measurement or the universal basis for classification. That is, the assignation of value results from the operation of something which shares in the attributes that universal reason acquired in the late eighteenth century.

Let me briefly elaborate on this by situating blackness in the Kantian design of the modern ethical scene of value.[19] Here, as we know, the guiding ethical entity is humanity, which Kant describes as the sole existing thing possessing dignity, that is, possessing intrinsic value. Among existing things, humanity is highest in the figuring of determinacy because it alone shares in the determining powers of universal reason, since it alone has free will, or self-determination.[20] Though humanity, in Kant's formulation, already refers only to Europeans, the closing of humanity's ethical boundaries occurs in the nineteenth century, both in Hegel's revision of the Kantian program and in the deployment by scientists of man and society of the tools of scientific reason to account for human difference. In Hegel's version, this happens in an ethical account that transforms World History into a scene of development (the self-actualization of universal reason), which culminates in the mental and social (juridical, economic, symbolic) configurations found in post-Enlightenment Europe.[21]

Both the scientific and ethical figurings of determinacy would enter into nineteenth-century scientific accounts of human difference, which produced the notions of racial and cultural difference. Both notions are manufactured in knowledge procedures that produce physical and social configurations as *effects* and *causes* of (explanations for) mental (moral and intellectual) differences. Further, these procedures deploy the European/white mind as the universal gauge, since it alone shares a key quality with universal reason (or with Hegel's "Spirit"), namely, self-determination. In this way, this earlier moment of racial knowledge yielded indexes of human difference – i.e., the naming of racial collectives such as the Negro, the Caucasian, the Oriental, and the Australian – that transformed economic differences resulting from conquest, colonization, settlement, and enslavement into presentations of (Hegel's self-actualizing) universal reason, identifying spatial and bodily configuration that, in their turn, produced the mental (intellectual and moral) forms that caused the differences in social configurations found in the European continent and its colonies.[22]

My point here is that the very arsenal designed to determine and to ascertain the truth of human difference already assumed Europeanness/whiteness as the universal measure, that is, as the bodily, mental, and societal actualization of universality. This has several consequences, the most relevant (to my argument here) being the occlusion of the latter as a term of comparison. More explicitly, economic differences resulting from hundreds of years of expropriating land and labor were attributed to racial and cultural difference. In racial knowledge, they become the effects of particular bodily arrangements, which are established as the causes for particular mental (moral and intellectual) traits, which are themselves expressed in the social configurations found across the globe. Put differently, both the anthropological and sociological versions of racial knowledge transform the consequences of hundreds years of colonial expropriation into the effects of efficient causes (the laws of nature) as they operate through human forms (bodies and societies). In sum, as a category of racial difference, blackness *occludes* the total violence necessary for this expropriation, a violence that was authorized by modern juridical forms – namely, colonial domination (conquest, displacement, and settlement) and property (enslavement). Nevertheless, blackness – precisely because of how, as an object of knowledge, it occludes these juridical modalities – has the capacity to unsettle the ethical program governed by determinacy, through exposing the violence that the latter refigures.

A United Nations image used to illustrate an article on migrant deaths in 2016 on the website *World Maritime News.*

The Equation of Value

To explore this potential of blackness to unsettle ethics, I will now tackle the unquestioned question reiterated by the disregard for lives lost in the streets of the US and in the Mediterranean Sea: Why don't black lives matter? To do this, I use that which grounds the modern knowledge

program – mathematical reasoning – to devise a procedure that unleashes blackness to confront *life*. Using what I call the Equation of Value, I describe blackness's capacity to unravel modern thought without reproducing the violence housed in knowledge and in the scene of value. My proof of this equation is designed to sidestep the hegemony of the Kantian subject and to make it possible to expose the disruptive/creative capacity that blackness hosts/holds.

In the modern Western imagination, blackness has no value; it is nothing. As such, it marks an opposition that signals a negation, which does not refer to contradiction. For blackness refers to matter – as The Thing; it refers to that without form – it functions as a nullification of the whole signifying order that sustains value in both its economic and ethical scenes.[23]

The crux of this exercise is to provide an account of *opposition* that figures *nullification* instead of *contradiction*. This is crucial for distinguishing a radical engagement from a critical one – because the latter cannot but assume the Kantian forms when it seeks to expose their conditions of possibility.[24]

Let us first see how the figuring of opposition as contradiction would work in relation to black life. Life is the form; the positive position vis-à-vis life is figured as "1," and the negative position is figured as "-1":

i. positive life = 1
ii. negative life = -1

If blackness occupies the place of negative life – that is, life that has negative value, that *does not matter* – then

iii. blackness = -1

Let me now figure the relationship between life (1) and blackness (-1) using basic mathematical procedures: addition, subtraction, multiplication, and division. Addition in this case becomes subtraction because of blackness's negative value:

a) 1 (life) + -1 (blackness) = 0

When simply combined with life, blackness brings about nullification (0); when added to the positive form of life, blackness *obliterates* it.

As discussed previously, value, because it is both an effect of determinacy (Kant's account of knowledge) and is equated with determinacy (Kantian and Hegelian ethical scenes), it is (a) *determinate*, resulting in relations marked by effectivity (efficient causation), that is, relations marked by power differences insofar as one

element effectively acts upon another; and it is (b) *determinant* insofar as it is the *effective* element – that is, it is the form which is applied to matter (content).

To express the relation between blackness (0) and life (1) in terms of effectivity, I use multiplication (×) and division (÷):

b) 1 (life) × -1 (blackness) = -1
c) 1 (life) ÷ -1 (blackness) = -1

When blackness multiplies or divides life, it remains in its negative expression, as blackness (-1) – that is, as lack, as a symbol of an absence (of life).

My next move is to take blackness's power to annihilate life (a) and deploy it to multiply (×) life. If

iv. life = 1
v. blackness = 0

then we find that

d) 1 (life) × -1 (blackness) = -1
e) 1 (life) × 0 (blackness) = 0

The movement in both cases is unmistakably violent; it refigures dialectics. In (d), negativity (blackness) engulfs value, and in (e) it destroys it. Put differently, in (d), life without value – that is, blackness (-1) – disappears with life, and in (e), blackness as a figuring of the absence of form (blackness = 0) disappears with the form (life = 1) and releases *matter* itself (0).

Taking this a step further, it might be possible to move away from dialectics and its deployment of effectivity, which cannot but reproduce violence, by dividing life by blackness:

f) 1 (life) ÷ 0 (blackness) = & – & or & / &

Instead of the sublation (d) or obliteration (e) of the form, this procedure has no result because it is impossible to divide something by zero. I have chosen & – & (infinity minus infinity) or & / & (infinity divided by infinity) to picture the result because it is undeterminable, it has no form: it is & minus itself or & divided by itself. It is neither life nor nonlife; it is content without form, or *materia prima* – that which has no value because it exists (as &) without form.

In equating blackness with & and capturing the rare ("of which something consists") and the obsolete ("substance without form") meanings of matter, I claim a radical praxis of refusal to contain blackness in the dialectical form. Though Frantz Fanon's refusal of dialectics is the most celebrated, I find this refusal also in Cedric Robinson's tracing of the black radical tradition;

in Hortense Spillers's figuring of the flesh as zero degree of signification; in Saidiya Hartman's refusal to rehearse racial violence as the moment of black subjectification; and in Fred Moten's descriptions of blackness in the scene of violence which refuse a simple reconciliation with the categories and premises of modern thought.[25] When blackness's oppositional power refers to matter – or, in Fanon's words, in the "night of the absolute" – it is possible to avoid the principle of contradiction and the accounts of self-determination it sustains; it is possible to avoid, that is, a return to Hegel (or Marx) via the shortcut of racial eschatology. What I hope this move against determinacy – the very notion presupposed in the question that Black Lives Matter sets out to challenge – makes possible is an appreciation of the urgency of bringing about its dissolution. For the work of blackness as a category of difference fits the Hegelian movement but has no emancipatory power because it functions as a signifier of violence which, when deployed successfully, justifies the otherwise unacceptable, such as the deaths of black persons due to state violence (in the US and in Europe) and capitalist expropriation (in Africa). That is, the category of blackness serves the ordered universe of determinacy and the violence and violations it authorizes. A guide to thinking, a method for study and unbounded sociality[26] – blackness as *matter* signals &, another world: namely, that which exists without time and out of space, in the plenum.

✕

Denise Ferreira da Silva is an Associate Professor and Director of The Social Justice Institute (the Institute for Gender, Race, Sexuality, and Social Justice) at the University of British Columbia. Her academic writings and artistic practice address the ethical questions of the global present and target the metaphysical and onto-epistemological dimensions of modern thought. Academic publications include *Toward a Global Idea of Race* (University of Minnesota Press, 2007) and the edited volume *Race, Empire, and The Crisis of the Subprime* (with Paula Chakravartty, Johns Hopkins University Press, 2013). She is the principal editor for the Routledge/Cavendish book series Law, Race, and the Postcolonial (with Mark Harris and Brenna Bhandar). She has written for publications of the 2016 Liverpool and São Paulo Biennials and creates events and texts as part of her Poethical Readings practice in collaboration with Valentina Desideri. She was an advisor to Natasha Ginwala, curator of the Contour 8 Biennale (Mechelen, 2017).

1
Thing, n., *OED Online,* Oxford University Press.

2
A reminder to the speculative realists: wishing the subject out of existence by holding onto an independent object without attending to how one informs the other is not enough for announcing a whole new philosophical age. For an extended engagement with speculative realism, see Denise Ferreira da Silva, *Notes Toward the End of Time* (London: Living Commons, 2017).

3
Take, for instance, the increase in the number homicides in Chicago last year, which has been attributed to, among other things, the unwillingness of police officers to work in the city's black and brown neighborhoods (see http://www.chicagotribune.com/news/ct-chicago-violence-solutions-met-20161230-story.html). But, of course, the city's police officials are very quick to blame anti-police brutality mobilizations (see http://www.chicagotribune.com/news/local/breaking/ct-two-shot-to-death-in-uptown-marks-first-homicide-of-2017-20170101-story.html).

4
With this move to claim The Thing – which here refers to Hegel's formulation of it, as will be clear later in this text – I am proposing a radically immanent "metaphysical" point of departure inspired by the failures of quantum physics, which expose the fundamental indeterminacy of the reality beyond space-time, at the quantum level, that is the plenum. For elaboration of this argument, see Denise Ferreira da Silva, "Toward a Black Feminist Poethics: The Quest(ion) of Blackness Toward the End of the World," *The Black Scholar*, vol. 44, no. 2 (2014).

5
For an analysis of police brutality as the mode of deployment of racial violence characteristic of the liberal modern state, see Denise Ferreira da Silva, "No-bodies: Law, Raciality and Violence," *Griffith Law Review*, vol. 18, no. 2 (2009): 212–36.

6
"Crumbling Through Powdery Air," a lecture by Otobong Nkanga, Städelschule, Frankfurt, July 14, 2015. (Recording provided to the author by Clare Molloy.)

7
See Denise Ferreira da Silva, "Blacklight," in *Otobong Nkanga, Luster and Lucre*, eds. Clare Molloy, Philippe Pirotte, and Fabian Schöneich (Berlin: Sternberg Press, forthcoming).

8
David Lloyd, "Race Under Representation," *Oxford Literary Review*, vol. 13, no. 1 (1991): 62–94; 64.

9
Such as, for instance, the exhibitions "Crumbling Through Powdery Air," Portikus, Frankfurt, September 2015; and "Comot Your Eyes Make I Borrow You Mine," Kadist, Paris, June 2015.

10
Sylvia Wynter, "Unsettling the Coloniality of Being/Power/Truth/Freedom: Toward the Human, after Man, Its Overrepresentation – An Argument," *CR: The New Centennial Review*, vol. 3, no. 3 (2003): 257–337.

11
For an account of these pillars, see Denise Ferreira da Silva, "On Difference without Separability," *Incerteza Viva: 32nd Bienal de São Paulo*, exhibition catalogue, eds. Jochen Volz and Júlia Rebouças (São Paulo: Fundação Bienal de São Paulo, 2016), 57–65.

12
For descriptions of the four causes, see Aristotle, *Metaphysics* (London: Penguin, 1998).

13
This is accomplished though Descartes's famous thought experiment, his systematic doubt. See René Descartes, *Meditation on the First Philosophy: Philosophical Essays and Correspondence* (Indianapolis: Hackett Publishing, 2000): 97–141. How it does so is evident in the account of his method provided in "Rules for the Direction of the Mind," ibid., 2–28.

14
René Descartes, "The Treatise on Light," in *The World and Other Writings* (Cambridge: Cambridge University Press, 2004), 6.

15
G. F. W. Hegel, *Lectures on the Philosophy of History* (Kitchener: Batoche Books, 2001), 113.

16
Immanuel Kant, *Lectures on Logic* (Cambridge: Cambridge University Press, 1992), 82–98.

17
See, for instance, Kant's analogy for how synthetic judgements work: "x is therefore the determinable (object) that I think through the concept a, and b is its determination or the way in which it is determined. In mathematics, x is the construction of a, in experience it is the concretum, and with regard to an inherent representation or thought in general x is the function of thinking in general in the subject." Immanuel Kant, *Critique of Pure Reason* (Cambridge: Cambridge University Press, 1999), 51.

18
"There is in the soul a principium of disposition as well as of affection. The appearances can have no other order and do not otherwise belong to the unity of the power of representation except insofar as they are amenable to the common principio of disposition. For all appearance with its thoroughgoing determination must still have unity in the mind, consequently be subjected to those conditions through which the unity of representations is possible. Only that which is requisite for the unity of representations belongs to the objective conditions. The unity of apprehension is necessarily connected with the unity of the intuition of space and time, for without this the latter would give no real representation. The principles of exposition must be determined on the one side through the laws of apprehension, on the other side through the unity of the power of understanding. They are the standard for observation and are not derived from perceptions, but are the ground of those in their entirety." Ibid., 53.

19
For a discussion of racial difference in regard to Kant's framing of aesthetics, see Lloyd, "Race Under Representation."

20
Kant, *Critique of Pure Reason*.

21
G. F. W. Hegel, *Hegel's Science of Logic* (Amherst: Humanity Books, 1969).

22
The argument in this and the following section is presented in Denise Ferreira da Silva, *Toward a Global Idea of Race* (Minneapolis: University of Minnesota Press, 2007).

23
For an elaboration of this view of blackness as a Thing, see Denise Ferreira da Silva, "Towards a Black Feminist Poethics."

24
This is the case with Hegel's and Marx's renderings of dialectics, in which negation (opposition) appears as contradiction. In both, the distinction is between opposed presentations of the same form: for instance, in Marx's account of capitalism, property (or the means of production) is the form, while the fundamental oppositional social entities are defined in terms of whether they have a positive or negative position in regards to it: respectively, having property (capitalists) or not having it (the proletariat).

25
Frantz Fanon, *Black Skin, White Masks* (London: Pluto Press, 1986); Cedric Robinson, *Black Marxism* (London: Zed Press, 1983); Hortense Spillers, "Mama's Baby, Papa's Maybe: An American Grammar Book," *Diacritics*, vol. 17, no. 2 (1987): 65–81; Saidiya Hartman, *Scenes of Subjection* (Oxford: Oxford University Press, 1997); Fred Moten, *In the Break* (Minneapolis: University of Minnesota Press, 2003).

26
For black study, see Stefano Harney and Fred Moten, *The Undercommons* (Wivenhoe: Minor Compositions, 2013).

Mathematics Black Life

KATHERINE MCKITTRICK

We aspire to be modern, as if this were some how a new position and as if blacks and nonwhites were not already clearly and uncomfortably modern, as if modernity were sustainable without the nigger and the fluid in/convenience that is blackness lying, albeit differently, both inside and outside its borders.

— Richard Iton, *In Search of the Black Fantastic*, p. 288

The promiscuity of the archive begets a wide array of reading, but none that are capable of resuscitating the girl.

— Saidiya Hartman, "Venus in Two Acts," p. 13

It's a trap. That much is plain.
Still, maybe send snapshots of all your sweet pain. Playin' tortuous games.
It goes: Lens. Light. Fame.
Read my names on your lips. When the man cracks the whip.
And you'll all shake your hips. And you'll all dance to this.
Without making a fist.

— TV on the Radio, "Red Dress," 2008

In Saidya Hartman's "Venus in Two Acts," she returns to the deaths of two young African girls who were both violently and brutally killed on the middle passage. Raped, strung up, whipped to death, dying alone: This is the information Hartman pieces together from the ship's ledger and financial accounts, the captain's log book, and the court case that dismissed the charges of murder against Captain John Timber, the man who caused the deaths of the girls. The archive of black diaspora is, as Hartman rightly suggests, "a death sentence, a tomb, a display of a violated body, an inventory of property, a medical treatise . . . an asterisk in the grand narrative of history."[1] The asterisked archives are filled with bodies that can only come into being vis-à-vis racial-sexual violence; the documents and ledgers and logs that narrate the brutalities of this history give birth to new world blackness as they evacuate life from blackness. Breathless, archival numerical evidence puts pressure on our present system of knowledge by

Katherine McKittrick researches in the areas of black studies, anti-colonial studies, cultural geographies, and gender studies. Her interdisciplinary research attends to the links between epistemological narratives, practices and texts that focus on liberation, and creative text. McKittrick also researches the writings of Sylvia Wynter, with part of this work being put forth in her edited collection, *Sylvia Wynter: On Being Human as Praxis* (Duke University Press, 2014). McKittrick wrote *Demonic Grounds: Black Women and the Cartographies of Struggle* (University of Minnesota Press, 2006) and coedited with the late Clyde Woods *Black Geographies and the Politics of Place* (Between the Lines Press/ South End Press, 2007). Additional publications can be found in *Small Axe, Mosaic, Gender, Place and Culture*, and the *Journal of Social and Cultural Geography*. Her forthcoming monograph, *Dear Science and Other Stories*, will look at the promise of science in black poetry, music, and visual art.

affirming the knowable (black objecthood) and disguising the untold (black human being). The slave's status as object-commodity, or purely economic cargo, reveals that a black archival presence not only enumerates the dead and dying, but also acts as an origin story. This is where we begin, this is where historic blackness comes from: the list, the breathless numbers, the absolutely economic, the mathematics of the unliving. Recall then, aboard the ship Peggy, aboard the ship Prosperous Amelia, aboard the brig Nancy. The ledgers read:

> Samuel Minton, 60 years, nearly worn out . . . Formerly slave to Thomas Minton, Norfolk, Virginia . . . Gilbert Lafferts, 21 years, likely lad, Mr. James Henderson's possession, proved to be the property of Mr. James Henderson . . . Master & Bill of Sale produced . . . Anny Bolton, 42, stout wench, (James Alexander). Formerly the property of Thomas Bolton, Nansemond, Virginia . . . Jenny Frederick, 32 years, ordinary wench . . . Certified to be free by Jonah Frederick of Boston, New England . . . Betty Rapelje, 21, stout wench, (Peter Brown) . . . *Says she was born free* at Newtown, Long Island.[2]

Worn out, bill of sale produced, certified to be free, ordinary wench, proved to be the property of, formerly slave to, formerly the property of, all with parenthetic possessors. New world blackness arrives through the ordinary, proved, former, certified, nearly worn-out archives of ledgers, accounts, price tags, and descriptors of economic worth and financial probability. The list of slaves upon these ships is a list of propertied commodi-

ties. The slave is possession, proved to be property. Yet a voice interrupts: says she. It follows that black freedom is embedded within an economy of race and violence and unfolds as an indeterminate impossibility: wench, property of, likely lad, nearly worn out; certified to be free, says she was born free, formerly slave to. Says she was born free.

The brutalities of transatlantic slavery, summed up in archival histories that give us a bit of (asterisked-violated) blackness, put meaningful demands on our scholarly and activist questions. While the tenets and the lingering histories of slavery and colonialism produced modernity as and with and through blackness, this sense of timespace is interrupted by a more weighty, and seemingly truthful (truthful and truth-telling because iterated as scientific, proven, certified, objective), underside—where black is naturally malignant and therefore worthy of violation; where black is violated because black is naturally violent; where black is naturally unbelievable and is therefore naturally empty and violated; where black is naturally less-than-human and starving to death and violated; where black is naturally dysselected, unsurviving, swallowed up; where black is same and always and dead and dying; where black is complex and difficult and too much to bear and violated.[3] The tolls of death and violence, housed in the archive, affirm black death. The tolls cast black as impossibly human and provide the conditions through which black history is currently told and studied. The death toll becomes the source.

The tolls inevitably uncover, too, analyses of histories and narratives and stories

and data that honor and repeat and cherish anti-black violence and black death. If the source of blackness is death and violence, the citation of blackness—the scholarly stories we tell—calls for the repetition of death and violence. The practice of taking away life is followed by the sourcing and citation of racial-sexual death and racial-sexual violence and blackness is (always already and only) cast inside the mathematics of unlivingness (data/scientifically proven/certified violation/asterisk) where black comes to be (a bit).[4] Indeed, if blackness originates and emerges in violence and death, black futures are foreclosed by the dead and dying asterisks. And if the dead and dying are the archival and asterisked cosmogonies of blackness, within our present system of knowledge—a system, to paraphrase Frantz Fanon, where the subhuman is invited to become human on terms that require anti-black sentiment—scraps and bits of black life and death and narrative are guaranteed to move toward, to progress into, unlivingness and anti-blackness.[5] With this in mind we would do well to notice that scholarly and activist questions can, at times, be so tightly tied to bits and pieces of narratives that dwell on anti-black violence and black racial death—seeking out and reprising "terrible utterances" to reclaim and recuperate black loss and somehow make it all the less terrible—that our answerable analytical futures are also condemned to death.[6] Put differently, historically present anti-black violence is repaired by reproducing knowledge about the black subjects that renders them less than human. It is a descriptive analytics of violence. The cyclical and death-dealing numeration of the condemned remains

in tact, at least in part, through analytical pathways that are beholden to a system of knowledge that descriptively rehearses anti-black violences and in this necessarily refuses decolonial thinking.

How then do we think and write and share as decolonial scholars and foster a commitment to acknowledging violence and undoing its persistent frame, rather than simply analytically reprising violence? How do we ethically engage with mathematical and numerical certainties that compile, affirm, and honor bits and pieces of black death? In order to underscore the urgency here, it is worth thinking about the ways in which slave ship and plantation ledgers unfold into a series of crude and subjugating post-slave accounts:

The rule in the courts was that a drop of blood made you black; just walking around looking about/This guy looks like he is up to no good or he is on drugs or something; the accusation was beginning to take on a familiar tone . . . Emmett Till . . . Scottsboro . . . Armed with his new political powers Diluilo came to have access to billions of dollars in public funds to launch a program to reform the superpredators by exorcising the evil he saw in them; three-quarters of the persons arrested for such crimes were Negro . . . in Detroit, the same proportions held. . . . Negro males represent 2.1 percent of all male technicians while Negro females represent roughly 10 percent of all female technicians. . . . It would appear therefore that there are proportionately 4 times as many Negro females in significant white collar jobs than Negro males; these assholes, they always get away; it would

come to be based on degrees of selected genetic merit (or eugenics) versus differential degrees of the dysselected lack of this merit: differential degrees of, to use the term made famous by *The Bell Curve,* "dysgenicity."[7]

We can think of more accounts, more numbers, more math.

In *Demonic Grounds,* I suggest that the markers of captivity so tightly adhere to the black body that seeing blackness involves our collective willingness to collapse it into a signifier of dispossession.[8] While I certainly suggest there, as I do here, that black dispossession reveals the limits of our present geographic order and opens up a way to imagine new modes of black geographic thought, it is challenging to think outside the interlocking data of black erasure, unfreedom, and anti-black violence. Putting pressure on archive numbers that, particularly in the case of the middle passage and plantation life, are the only documents that tell us about the ways in which the practice of slavery set the stage for our present struggles with racism, is difficult. So, what do we do with the archival documentation that displays this unfree and violated body as both naturally dispossessed and as the origin of new world black lives? How do we come to terms with the inventory of numbers and the certain economic brutalities that introduce blackness—the mathematics of the unliving, the certification of unfreedom—and give shape to how we now live our lives? And what does it mean that, when confronting these numbers and economic descriptors and stories of murder and commonsense instances of anti-black violence,

some of us are pulled into that Fanonian moment, where our neurological synapses and our motor-sensory replies do not result in relieved gasps of nostalgia or knowing gasps of present emancipation (look how far we have come/slavery is over/get over slavery/post-race/look how far) but instead dwell in the awfulness of seeing ourselves and our communities in those numbers now?[9] This is the future the archives have given me. Yet, the Fanonian moment also disturbs to ask not how we get over the awfulness and brutality, but rather how do we live with it, differently, right now and therefore imagine what Sylvia Wynter describes as "being human as praxis"?[10]

In what follows, I move with the numbers and begin to work out how the uncomfortable mathematics of black life can inform current and future formations of black studies. I suggest that black studies not only names and posits the violent arithmetics of the archive, but that this citation of violence also can and should no longer ethically repeat this violence. Indeed, while not always honored, the intellectual project of black studies—with its long history of citing and surviving racial violence in numbers—provides a deliberate commentary on the ways in which blackness works against the violence that defines it. Thus, across a range of thinkers—I note Dionne Brand, Sylvia Wynter, Audre Lorde, Frantz Fanon, but there are more and many to add—there is a careful effort to show that if we are to name the violent displacement of black cultures, this must be done by both noticing and undoing the compulsion to inhabit safe and comfortable places within the very system that cannot survive without anti-blackness. Indeed,

the research of W. E. B. Du Bois, who turns knowable racial numbers in on themselves to ask how the race is both fixed and unfixed by social conditions, is especially notable here.[11]

The demand of the black scholar might be, therefore, to think the violence of transatlantic slavery as a numerical moment through which anti-blackness was engendered and came to underwrite post-slave emancipation promises, just as this moment, significantly and un-numerically, also provided the conditions through which many black subjectivities articulated an anti-colonial practice that did not (and cannot and does not) twin the emancipatory terms that set blackness free. The post-slave system, its emancipatory terms, guarantees and profits from and repeats anti-black violence. I briefly cite Wynter as exemplary and complementary to this trajectory of black scholarly thought:

> We have lived the millennium of Man in the last five hundred years; and as the West is inventing Man, the slave-plantation is a central part of the entire mechanism by means of which that logic is working its way out. But that logic is total now, because to be not-Man is to be not-quite-human. Yet that plot, that slave plot on which the slave grew food for his/her subsistence, carried over a millennially other conception of the human to that of Man's . . . that plot exists as a threat. It speaks to other possibilities.[12]

Other possibilities. The task is, then, to write blackness by ethically honoring but not repeating anti-black violences—which can be done, I suggest below, through reading the mathematics of these violences as possibilities that are iterations of black life that cannot be contained by black death.

Other possibilities. In reading with and through archival mathematics (and the certification of unfreedom and its unenumerated openings), I suggest that it is the anti-black violence of transatlantic slavery that archived the transparent numbers that many black scholars could not (and cannot) bear as these very numbers provide data that the ex-slave archipelago climbed out of through conceptualizing blackness anew. These new categories differently work blackness as a category by noticing and reworking and mistrusting numerical data and, in this, asserting the doubly conscious/the open door of every consciousness/fantastic/being human as praxis.[13] What follows, then, is a kind of intellectual work black studies opens up in numbers. Says she was born free. Says she was born free. She is not free. She *says* she was born free. The unfree nonperson is embedded in—at work within—the verb "says" and the noun "she." The unfree nonperson *says* she was born free. She says she was born free. She says she was born free at Newtown, Long Island: she is not free. She *says* she is free.

Trust the lies. One of the most ubiquitous representations of blackness in our archives is of the "Rear view of former slave revealing scars on his back from savage whipping, in photo taken after he escaped to become Union soldier during Civil War" (see figure 1). This image, also known as "The Scourged Back, 1863," has been widely reproduced with the black man being identified as "Gordon."[14] For those interested in black history and transatlantic slavery, this image of Gordon is familiar. It is an image

Figure 1: "Rear view of former slave revealing scars on his back from savage whipping, in photo taken after he escaped to become a Union soldier during Civil War," or "Scourged Back, 1863" or "Gordon" from the Schomburg Center for Research in Black Culture

that emerges throughout many research projects. We never see Gordon once, we never see him twice; we see him numerous times. The scourged back is everywhere. Here, "the unimaginable assumes the guise of every day existence."[15] For the researcher, the scourged back is commonplace and in some instances predictable. And, if we are not very careful, the image becomes so ordinary that the pleasures of looking, again and again, incite a second order of violence.[16] She says.

Rachel Hall writes that the photograph of Gordon is representative of the black visual history that accompanied and in some cases replaced oral and written accounts of slavery. Indeed, Hall notes that such photographic images of suffering slaves conveyed truths—truths more truthful than written accounts—that would complement abolitionist struggles and elicit white sympathy.[17] The image of Gordon, importantly, pictures "a history of violence written on the slave's body and in the master's hand . . . in the scarred back the viewer reads a narrative inscribed by the slave owner himself."[18] The scarred back, therefore, has little to do with Gordon himself but very much to do with the ways in which brutal acts of white supremacy actively mark blackness as they erase black lived experiences and interpretations of slavery.[19] Our archival proclivities have so much embraced "Scourged Back" that it is has become a ubiquitous representation of violence—both mundane and spectacular—that can be enumerated in multiple ways: whips, lash counts, reprinted and circuitous and repetitive circulation of Gordon's pain, calculable white disciplinary markings, another accountable pathway to our doomed future of unfreedom. Or, Gordon's photograph is a visual archive of black suffering, deposited there precisely because it records violence, deposited there because it can tell a truth more truthful than claims written and told by black people: she *says* she was born free. The archives are full of truthful lies and bloodshed. With this in mind I suggest, riffing off of Merle Hodge, that we are presently living in the "shadow of the whip."[20] In these shadows—where the legacy of the plantocracy underwrites and anticipates the

historically present persistence of anti-black violence—we might not simply access black suffering and white supremacy but perhaps generate new ways of encountering the history of blackness.[21] As noted, access to new world blackness dwells on the archival display of the violated body, the corpse, the death sentences, the economic inventories of cargo, the whip as the tool that writes blackness into existence. How might we take this evidence and venture toward another mode of human being—so that when we encounter the lists, the ledgers, the commodities of slavery, we notice that our collective unbearable past, which is unrepresentable except for the archival mechanics that usher in blackness vis-à-vis violence, is about something else altogether.

There are strategies in place worth noting. Carrie Mae Weems rewrites "Scourged Back" to evidence the unutterable of contours of violence.[22] A different kind of strategic un-voicing of the unbearable can be found in *Incidents in the Life of a Slave Girl*— where a different unwritten narrative resides between the lines.[23] Aunt Hester's scream, too, as it "open[ed] the way into the knowledge of slavery and the knowledge of freedom" for Frederick Douglass and post-slave populations.[24] Militant slaves, mass suicide, *At The Full and Change of Moon*.[25] The unraveled asterisk: Margaret Garner's decision to kill her children so they would not have to endure the brutalities of slavery as recast in *Beloved* as a story of survival. The choke-cherry tree.[26] We can think of more. These strategies allow us to read the archives not as a measure of what happened, but as indicators of what else happened. Notably, the strategies above rest on encountering, think-

ing about and articulating black absented presences: the unspeakable, the unwritten, the unbearable and unutterable, the unseeable and the invisible, the uncountable and unindexed, outside the scourge, that which cannot be seen or heard or read but is always there. We are therefore also asked to imagine those lives that are so inconceivable, so unworthy of documentation, so radically outside our archives, that they are merely psychic impressions of life and livingness: lies and truths and new stories and familiar scars that, because they are unindexed, cannot provide us with the analytical tools to analytically take black life away.

In many ways, these kinds of strategies tell different stories that are tethered to the scourged back. In many ways, the racial economy of the archive begins a story that demands our betrayal of the archive itself. It gives us the scourged back as a commonly available image that is also an asterisk of history—the archive lies as it tells a truth. Which begs the question: What if we trust the lies—she *says* she was born free—and begin to count it all out differently? What if we harness ourselves to the brutalities of the violence that began all of this, while also honoring the impossibility of understanding exactly what the scars of history mean for post-slave diasporic peoples?

Punishment during slavery was, as Gordon's back might reveal for some, intimately linked to counting; lashings are the soundtrack to slavery, four, ten, fifty, one hundred, two hundred.[27] Indeed, the black musical texts that reference this soundtrack and revisit the crack of the whip are numerous, although the work of The Wailers ("Slave Driver," from *Catch a Fire*) and Nas

("Intro" to his album *It Was Written*) stand out for me. To be sure, the body, the lashings, the counting, culminates to affirm crass and familiar itemization, the corporeal consequences of rational reason: counting the cracks discloses measurable discipline. But again: What if we trust the lies—she says she was born free—and begin to count it all out differently? As we all know, numbers signify measurable items, but they also invite chaos. In her essay "Digital Epidermalization: Race, Identity and Biometrics," Simone Browne importantly asks: How do we understand the body when it is made into data? Analyzing the technologies of the border—fingerprints, passports, eye scans, facial recognition technology—Browne looks at the ways in which particular bodies are cast out of normalcy based on the "arithmetics of skin."[28] I borrow the arithmetics of skin from Browne because her work uncovers the ways in which contemporary surveillance practices are inflected with the relief of neutrality as they track biocentric human markers: race, gender, a two-sexed system. Put another way, the seeming neutrality of mathematics—the governmental trust in the technologies that calculate the textures of skin, eyes, hair—is trusted as innocuously objective, thus providing an alibi for racism. A glance above: one drop of blood/the accusation was/2.1 percent/genetic merit. As Browne's research shows, biometrics—the measurement of the living body—are, in fact, laden with digital epidermalization wherein the logic of whiteness is the measuring stick through which other racial technologies are understood. The white living body—spacing between the eyes, fingerprint ridges, hair, skin, thickness of the mouth—is the math-

ematical measuring stick through which all other bodies are calculated. Indeed, and looking the other way, Browne's research also importantly shows that contemporary surveillance practices can be linked to the tracking of escaped slaves—the black enslaved body, the black escaping body, was recorded and coded as biometrically knowable (or findable and searchable).[29] The future of the scourged back is revealed and Nas's album cover (figure 2) makes good sense. How then might we recast the arithmetics of skin, the truthful lies of the archive, and the making of black subjecthood that is always tethered to that status of nonperson? Or how do we, as Nourbese Philip asks, find freedom within these limitations?[30] Can we really count it out differently?

I hold close the technologies of slavery and the archives that produce the scourged back. I can't let go of the incomplete stories and brutal violence, in part, because letting go might involve not seeing how these violent acts are reproduced now. It might involve reading Nas's album cover through what Rinaldo Walcott calls "global niggerdom," thus underscoring that the making of racial subjectivities—all kinds of racially marked subjectivities that inhabit our white supremacist planetary slums—is a process that is tethered to a violent past and therefore demands a different future.[31] Indeed, I want to hold on to the numbers because "it's the evidence of what transpired" and "the bones actually ground you."[32] The numbers set the stage for our stories of survival—what is not there is *living*. The numbers, the arithmetics of the skin, the shadow of the whip, inspire our insurgency as they demonstrate the ways in which our present genre of the
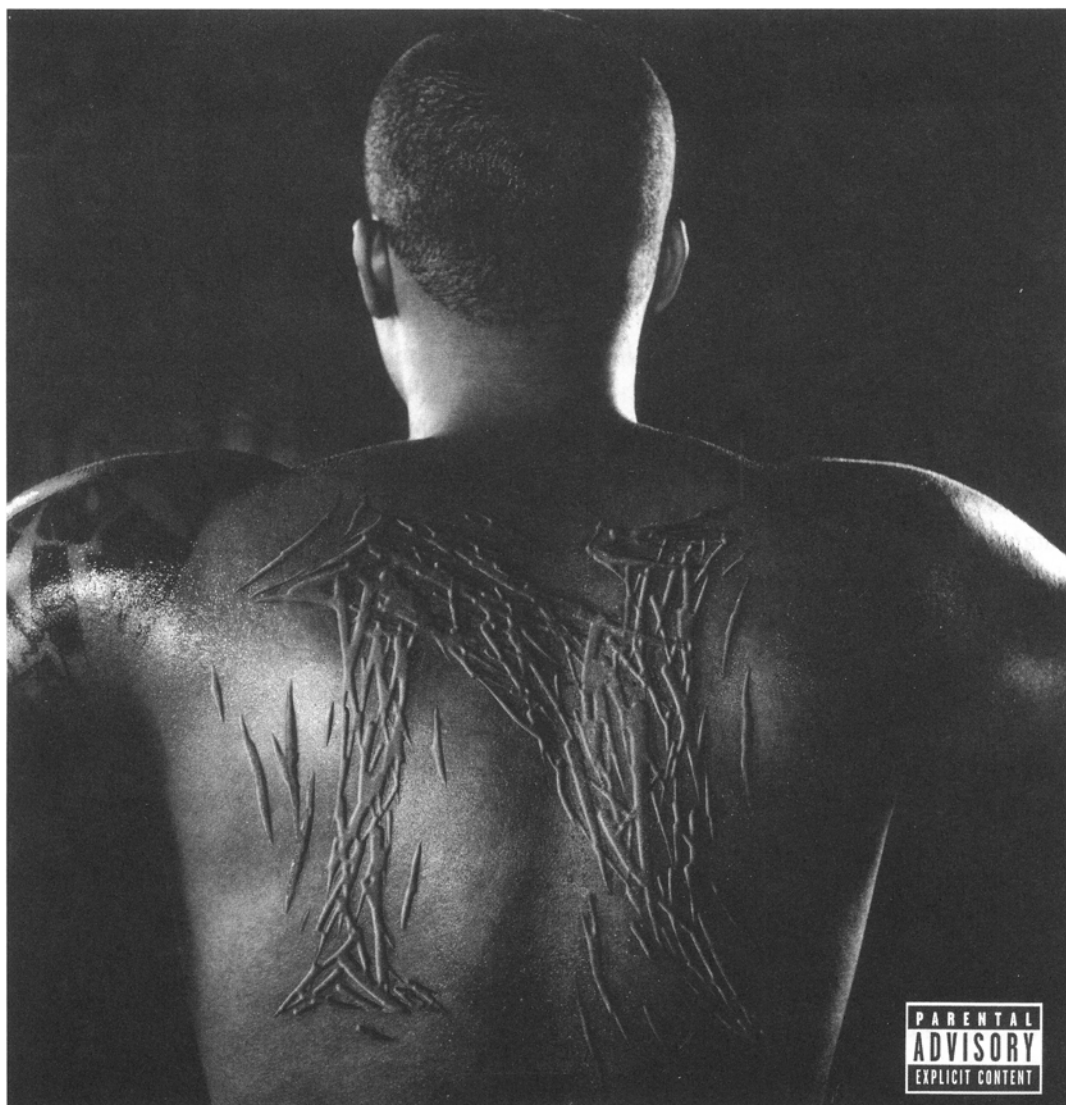
Figure 2: Nas, (Untitled) LP Artwork

human is flawed. Indeed, numbers, like the archives, are truthful lies that can push us toward demonic grounds, a place not where one must choose between white supremacy and oppression, but rather honors the ways in which blackness is archived as a violent beginning and, to be sure, does not consider this beginning as inevitably tied to trajectory that leads to something rightful or natural or ethical. Put differently, we might emphasize how the demonic—in physics and mathematics—is a nondeterministic schema; it is a process that is hinged on uncertainty and nonlinearity because the organizing princi-

ple cannot foresee the future. This schema, this way of producing or desiring an unanticipated outcome, calls into question "the always non-arbitrary pre-prescribed" parameters of sequential and classificatory linearity.[33] This forecloses the descriptive analytics of violence. The methodological and intellectual work of black studies, I am suggesting, is embedded with this organizing principal precisely because the mathematics of blackness and white supremacy are seemingly knowable (because accountable and counted) and always laden with a chaotic uncertainty. This schema understands arithmetical-epidermal history as a violent unfinishing with numeric bursts that uncover a logic that fosters the anti-colonial human being as praxis. This is the future that black studies, at its best, has given me. What is not there is living.

This forces us, in my view, to wrestle with our present anew, and think seriously about what Saidiya Hartman calls the "incomplete project of freedom" and imagine that Sylvia Wynter's being human as praxis does not, in fact, embrace a bitter return to the scourged back, breathe a sigh of presently emancipated post-race relief, or find comfort in the dismal dance of authenticity—for all of these strategies refuse to take us anywhere new.[34] Instead, I trust that the unindexed lies of our world and the evidence of what transpired are not blueprints for emancipation, or maps to our future, but instead are indicators of the ways in which the brutalities of racial encounter demand a form of human being and being human that newly iterates blackness as uncomfortably enumerating the unanticipated contours of black life. She says she was born free.

Acknowledgments

Endnotes

1. Hartman, "Venus in Two Acts," p. 2.

2. These ship ledgers are from the *Book of Negroes* and can be found at www.blackloyal ist.com/canadiandigitalcollection/documents/official/book_of_negroes.htm. Accessed May 3, 2010. Emphasis added.

3. On black modernities, see Gilroy, *The Black Atlantic,* and Iton, *In Search of the Black Fantastic.* I borrow "meta-Darwin" from Sylvia Wynter. See also Wynter and McKittrick, "Unparalleled Catastrophe for Our Species?"

4. Cf. Mbembe, "Necropolitics."

5. Fanon, *The Wretched of the Earth,* p, 103.

6. I discuss the dead-end analytics of racial violence at length in McKittrick, "On Plantations, Prisons, and a Black Sense of Place." "Terrible utterances" is from Hartman, "Venus in Two Acts," p. 3.

7. The "one drop" quotation is from the memoir of Essie Mae Washington-Williams, *Dear Senator: A Memoir by the Daughter of Strom Thurmon,* as quoted in Sharpe, *Monstrous Intimacies,* p. 193n26. The "familiar tone" quotation is from Browne, *The Condemnation of Little B,* p. 5. The quotations regarding Negro "crime" and "technicians" are taken from Moynihan, *The Negro Family.* The "Bell Curve" quotation is from Wynter, "Unsettling the Coloniality of Being/Power/Truth/Freedom," p. 323. The quotations "just walking

around," "up to no good," and "they always get away," are taken from City of Sanford, "Cellphone Call."

8. McKittrick, *Demonic Grounds*.

9. Cf. McKittrick, "I Entered the Lists."

10. Wynter and McKittrick, "Unparalleled Catastrophe for Our Species?"

11. Du Bois, *Dusk of Dawn*; Weheliye, "Diagrammatics as Physiognomy." Also notable for purposes of this essay is Booker T. Washington's invitation to Du Bois to teach mathematics at the Tuskegee Institute in 1894. Du Bois declined due to his commitment at Wilberforce University in Ohio. See Broderick, *W. E. B. Du Bois*, p. 32.

12. Scott, "The Re-Enchantment of Humanism," p. 165.

13. Du Bois, *The Souls of Black Folk*; Fanon, *Black Skin, White Masks*, p. 232; Iton, *In Search of the Black Fantastic*; Wynter and McKittrick, "Unparalleled Catastrophe for Our Species?"

14. Gordon's presence in slavery and antislavery texts and histories are too numerous to list.

15. Hartman, "Venus in Two Acts," p. 6.

16. Ibid., p. 5.

17. Hall, "Missing Dolly, Mourning Slavery."

18. Ibid., p. 88.

19. Ibid., p. 89.

20. Hodge, "The Shadow of the Whip," pp. 111–118.

21. Cf. McKittrick, "Plantation Futures."

22. Jackson, "Visualizing Slavery."

23. Whitsitt, "Reading Between the Lines."

24. Moten, *In the Break*.

25. Brand, *At the Full and Change of Moon*.

26. Morrison, *Beloved*. On Sethe's scarred back/chokecherry tree, see pp. 18, 20, 93.

27. Many thanks to A.J. Paynter for thinking about this with me. In our conversations about black modernities, A.J. imagined the tools of transatlantic slavery through black science, explaining that the whip was the first man-made tool to break the sound barrier (much like that of a supersonic jet creating a sonic boom and breaking the sound barrier). She then asked: What is the relevance/significance of breaking the sound barrier while simultaneously breaking black skin and how does this connect to the who, the what, and the where of modernity's beginnings? I will continue to take up A.J.'s challenge in *Dear Science* (in preparation).

28. Browne, "Digital Epidermalization."

29. Browne, "'Everybody's Got a Little Light Under the Sun.'"

30. Marlene NourbeSe Philip in Saunders, "Defending the Dead, Confronting the Archive," p. 65.

31. Walcott, "The Problem of the Human." See also Nas, "N.I.G.G.E.R." Nas's album title decisions provide another aspect of the global niggerdom unexplored here. For an overview of his decision to change the title of his 2009 album from *Nigger* to *(Untitled)*, see Reid, "Nas Explains Controversial Album Title," and Reid, "Nas Changes Controversial Album Title."

32. "The evidence of what transpired" is Patricia Saunders in "Defending the Dead," p. 69. "The bones" is Marlene NourbeSe Philip in "Defending the Dead," p. 69.

33. McKittrick, *Demonic Grounds*, p. xxiv; Wynter, "Beyond Miranda's Meanings," p. 365.

34. Hartman, "Venus in Two Acts," p. 4.

References

Book of Negroes www.blackloyalist.com/canadiandigitalcollection/documents/official/book_of_negroes.htm. Accessed May 3, 2010.

Brand, Dionne. *At the Full and Change of Moon*. Toronto: Vintage, 1999.

Broderick, Francis, L. *W. E. B. Du Bois: Negro Leader in a Time of Crisis*. Stanford, CA: Stanford University Press, 1959.

Browne, Elaine. *The Condemnation of Little B*. Boston: Beacon Press, 2002.

Browne, Simone. "Digital Epidermalization: Race, Identity and Biometrics," *Critical Sociology* 36, no. 1 (2010): 131–150.

———. "'Everybody's Got a Little Light Under the Sun': Black Luminosity and the Visual Culture of Surveillance," *Cultural Studies* 26, no. 4 (2012): 542–564.

City of Sanford, "Cellphone Call to the Sanford Police Department by George Zimmerman Before the Shooting of Trayvon Martin," en.wikipedia.org/wiki/File:Trayvon_Martin_Shooting_Ca111.0gg (accessed July 14, 2013).

Du Bois, W. E. B. *Dusk of Dawn: An Essay Toward an Autobiography of a Race Concept.* Piscataway, New Jersey: Transaction Publishers, 1970.

———. *The Souls of Black Folk.* New York: Vintage, [1903] 1990.

Fanon, Frantz. *Black Skin, White Masks,* trans. Charles Lam Markmann. New York: Grove Press, [1952] 1967.

———. *The Wretched of the Earth,* trans. Constance Farrington. New York: Grove Press, [1961] 1963.

Gilroy, Paul. *The Black Atlantic: Modernity and Double Consciousness.* London: Verso, 1993.

Hall, Rachel. "Missing Dolly, Mourning Slavery: The Slave Notice as Keepsake," *Camera Obscura* 21, no. 1 (2006): 71–103.

Hartman, Saidiya. "Venus in Two Acts," *Small Axe* 26 (June 2008): 1–14.

Hodge, Merle. "The Shadow of the Whip: A Comment on Male-Female Relations in the Caribbean," *Is Massa Day Dead? Black Moods in the Caribbean,* ed. Orde Coombs. New York: Anchor Books, 1974, pp. 111–118.

Iton, Richard. *In Search of the Black Fantastic: Politics and Popular Culture in the Post–Civil Rights Era.* Oxford: Oxford University Press, 2008.

Jackson, Cassandra. "Visualizing Slavery: Photography and the Disabled Subject in the Art of Carrie Mae Weems," in *Blackness and Disability: Critical Examinations and Cultural In-* terventions, ed. Christopher M. Bell. East Lansing: Michigan State University Press, 2011, pp. 31–46.

Mbembe, Achille. "Necropolitics," *Public Culture* 15, no. 1 (Winter 2003): 11–40.

McKittrick, Katherine. *Demonic Grounds: Black Women and the Cartographies of Struggle.* Minneapolis: University of Minnesota Press, 2006.

———. "I Entered the Lists . . . Diaspora Catalogues: The List, The Unbearable Territory, and Tormented Chronologies—Three Narratives and a *Weltanschauung.*" *XCP: Cross Cultural Poetics* 17 (2007): 7–29.

———. "On Plantations, Prisons, and a Black Sense of Place," *Social and Cultural Geography* 12, no. 8 (2011): 947–963.

———. "Plantation Futures," *Small Axe* 42 (November 2013): 1–15.

Morrison, Toni. *Beloved.* New York: Plume, 1987.

Moten, Fred. *In the Break: The Aesthetics of the Black Radical Tradition.* Minneapolis: University of Minnesota Press, 2003.

Moynihan, Daniel P. *The Negro Family: The Case for National Action.* Washington, DC: US Department of Labor, 1965. www.dol.gov/oasam/programs/history/webid-meynihan.htm (accessed July 14, 2013).

Nas, "N.I.G.G.E.R." *(Untitled).* New York: Def Jam/Colombia, 2008.

Reid, Shaheem. "Nas Explains Controversial Album Title." October 18, 2007. www.mtv.com/news/articles/1572287/nas-explains-controversial-album-title.jhtml (accessed June 10, 2012).

———. "Nas Changes Controversial Album Title." May 19, 2008. www.mtv.com/news/articles/1587737/nas-drops-controversial-album-title.jhtml (accessed June 10, 2012).

Saunders, Patricia. "Defending the Dead, Confronting the Archive: A Conversation with M. NourbeSe Philip," *Small Axe* 26 (June 2008): 63–79.

Scott, David. "The Re-Enchantment of Human-
ism: An Interview with Sylvia Wynter." *Small
Axe* 8 (September 2000): 119–207.

Sharpe, Christina. *Monstrous Intimacies: Making
Post Slavery Subject.* Durham, NC: Duke Uni-
versity Press, 2010.

TV on the Radio. "Red Dress." *Dear Science.* Chi-
cago: Touch and Go Records, 2008.

Walcott, Rinaldo. "The Problem of the Human:
Black Ontologies and 'The Coloniality of Our
Being,'" in *Postcoloniality/Decoloniality—
Black Critique,* ed. Carsten Junker and Sabine
Broeck, forthcoming.

Whitsitt, Novian. "Reading Between the Lines:
The Black Cultural Tradition of Masking in
Harriet Jacobs's *Incidents in the Life of a Slave
Girl,*" *Frontiers: A Journal of Women Studies*
31, no. 1 (2010): 73–88.

Wynter, Sylvia. "Beyond Miranda's Meanings:
Un/Silencing the 'Demonic Ground' of Cali-
ban's 'Woman.'"*Out of the Kumbla: Carib-
bean Women and Literature,* ed. Carole Boyce
Davies and Elaine Savory Fido. Trenton, NJ:
Africa World Press, 1990, pp. 355–372.

———. "Unsettling the Coloniality of Being/
Power/Truth/Freedom: Towards the Human,
After Man, Its Overrepresentation—An Argu-
ment." *CR: The New Centennial Review* 3, no.
3 (Fall 2003): 257–337.

Wynter, Sylvia, and Katherine McKittrick, "Un-
paralleled Catastrophe for Our Species? Or, To
Give Humanness a Different Future: Conver-
sations," in *Sylvia Wynter: On Being Human
as Praxis,* ed. Katherine McKittrick. Durham,
NC: Duke University Press, 2014.

The commons: Infrastructures for troubling times*

Lauren Berlant

University of Chicago, USA

This essay comes from my forthcoming book, *On the Inconvenience of Other People*, which has three broad aims. The first is to provide a concept of structure for transitional times. All times are transitional. But at some crisis times like this one, politics is defined by a collectively held sense that a glitch has appeared in the reproduction of life. A glitch is an interruption within a transition, a troubled transmission. A glitch is also the revelation of an infrastructural failure.[1] The repair or replacement of broken infrastructure is, in this book's argument, necessary for any form of sociality to extend itself: but my interest is in how that extension can be non-reproductive, generating a form from within brokenness beyond the exigencies of the current crisis, and alternatively to it too. But a few definitional problems arise from this observation. One is about what repair, or the beyond of glitch, looks like both generally and amid a catastrophe; the other is defining what kind of form of life an infrastructure is. These definitional questions are especially central to contemporary counternormative political struggle.

Infrastructure is not identical to system or structure, as we currently see them, because infrastructure is defined by the movement or patterning of social form. It is the living mediation of what organizes life: the lifeworld of structure. Roads, bridges, schools, food chains, finance systems, prisons, families, districts, norms all the systems that link ongoing proximity to being in a world-sustaining relation. Paul Edwards (2003) points out that the failure of an infrastructure is ordinary in poor countries and countries at war, and people suffer through it, adapting and adjusting; but even ordinary failure opens up the potential for new organizations of life, for what Deborah Cowen (2014) has described as logistics, or creative practicality in the supply chain (see also Masco, 2014; Rubenstein, 2010). So the extension of relations in a certain direction cannot be conflated with the repair of what wasn't working. In the episode of a hiccup, the erasure of the symptom doesn't prove that the problem of metabolizing has been resolved; likewise, the reinitializing of a system that has been stalled by a glitch might involve local patching or debugging (or forgetting, if the glitch is fantasmatic), while not generating a more robust or resourceful apparatus. All one can say is, first, that an infrastructure is defined by use and movement; second, that resilience and repair don't necessarily neutralize the problem that generated the need for

---

Corresponding author:
Lauren Berlant, Department of English, University of Chicago, Walker Museum 413 1115, East 58th Street, Chicago IL 60637 USA.
Email: l-berlant@uchicago.edu

them, but might reproduce them. At minimum resilience organizes energies for reinhabiting the ordinary where structure finds its expression: but that's at minimum.

The glitch of the present that we link to economic crisis, for example, threads through other ongoing emergencies involving the movement of bodies into and out of citizenship and other forms of being-with, occupation, and jurisdiction: so contemporary antiausterity politics point not only to new ties among disparately located and unequally precarious lives, but also mark the need for a collective struggle to determine the terms of transition for general social existence.[2] Terms of transition provide conceptual infrastructures not only as ideas but also as part of the protocols or practices that hold the world up. To attend to the terms of transition is to forge an imaginary for managing the meanwhile within damaged life's perdurance, a meanwhile that is less an end or an ethical scene than a technical political heuristic that allows for ambivalence, distraction, antagonism and inattention not to destroy collective existence. Jeremy Gilbert adapts Georges Simondon's concept of provisional unity or metastability for this matter, allowing us to see transitional structure as a loose convergence that lets a collectivity stay bound to the ordinary even as some of its forms of life are fraying, wasting, and developing offshoots among types of speculative practice from the paranoid to the queer utopian (Gilbert, 2014: 107–118). But insofar as infrastructures are made from within relation, I prefer an immanentist staging of the nonreproductive making of life.

Austerity policies are witnesses to the glitch of this moment, as are the political practices of Occupy and other antiausterity movements, and as are the antiracist and antixenophobic movements across the globe, insofar as they all define the present not just as unjust, but as a scene shaped by the infrastructural breakdown of modernist practices of resource distribution, social relation, and affective continuity, and that includes within communities of solidarity from the nation-state to the grassroots. Given newly intensified tensions, anxieties, and antipathies at all levels of intimate abstraction, the question of politics becomes identical with the reinvention of infrastructures for managing the unevenness, ambivalence, violence, and ordinary contingency of contemporary existence.

So if a glitch has made apparent these conditions of disrupted jurisdiction, resource, and circulation, a disruption in rules and norms is not the same thing as the absence or defeat of structure as such. An infrastructural analysis helps us see that what we commonly call "structure" is not what we usually call it, an intractable principle of continuity across time and space, but is really a convergence of force and value in patterns of movement that's only solid when seen from a distance. Objects are always looser than they appear. Objectness is only a semblance, a seeming, a projection effect of interest in a thing we are trying to stabilize. Thus, I am redefining "structure" here as *that which organizes transformation* and "infrastructure" as that which binds us to the world in movement and keeps the world practically bound to itself; and I am proposing that one task for makers of critical social form is to offer not just judgment about positions and practices in the world, but terms of transition that alter the harder and softer, tighter and looser infrastructures of sociality itself.[3]

In addition to contributing ways to think about structural transformation by way of transitional form, this project recasts the place of nonsovereignty in social life and links it to the postsovereign condition of the nation-state with respect to security and capital.[4] Rather than thinking of the "freedom from" constraint that makes subjects of democracy value sovereignty and autonomy, and rather than spending much time defining the sovereign-who-is-never-a-sovereign (Agamben 1998; Mbembe, 2003), this project looks to nonsovereign relationality as the foundational quality of being in common, seeing, for example, individuality as a genre carved from within dynamics of relation rather than a state prior to it or distinct from it. As a result, this project works against the pervasive critical theory discourse of "belonging" insofar as "belonging" operates as a synonym for being in

social worlds. I am not at all advocating a politics and esthetics of *non*belonging, however. Instead, I want to ask how we create forms and modalities within relation. Just because a space on a grid is shared intends nothing about the affective and material substance or even the fact of membership, just as, in José Muñoz's terms, a racialized and sexualized *dis*identification is not the opposite of identification (Muñoz, 1999). Just because we are in the room together does not mean that we belong to the room or each other: belonging is a specific genre of affect, history, and political mediation that cannot be presumed and is, indeed, a relation whose evidence and terms are always being contested. Belonging is a proposition, a theory, a forensic fact, and a name for a kind of attachment. The crowded but disjointed propinquity of the social calls for a proxemics, the study of sociality as proximity quite distinct from the possessive attachment languages of belonging.[5]

It follows, then, that in this essay the commons concept is not on offer as the solution to the problem of psychic and structural social antagonism, nor a motive for toppling the state and capital, nor a synonym for belonging better: if anything, the essay holds in suspicion the prestige the commons concept has attained in the US and theory-cosmopolitan context, often signifying an ontology that merely needs the world to create infrastructures to catch up to it. Although the commons claim sounds like an uncontestably positive aim, the concept in this context threatens to cover over the very complexity of social jockeying and interdependence it responds to by delivering a confirming affective surplus in advance of the lifeworld it's also seeking.

Politics is also about redistributing insecurity, after all. So whatever else it is, the commons concept has become a way of positivizing the ambivalence that saturates social life about the irregular conditions of fairness. I'm not arguing against the desire for a smooth plane of likeness, but arguing that the attachment to this concept is too often a way of talking about politics as the resolution of ambivalence and the vanquishing of the very contingency of nonsovereign standing that is at the heart of true equality, where status is not worked out in advance or outside of relation.[6]

This essay proposes an alternative use of the object.[7] It proposes that the commons concept is a powerful vehicle for troubling troubled times. For the very scenes in which the concept attains power mark the desire for living with some loss of assurance as to one's or one's community's place in the world, at least while better forms of life are invented and tried out. The better power of the commons is to point to a way to view what's broken in sociality, the difficulty of convening a world conjointly, although it is inconvenient and hard, and to offer incitements to imagining a livable provisional life. The close readings that follow aim to extend the commons concept's pedagogy of learning to live with messed up yet shared and ongoing infrastructures of experience.

This leads to the third aim of the project. Social theory usually derives its urgency and its reparative imaginary from spaces of catastrophe and risk where the exemplum represents structural failure, such as in this image and narrative of the abandoned Detroit public schools book depository (Figure 1). But what if we derived our social theory from scenes of ambivalence, which is to say, the scenes of attachment that are intimate, defined by desire, and overwhelming? (Figure 2) We understand why we are overwhelmed by extreme and exhausting threats and actualized violence, as they menace the endurance of the world and of confidence in ongoingness. What's harder to process is why it is hard to bear the very things we want. The gambit of the longer book, which offers sex, democracy, and life itself as things that we both want and struggle to want, is that scenes of genuine ambivalence will better disclose some matters of managing being in proximity in the awkward and violent ordinary. The commons concept is this book's case of ambivalence about democracy.

What follows is a staging of the commons and the *sensus communis* that queries their prestige. It tracks their placeholder status as a type of the fulfillment of belonging: it thinks
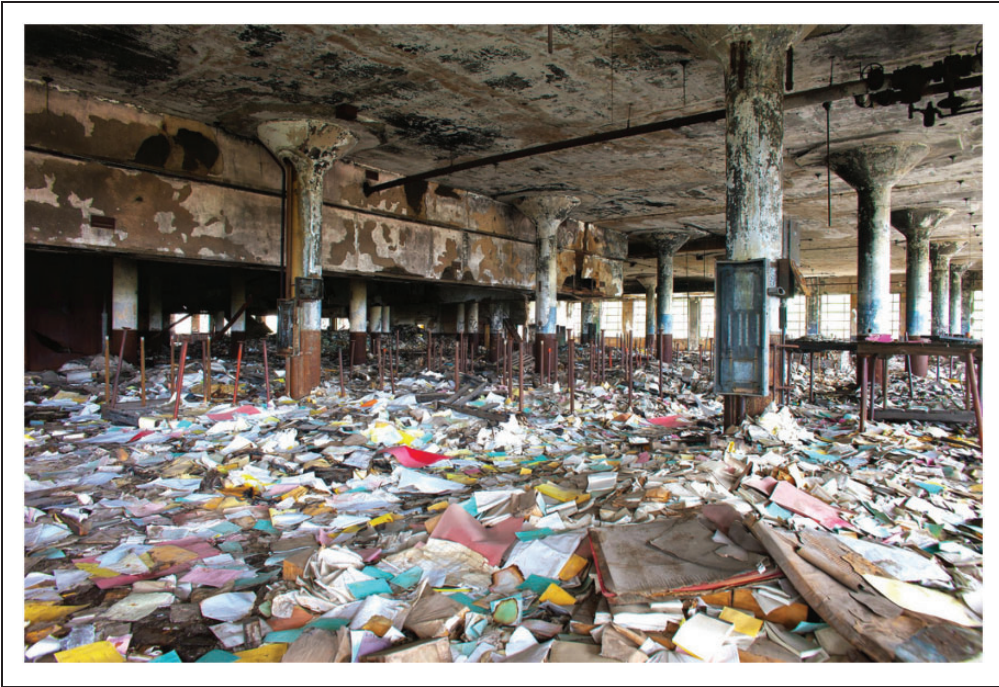
Figure 1. Thomas Hawk (2010).

commons infrastructure as a pedagogy for rethinking structure in constant transition and casts constant transition as involving loss, among other things. Reading with Ralph Waldo Emerson, Juliana Spahr and Liza Johnson, it questions the idealist materialism of the commons concept as it is often floated. It does not look to the undercommons of black study and prophetic solidarity as a solution to the devastating faults of the Euro-white idealist tradition, but asks visceral questions about how the commons as an idea about infrastructure can provide a pedagogy of unlearning while living with the malfunctioning world, vulnerable confidence, and the rolling ordinary.[8] It uses the concept to consider losing good life fantasies that equate frictionlessness with justice and satisfaction with the absence of frustration. It asks what sexuality can do to provide glitchfrastructures for teaching unlearning. In this sense, it is in solidarity with recent arguments by Leela Gandhi that endorse the commons as a tool for breaking postcolonial imaginaries of a better sovereignty; but against her promotion of the concept as a naïve and vague imperfectionist wedge, I propose it as a training in bearing the irresolution of ambivalence against the thinness of a social imaginary that equates democracy with analogical likeness (Gandhi, 2011, 2014).

Second introduction: The commons sense

The recently "resuscitated" fantasy of the commons articulates many desires for a social world unbound by structural antagonism (see Žižek, 2009). "'Common' has a multitude of meanings," writes Peter Linebaugh, "common land, common rights, common people, common sense" (2009: 278). The common usually refers to an orientation toward life and value unbound by concepts and divisions of property, and points to the world both as a finite resource that is running out *and* an inexhaustible fund of human consciousness or creativity; at

Figure 2. Stephanie Brooks, "Lovely/Caution."

the same time, the proclamation of "the common," its manifestic function, is always political and invested in counter-sovereignty, with performative aspirations to decolonize an actual and social space that has been inhabited by empire, capitalism, and land-right power.[9]

This means that the commons is incoherent, like all powerful concepts. Under its name, across the globe, communities tap into legacies of occupation to contest ownership rights and resource justice, and under its name, people project a pastoral social relation of mutual attachment, dependence, or vitality. Concepts of the common attached to "the common sense" also point to irreducibly different angles: from the most normative view of how things are to the Kantian *sensus communis*. For Roland Barthes (1972) and Ann Laura Stoler (2008), "common sense" is merely the bourgeois order of truth standing in for the universal, what Stoler calls "a folk epistemology." For Raymond Williams (1977: 55–71, 1976: 204–207, 210–212), it is a "structure of feeling," which locates affective mutuality in the atmosphere of the common historical experience of class antagonism. In contrast, for Kant (1914) and Arendt (1992) the *sensus communis* involves nothing so referentially specific as the capitalist good life. It refers instead to a sense of what is common above and beyond the appearance of the material world and its norms: the "sense" in this tradition of common sense is exercised in the capacity of humans to achieve the free movement of their faculties toward disinterested, impersonal, nonrepresentational, and yet "universally communicable" judgment on the model of an esthetic attunement to something like beauty.

Steven Shaviro (1998) argues that the Kantian concept of beauty or attunement looks not to any normative sense of symmetry or elegance as a ground for principles like justice or freedom: attunement is a perceptual event that bypasses cognition and hits the subject the

way a song does, as a singular perception all at once that is, at the same time, universal (see also Brodsky, 2010; Cornell, 2000; Johnson, 2011; Zerilli, 2009). This is to say that, in all of its traditions, the *sensus communis* is deemed a higher gut feeling, if you will. It involves the recognition of normative or universal principles of being; it organizes a potential world around them; it moves the body away from satisfaction with the horizon of conventional experience toward a visceral self-experience of freedom that ought to govern the activity of all being in common.

So too the universal appears in *political* fantasies of the commons that structure much contemporary political theory and action: as Slavoj Žižek summarizes it, it involves protecting "the shared substance of our social being whose privatization is a violent act [and] which should also be resisted with violent means" (2009: 91). To clarify, three kinds of referent motivate *this* urgent version of the commons: one, the struggles of disenfranchised citizens and migrants, whether in the undercommons or in appropriated indigenous habitations; two, the substance of immaterial labor, the world- and life-making activity of humans; and three, the being of nature as such, which includes but does not prioritize humanity. This collection of concerns provokes Paolo Virno (2004) to associate the contemporary commons with actual and immanent but affectively concrete global homelessness.

These senses of the sense of the common have also generated a precarious politics in the global Occupy and the European, Latin American, and South Asian antiausterity contranational movements, which ask: is society organized for the flourishing of wealth or the flourishing of life? How do we think about the redistribution of resource vulnerability in relation to the distribution of rest, strength, and enjoyment? What roles should political institutions have in fomenting collective life, or do we need a better structural imaginary to organize the complexities of stranger intimacy? You will no doubt note the unbalanced load of desire that the commons claim now carries. These questions mark a new phase of a serious collective rethinking of what, if anything, attention to the commons can contribute to producing in relation to the wreck of the old good life fantasy.

Precarity talk, Austerity talk, and Commons talk, in other words, try to occupy a different formalism, or patterning on the move, or infrastructure: that's what they're for. In contrast, the commons projects of fugitive utopian performance associated with José Muñoz and Fred Moten extend this problematic not from the position of universal singularity, citizenship, common sense, or a like injury within a scene of violence, but toward a temporally different understanding of how to convert a violently unequal historical inheritance and experience to a space where history and experience already recombine beyond consensus realism. For Moten and Harney (2013) the undercommons, where all condemned to fugitive legitimacy live and move, is prophetic, allowing the mind to be two places at one time, in the space of history and critique and in the scene of black study that makes movement in the fold of the known world, but beyond it. For Muñoz the brown commons is a space where fugitives already meet to receive each other on another a plane thus the centrality of a performative esthetics to his thought. The brown commons is a resource for making folds of relation in the scene of encounter that makes other things happen, and in that otherness, the means for a new attunement, a new history. It's a name for critical queer of color and punk negativity, about turning getting negated into a willful act that also moves the future around. Muñoz writes: "I contend that the clinamen, or the swerve at the heart of the encounter, describes the social choreography of a potentially insurrectionist mode of being in the world" (2013: 97). He leans on Jean-Luc Nancy's image of the touch that preserves the specificity of the Other in the register of a common form that's apprehensible but not representable. The commons concept here too is reparative against the world's destruction

of the life whose labor sustains it while negating the exploited and negated humans who remain who deserve a break, a swerve, and a future that can only be found in the courage to be more interested in than threatened by the commonality of difference.

But what this essay seeks is another side of the spatal productivity of the swerve and the induction of fugitive time through a form of study that uses critique to intensify one's attachment to the world felt but yet unestablished. That is, it sees what's best in the commons concept in its power to retrain affective practical being, and in particular in its power to dishabituate through unlearning the overskilled sensorium that is so quick to adapt to damaged life with a straight, and not a queer, face.

In other words, in contrast to the universalizing yet concrete affective abstraction of the *sensus communis*, this political version of the common requires a transformed understanding of the relation between any version of the *sensus communis* and what embodied human action might do to acknowledge, advance, and represent sociality as something other than a rage for likeness. The commons is an action concept that acknowledges a broken world and the survival ethics of a transformational infrastructure. This involves using the spaces of alterity within ambivalence.

Stanley Cavell comments on "Wittgenstein perceiving our craving to *escape* our commonness with others, even when we recognize the commonness of the craving; Heidegger perceiving our pull to *remain* absorbed in the common, perhaps in the very way we push to escape it" (Cavell, 2003: 64). Many philosophical traditions in relation to the ordinary converge in Cavell's thought: what's important here is that the movement to be together better demands a confidence in an apartness that recognizes the ordinary as a space at once actively null, delightfully animated, stressful, intimate, alien, and uncanny (see Cavell, 1994: 32). In order for the common and the commons to be something other than pure abstraction or compulsive repair that collapses what's better into what feels better, we must see what can be done to the dynamics of attraction and aversion—the dynamics of attachment and attention—that mark and manage the overpresence of the world.

Crossing Boston Common: Or, Emerson's Worm

Boston Common exemplifies the nonexistence of its own name. The oldest Common in the United States, it carries in its various monuments an American archive of crimes against human flourishing along with the affective promise that, even within capitalism, public premises should exist on which to develop a sensorium for a commons to come.[10] The ironies of this fantasy have not gone unrecognized. In "For the Union Dead," for example, Robert Lowell presses his face against the black iron of the Boston Common gate, exiled from experiencing the freedom of relationality that any Common holds out to a public against the world of property values and enclosure (Lowell, 2003). Inside, "yellow dinosaur steamshovels . . . grunting" (63) as they destroy the land are installing an underground garage, as though the biggest problem in Boston is parking – which it is, if parking is a figure for living somewhere. Indeed, looking around, the poem sees the whole system in shambles, the statehouse held together by scaffolding, monuments propped up by planks. But the commons concept still matters, still adds dimensions of alternativity to consciousness of what life can be.

It is not, though, a fantasy of the affectionate body politic at leisure that keeps Lowell at such a park space but its demonstration of belonging to a violent nationalist history. The poem focuses on the Saint-Gaudens monument to Robert Shaw's Massachusetts 54th Regiment, a regiment entirely composed of black soldiers, decimated during the Civil War. This monument was planted there to honor that sacrifice, but also to establish the very pastness of supremacist violence, but the poem refuses the story of Northern racial

blamelessness. The Union fought over what forms of limited sovereignty capitalist democracy could bear: encountering a celebration of this low bar imaginary makes Lowell gratified and sick. He thinks of Hiroshima, not yet monumentalized there, not yet displaceable enough into the past through mourning's convenient screen memories about the costs of liberal freedom.[11]

Lowell devolves in order to not be defeated by his own ambivalence, identifying with "the dark downward and vegetating kingdom" (63) of fish and reptile rather than the dinosaur machines that make visible culture over and over as though to improve it requires drowning out the noise of its previous holocausts. It is too much to pretend that all of human history and activity isn't a choking destruction. In that sense, in the battle of antimodernity he wages, in his refusal of civilization and disrespect for minor sites of refuge and relief, his return to the Common is deeply a return to Emerson and his Boston Common, too. Lowell is unable to disembitter himself enough to reenact the confidence of his ancestor that, with the right orientation, anyone might ride the wave of the *sensus communis*, thereby extending life further into life, beyond the flesh. Devolutionary compost breeds a more honest consciousness about what it means "to choose life and die" (Lowell, 2003: 64). For Emerson, though, the fossil offers a version of singularity that frees him from an obligation to sit with the embodied relationality of collective being.

Famously, in his essay, "Nature," Emerson evoked a Boston Common offering the potential to embody the *sensus communis* against modern capitalism's degradations to consciousness (Emerson, 2003). Paradoxically, though, to achieve this end, Emerson goes to the Common not to be *in common* with others but to push the noise of other men from his head. "To go into solitude," he writes, "a man needs to retire as much from his chamber as from society" (Emerson, 2003: 37). The historical moment of "Nature" is crowded with human precedent so saturating that Emerson finds unbearable the pressure it exerts on his mind's capacity to access the universal and common sense. "I am not solitary whilst I read and write, though nobody is with me. But if a man would be alone, let him look at the stars" (37). Why would a man go to the commons to be alone?

Men in the flesh, sensed as flesh, do not create joy in Emerson, so there's that. As Laurence Buell writes, Emerson never welcomes the appetitive, although he does trust the affections when properly oriented away from worldly ambition (Buell, 2004: 65). Typical men, with their gross materiality, false assurance, and confusion of capitalist wants with rationality, get in the way of the universal common sense's capacity to acknowledge the vital relation among things. So, not surprisingly, on this very same Boston Common Emerson exhorted Whitman to desexualize his poetry. Whitman, Emerson is said to have said, should write about man, not men; ideas and language, not bodies or anything bearing "mean egotism" (Folsom and Price, 2005: 71; Richardson, 1995). Always the Spinozan, Emerson seeks the joyous increase of his powers and, like his heirs Hardt and Negri, he looks for this to the experience of universal singularity and not toward embodied being or beings.

The Common is a place he goes not to possess but to be possessed, to submit to being dispossessed of property in the self by the immediacy of a nature that dissolves the attachment to sovereignty and instrumentality. Emerson figures himself there famously as a transparent eyeball so he can experience a mode of satisfying world relationality that frees his spirit into a space neither personal nor interpersonal, becoming a "nothing." From that figural position one no longer confuses sovereignty for the form of appetitive nonsovereignty that treats the world as a cupboard of things to grab at and fetishize. One no longer confuses freedom with the merely formal and forensic status of the political subject or the chosen intimate: "The name of the nearest friend sounds then foreign and accidental: to be brothers,

to be acquaintances, — master or servant, is then a trifle and a disturbance'' compared to ''the perpetual presence of the sublime'' (Emerson and Plumstead, 1969: 349).[12] This self-dispossession does not feel like loss, though. Yet the presence of the sublime tells us to attend to the affective work of becoming common.

At first achieving a reoriented sensorium doesn't seem like a painful loss. Cavell describes Emerson's desire to destroy the fallen common on behalf of the *sensus communis* through a practice of reinventing analogy: ''the analogy that marries Matter and Mind'' (Cavell, 2003). This seems like a change that rides the wave of higher continuity. Mind, or the idea, releases the body from its feedback loop errors and allows the subject of the Boston Common to practice a mode of world acknowledgment that is spiritualizing and not the movement of an internal state toward an external one. This means, counterintuitively, that the analogical marriage of matter and mind is not a matter of synthesis, mimesis, or the extension of likenesses. It involves a chain of discontinuous continuity secured by the movement of figuration.

Turning from men, Emerson would rather think about worms. The epigraph to ''Nature,'' a poem by Emerson, reads,

> A subtle chain of countless rings
> The next unto the farthest brings;
> The eye reads omens where it goes,
> And speaks all languages the rose;
> And, striving to be man, the worm
> Mounts through all the spires of form. (2003, 35)

On offer here is a logic of proximity that looks like an infrastructure, but an infrastructure of association, unrepresentable except through figuration's intensity of displacement. The eye reads prophetically but without narrative assurance; rings on a chain resonate with nearness across extensive but not saturated space; the movement from eye to rose inters human perception in a wrenching enjambment and metaphorizes ''speaks'' beyond the limit of the sign. Then, the worm. The worm strives to be man simply because moving in form, not because sharing anything like tradition or organs: just nonsubjective intention. This is presumably a reciprocal association. To be free on this commons also requires gliding through the mud: the propping of materiality on continuous movement uninterrupted by possessive ego performance. Branka Arsić claims that such a streaming movement is what Emerson means by ''thinking'': interrupting the ego distortions of ''reflection'' with dynamic projection ''carve[s] out … paths on the earth-brain so that its vegetation starts growing'' (Arsić, 2010: 89). This new configuration is linguistic in ''Nature,'' structured by the rhizome of analogy that pushes out the conventional to make room for an original thought, figured in enjambment, lyric leaps, and evocative speaking.

To become worm, then, so to renew becoming man, Emerson's man must take up a position as an aspirational formalist. But in this version form is not a thing to be rested in. The worm creates a space of movement that becomes form. If it is form it is social, that is, of the world; as form it is movement and singular. In the wormhole the worm creates an infrastructure to hold itself in the world: the hole fits the worm, but only as it moves. It reveals an ontological flatness of all matter but more vitally such recognition induces movement into new proximities. This transduction of the natural symbol into a revelation of ontological likeness in movement through analogy makes Emerson ''glad to the brink of fear'' (2003: 38). For the form of the analogy is not a brace or foundation but a sign of world-making action and exposure to risk: what Juliana Spahr calls a zone defined by the sliding that happens in it (2011: 61).

Towards a poetics of infrastructure

Alone, then, the Emersonian man looks at the stars to embody the *sensus communis* that can grasp the world in its immediacy. But the stars do not return the world to Emerson in the shape of a distilled something that is held in common. Instead they provide for him spatially the opportunity for an impersonal affective immediacy through a technical distance that has always and ever to be traversed. For the possibility of accessing the common that subtends all being requires him not to inhabit or possess it but to desire it—to have, one might say, a crush on it.

We will remember that he says to look at the stars to achieve the common sense. He continues, "The rays that come from those heavenly worlds, will separate between him and what he touches." That sensual "separation between" suggests an important foundation for Emerson's sense of what analogy can induce for a social theory of the infrastructural common: a new experience of the ontological proximity of things to each other not by way of metaphor's conceptual figuration; nor by anaclisis, the propping of x onto y that reveals the chain links of investment in a psychic economy; nor by parataxis, a catalog; nor by what the flesh feels immediately as touch and impact.

Instead, the separateness between, the singular aloneness that is not necessarily loneliness, *has* to exist for the common sense even to be conceived of. We would not, after all, need the commons concept if alterity weren't moving through the wormholes that structure intimacy, itself a sensed but unrepresentable figural space graspable only in movement of bodies, moods, and atmospheres. It foregrounds the ellipsis of difference in which historical being and technical separateness resonate with and push each other formally, in practices. The space between and the spaces among involve distances created by the disturbance of being close without being joined, and without mistaking the other's flesh for one's own or any object world as identical to oneself. Nonsovereignty is *not* here the dissolution of a boundary. It's the experience of affect, of being receptive, in real time.

The word Emerson uses for the experience of natural immediacy is not *belonging*, but "detection": "Not only resemblances exist in things whose analogy is obvious," he writes, "as when we detect the type of the human hand in the flipper of the fossil saurus, but also in objects wherein there is great superficial unlikeness." "Thus architecture is called 'frozen music'...and [a] 'Gothic church'...'petrified religion'" (60). He thinks of metaphor as a subset of analogy. Even if the natural symbol, then, integrates processes to produce models of a world unbound by mortal distortions, the work is to detect, therefore to create spaces within, the image that can assume the likeness of a motile singularity.

In the commons of the "separation between," therefore, a sense of worlding is unimpeded by an economy of loss or a worry about the destruction of what is finally an indestructible singularity. Paradoxically, by putting things into analogical relation Emerson interferes with the mode of likeness that characterizes the narcissism of sovereign-style subjectivity and allows nonsovereignty to feel like the relief from the reproduction of selves. This nonsovereignty does not bind relationality to any specific shape, though. This positive version of dispossession makes the world bearable by way of imminent space paced out by a social, but not mutual, movement in practice.

We have learned all this by following the becoming-man of the worm. As its track is an infrastructure of continuity across the surface of things, it helps us see analogical figurality as a conduit for social infrastructures as well. Susan Leigh Star, the great ethnographer of infrastructure, describes it as a relational and ecological process of sustaining worlds that is mostly visible in its failure. Star, more a formalist, argues that when systems of the reproduction stop working, you can see the machinery of the separation that has induced relations among things and the dynamics that kept them generating the energy for

world-making: when infrastructural things stop converging, she writes, they become a topic and a problem rather than automata of procedure. So we can see the glitch of the present as a revelation of what *had been* the lived ordinary, the common infrastructure. When things stop converging they also threaten the conditions and the sense of belonging, but more than that, of assembling (see Star, 1999, 2002; Star and Bowker, 1999; Star and Strauss, 1999).

This way of thinking infrastructure-making as the convergence scene of various value abstractions, material protocols for metabolizing resources, and socially distributed experience taps into David Harvey's view that the disturbance capital makes in creating dominant class interest infrastructures can also foster countermovements in new infrastructures for life and sociality, despite and in response to the neglect and destructiveness of the state and capital toward the very contexts of life and lives that they're exploiting.[13] Movement is what distinguishes infrastructures from institutions, although the relation between these concepts and materialities is often a matter of perspective. Institutions enclose and congeal power and interest and represent their legitimacy in the way they represent something reliable in the social, a predictability on which the social relies. Institutions norm reciprocity. What constitutes infrastructure in contrast are the patterns, habits, norms, and scenes of assemblage and use. Collective affect gets attached to it too, to the sense of its inventiveness and promise of dynamic reciprocity.

This is why, in contemporary commons talk, social institutions that deliver mass resources are deemed worthy only if they provide an infrastructure for the common rather than privatizing it, along with providing something like what the state does, an exterior-looking focalizing point of material and imaginary survival for its often desperately nonsovereign members. Seeing world building as immanence, as infrastructure-making, starts where the universalist sovereign fantasy is expelled as a primary figure for mass flourishing: it is here that the Spinozan tradition finds its limit. As the Spinozan Transcendentalists and their heirs in Deleuze, Hardt and Negri (2011), and, from a queer perspective, Lee Edelman (2004) and Leo Bersani (2009) demonstrate, it is very hard to move through symbolization without becoming overattached to a primary analogy or figure. Institutions generate the positivity of attachment and protocol even while destroying the livelihood of the attached lives. The notion of structure as calcified, as a thing, also negates the ontology of adaptation and adjustment by casting them as epiphenomenal. The figure—whether of desire's negativity or the positivity of Commonwealth—can block movement, establishing an anchor in a tableau and barring the formal productivity of movement. But institutional failure leading to infrastructural collapse, from bridges to systems to fantasy, here leads to a dynamic way to disturb the old logics, or analogics, that have institutionalized images of shared life.

Even as Emerson modeled a common on which other people could not jostle his idealization of universal movement, he demonstrated an ambition to model without mirroring a figure. Such a practice of communing contingency has been central to Juliana Spahr's practice of the last few decades. Her work's discipline of decolonizing language is processual, labile, and mobile, like Emerson's. The intensity of figuration expresses the sensuality of being in common without attaching it to a particular shape that could serve as a foundation for likeness. But it is radically not limited to the serial perfectionism of singularities, performing instead a mutuality coordinated in time *and* across space.

Here are some examples. Spahr's autobiography, *The Transformation* (2007), takes place in the intimately and politically collective moment between the Hawaii of 1997 and New York in the penumbra of 9-11-01. The text charts the erotic and intellectual love of three people for each other. But Spahr writes of an ambition not to see "relationship" writ

large as "a feedback loop" of desire or something clarifying like a triangle (206). You cannot make a stencil of the transformation. You cannot copy the form, become an analogy of it. The lovers seek what she calls "a Sapphic point" of impersonality that would allow them to think of themselves as a "they," avoiding the way a two person couple conventionally thinks of itself as an "it" that is a fact of life that must be lived within a confused and impotent way. It's not singularity, it's not solidarity; it's a mixture of idioms creating an affective scene intense with form-making noise.

Impersonating themselves as a collective proliferates analogies:

> They just wanted to talk to each other the way that humans talk to each other when they go on long car trips in the country and they have nothing really to say after the first hour in the car but sometimes in the hours that follow they might point something out or talk some about what thoughts came to them as they drove along, mesmerized by the blur of space passing by them. They wanted to be the way that humans might be they with a dog and a dog they with humans, intimately together yet with a limited vocabulary. They wanted to be they like blood cells are compelled to be a they. What they meant was that they were other than completely autonomous but they were not one thing with no edges, with no boundary lines. (207)

"And when they thought rationally they felt that being they in this awkward time should have made them feel more safe" (207). Of course it doesn't, because form is not only a wish for a refuge, a cushion: it is also social, an exposure, a mediation, and a launching pad in relation to which beings can find each other to figure out how to live in a movement that takes energy from the term "movement's" political resonance. As a poet of infrastructure, she writes about enclosures that are located outside and when she's inside there are always open windows and screens, too, such as near the computer. Language measures something about how movement happens across the connected mediations.

In other words, here the infrastructure of the social emerges within, and takes on the dynamics of, an open plan. But it is not a flat plane, because language is a bumpy surface, a hard bed for bodies and the histories they shape, and because they understand that they want to be like what they are not yet like. Despite an esthetic that uses collecting observations to gather up the world, this work's aim to carve out a new common sense of analogy that sees it as a curiosity about the outcomes of the disturbance of a relation's substance. Spahr thus works the linguistic dynamics of form's inevitable pointing beyond itself toward multiple trajectories of history, language, power, and desire that converge in the noise of the present. Theirs is a *sensus communis* that ethically must remain disoriented, open: the eyes are open to the aleatory and receptive, but not unfocused. In her work infrastructure is practice based, but claims no performative truth: it doesn't create a real, it holds statements up in a tensile structure that is always making things different as they course through the material world. To say that Spahr is, therefore, a poet of infrastructure, a queer infrastructure, is to point to an esthetic zone of perverse undefensive expansion in multiple dimensions that risks speculating about everything, even what's threatening and aversive.

But this practice does not become a fetish in later work. In *This Connection of Everyone with Lungs* (2005), she hones this queer reboot of the common by way of a practice of hypernaming and indistinction. In italicized sections prior to each poem, she describes coming to terms with the wars in Iraq and Afghanistan while living far away in a Hawaii where U.S. military operations are also ordinary, everyday; integrated with aural and visual mediations of world destruction, celebrity scandal, birdsong, love and the ocean. Such a willful poetic seems not, at first, to be opening up beyond its desire to be good and do good. But the formal practice itself installs a glitch in virtue.

There are these things:
cells, the movement of cells and the division of cells
and then the general beating of circulation
and hands, and body, and feet
and skin that surrounds hands, body, feet.

This is a shape,
a shape of blood beating and cells dividing.

But outside of this shape is space.

There is space between the hands.

There is space between the hands and space around the hands.

There is space around the hands and space in the room.

There is space in the room that surrounds the shapes of everyone's
hands and body and feet and cells and the beating contained
within.

There is space, an uneven space, made by this pattern of bodies.

This space goes in and out of everyone's bodies.

Everyone with lungs breathes the space in and out as everyone
with lungs breathes the space between the hands in and out

as everyone with lungs breathes the space between the
hands and the space around the hands in and out

as everyone with lungs breathes the space between the hands and
the space around the hands and the space of the room in and out

as everyone with lungs breathes the space between the hands and
the space around the hands and the space of the room and the
space of the building that surrounds the room in and out

as everyone with lungs breathes the space between the hands and
the space around the hands and the space of the room and the
space of the building that surrounds the room and the space of
the neighborhoods nearby in and out

as everyone with lungs breathes the space between the hands and
the space around the hands and the space of the room and the
space of the building that surrounds the room and the space of
the neighborhoods nearby and the space of the cities in and out. . .

In this everything turning and small being breathed in and out
by everyone with lungs during all moments . . .

Then all of it entering in and out. (3-9).

Close reading close breathing, Spahr turns everything into a holding environment that
articulates the commons in common but reshapes it too: other verses move across
mesosphere, stratosphere, islands, cities, rooms, hands, cells. Not identical, not joined and
spaced in a regular net, but copresent, singular, general, and dynamic. A space of collectively
encountered information emerges that is not necessarily collectively or coherently
comprehended information, performing the speed of encounter and the reality of a

constant processing. Chanting is access to hearing, assuming, and to not hearing too, a force toward and against listening. There's something romantic and humanist about this process esthetics: the fact of mixture at the political, productive, and cellular levels; the historical fact of bodies repairing and disappearing in relation to the universe of things that include each other, in sync and in counterpoint, taking each other on and in but never collapsing the distance that allows for attention. To take something in is to be nonsovereign in relation to it, but that's not equal to being destroyed by it. If we can distinguish mode from method, this mode allows presenting through movement, and not just movement in general but through digestion and extrusion of infrastructure at many material scales, like a worm.

This process of extension clears and cogs mental, affective, and textual space and goes on and on. *This Connection of Everyone with Lungs* (2005) has therefore been called flat, by which a few things are meant: its tone of voice is even and tries not to premediate attention; its sounds hold, without repeating the variations of, content; its syntax is homogenized through rhythm, pushing forth the presumption of linguistic equivalence of all things; it practices an evenly distributed attention that notices discrete disturbances in the sensual and cognitive field but focuses on accumulating what there is and moving across what's being held there suspended.

Rhythm turns out to be key to Spahr's analogical esthetics of the commons infrastructure here, involving listening beyond the situation, attending beyond the object, and following out the disoriented body to unsealed relations. Here flatness is not the opposite of what's dimensional but turns out to be the environment of relationality itself. "How connected we are with everyone," she writes (2005: 9): not just because we have ridden the same catastrophe and the same built environments but also because we have breathed in the dust particles of them. Dust is the effect of the contact between skin and the world, and also what buildings catch and the ground gives up. Pinged and hurt and inflamed by contact we've become disoriented together, and breathed it out jointly, even when overwhelmed by what's too hard, or too embodied (2005: 63).

This dust, that sand, that perturbing grain and the smooth surfaces and soft air too, act as resources for others. They are in us but the space they make is in a new alien zone of inexperience that might become something if we follow its tracks. The tone of the work varies, from a discourse of the commons as the space where being connected meets being collectively doomed to the practice of an esthetics of interruption where any observation releases a pressure both to stay there forever and to refuse becoming absorbed in the mirror of a suspension that refuses time.

Yet this description of nonsovereign nonhomogeneity internally magnetized by the continuity of life in breathing and the universality of infrastructural physicality understates the presence of internal resistance and glitch in *Everyone with Lungs*. The work can be funny, too, maybe unintentionally: its willful mixtures create the breakdown of the machine of sense on the way to expanding it; and its desire to witness complicity sometimes feels like aspirational alchemical hygiene:

> In bed, when I stroke the down on yours cheeks, I stroke also the
> carrier battle group ships, the guided missile cruisers, and the
> guided missile destroyers.
>
> When I reach for yours waists, I reach for bombers, cargo,
> helicopters, and special operations . . .
>
> Fast combat support ships, landing crafts, air cushioned, all of us
> with all of that. (74–75)

The point is to not use form as self-defense, nor to achieve beauty as attunement to a visceral sense of elevation and fairness. The point is not to homogenize the world as disaster: *This*

Connection of Everyone with Lungs is neither Adorno on the lyric (1991) nor is it *The Wasteland* (Eliot, 1998). The desire in this text is to convert idioms of sensed impact into a patterning that can become a scene of live collective being. If it is graceless, absurd, or willful, the risk of not trying for the common of awkwardness, complicity, and intimacy would be even more ridiculous and deadly. The work is about trying to stay in life gladly extended to "the brink of fear" without creating more enclosures or refuges.

Acknowledging pattern, with its constitutive interruptions, as a process of communing, is extended in Spahr's *Well Then There Now* (2011), the title of which is at once an admonition, a call to attention, a therapeutic caring, and another cataloguing of the common as a scene for the destruction of history, structure, syntax on behalf of staging what she variously calls "sliding" and gliding, shifting, and "slipping the analogy of the opening of things" (61). Here the problem of analogy becomes a project. In this book's version of the common, the Emersonian analogy of the "separation between" does not just reontologize likeness into proximities of ingestion and movement (as in *Everyone with Lungs*) but shreds, or what she calls "approximates" the "shapes of things I saw around me," the attachment of figuration to its traditions. The work does this by putting things next to other things in ways that emphasizes discontinuous yet ongoing experience.

Like *Everyone with Lungs*, *Well Then There Now* is located in Hawaii: but where in the previous work the land and language expose a common vulnerability in permeability to violence and desire, the following book intensifies and denaturalizes the noise of infrastructure itself, uses a translation program to move the languages of Hawaii back and forth into each other. English remains the scene in the end. But it is an English defined by glitch: a glitch in the reproduction of colonization, migration, occupation, reproduction, nature, and capitalist circulation (2011: 71). Spahr thinks of this enmeshing as in the tradition of ecopoetics, but in this version of it its image of repair looks conventionally just like disrepair.

> what we know is like and unalike
> as it is kept in different shaped containers
> it is as the problems of analogy
> it as the view from the sea
> it is as the introduction of plants and animals, others, exotically
> yet it is also as the way of the wood borer
> and the opinion of the sea
> as it is as the occidental concepts of government, commerce,
>   money and imposing
>
> what we know is like and unalike
> one stays diverse with formed packages
> that is what the problems of the analogy are...
> analogy from analogy.
> analogy of analogy.
> ....It cannot be of another way.
> it cannot be of another way. (56–58)[14]

The problems the text performs and explodes are two: the mechanicity of domination as it is structured, and the relation of the formally normative model of derivation to the figurativity of linkage. It cannot be of another way, repeated, cannot mean that the form of things is only fixed but that there are so many ways to be attached to the world. The multiplication of indices lets us begin to see the diversity of the situation of belonging. Belonging intends property, sovereignty, politics, tradition, being obligated, and sharing qualities: being with intends

proximity and practices of attention not defined by dissensus or agonism. Suddenly we dilute what we called structural by shifting the force of the normative infrastructures from the state and commodity capitalism into the ordinary that also includes the local plural intimacies and associations that make life sticky and interesting for it. But this is a multiplication of forms in movement, not a denial of colonial/racial/patriarchal/class inheritance.

That's significant. For Aristotle, analogy originally pointed to "an equality of relations" in proximity but later it became a broader vehicle for establishing likeness. Spahr breaks apart both models to refuse the presumption that equality involves the distribution of affective comfort and objective equivalency: but this does not mean she is not interested in equality. This poetic performs how difficult and demanding it is for a being who has taken up a position in life within imperial/capitalist infrastructures to move with the inconvenience of equally valued social being. Attempting to decolonize and deprivatize the visceralized, invested archive of likeness creates a different form to return to, putting the flat ontology of being in the world near the materiality of raw exposure and extreme risk that Paolo Virno argues is the ordinary of the contemporary commons, a dispossessedness in its awkward, convoluted, observational, comic, noisy, general, and diversely manifest vulnerability (Virno, 2004). There is no archaic in a crisis politics or poetics. The poetry is a technology in which all objects are granular and moving toward each other to make new forms of approach from difference and distance. This is what I mean by infrastructure.

Revisceralizing the commons

As communal spaces in the US and Europe—town squares, streets, schools, sidewalks, roads, and beaches—are diminished into nonspaces and zoned byways by the ballooning marketplace, and as what used to be called public utilities on the ever more archaic Monopoly board are now sold off to sustain shrinking urban and small town tax bases, a spirit of resistance is taking hold around the world. People are reclaiming bits of nature and of culture, and saying "this is going to be public space." Those public spaces are, like Emerson's, placeholder forms for the commons to come. In other words, through the commons concept the very concept of the public is being reinvented now, against, with, and from within the nation and capital. Through the neoanarchist reinvention of infrastructure down to the body's processual retraining a collective presencing is seeking its genres, which may or may not transform what the sense of the commons is. Negri claims that any such actions are precarious, as on the terrain of the reproduction of life "capital will reduce its opposition to a unity by sucking dry its living power" (Curcio and Zseluk, 2010). Likewise, older forms of populism, state socialism, and religious community are drawing energy from the concept as a way of recasting what the figure of community is that the public can imagine living and attaching affect to. Betsy Taylor, while optimistic, nonetheless reminds us that the commons must enter "through a phase of destruction into a complex process of material transformation that becomes the basis for renewal or 'natality'" (2003). She imagines locality as the solution to the violent fungibility and displacement of all production and life in contemporary capitalism (Taylor, 2002; 2003).

This is to say that what Naomi Klein calls the "radical reclaiming of the commons" (2001) will involve not only debate about the new ordinary to come and transformation of the vast wealth of the world into a part of a thriving sustainable life, but will also involve unlearning the expectation of sovereignty as self-possession, a mechanism for control and evidence of freedom. For the commons always points to what threatens to be unbearable not only in political and economic terms but in the scenes of mistrust that proceed with or without the heuristic of trust.

The commons wants terms in which trust would become more robust. In liberal capitalist contexts, and as our mirror in austerity politics has insisted, this will involve rethinking work as well as labor, and the political as well as politics. It will involve a massive recasting of the relation of economy to modes of intimacy, which is to say to obligations and practices of worlding and care, and in such a way that debunks the productivist ideology that collapses the citizen with the worker.

Meanwhile, in the situation tragedy of the present, we live on the precipice of infrastructure collapse economically, politically, and in the built and natural worlds. Mid-twentieth century forms of expansive world building toward the good life have little or unreliable traction. In a fundamentally unstable economy, planning can be seen as a neurotic reminder of the previous era's optimism that everyone, or anyone, could be significantly necessary to capital: now, what used to be called alienation, a structure that felt alienated, is experienced at once as sensual saturation and physical exhaustion; now, work has taken on a contradictory status as perpetual and impossible, as only an increasingly lucky few can afford to retire and progressively fewer can find economically adequate occupations. When inheritance and planning are up for grabs, when disturbed relations of cause and effect induce the present as a management crisis, time appears as a disturbance of continuity rather than an ordinary ground of anyone's or any institution's control. What ought the reproduction of life involve if life in the near future cannot move beyond superintending its own destruction in a contentious encounter of debt with discipline? What will it take to reorganize constituent power beyond the claim that society should be a club for constant growth, with the vast wealth that there is more justly distributed? What good could happen to personal life, to kinship, to the world of unsaids that house the reproduction of intimate life in the material and fantasmatic ordinary? Will the state's abandonment of its publics lead to abandonment of the state or an intensification of the demand for a sovereign?

Spahr's work slides consciousness of all of this into suspending its judgment without evacuating judgment, absorbing the noise of the world, and breaking the world into noise. This training in unlearning the world through reading it across many profoundly malfunctioning genealogical machineries produces an infrastructure of patience and appetite, an unusual pair. But if there is a flatness to what's evoked in her broken figuration of what also continues, and if the poetry evokes the violence of indistinction as a way to figure democracy, it is also haunted by the universalist desire to mechanize change rather than to stop for or to be stopped by the inconvenient. This was the bourgeois world-wish too, imagining the commons from the position of a rich life that manages the transition into fantasy, desire, and material exchanges that no longer governed by possession. We write out of where we write from. In our final case, the fantasy of losing the world gestures beyond the machinic, though: perhaps because it's already lost the plenitude and the resources of the promise.

In the film *In the Air*, Liza Johnson (2009) documents her hometown, Portsmouth, Ohio, although she doesn't name it: what it films could be many postindustrial US landscapes. Its two dominant affects are distraction and boredom: its central question, posed in different forms every day, is whether the burned out and "wasted" parents, who spend time drunk and antagonistic in cars and bars, will leave for their children what Patricia Williams describes as the inheritance of a disinheritance (1991: 217). The town in this film has been abandoned not only by its elders but by capital. It seems to have one industry, a junkyard (Figure 3); and the aspiration of the junkyard is that there are no events to speak of in it, that it be a silent space with no accidents, as though the world of this town is one punctured membrane away from becoming the scrap it now organizes (Figure 4). There are empty streets and buildings, and they are being maintained as a ghost town in case something returns to refill the infrastructure.

Figure 3. Liza Johnson, *In the Air*.

Figure 4. Liza Johnson, *In the Air*.

Figure 5. Cirque d'Art.

The film is about the neighborhood kids, its current crop of dreamers: they are protagonists in training. The training comes from the only live collective space we see in the town, a circus school that is called, in real life, but not in the film, *Cirque d'Art*. We see the teacher in the front of the room, and she is getting the group in sync, to do tricks. The kids are learning to spin and to fall. They are learning to lean on each other (Figure 5). A little light romance might be starting, but also autonomy and abs are developing so that a person can hold a whole body up in the air while the partner's elevated body swings inverted. None of this feels like the preenactment of fantasies of stardom or love. It does not feel fantasmatic, or allegorical, at all: learning to be awkward, to be graceful, to leap, and to fall is a training in attention and also in revisceralizing one's bodily intuition. It is a training that collapses getting hurt with making a life, but that includes the welcoming of exposure alongside of a dread of it. There can be no change in life without revisceralization. This involves all kinds of loss and transitional suspension.

The circus training changes what threatens and what comforts, it changes the referent of dread and the refuge. It does this by foregrounding the difficulty and pleasure of maintaining footing in conversations, in the world, and in performance.[15] Broken industries, fractured families still leave conversation moderately intact. It is as though the very body of everybody needs to relearn a capacity for the common again, from the Möbius strip of relationality. The high point of the film is difficult to describe because it's so simple, but the point of rebooting the commons is that one has to reinvent life by transforming what reciprocity means from its most simple to most complex and unclear but skilled exchanges.

In this final scene the kids want a ride somewhere. The parents are fighting or they are drunk. They are wasted or aggressively deadpan. Finally, they track a mother down while she is doing her job. For a living, if you can call it that, she sweeps an empty building by herself. She is a maintenance engineer for an abandoned architecture, hired to preserving the hoarded infrastructure of capital just in case it feels like returning for some more exploitation, recourse extraction, and contribution to the live atmosphere an abandoned town can only remember. As the kids approach her, she keeps saying, ''What do you want?'' They refuse to speak. Their sideways glance is of the knowing who refuse to reproduce the conversation that never shifts the scene of living.

This round-robin of the eyeball produces a new infrastructural rhythm: they surround the working mother and make her flip backwards, over them, but it's not over easy. At this point the film shifts the register in which it has been recording. No longer tracing the decay of the harsh real now denuded of the necessary defenses of fantasy interrupted by episodes of relearning how to play, it becomes not allegorical, not analogical, but a convergence of broken intimate likenesses, a prism: everyone who has been in the film on the periphery or in the interstices comes out of an imaginary space in the periphery of the shot and begins to do circus movements on mysteriously appearing launching and landing pads. For the most part they are white working class, but not entirely. For the most part they are strong and skilled, but not entirely.

For the most part their faces are still and composed, so muted as to be inexpressive; except for the one overweight girl who makes a victory sign with her arms when she does a split. She gets her own frame, her own moment of agility an event that compels some pause. But everyone is focused on attempting to become and to stay in synch, ready for next phase of movement (Figure 6). They embody not socially necessary labor time nor normative intimacy, but something simpler and often unbearable in ordinary time—socially necessary proximity. The analogy between all persons in a world abandoned by capital, by public interest, and by any notion of world building that we can see in any of the buildings becomes the condition of this convergence; and the space that someone probably owns becomes the commons made by movement.

The soundtrack to this scene is a 1998 song by the group Alice DeeJay called ''Better Off Alone,'' whose two lyric lines are ''Do you think you're better off alone?'' and ''Talk to me,'' a rhetorical question and imperative phrase. This song has had a major life in clubs and has been remade and remixed a number of times: there's nothing to it except the profundity of the question, its apostrophic address to the ''you'' who hears it, and the political desire to convert the rhetorical into an actual question.[16] Usually it appears in a dance site where people are alone together, singular and various, intimate and mostly anonymous, looking for a minor release from their sovereignty. The song delivers the core message of popular culture, that you are not alone, and challenges its listeners to be able to bear their ontological and material relationality.[17]

Johnson's film's magical realism, locating the destruction of life and desiccation of optimism under late capitalism and neoliberalism alongside of an optimistic pedagogy of mute embodiment and semiconfident intentional proprioception converts the pop to the serious without sifting the pleasure from the situation. It is trying to extend the teaching of the circus to the bread and circus, to the place where the fraying of intimate communication threatens to disperse the social into a singularity that has no energy for self-organization.

What is ''the air'' in *In the Air*? The film's very title multiplies the referent: what is in the atmosphere, world, and song? The film's episodes ask us to wonder, as though joining Spahr's inquiry into the common air, what is in the air, what turns the air between their

Figure 6. Liza Johnson, *In the Air:* the Cirque d'Art.

fingers to circulate the scrap from the junkyard and the humidity from the lake into their lungs and muscles? What is in the air to make new genres of convergence? If the air is the common it requires a minimal beat: of proximity, synchronicity, the world of an intimacy of fractured kinship no less intimate for the ambivalence. If there are limits to the esthetic induction of the invented structure that will govern the transformation, it is also necessary that they unlearn their defenses against each other too: because they are the remaining resource. If they are too beaten down to protest the abandonment of supply chain capitalism, its flight of wealth producing nervous illness from irritation to numbness, they have not yet given up the world. In a funny way this final scene is as powerful an antiwork and antiproductivity performance as you can imagine: but, not in the register of the manifesto, it is also a disturbance of the reparative aim that is always a part of the promise that the political holds out. Whatever makes it possible to bear each other will not come from belief in an abstraction.

Linebaugh concludes that "the commons [is better seen as] an activity and . . . a verb, . . .rather than as a noun, a substantive" (2009: 279). Massimo de Angelis (2007) argues that the commons is always a doing that is a decoupling from the reproductive energies of a normative life's standards of value, and not replacement for capitalism, a rhythm of return

that resonates with the project of an affective infrastructure's relative autonomy to structural political imaginaries. This essay is in sync with these claims. Nonetheless, one might respond to my infrastructuralism that any artwork's aspiration toward transforming the aspiration of the *sensus communis* is at best an episode to hang a wish on. That's what an episode is, a goad to rethink seriality, continuity, analogy. But not only that: every transformative example helps to make a broken analogy, a decoupled coupling. André Green writes that when discourse stops binding "word-presentation, thing-presentation, affect, bodily states, (and) act" the unbound affect might "snap the chain of discourse," inducing a "qualitative mutation" (2004, 214). The commons concept seeks out infrastructures for sustaining the mutations that emerge from the chains that are already snapping against those exposed to regimes of austerity.

I've argued that the inconvenient gesture of awkward analogy is prime material for deliteralizing the world of what's common in the commons as we know it through the present's distorting lens. Ian Bogost writes,

> Sometimes there is nothing more refreshing than a startlingly bad analogy. It's like a crisp cucumber bursting from the dip of a bad day's sphincter. Like a restorative rain drenching the vomit of last night's bender. Like a cool breeze tousling the blood-matted fur of roadkill. (2009)

He doesn't mean this in a positive way: I do.

The political and epistemic problem for the politically autopoetic—which is what all world-creating subjects in common struggle are—is that the placeholders for our desire become factishes, fetishized figural calcifications that we can cling onto and start drawing lines in the sand with (see Latour, 2010). What remains for our pedagogy of unlearning is to build affective infrastructures that admit the work of desire as the work of an aspirational ambivalence. What remains is the potential we have to common infrastructures that absorb the blows of our aggressive need for the world to accommodate us *and* our resistance to adaptation and that, at the same time, hold out the prospect of a world worth attaching to that's something other than an old hope's bitter echo. A failed episode is not evidence that the project was in error. By definition, the common forms of life are always going through a phase, as infrastructures will.

Notes

1. This extends my argument about glitch and impasse throughout *Cruel Optimism* (Berlant, 2011). Further reading on glitch esthetics in media theory, a central place for creative thought around the space and substance of commoning, begins with Peter Krapp (2011).
2. I learned to think about jurisdiction this way from Bradin Cormack (2007).
3. In the longer version I will spend time thinking with Anthony Giddens' work with structuration, episode, world time, and system; for the moment I'll say that this project is playing with many of the same mediations but with a much more porous and labile concept of form (see Anthony Giddens, 1984).
4. This argument about nonsovereign relationality as foundational to being extends an argument I've been developing in *Cruel Optimism* (2011) and *Sex, or the Unbearable*, written with Lee Edelman (2014).
5. On a related but more concretely spatialized concept of proxemics, focused on architectures of labor, see Liam Gillick (2007).
6. I learned to think about the affective insecurity of phenomenal equality from Adam Phillips (2003).
7. I learned to think this way about concepts from reading Donald Winnicott's *Playing and Reality* (1971) but more recently saw the theoretical relevance for critical practice in Juliet Mitchell's "Theory as an object" (2005).
8. This is a shout out to Fred Moten and Stephano Harney (2013). More discussion of their work to follow.
9. These generalizations come from broad and deep reading in the literature of the contemporary common/commons. (For significant impacts on this paper's situation in addition to Linebaugh, 2009, see Alessandrini, 2011; Casarino and Negri, 2008; The Edu-Factory Collective, 2009; Federici, 2011a, 2011b; Hardt and Negri, 2000, 2004, 2009, 2012; Moten and Harney, 2013; Negri, 2009; Ostrom, 1990; Taylor, 2003; Virno, 2004).
10. The current Boston Common webpage includes this amazing sentence: "Until 1830, cattle grazed the Common, and until 1817, public hangings took place here" (City of Boston).
11. Saidya Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America* (New York and Oxford UK: Oxford UP, 1997).
12. Throughout his notebooks and letters, Emerson tips a hat to Spinoza's inspirational effects on him (Mary Moody Emerson was more elaborate in her analysis of Spinoza, though): the point made here is in Emerson and Plumstead (1969: 349). See also Russell B. Goodman (1991: 18).
13. Harvey has been assessing infrastructure as class action and lifeworld-making since his early work in the 1980s, such as *The Limits to Capital* (1982) and *The Urbanization of Capital* (1985) and most recently in the magisterial work on "The Right to the City" (2008). See also Noel Castree and Derek Gregory's (eds.) insightful commentary on Harvey's infrastructuralism throughout *David Harvey: A Critical Reader* (2006).
14. This segment of the poem was published separately, with differences in order and in some lines. The autonomous version begins with "Analogy from analogy. Analogy of analogy." and ends with "We are consequently. We are consequently." The lines in the independently published poem are statements in the sentence form (capitalized and punctuated) but in the book they are in lowercase with no punctuation and more terse and diluted, foregrounding less the certainty of the affect emanating from the grammar and more the fragmentary and distracted cataloging that is not just, in a Latourian way, putting things side by side or making a network from which a public would convene but more like hearing the 21st century in a transferential way, as the noise within sound that produces a sense of a world and a sensorium for a world (see Latour, 1988).
15. On "footing" see Goffman, 1981: 124–159.
16. Thanks to Luis-Manuel Garcia for sending me evidence of this song's credibility as an anthem for a solidarity that calls not on full subjective or affective convergence but concerted practical activity that manifests attentiveness, tenderness, respect, and pleasure: http://www.whosampled.com/sample/view/1427/Wiz%20Khalifa-Say%20Yeah_Alice%20Deejay-Better%20Off%20Alone/

(Physical   Stamina   n.d.),   http://www.whosampled.com/sample/view/112754/40%20Cal%
20feat.%20Duke%20Da%20God-South%20Beach_Alice%20Deejay-Better%20Off%20Alone/
(brooklyn4life, n.d.).

17. On the promise of popular culture to develop intimate public spheres to relieve one of one's
    abandonment to private suffering, see Berlant, 2009: ix. On the intimate public sphere in
    everyday life, the literature is plentiful: for a focus around dance see Delgado and Muñoz's
    edited volume *Everynight Life: Culture and Dance in Latin/o America* (1997); Dils and Albright,
    2001; Garcia, 2011a, 2011b; Miller, 2012; Thornton, 1996.

References

Adorno T (1991) On lyric poetry and society. In: Tiedemann R (ed) and Nicholson SW (trans) *Notes to
    Literature*. New York: NYU Press, 1991, pp. 37–54.

Agamben G (1998) In: Heller- Daniel and Roazen (eds), *Homo Sacer: Sovereign Power and Bare Life*.
    Stanford: Stanford UP.

Alessandrini D (2011) Immaterial labour and alternative valorisation processes in Italian
    feminist debates: (re)exploring the 'commons' of re-production. *Feminists @ Law* 1(2). Available
    at: http://journals.kent.ac.uk/index.php/feministsatlaw/article/view/32 (accessed 28 March 2016).

Arendt H (1992) *Lectures on Kant's Political Philosophy*. Chicago: University of Chicago Press.

Arsić B (2010) Brain walks: Emerson on thinking. In: Arsić B and Wolfe C (eds) *The Other Emerson*.
    Minneapolis: University of Minnesota Press.

Barthes R (1972) Myth today. In: Lavers A (ed.) *Mythologies*. New York: Hill and Wang, pp. 109–159.

Berlant L (2009) *The Female Complaint*. Durham: Duke University Press.

Berlant L (2011) *Cruel Optimism*. Durham: Duke University Press.

Berlant L and Edelman L (2014) *Sex, or the Unbearable*. Durham: Duke University Press.

Bersani L (2009) *Is the Rectum a Grave? And Other Essays*. Chicago: University of Chicago Press.

Bogost I (2009) Blogging stops unplanned pregnancy. In: Bogost I (blog). Available at: http://
    bogost.com/writing/blog/blogging_stops_unplanned_pregn/ (accessed 31 August 2015).

Brodsky C (2010) 'Judgment' and the genesis of what we lack: 'Schema,' 'Poetry,' and the 'Monogram
    of the Imagination' in Kant.' *The Eighteenth Century* 51(3): 317–340.

brooklyn4life (nd) 40 Cal's 'South Beach' (ft. Duke Da God) sampling Alice DeeJay's 'Better Off
    Alone.' In WhoSampled. Available at: http://www.whosampled.com/sample/view/112754/
    40%20Cal%20feat.%20Duke%20Da%20God-South%20Beach_Alice%20Deejay-Better%20Off
    %20Alone/ (accessed 28 March 2016).

Buell L (2004) *Emerson*. Cambridge: Belknap Press.

Casarino C and Negri A (2008) *In Praise of the Common: A Conversation on Philosophy and Politics*.
    Minneapolis: University of Minnesota Press.

Castree N and Gregory D (2006) *David Harvey: A Critical Reader*. Oxford: Blackwell.

Cavell S (1994) *In Quest of the Ordinary: Lines of Skepticism and Romanticism*. Chicago: University of
    Chicago Press.

Cavell S (2003) *Emerson's Transcendental Études*. Palo Alto: Stanford University Press.

City of Boston (nd) Boston Common. Available at: http://www.cityofboston.gov/freedomtrail/
    bostoncommon.asp (accessed 28 March 2016).

Cormack B (2007) *A Power to Do Justice: Jurisdiction, English Literature, and the Rise of Common
    Law, 1509–1625*. Chicago: University of Chicago Press.

Cornell D (2000) *Just Cause: Freedom, Identity, and Rights*. London: Rowman and Littlefield.

Cowen D (2014) *The Deadly Life of Logistics: Mapping Violence in Global Trade*. Minneapolis:
    University of Minnesota Press.

Curcio A and Zseluk C (2010) On the Common, universality, and communism: A conversation
    between Étienne Balibar and Antonio Negri. *Rethinking Marxism: A Journal of Economics,
    Culture and Society* 22(3): 312–328.

De Angelis M (2007) *The Beginning of History: Value Struggles and Global Capital*. London: Pluto
    Press.

Delgado CF and Muñoz JE (1997) *Everynight Life: Culture and Dance in Latin/o America*. Durham: Duke University Press.

Dils A and Albright AC (2001) *Moving History/Dancing Cultures: A Dance History Reader*. Middletown: Wesleyan University Press.

Edelman L (2004) *No Future: Queer Theory and the Death Drive*. Durham: Duke University Press.

Edwards PN (2003) Infrastructure and modernity: Force, time, and social organization in the history of sociotechnical systems. In: Misa TJ, Brey P and Feenberg A (eds) *Modernity and Technology*. Cambridge: MIT Press, pp. 185–225.

Eliot TS (1998) *The Waste Land, Prufrock and Other Poems*. Mineola: Dover Publications.

Emerson RW (2003) Nature. In: Ziff L (ed.) *Nature and Selected Essays*. London: Penguin, pp. 35–82.

Emerson RW and Plumstead AW (1969) *Journals and Miscellaneous Notebooks of Ralph Waldo Emerson, Volume VII: 1838–1842*. Cambridge: Harvard University Press.

Federici S (2011a) Feminism and the politics of the Commons. *The Commoner*. Available at: http://journals.kent.ac.uk/index.php/feministsatlaw/article/view/32 (accessed 28 March 2016).

Federici S (2011b) Women, land struggles, and the reconstruction of the Commons. *WorkingUSA: The Journal of Labor and Society* 61(14): 41–56.

Folsom E and Price KM (2005) *Re-scripting Walt Whitman: An Introduction to His Life and Work*. Malden: Wiley-Blackwell.

Gandhi L (2011) The pauper's gift: Postcolonial theory and the democratic dispensation. *Public Culture* 23(1): 27–38.

Gandhi L (2014) *The Common Cause: Postcolonial Ethics and the Practice of Democracy 1900–1955*. Chicago: University of Chicago Press.

Garcia LM (2011a) Crowd solidarity on the dancefloor in Paris and Berlin. In: Wergin C and Holt F (eds) *Musical Performance and the Changing City: Postindustrial Contexts in Europe and the United States*. London: Routledge, 2011, pp. 227–255.

Garcia LM (2011b) Pathological crowds: Affect and danger in responses to the Love Parade disaster at Duisburg. *Dancecult: Journal of Electronic Dance Music Culture* 2(1). Available at: https://dj.dancecult.net/index.php/dancecult/article/view/305/291 (accessed 28 March 2016).

Giddens A (1984) *The Construction of Society: Outline of the Theory of Structuration*. Berkeley: University of California Press.

Gilbert J (2014) *Common Ground: Democracy and Collectivity in an Age of Individualism*. London: Pluto Press.

Gillick L (2007) *Proxemics: Selected Writings (1988–2006)*. Zurich: JRP/Ringier.

Goffman E (1981) *Forms of Talk*. Philadelphia: University of Pennsylvania Press.

Goodman RB (1991) *American Philosophy and the Romantic Tradition*. Cambridge: Cambridge University Press.

Green A (2003) In: Sheridan Alan (ed.), *The Fabric of Affect in the Psychoanalytic Discourse*. London and New York: Routledge.

Hardt M and Negri A (2000) *Empire*. Cambridge: Harvard University Press.

Hardt M and Negri A (2004) *Multitudes*. Cambridge: Harvard University Press.

Hardt M and Negri A (2009) *Commonwealth*. Cambridge: Harvard University Press.

Hardt M and Negri A (2012) *Declaration*. San Francisco: Argo-Navis.

Harvey D (1982) *The Limits to Capital*. Oxford: Blackwell and Chicago: University of Chicago Press.

Harvey D (1985) *The Urbanization of Capital*. Oxford: Blackwell and Baltimore: Johns Hopkins University Press.

Harvey D (2008) The right to the city. *New Left Review* 53: 23–40.

Johnson L (2009) *In the Air* [Super 16mm].

Johnson RJ (2011) An accord in/on Kantian aesthetics (or the Sensus Communis: attunement in a community of diverse sites of purposiveness). *Kritike* 5(1): 117–135.

Kant I (1914) In: Bernard JH (ed.), *Critique of Judgement*. London: Macmillan.

Klein N (2001) Reclaiming the Commons. *New Left Review* 9: 81–89.

Krapp P (2011) *Noise Channels: Glitch and Error in Digital Culture*. Minneapolis: University of Minnesota Press.

Latour B (1988) How to write 'The Prince' for machines as well as for machinations. In: Elliot B (ed.) *Technology and Social Process*. Edinburgh: Edinburgh University Press, pp. 20–43.

Latour B (2010) *On the Modern Cult of the Factish Gods*. Durham: Duke University Press.

Linebaugh P (2009) *The Magna Carta Manifesto: Liberties and Commons for All*. Berkeley: University of California Press.

Lowell R (2003) *Life Studies and for the Union Dead*. New York: Farrar, Straus, and Giroux.

Masco J (2014) *The Theater of Operations: National Security Affect from the Cold War to the War on Terror*. Durham: Duke University Press.

Mbembe A (2003) Necropolitics. Translated by Libby Meintjes. *Public Culture* 15(1): 11–40.

Miller M (2012) *Bounce: Rap Music and Local Identity in New Orleans*. Amherst: University of Massachusetts Press.

Mitchell J (2005) Theory as an object. *October* 113: 27–38.

Moten F and Harney S (2013) *The Undercommons: Fugitive Planning and Black Study*. London: Minor Compositions.

Muñoz JE (2013) "Gimme Gimme This . . . Gimme Gimme That": Annihilation and innovation in the Punk Rock Commons. *Social Text* 116(31, 3): 95–110.

Muñoz JE (1999) *Disidentifications: Queers of Color and the Performance of Politics*. Minneapolis: University of Minnesota Press.

Negri A (2009) In: Boscagli M (ed.), *Insurgencies: Constituent Power and the Modern State*. Minneapolis: University of Minnesota Press.

Ostrom E (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Phillips A (2003) *Equals*. New York: Basic Books.

Physical Stamina (nd) Wiz Khalifa's 'Say Yeah' sampling Alice DeeJay's 'Better Off Alone.' In: WhoSampled. Available at: http://www.whosampled.com/sample/view/1427/Wiz%20Khalifa-Say%20Yeah_Alice%20Deejay-Better%20Off%20Alone/ (accessed 28 March 2016).

Richardson R Jr (1995) *Emerson: The Mind on Fire*. Berkeley: University of California Press.

Rubenstein M (2010) *Public Works: Infrastructure, Irish Modernism, and the Postcolonial*. Notre Dame: University of Notre Dame Press.

Shaviro S (1998) Beauty lies in the eye. *Symploke* 6(1): 96–108.

Spahr J (2005) *This Connection of Everyone with Lungs: Poems*. Berkeley: University of California Press.

Spahr J (2007) *The Transformation*. Berkeley: Atelos Press.

Spahr J (2011) *Well Then There Now*. Boston: Black Sparrow.

Star SL (1999) The ethnography of infrastructure. *American Behavioral Scientist* 43: 377–391.

Star SL (2002) Infrastructure and ethnographic practice: Working on the fringes. *Scandinavian Journal of Information Systems* 14(2): 107–122.

Star SL and Bowker GC (1999) *Sorting Things Out: Classification and Its Consequences*. Cambridge: MIT Press.

Star SL and Strauss A (1999) Layers of silence, arenas of voice: The ecology of visible and invisible work. *Computer Supported Cooperative Work* 8: 9–30.

Stoler AL (2008) Epistemic politics – Ontologies of colonial common sense. *The Philosophical Forum* 39(3): 349–361.

Taylor B (2002) Public folklore, nation-building and regional others: comparing Appalachia, USA and North-East India. *India Folklore Research Journal* 1(2): 1–27.

Taylor B (2003) Gender and the global struggle to reclaim the Commons. *Canadian Women's Studies/ Cahiers de la Femme* 23(1): 62–66.

The Edu-Factory Collective. (2009). *Towards a Global Autonomous University*. New York: Autonomedia.

Thornton S (1996) *Club Cultures: Music, Media, and Subcultural Capital*. Middletown: Wesleyan University Press.

Virno P (2004) *A Grammar of the Multitude: For an Analysis of Contemporary Forms of Life*. New York and Los Angeles: Semiotexte.

Williams P (1991) *The Alchemy of Race and Rights*. Cambridge: Harvard University Press.

Williams R (1976) *Keywords: A Vocabulary of Structure and Society*. Oxford: Oxford University Press.

Williams R (1977) Ideology. *Marxism and Literature*. Oxford: Oxford University Press, pp. 55–71.

Winnicott D (1971) *Playing and Reality*. London: Tavistock Publications.

Zerilli L (2009) Toward a feminist theory of judgment. *Signs* 34(2): 295–317.

Žižek S (2009) How to begin from the beginning. *New Left Review* 57: 43–55. Available at: http://www.newleftreview.org/?view=2779 (accessed 27 March 2016).

Lauren Berlant is George M. Pullman Distinguished Service Professor of English at the University of Chicago. Her recent books include: *Desire/Love* (Punctum, 2012); *Cruel Optimism* (Duke UP, 2011), and, with Lee Edelman, *Sex, or the Unbearable* (Duke UP, 2014).